

Application Type Renewal
Facility Type Municipal
Major / Minor Major

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0021687
APS ID 785845
Authorization ID 939802

Applicant and Facility Information

Applicant Name	<u>Wellsboro Municipal Authority</u>	Facility Name	<u>WMA WWTF</u>
Applicant Address	<u>14 Crafton Street</u> <u>Wellsboro, PA 16901-1549</u>	Facility Address	<u>300 Tioga Street</u> <u>Wellsboro, PA 16901-1549</u>
Applicant Contact	<u>Scott Boyce</u>	Facility Contact	<u>Robert Cleveland</u>
Applicant Phone	<u>570-727-3168</u>	Facility Phone	<u>570-948-1435</u>
Client ID	<u>75450</u>	Site ID	<u>4172</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Wellsboro Borough</u>
Connection Status	<u>No Limitations</u>	County	<u>Tioga</u>
Date Application Received	<u>August 6, 2012</u>	EPA Waived?	<u>No</u>
Date Application Accepted	<u>September 14, 2012</u>	If No, Reason	<u>Major Facility, Significant CB Discharge, CSOs</u>
Purpose of Application	<u>Renewal of Major Sewage NPDES Permit</u>		

Summary of Review

INTRODUCTION

The Department has drafted this permit renewal for the Wellsboro Municipal Authority (WMA).

APPLICATION

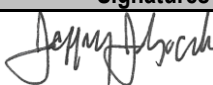
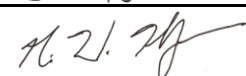
Larson Design Group (LDG), the engineering consultant, submitted the NPDES Application for Permit to Discharge Sewage (Long Form, DEP #3800-PM-WSFR0009b) on behalf of the WMA. This application was received by the Department on August 06, 2012 and considered administratively complete on September 14, 2012. Scot Boyce, the Borough Manager, is the client contact for this application. His additional contact information is (email) wellsboromanager@ptd.net. The site contact is Robert Cleveland, Operator. His additional contact information is (email) watersewer16901@gmail.com. The consultant contact is Nathan M. Jones, EIT, Engineering Associate with LDG of Williamsport, PA. His contact information is (phone) 570-244-3454 X8202 and (email) njones@larsondesigngroup.com.

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.

The case file, permit application package and draft permit will be available for public review at Department's Northcentral Regional Office. The address for this office is 208 West Third Street, Suite 101, Williamsport, PA 17701. An appointment can be made to review these materials during the comment period by calling the file coordinator at 570-327-3636.

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Approve	Return	Deny	Signatures	Date
X			Jeffrey J. Gocek, EIT  Project Manager	10/08/2021
X			Nicholas W. Hartranft, PE  Environmental Engineer Manager	10/08/2021

DISCHARGE, RECEIVING WATERS AND WATER SUPPLY INFORMATION

Outfall No.	<u>001</u>	Design Flow (MGD)	<u>2.0</u>
Latitude	<u>41° 45' 22.09"</u>	Longitude	<u>-77° 17' 55.97"</u>
Quad Name	<u>Keeneyville, PA</u>	Quad Code	<u>0427</u>
Wastewater Description:	<u>Sewage Effluent</u>		
Receiving Waters	<u>Marsh Creek (WWF)</u>	Stream Code	<u>21856</u>
NHD Com ID	<u>66535465</u>	RMI	<u>12.68</u>
Drainage Area	<u>20.75</u>	Yield (cfs/mi ²)	<u>0.0394</u>
Q ₇₋₁₀ Flow (cfs)	<u>1.74</u>	Q ₇₋₁₀ Basis	<u>WER Study (Amendola 2011)</u>
Elevation (ft)	<u>1,288</u>	Slope (ft/ft)	<u>N/A</u>
Watershed No.	<u>9-A</u>	Chapter 93 Class.	<u>WWF</u>
Existing Use	<u>None</u>	Existing Use Qualifier	<u>N/A</u>
Exceptions to Use	<u>None</u>	Exceptions to Criteria	<u>N/A</u>
Assessment Status	<u>Impaired</u>		
Cause(s) of Impairment	<u>See Narrative</u>		
Source(s) of Impairment	<u>See Narrative</u>		
TMDL Status	<u>N/A</u>	Name	<u>N/A</u>
Nearest Downstream Public Water Supply Intake	<u>Pennsylvania-American Water Company</u>		
PWS Waters	<u>West Branch Susquehanna River</u>	Flow at Intake (cfs)	<u>818</u>
PWS RMI	<u>10.6</u>	Distance from Outfall (mi)	<u>114</u>

Q_{7,10} DETERMINATION

The Q_{7,10} is the lowest seven consecutive days of flow in a 10-year period and is used for modeling wastewater treatment plant discharges. 25 PA § 96.1 defines Q_{7,10} as "the actual or estimated lowest 7 consecutive day average flow that occurs once in 10 years for a stream with unregulated flow, or the estimated minimum flow for a stream with regulated flow".

Following compliance negotiations between the Department and Osram Sylvania, Inc. (Osram) regarding copper effluent limitation violations, Osram contracted an engineering firm to complete a Water Effects Ratio (WER) study for Copper in both Charleston Creek and Marsh Creek. When a site specific aquatic life criterion is derived for a metal, an adjustment procedure based on the toxicological determination of a WER may be used to account for a difference between the toxicity of a metal in laboratory dilution water and its toxicity in the water at the site. A WER study, dated November 2011, was submitted to the Department on Osram's behalf by Amendola Engineering, Inc. Due to the local Copper issues, the WMA's discharge was included in the study. In order to develop revised Copper effluent limitations for the WMA NPDES permit, the study reevaluated the Q_{7,10} at the WMA outfall. The study concluded that the 2008 low flow figure used in the water quality modeling (0.8235 CFS) did not consider the minimum controlled release from the upstream Hamilton Lake. The current and more accurate low flow value is 1.74 CFS. This figure is comprised of regulated (1.25 CFS) and unregulated (0.49 CFS) flows.

