pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0111716**
Facility Type	**Non-Municipal**	APS ID	**1100506**
Major / Minor	**Minor**	Authorization ID	**1461068**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Wonderview Water Co. & Sanitary Facility Inc.**	Facility Name	**Wonderview Wastewater**
Applicant Address	PO Box 488	Facility Address	407 Riverview Avenue
	Bloomsburg, PA 17815-0488		Bloomsburg, PA 17815
Applicant Contact	John Yohey	Facility Contact	John Yohey
Applicant Phone	(570) 204-1356	Facility Phone	(570) 204-1356
Client ID	243870	Site ID	240685
Ch 94 Load Status	Not Overloaded	Municipality	Main Township
Connection Status	No Limitations	County	Columbia
Date Application Received	November 6, 2023	EPA Waived?	Yes
Date Application Accepted	November 8, 2023	If No, Reason	

Purpose of Application: Renewal of a NPDES Permit

Summary of Review

The subject facility serves a residential development in Main Township, Columbia County. A map of the discharge location is attached.

Sludge use and disposal description and location(s): The facility's sludge is transferred to other WWTPs for further processing.

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
X		Keith C. Allison Keith C. Allison / Project Manager	May 8, 2023
X		N. W. H. Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	May 8, 2023

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.035
Latitude	40º 59' 53.58"	Longitude	-76º 25' 19.88"
Quad Name	Catawissa, PA	Quad Code	1134
Wastewater Description:	Sewage Effluent		

Receiving Waters	Susquehanna River (WWF, MF)	Stream Code	6685
NHD Com ID	65640571	RMI	150.27
Drainage Area	10,561	Yield (cfs/mi^2)	0.1
Q_{7-10} Flow (cfs)	1,054	Q_{7-10} Basis	Streamgage No. 01540500
Elevation (ft)	460	Slope (ft/ft)	0.00001
Watershed No.	5-D	Chapter 93 Class.	WWF, MF
Existing Use	n/a	Existing Use Qualifier	n/a
Exceptions to Use	n/a	Exceptions to Criteria	n/a
Assessment Status	Impaired		
Cause(s) of Impairment	MERCURY, POLYCHLORINATED BIPHENYLS (PCBS), Siltation, Aluminum, and Iron		
Source(s) of Impairment	SOURCE UNKNOWN, Agriculture, and AMD		
TMDL Status	Final, 3/12/1999	Name	Susquehanna River PCB

Nearest Downstream Public Water Supply Intake	Danville Municipal Water Authority		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	1,120
PWS RMI	138.06	Distance from Outfall (mi)	12.21

Changes Since Last Permit Issuance: The above stream and drainage characteristics were determined for the previous reviews and remain adequate.

Other Comments:

The minor STP discharge is not expected to be having any impact on the listed impairments for the Susquehanna River. The discharge consistently meets its TSS limits. The facility is not identified as receiving a wasteload allocation under the Susquehanna River TMDL.

No downstream water supply is expected to be affected by the discharge at this time with the limitations and monitoring proposed.

Treatment Facility Summary				
Treatment Facility Name: Wonderview Sanitary Facility Inc.				
WQM Permit No.	**Issuance Date**			
1976403	12/5/90			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary	Extended Aeration	Hypochlorite	0.035
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.035		Not Overloaded	Holding Tank	Other WWTP

Changes Since Last Permit Issuance: None

Other Comments: The treatment facility as permitted under WQM Permit No. 1976403 consists of manual bar screen, aerated distribution box, equalization tank, aeration tank, clarifier, erosion chlorinator, chlorine contact tank, and aerated sludge holding tank.

Compliance History	
Summary of Inspections:	The facility has been inspected approximately annually by the Department over the past permit term. The most recent inspection on July 11, 2023 identified no violations at the time of inspection.
Other Comments:	A query in WMS found no open violations in eFACTS for Wonderview Water Co. and Sanitary Facility, Inc.