DELAY IN APPLICATION PROCESSING

The renewal of this permit was delayed as the Department worked with the Environmental Protection Agency (EPA) on permit reissuance.

The last NPDES permit was issued January 11, 2008. The last application submitted is dated August 02, 2012. Several drafts NPDES permits were prepared in 2014 and 2015 but were never finalized. Additional information was provided during the development of the draft permits and will be incorporated into this draft permit. Comments provided for those draft permits will also be incorporated into this draft permit.

EPA submitted a General Objection Letter dated May 07, 2014 and a Specific Objection Letter dated July 09, 2014.

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TREATMENT FACILITY

The sewage collection and treatment system in Wellsboro is owned by the WMA. The WMA has a lease-back arrangement with the Borough of Wellsboro to provide operation and maintenance. The combined system (sewer and storm) serves Charleston Township (9.7% of the flow), Delmar Township (1.0%) and the Borough of Wellsboro (89.3%). 3% of the collection system is combined and is within the Borough.

See Attachment 01 for a map of the WWTF. See Attachment 02 for a map of the collection system.

The secondary treatment at the WWTF consists of screening, grit removal, extended aeration (oxidation ditch), secondary clarification and gas chlorination prior to discharge. Prior to landfill, solids are further processed by anaerobic (benthic lagoon) digestion and dewatering by centrifugation. Because of the combined sewer system, higher flows have been accommodated for short durations, but sustained inflow of diluted wastewater significantly impacts treatment efficiency and effluent quality.

See Attachment 03 for a treatment plant schematic.

The wastewater treatment facility summary is as follows.

Waste Type	Degree of Treatment	Process Type	Disinfection	Annual Average Flow (MGD)
Sewage	Secondary	Oxidation Ditch	Chlorine	2.0
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
2.5	4,400	Not Overloaded	Dewatering	Landfill

The annual average (hydraulic) flows of the past three years were 0.991 MGD (2020), 1.136 MGD (2019) and 1.274 MGD (2018). The highest monthly average flow in 2020 was February with 1.548 MGD. The organic design capacity is 4,400 lb BOD5 per day. The annual average organic loading for the past three years was 573 lb BOD5/day (2020), 539 lb BOD5/day (2019) and 721 lb BOD5/day (2018). The highest monthly average loading in 2020 was August with 1,068 lb BOD5/day.

Since the submission of the previous NPDES renewal application in 2007, several WWTF improvement projects have been completed. In 2007, Water Quality Management (WQM) permit #5907401 authorized the replacement of blowers, new air distribution piping and a Symbio control process for biological nutrient removal. WQM #5907401 was amended in 2009 to include the addition of ferric chloride for Phosphorus removal. In 2013, WQM #5913401 authorized the replacement of the influent pumps with submersible centrifugal pumps (3). Most recently, in 2021, WQM #5920401 authorized improvements to the WWTF headworks, including a new influent screening system and the automation of the CSO 002 valve.

With the closure of Osram Sylvania (Osram), the WMA no longer has a significant industrial user and is no longer subject to the EPA pretreatment requirements.

COMPLIANCE HISTORY

The WMS Query Open Violations for Client by Permit Number revealed two open violations for the WMA, which are summarized below.

#	Program	Violation ID	Violation Date	Description
1	Safe Drinking Water	861967	09/13/2019	Failure to meet design and construction standards.
2	Safe Drinking Water	861968	09/13/2019	Failure to meet design and construction standards.

The most recent Department Compliance Evaluation Inspection (CEI), was conducted April 01, 2021. At the time of the inspection, all required treatment units were online and operational. The plant effluent was clear with no observed impact to the receiving stream. The associated report documented several violations; 1. Effluent limitation exceedances (Fecal Coliforms August 2020 and Total Copper February 2021) and 2. Failure to monitor pollutants as required by the NPDES permit (composite samples were not flow proportional).

A Chesapeake Bay (CBAY) inspection was performed November 24, 2020. During the 2019-2020 Water Year, the WMA sold 2,754 Nitrogen credits and purchased 199 Phosphorus credits. No violations were identified or noted during the inspection.

Recent Discharge Monitoring Report (DMR) data, from April 2020 to March 2021, is presented in the table below.

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Parameter	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20	APR-20
Flow (MGD) Average Monthly	1.517	1.024	1.166	1.09	0.84	0.692	0.582	0.644	0.693	0.760	1.178	1.339
pH (S.U.) Minimum	7.00	7.06	7.08	7.01	7.13	7.24	7.18	7.33	7.23	7.20	7.03	7.08
pH (S.U.) Maximum	7.22	7.26	7.21	7.30	7.37	7.62	7.58	7.53	7.45	7.45	7.32	7.22
DO (mg/L) Minimum	8.47	8.74	8.74	5.42	7.55	6.94	6.24	6.06	6.34	6.47	7.46	8.36
TRC (mg/L) Average Monthly	0.15	0.17	0.17	0.16	0.17	0.16	0.17	0.16	0.17	0.17	0.15	0.15
TRC (mg/L) Instantaneous Maximum	0.22	0.26	0.25	0.24	0.27	0.25	0.25	0.30	0.40	0.30	0.24	0.28
CBOD5 (lbs/day) Average Monthly	< 30	< 20	< 20	< 27	< 15	< 13	< 10	< 13	18	< 24	< 21	< 25
CBOD5 (lbs/day) Weekly Average	< 34	< 31	< 26	53	< 17	< 14	< 12	15	19	32	23	< 34
CBOD5 (mg/L) Average Monthly	< 2.0	< 2.0	< 2.0	< 3.0	< 2.0	< 2.0	< 2.0	< 2.0	3.0	< 4.0	< 3.0	< 2.0
CBOD5 (mg/L) Weekly Average	< 3.0	< 3.0	< 2.0	4.0	< 2.0	< 3.0	< 2.0	3.0	4.0	5.0	3.0	< 2.0
TSS (lbs/day) Average Monthly	< 66	< 35	< 37	< 43	< 28	< 26	< 22	< 22	< 24	< 32	< 35	< 53
TSS (lbs/day) Weekly Average	< 107	< 47	< 47	< 58	< 30	< 30	< 26	< 25	36	< 35	42	< 93
TSS (mg/L) Average Monthly	< 5.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 5.0	< 4.0	< 4.0	< 5.0	< 4.0	< 4.0
TSS (mg/L) Weekly Average	< 10	< 5.0	< 4.0	< 6.00	< 4.0	< 6.0	< 6.0	< 5.0	6.0	< 6.0	5.0	< 6.0
Fecal Coliform (CFU/100 ml) Geometric Mean	91	120	356	> 628	234	> 47	32	247	> 359	> 451	332	88
Nitrate-Nitrite (mg/L) Average Monthly	0.37	0.23	0.48	< 0.19	< 0.10	< 0.10	< 0.10	< 0.10	< 0.11	< 0.10	< 0.18	0.69
Nitrate-Nitrite (lbs) Total Monthly	160.9	55.6	140.5	< 58.8	< 20.7	< 17.9	< 14.3	< 16.5	< 20	< 19	< 41.5	250.5
Total Nitrogen (mg/L) Average Monthly	< 1.64	< 1.4	< 3.33	< 1.97	< 2.60	< 2.30	< 1.45	< 1.80	< 2.67	< 1.73	< 1.51	< 1.85
Total Nitrogen (lbs) Effluent Net Total Monthly	< 675.6	< 343.8	< 872.6	< 836	< 503	< 387.2	< 210	< 297.3	< 483.9	< 327.5	< 338.5	< 622
Total Nitrogen (lbs) Total Monthly	< 675.6	< 343.8	< 872.6	< 836	< 503	< 387.2	< 210	< 297.3	< 483.9	< 327.5	< 338.5	< 622
Total Nitrogen (lbs) Total Annual							< 12718					
Ammonia (lbs/day) Average Monthly	< 2.0	< 1.0	< 0.9	< 2.0	< 0.7	< 0.7	< 0.5	< 0.6	< 6	< 2.0	< 1.0	< 1.0
Ammonia (mg/L) Average Monthly	< 0.14	< 0.18	< 0.1	< 0.26	< 0.1	< 0.12	< 0.10	< 0.10	< 1.02	< 0.27	< 0.14	< 0.11
Ammonia (lbs) Total Monthly	< 54.1	< 40.5	< 28.9	< 71	< 20.7	< 21.5	< 14.3	< 17.2	< 180.2	< 49.8	< 34.7	< 30.1
Ammonia (lbs) Total Annual							< 692					
TKN (mg/L) Average Monthly	< 1.3	< 1.2	< 2.9	< 1.8	2.5	< 2.2	< 1.4	1.7	< 2.6	1.6	< 1.3	< 1.2
TKN (lbs) Total Monthly	< 514.6	< 288.2	< 732.1	< 777.2	482.3	369.3	< 195.7	280.8	< 463.9	308.5	< 297	< 371.5
Total Phosphorus (mg/L) Average Monthly	0.888	1.75	1.358	1.212	1.913	1.992	1.63	2.15	2.88	3.03	1.95	1.52
Total Phosphorus (lbs) Effluent Net Total Monthly	375	450.6	366.6	422.6	405.4	357.8	230.5	350	520.6	568	424.7	478.9
Total Phosphorus (lbs) Total Monthly	375	450.6	366.6	422.6	405.4	357.8	230.5	350	520.6	568	424.7	478.9
Total Phosphorus (lbs) Total Annual							4869					
Total Copper (mg/L) Average Monthly	0.0138	0.126	0.0107	0.0086	< 0.0065	< 0.005	< 0.005	< 0.005	0.0095	0.0066	0.012	< 0.0061

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The following are effluent limitation exceedances from May 2020 through March 2021.

Parameter	Date	SBC	DMR Value	Units	Limit Value
Fecal Coliform	05/31/20	Geometric Mean	332	CFU/100 ml	200
Fecal Coliform	08/31/20	Geometric Mean	247	CFU/100 ml	200
Fecal Coliform	07/31/20	Geometric Mean	> 359	CFU/100 ml	200
Fecal Coliform	06/30/20	Geometric Mean	> 451	CFU/100 ml	200
Total Copper	05/31/20	Average Monthly	0.012	mg/L	0.011
Total Copper	03/31/21	Average Monthly	0.0138	mg/L	0.011
Total Copper	02/28/21	Average Monthly	0.126	mg/L	0.011

A Notice of Violation (NOV) was issued to the WMA in a letter dated June 02, 2021. This NOV documented the April 2021 violation for failure to monitor pollutants as required by the NPDES permit, as well as (33) effluent limitation exceedances from 2016 through 2021. The letter proposed a Consent Assessment of Civil Penalty in the amount of \$5,410 and a Corrective Action Plan (CAP) to ensure proper sampling protocols. In a June 10, 2021 letter, the WMA agreed to pay the penalty and requested the renewal permit be issued promptly.