Compliance History, Cont'd

DMR Data for Outfall 001 (from April 1, 2023 to March 31, 2024)

Parameter	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23	APR-23
Flow (MGD) Average Monthly	0.03	0.028	0.03	0.028	0.022	0.021	0.019	0.018	0.018	0.018	0.022	0.019
Flow (MGD) Daily Maximum	0.035	0.035	0.035	0.035	0.033	0.032	0.034	0.027	0.030	0.027	0.035	0.034
pH (S.U.) Instantaneous Minimum	7.0	7.0	7.0	6.8	7.0	6.9	6.8	6.8	6.8	6.8	6.8	6.9
pH (S.U.) Instantaneous Maximum	7.4	7.4	7.4	7.4	7.5	7.4	7.4	7.2	7.2	7.3	7.3	7.3
DO (mg/L) Instantaneous Minimum	3.9	3.8	3.7	3.2	3.5	3.9	3.5	4.4	4.2	4.6	4	4.6
TRC (mg/L) Average Monthly	0.33	0.37	0.31	0.32	0.26	0.26	0.29	0.26	0.31	0.27	0.22	0.23
TRC (mg/L) Instantaneous Maximum	0.45	0.47	0.49	0.46	0.39	0.44	0.45	0.41	0.39	0.39	0.42	0.37
CBOD5 (mg/L) Average Monthly	6	6	6	6	7.91	6	6	6	6	6	6	6
TSS (mg/L) Average Monthly	5.9	5.0	5	5	5.2	5	5.3	5	5.4	12	5	7.0
Fecal Coliform (No./100 ml) Geometric Mean	1	1	1	1	24	1	1	1	3	1	1	2
Fecal Coliform (No./100 ml) Instantaneous Maximum	1	1	1	1	593.8	1	1	1	4.1	1	1	3
Ammonia (mg/L) Average Monthly	8.34	2.714	3.69	5.199	2.05	20.8	36.5	6.79	16.3	12	4.39	15.2

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	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	5/week	Grab
DO	XXX	XXX	Report Inst Min	XXX	XXX	XXX	5/week	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.5	5/week	Grab
CBOD5	XXX	XXX	XXX	25	XXX	50	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30	XXX	60	2/month	8-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Ammonia	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.035
Latitude 40º 59' 49.00" **Longitude** -76º 25' 16.00"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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

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

Comments: The above limitations are applicable and included in the existing permit.

Water Quality-Based Limitations

DO, CBOD5 and NH3-N

The WQM7.0 model allows the Department to evaluate point source discharges of dissolved oxygen (DO), carbonaceous BOD ($CBOD_5$), and ammonia-nitrogen (NH_3-N) into free-flowing streams and rivers. To accomplish this, the model simulates two basic processes: the mixing and degradation of NH_3-N in the stream and the mixing and consumption of DO in the stream due to the degradation of $CBOD_5$ and NH_3-N. WQM7.0 modeling was performed for the discharge to the Susquehanna River and showed that no limitations are necessary beyond the technology-based secondary treatment limits listed above. See Attachment B.

Total Residual Chlorine

The Department uses a modeling spreadsheet to analyze the toxicity of a discharge's TRC in a receiving stream, accounting for available dilution. The attached results of the TRC spreadsheet (see Attachment C) show that the existing technology-based limit of 0.5 mg/l is adequate to protect the receiving stream.

Toxics Management

No further "Reasonable Potential Analysis" was performed to determine additional parameters as candidates for limitations or monitoring for this minor WWTP with no industrial influent.

Chesapeake Bay/Nutrient Requirements

According to the Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, this facility is an existing Phase 5 Chesapeake Bay sewage discharger that is not expanding, and as such requires no nutrient loading limits. Annual nutrient monitoring was collected for a previous renewal cycle. The average Total Nitrogen concentration over the prior permit term averaged 19 mg/L and the Average Phosphorus concentration was 0.73 mg/L. Because the nutrient load has been adequately characterized no additional nutrient monitoring will be required at this time consistent with the Phase III WIP Wastewater Supplement.