EXISTING LIMITATIONS

The following limitations were established at the permit issuance on January 11, 2008.

Discharge Parameter	Mass Limits (lb/day)		Concentration Limits (mg/L)				Monitoring Requirements	
	Monthly Average	Weekly Average	Minimum	Monthly Average	Weekly Average	IMAX	Minimum Measurement Frequency	Required Sample Type
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	Continuous	Metered
pH (SU)	XXX	XXX	6.0	XXX	XXX	9.0	1/Day	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.17	XXX	0.56	1/Day	Grab
CBOD ₅	334	500	XXX	20	30	40	2/Week	24 Hour Composite
Total Suspended Solids	500	751	XXX	30	45	60	2/Week	24 Hour Composite
Fecal Coliform (CFU/100mL) (05/01-09/30)	XXX	XXX	200/100 mL geo mean and not greater than 1,000/100 mL in more than 10% of the samples tested				2/Week	Grab
Fecal Coliform (CFU /100mL) (10/01-04/30)	XXX	XXX	2,000/100 mL geo mean				2/Week	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/Day	Grab
Ammonia-N (06/01-10/31)	25	XXX	XXX	1.5	XXX	3.0	2/Week	24 Hour Composite
Ammonia-N (11/01-05/31)	75	XXX	XXX	4.5	XXX	9.0	2/Week	24 Hour Composite
Total Copper	XXX	XXX	XXX	0.011	XXX	XXX	1/Week	24 Hour Composite

Discharge Parameter	Mass Limits (lb/day)		Concentration Limits (mg/L)			Monitoring Requirements	
	Monthly	Annual	Minimum	Monthly Average	Maximum	Minimum Measurement Frequency	Required Sample Type
Ammonia-N	Report	Report	XXX	Report	XXX	2/Week	24 Hour Composite
Kjeldahl-N	Report	XXX	XXX	Report	XXX	1/Week	24 Hour Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	1/Week	24 Hour Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	1/Month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	1/Month	24 Hour Composite
Net Total Nitrogen	Report	46,029	XXX	XXX	XXX	1/Month	Calculation
Net Total Phosphorus	Report	4,871	XXX	XXX	XXX	1/Month	Calculation

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DEVELOPMENT OF EFFLUENT LIMITATIONSTechnology-Based Limitations

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

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

Total Phosphorus

An Aquatic Life Use (ALU) survey was initiated by the Department in 2019 to evaluate and update the current ALU of Marsh Creek for this NPDES permit renewal. Due to the complexity of multiple impairments upstream of the discharge and the age of the previous assessments, this survey included all of Marsh Creek's receiving waters upstream of the discharge as well as downstream portions of the stream. Marsh Creek has three headwater tributaries: Charleston Creek, Kelsey Creek and Morris Branch. All are currently protected for Warm Water Fishes, while the associated unnamed tributaries are protected for Cold Water Fishes (CWF).

The survey determined that a 2.81-mile section of Marsh Creek, from the source downstream to the SR 287 bridge was not meeting the ALU criteria using the Department's Wade-able Freestone Riffle-Run Macroinvertebrate Assessment Method. Additionally, Continuous Instream Monitoring (CIM) data from 2018 identified exceedances of Chapter 93 water quality criteria for pH. Application of the Department's Eutrophication Cause Determination (ECD) protocol confirmed the cause of the ALU impairment is eutrophication. Eutrophication is defined as the process by which a body of water becomes enriched in dissolved nutrients that stimulate the growth of aquatic plant life which usually results in the depletion of dissolved oxygen.

The survey also determined that Marsh Creek continues to be impaired by flow regime modification, organic enrichment and siltation (causes of impairment) from the source downstream to the confluence with the Unnamed Tributary (21913) to Marsh Creek. The survey recommended that a Phosphorus limit be established in the permit to reduce impacts from the eutrophication in Marsh Creek. Water samples collected in July identified the WMA discharge as the largest contributor of Phosphorus to Marsh Creek.

25 PA § 96.5 states that "when it is determined that the discharge of phosphorus, alone or in combination with the discharge of other pollutants, contributes or threatens to impair existing or designated uses in a free flowing surface water, phosphorus discharges from point source discharges shall be limited to an average monthly concentration of 2.0 mg/L".

This permit will include the following Phosphorus limitations.

Parameter	Effluent Limitations (mg/L)	
	Monthly Average	IMAX
Total Phosphorus	2.0	4.0

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Water Quality-Based LimitationsCBOD₅, NH₃-N and DO

WQM 7.0 for Windows (version 1.1) is a DEP computer model used to determine wasteload allocations and effluent limitations for CBOD₅, NH₃-N and DO for single and multiple point source discharge scenarios. This model simulates two basic processes. The NH₃-N module simulates the mixing and degradation of NH₃-N in the stream and compares calculated instream NH₃-N concentrations to the water quality criteria. The DO module simulates the mixing and consumption of DO in the stream due to degradation of CBOD₅ and NH₃-N and compares the calculated instream DO concentrations to the water quality criteria. The model then determines the highest pollutant loading the stream can assimilate and still meet water quality under design conditions.

This model recommended the following limitations.

Parameter	Effluent Limitations (mg/L)		
	30 Day Average	Maximum	Minimum
CBOD ₅	18.77		
NH ₃ -N	1.5	3.0	
DO			5.0

The existing permit limitations for CBOD₅ (20 mg/L) and NH₃-N (1.5 mg/L) were used as inputs to the model, to prevent a model result being less than the existing limitations. See below for more information. The model result for CBOD₅ is slightly more stringent than the existing limitation. This is due to the WQM 7.0 model being updated recently to include the Commonwealth's new Ammonia criteria.

See Attachment 04 for the WQM model output.

Total Residual Chlorine

The Department's TRC_CALC spreadsheet is a model used to evaluate Total Residual Chlorine (TRC) effluent limitations. This model determines applicable acute and chronic wasteload allocations (WLAs) for TRC based on the data supplied by the user and then compares the WLAs to the technology-based average monthly limit using the procedures described in the EPA Technical Support Document for Water Quality-Based Toxics Control.

The spreadsheet recommended a monthly average limitation of 0.091 mg/L and an instantaneous maximum (IMAX) limitation of 0.298 mg/L. These limits are more stringent than the existing limitations. This is likely due to the previous evaluation assuming a discharge chlorine demand of 0.3 and the change in Q_{7,10} value. The use of 0 mg/L for the discharge chlorine demand is in accordance with Department SOP #BPNPSM-PMT-033.

A compliance schedule will be incorporated into the permit, with the more stringent limitation becoming effective approximately three years after the permit effective date. The existing limitation will remain in effect during the interim period. The permit will contain a Part C Special Condition which sets the 36-month interim period prior to establishing the more stringent WQBEL and allows the permittee to conduct a site-specific study if not in agreement with the limitation.

Parameter	Effluent Limitations (mg/L)	
	Monthly Average	IMAX
Total Residual Chlorine	0.091	0.298

See Attachment 05 for the TRC_CALC model results.

Chesapeake Bay TMDL for Nutrients and Sediment

Despite 25 years of extensive restoration efforts, the Chesapeake Bay Total Maximum Daily Load (TMDL) was prompted by insufficient progress and continued poor water quality in the Chesapeake Bay and its tidal tributaries. This TMDL, required by the Clean Water Act, is the largest ever developed by the Environmental Protection Agency (EPA). This document identifies the necessary pollution reductions of nitrogen, phosphorus and sediment across Delaware, Maryland, New York, Virginia, West Virginia, District of Columbia and Pennsylvania. It also sets pollution limits necessary to meet applicable water quality standards in the Bay, tidal rivers and embayments.

Pennsylvania explains how and when it will meet its pollution allocations in its Watershed Implementation Plan (WIP), which is incorporated into the TMDL. Pennsylvania's permitting strategy for significant dischargers has been outlined in the Phase I WIP and incorporated in the Phase III WIP by reference, and imposes Total Nitrogen (TN) and Total Phosphorus (TP) cap loads on the significant dischargers.

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Because of the design flow of this facility, the Department considers this a Significant Sewage Discharger (Phase 1) for the purposes of implementing the Chesapeake Bay TMDL. The last issuance of this permit, which occurred January 11, 2008, included the establishment of annual caploads of 46,029 pounds per year TN and 4,871 pounds per year TP. The TN capload included an offset of 9,500 pounds of TN. Proper documentation to qualify for this offset has been submitted to the Department. This offset consisted of 25 pounds per year TN for each retired Equivalent Dwelling Unit (EDU) connected to the collection system. The offset consisted of 263 EDUs from Charleston Township, 111 EDUs from Delmar Township and 6 from the Borough (380 EDUs total).

The Phase III WIP calls for the continued monitoring of Ammonia-N, Kjeldahl-N, Nitrate-Nitrite as N, TN and TP.

The permit will contain a Part C condition for the Chesapeake Bay nutrient requirements. The permit will also contain a footnote explaining the offsets.

Water Effects Ratio for Copper

Copper is commonly found in aquatic ecosystems as a result of both natural and anthropogenic sources. Copper is an essential nutrient at low concentrations but becomes toxic to aquatic organisms at higher concentrations. In addition to acute effects such as mortality, chronic exposure to Copper can lead to adverse effects on survival, growth, reproduction as well as alterations of brain function, enzyme activity, blood chemistry and metabolism.

Shortly after the renewal of the Osram Sylvania (Osram) NPDES permit (#PA0008915) on October 27, 2010, Osram filed a notice of appeal with the Environmental Hearing Board. In the appeal, Osram claimed the Total Copper limitations were improperly calculated and the permit should have a three-year compliance schedule to meet the limitations. Through appeal negotiations between the Department and Osram, it was decided that Osram should conduct a Water Effects Ratio (WER) study for both Charleston Creek and Marsh Creek. The Department allows for a derivation of site-specific aquatic life criterion to be used as an adjustment procedure, in accordance with 25 PA § 16.24 and 25 PA § 93.8(d). A WER study dated November 2011, was submitted on Osram's behalf by Amendola Engineering and was received by the Department on December 05, 2011. Because of local copper issues, the WMA discharge was included in the analysis. The study concluded that the chemistry of Marsh Creek is such that the copper criterion can be increased by a factor of 8.8 and recommended permit limits of 116 µg/L average monthly and 181 µg/L daily maximum. Additional information, dated May 29, 2012, was submitted on behalf of Osram and the WMA. This documentation developed a wasteload allocation (WLA) to ensure that the Osram and WMA discharges are protective of site-specific water quality objectives. In 2014, effluent limitations of 96 µg/L average monthly and 149 µg/L daily maximum were calculated with PENTOXSD and included a 10% margin of safety.