Best Professional Judgment (BPJ) Limitations

Comments: None needed beyond the Technology and Water Quality-Based limits noted above.

e. Coli

Annual e. coli monitoring will be required at this time due to changes to Chapter 93 of the Departments regulations and Department policy.

Anti-Backsliding

No proposed limitations are less stringent than the existing consistent with anti-backsliding provisions of the Clean Water Act and 40 CFR 122.44(I).

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	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	Report Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.5	1/day	Grab
CBOD5	XXX	XXX	XXX	25	XXX	50	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30	XXX	60	2/month	8-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Ammonia	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab

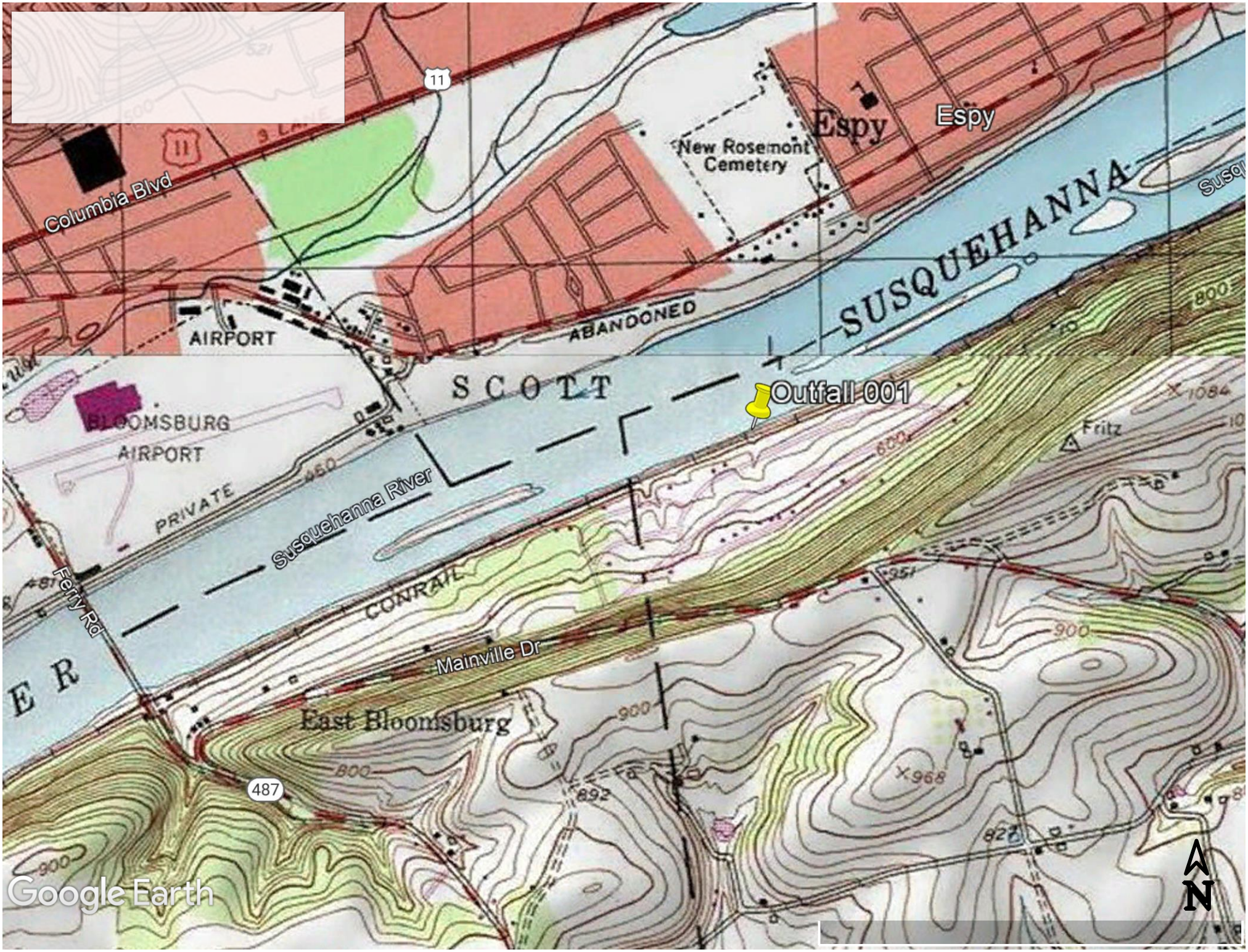
Compliance Sampling Location: Outfall 001