Correspondence from EPA in September 2014 explained that the WER calculated by Amendola Engineering (8.8) was incorrect. The tests contained in the WER study were conducted in accordance with the *Interim Guidance on Determination and Use of Water-Effect Ratios for Metals* (EPA-823-B-94-001, February 1994) and the *Streamlined Water-Effect Ratio Procedure for Discharges of Copper* (EPA-822-R-01-005, March 2001). The Department originally approved a final WER of 8.8 for Wellsboro, which was based on the geometric mean of the water-effect ratio values determined during the two bioassay tests conducted on July 6, 2011 and September 19, 2011. Although the first proposed copper effluent limitation was published in the PA Bulletin in 2014, further evaluation by U.S. EPA Region 3 water quality standards staff later determined this original WER was not calculated correctly. According to EPA's Streamlined WER guidance (EPA, March 2001) "The sample WER is the lesser of (i) the site-water EC50 divided by the lab-water EC50, or (ii) the site-water EC50 divided by the Species Mean Acute Value (SMAV)". Since the applicant did not perform the calculations using the SMAVs, the original final calculated WER was much higher than the appropriate value using the above recommended procedure. The total copper WER, recalculated using this procedure, resulted in an EPA-approved value of 4.4.

The above described methodology was sufficient for 2015, when this information was analyzed. However, the regulatory requirements have since changed. According to state regulation 25 § 93.8(c), the development of new or updated site-specific criteria for Copper in freshwater systems shall be performed using the Biotic Ligand Model (BLM). The BLM is a computational modeling tool used in aquatic toxicology that examines the bioavailability of metals in the aquatic environment and the affinity of these metals to accumulate on gill surfaces of organisms. The BLM depends on site specific water quality parameters, such as pH, hardness, and dissolved organic carbon. As indicated above, the Department allows for a derivation of site-specific criterion to be used as an adjustment procedure for effluent limitations. The Authority can perform a BLM analysis to develop a site-specific Copper limit.

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Toxics Screening Analysis

As part of the original application (2012), the WMA analyzed and submitted an effluent analysis for all parameters in Pollutant Groups (PG) 1 through 5. PG 1 and 2 were required of all renewal applications, while PG 5 (Base/Neutral) was included since the WMA accepted industrial wastewater from Osram which manufactured light bulbs and fell under the application industrial category Glass Manufacturing. Since Osram is no longer in operation, no Glass Manufacturing wastewater is conveyed to the WMA WWTF. For the purposes of this analysis, the existing PG 5 data from 2012 and 2014 will not be considered. Existing metals data from the application PG2 (2012) and follow-up submissions (2104) demonstrate detectable concentrations of metals parameters not normally found in effluent from Publicly Owned Treatment Works (POTW), especially those without significant industrial users.

Follow-up sampling results were required in 2014, since the majority of 2012 sampling did not meet the Department's Target Quantitation Limits (QLs).

Maximum pollutant concentrations, and non-detects (NDs) at Target QLs, for PG 1 and 2 were entered into the Department's Toxics Management Spreadsheet (TMS), which has since replaced both the TSA spreadsheet and PENTOXSD models used in the last renewal. The TMS is used to determine reasonable potential (RP) and calculate water quality-based effluent limitations (WQBELS) for discharges of toxic pollutants from a single discharge point. The TMS utilizes the following logic to assign either no action, effluent limitation or monitoring; 1. Establish average monthly, daily maximum and IMAX limits in the draft permit where the maximum reported concentration exceeds 50% of the WQBEL (RP is demonstrated), 2. Establish monitoring requirements for non-conservative pollutants where the maximum reported concentrations is between 25% to 50% of the WQBEL and 3. Establish monitoring requirements for conservative pollutants where the maximum reported concentration is between 10% to 50% of the WQBEL.

The TMS recommended the following monitoring and limitations.

Pollutants	Mass Limits (lbs/day)		Concentration (ug/L)			WQBEL	Basis
	AML	MDL	AML	MDL	IMAX		
Antimony, Total	0.15	0.23	8.75	13.7	21.9	8.75	THH
Boron, Total	Report	Report	Report	Report	Report	2,500	CFC
Cadmium, Total	0.008	0.012	0.47	0.74	1.18	0.47	CFC
Cobalt, Total	Report	Report	Report	Report	Report	29.7	CFC
Copper, Total	0.27	0.42	16.2	25.3	40.5	16.2	AFC
Free Cyanide	Report	Report	Report	Report	Report	6.25	THH
Silver, Total	Report	Report	Report	Report	Report	4.94	AFC

In accordance with the Department Standard Operating Procedure (SOP) #BPNPSM-PMT-033, the WMA can demonstrate through additional sampling during the draft permit comment period that these parameters, not normally found in POTW effluent, are not present in the wastewater and therefore eliminate the need for monitoring and limitations.

See Attachment 06 for the TMS Output.

Best Professional Judgment (BPJ) Limitations

In the absence of applicable effluent guidelines for the discharge or pollutant, permit writers must identify and/or develop needed technology-based effluent limitations (TBELs) TBELs on a case-by-case basis, in accordance with the statutory factors specified in the Clean Water Act.

No BPJ limitations have been proposed for this draft.

Anti-Backsliding

In order to comply with 40 CFR § 122.44(l)(1) (anti-backsliding requirements), the Department must issue a renewed permit with limitations as stringent as that of the previous permit.

As indicated above, the Ammonia was modeled with WQM 7.0 using the exiting limitations as input values so that the model could not recommend less stringent Ammonia limitations.

For the less stringent Copper limitation (16.2 µg/L AML, as described above), the Department has determined that the use of the revised Q_{7,10} flow (1.74 CFS, as described on page 2), is a technical correction. The Department considers the calculation and use of the previous Q_{7,10} flow (0.8235 CFS) as a technical mistake, in accordance with 40 CFR § 122.44(l)(2)(i)(B)(2).

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DEVELOPMENT OF MONITORING

Influent Monitoring

In order to adequately characterize the influent wastewater, monitoring of influent Biochemical Oxygen Demand (BOD₅) and Total Suspended Solids (TSS) will be required at the current frequency of 2/Week. This is in accordance with Department procedure.

Toxics Monitoring

As explained above, the Department's TMS model recommends monitoring for certain parameters based on the reported effluent concentrations.

E.coli

The Department is requiring the monitoring of Eschericia coli (E. coli), a pathogenic bacterium normally found in the intestines of healthy people and animals which is used as a fecal contamination indicator in freshwater ecosystems. Section 303(c)(1) of the Clean Water Act requires that Pennsylvania periodically review and revise water quality standards, if necessary. The 2017 triennial review final form rulemaking, published in 2020, has revised the Chapter 93 water quality standards regulations for bacteria to include E. coli. To further characterize fecal contamination of surface waters during the swimming season, the Department is requiring the quarterly reporting of effluent E. coli effluent values. In accordance with 25 PA § 92a.61, the Department may impose reasonable monitoring requirements on pollutants which could have impact on the quality of the Commonwealth's waters or the quality of waters in other states.

WHOLE EFFLUENT TOXICITY TESTING

Whole Effluent Toxicity (WET) Testing is a measure of the aggregate toxic effect to aquatic organisms from all the pollutants in a facility's wastewater effluent. The WET test measures the wastewater's effect on the specific organisms' ability to survive, grow and reproduce.

For Outfall 001, **Chronic** WET Testing was completed for the 2012 permit renewal application (4 tests). The dilution series used for the tests was: 100%, 50%, 25%, 12.5%, and 6.25%.

Summary of Four Most Recent Test Results - NOEC/LC50 Data Analysis

Test Date	Ceriodaphnia Results (% Effluent)			Pimephales Results (% Effluent)			Pass? *
	NOEC Survival	NOEC Reproduction	LC50	NOEC Survival	NOEC Growth	LC50	
02/2012	100	100	100	100	100	100	PASS
04/2012	100	25	100	100	100	100	FAIL
06/2012	100	50	100	100	100	100	FAIL
07/2012	100	100	100	100	100	100	PASS

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

The Target Instream Waste Concentration (TIWC) used for analysis of the results is: 64%.

Is there reasonable potential for an excursion above water quality standards based on the results of these tests? (NOTE – In general, reasonable potential is determined anytime there is at least one test failure in the previous four tests). YES NO

WET Limits

Has reasonable potential been determined? YES NO

Will WET limits be established in the permit? YES NO

Were a WET Limit to be established in this permit, it would be a Chronic Toxicity Limit for *ceriodaphnia dubia* reproduction and would be expressed as 1/TIWCc = 1/0.64 = 1.5625 TUc.

The WET Limit will **not** be established at this time, since the most likely source of toxicity (Osram production wastewater) is no longer present in the WMA wastewater. The Department will instead require the WMA to conduct annual WET testing during the permit term.

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

Acute Partial Mix Factor (PMFa): **1.0** Chronic Partial Mix Factor (PMFc): **1.0**

1. Determine IWC – Acute (IWCa):

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

$$[(2.0 \text{ MGD} \times 1.547) / ((1.74 \text{ cfs} \times 1.0) + (2.0 \text{ MGD} \times 1.547))] \times 100 = 64\%$$
 Is IWCa < 1%? YES NO
 Type of Test for Permit Renewal: CHRONIC
2. Determine Target IWCC

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

$$[(2.0 \text{ MGD} \times 1.547) / ((1.74 \text{ cfs} \times 1.0) + (2.0 \text{ MGD} \times 1.547))] \times 100 = 64\%$$
3. Determine Dilution Series
 Dilution Series = 100%, 82%, 64%, 32%, and 16%.
 (See Attachment C of WET SOP for dilution series, based on TIWCC,)

The permit will contain a Part C Special Condition for the WET Testing requirements.

STORMWATER OUTFALLS

The WMA maintains two stormwater outfalls at the WWTF. The outfall characteristics are as follows.

Outfall	Receiving Stream	Latitude	Longitude	Area Drained (ft ²)
004	Marsh Creek	41°45'29"	-77°17'59"	82,700
005	Marsh Creek	41°45'29"	-77°17'59"	8,700

The permit will contain a Part C Special Condition for the management of stormwater discharging from the WWTF.

RECEIVING STREAM

Stream Characteristics

The receiving stream is Marsh Creek, a tributary to the Pine Creek. Marsh Creek, according to 25 PA § 93.9L, is protected for *Warm Water Fishes (WWF)* and *Migratory Fishes (MF)*. These are the streams *Designated Uses*, which is defined in 25 PA § 93.1 as “those uses specified in §§ 93.9a – 93.9z for each waterbody or segment whether or not the use is being attained”. Designated uses are regulations promulgated by the Environmental Quality Board (EQB) throughout the rulemaking process. This stream currently has no *Existing Use*, which is defined in 25 PA § 93.1 as “those uses actually attained in the waterbody on or after November 28, 1975 whether or not they are included in the water quality standards”. Marsh Creek is identified by stream code 21856. This stream is in (Chapter 93) drainage list L and State Water Plan watershed 9A (Pine Creek).