Other Comments: E. coli monitoring is new as mentioned above. The monitoring frequencies for pH, DO, and TRC have been updated from 5/week to daily consistent with the Department's recommended frequencies in the DEP NPDES Permit Writer's Manual (386-0400-001).

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment **B**)
☐	Toxics Management Spreadsheet (see Attachment)
☒	TRC Model Spreadsheet (see Attachment **C**)
☐	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. WQM7.0 Model
C. TRC Model


Columbia Blvd
11
New Rosemont Cemetery
Espy
Espy
SUSQUEHANNA
AIRPORT
ABANDONED
SCOTT
Outfall 001
BLOOMSBURG AIRPORT
PRIVATE
Susquehanna River
Fritz
Ferry Rd
CONRAIL
Mainville Dr
East Bloomsburg
487
Google Earth
N

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
07K	6685	SUSQUEHANNA RIVER	**150.270**	460.00	10561.00	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.100	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Wonderview	PA0111716	0.0350	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

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

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
07K	6685	SUSQUEHANNA RIVER	**148.720**	459.90	10562.60	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.100	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

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

Parameter Data

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

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
07K	6685	SUSQUEHANNA RIVER

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (ºC)	Analysis pH
Q7-10 Flow												
150.270	1056.10	0.00	1056.10	.0541	0.00001	1.214	820.61	675.73	1.06	0.089	20.00	7.00
Q1-10 Flow												
150.270	675.90	0.00	675.90	.0541	0.00001	NA	NA	NA	0.83	0.115	20.00	7.00
Q30-10 Flow												
150.270	1436.30	0.00	1436.30	.0541	0.00001	NA	NA	NA	1.26	0.075	20.00	7.00

WQM 7.0 Modeling Specifications

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

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
07K	6685	SUSQUEHANNA RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (ºC)	Analysis pH
150.270	0.035	20.000	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
820.605	1.214	675.727	1.060
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.00	0.001	0.00	0.700
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.243	0.060	Tsivoglou	5
Reach Travel Time (days)			
0.089			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.009	2.00	0.00	8.24
0.018	2.00	0.00	8.24
0.027	2.00	0.00	8.24
0.036	2.00	0.00	8.24
0.045	2.00	0.00	8.24
0.054	2.00	0.00	8.24
0.063	2.00	0.00	8.24
0.072	2.00	0.00	8.24
0.080	2.00	0.00	8.24
0.089	2.00	0.00	8.24

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
07K	6685	SUSQUEHANNA RIVER

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
150.270	Wonderview	16.76	50	16.76	50	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
150.270	Wonderview	1.89	25	1.89	25	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
150.27	Wonderview	25	25	25	25	3	3	0	0

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
07K	6685	SUSQUEHANNA RIVER

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
150.270	Wonderview	PA0111716	0.035	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			3

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

1054	= Q stream (cfs)	0.5	= CV Daily
0.035	= 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 = 6209.752	1.3.2.iii	WLA cfc = 6054.014
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 2313.902	5.1d	LTA_cfc = 3519.520

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))... ...+ 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)