Impairment/TMDL

Marsh Creek is not attaining its designated uses for Aquatic Life. See the below table for causes and associated sources of impairment.

Impairment Cause	Impairment Source
Organic Enrichment/Low DO	Upstream Impoundment
Siltation	Urban Runoff/Storm Sewers
Water/Flow Variability	Urban Runoff/Storm Sewers
Combined Sewer Overflows	Eutrophication
Municipal Point Source	Eutrophication

Marsh Creek is attaining its designated uses for recreation. No Total Maximum Daily Load (TMDL) has been developed for Marsh Creek.

In 2019, Department biologists performed an aquatic life use (ALU) assessment for copper in Marsh Creek near the WMA outfall, in anticipation of this permit renewal. Evaluation of water chemistry data indicated that there were no exceedances of Criteria Continuous Concentration (CCC, chronic) or Criteria Maximum Concentration (CMC, acute) for copper and therefore copper is not a cause of impairment for the lower reaches of Kelsey Creek, Morris Branch or Charleston Creek or Marsh Creek from the confluence of Morris Branch and Charleston Creek to State Route 287.

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COMBINED SEWERSBackground

Combined Sewer Systems (CSSs) are wastewater collection systems designed to convey sanitary sewage and stormwater in a single pipe to a WWTF. During dry weather, the CSSs convey domestic, commercial and industrial wastewaters. In periods of rainfall or snowmelt, the total wastewater flow can exceed the design capacity of the CSS and/or treatment systems. When this occurs, the Combined Sewer Overflows (CSOs) are used to reduce the hydraulic impact to the CSS and WWTF. Because of varied contaminants and the volume of flows, CSOs can cause a variety of adverse impacts on the physical characteristics of surface water, impair the viability of aquatic habitats and pose a potential threat to drinking water supplies.

Because the WMA operates a combined sewer system, additional requirements must be met through NPDES Permitting. The WMA is subject to both state and federal Combined Sewer Overflow (CSO) strategies. Dischargers with combined sewer systems must characterize those systems, demonstrate implementation of the Nine Minimum Controls (NMCs) and develop a Long-Term Control Plan (LTCP).

The goals of the EPA CSO Control Policy are 1. To ensure that if CSOs occur, they are only as a result of wet weather, 2. To bring all wet weather CSO discharge points into compliance with the technology-based and water quality-based requirements of the Clean Water Act (CWA) and 3. To minimize water quality, aquatic biota and human health impacts from CSOs.

Since the Department is responsible for administering the federal NPDES permit program, the Department developed the PA CSO Policy to define how it will meet the requirements of the federal CSO policy. The goals of the state policy are 1. To control and eliminate CSO discharges as practicable and 2. To ultimately bring all remaining CSO discharges into compliance with state water quality standards through the NPDES permitting program.

Long Term Control Plan

The Long-Term Control Plan (LTCP) is a document by which the permittee evaluates the existing CSS infrastructure and the hydraulic relationship between the CSS, wet weather, overflows and treatment capacity. Cost effective alternatives for reducing or eliminating overflows are evaluated and a plan forward to eventually meet water quality standards is selected. An implementation schedule is then developed to achieve that goal. The three LTCP options are demonstrative, presumptive and total separation. The demonstrative approach shows that the current plan is adequate to meet the water quality-based requirements of the CWA based on data, while the presumptive approach will implement a minimum level of treatment that is presumed to meet the water quality-based requirements of the CWA.

In 2011, the WMA submitted a revised LTCP. This plan was changed to the presumptive approach from complete separation as described in the original LTCP. This presumptive approach has a goal of no more than four CSO events per year on a long-term average, with no more than six events in any given year. The LTCP had planned to 1. Continue removal of inflow from the system (in conjunction with future paving projects), 2. Continue on-going maintenance to minimize infiltration (to be performed as needed), 3. Develop an operational plan to utilize the Benthall lagoon for additional storage during CSO events (without upset to the digestion system), and 4. Inspection and testing of new construction to ensure proper construction and operation (to be performed as needed). This revised plan was approved by the Department in a letter dated June 04, 2012. The goal of the original LTCP (pre-2012 update) was to be in compliance with the presumptive approach by 2026.

Interim milestones of the 2011 revised LTCP are as follows.

Milestone	Due Date
Inspect all buildings for stormwater connections	3 years
Remove stormwater connections	5 years
Begin I&I inspection of system	5 years
Develop plans for larger projects	10 years
Design and construct equalization facilities	15 years

Annual CSO Status Report (Chapter 94 Report)

The Annual CSO Status Report is part of the permittee's annual Chapter 94 Municipal Wasteload Management Report. In this annual report, the permittee is to include 1. The summary of the frequency, duration and volume of the CSO events from the past year, 2. The operational status of the CSO outfalls, 3. Identification of any known in-stream water quality impacts, 4. A summary of all actions taken to implement NMCs and the LTCP and effectiveness of those actions, 5. A progress report and evaluation of the NMC implementation, 6. Rain gauge data for each event and 7. Documentation of annual inspections and maintenance.

During calendar year 2020, a total of 13 CSO events occurred at outfall 002.

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According to the Annual CSO status report, the WMA is in full implementation of the NMCs but did not summarize actions taken to implement the controls nor did the WMA evaluate the NMC implementation.

CSO Inspection

The most recent Department CSO inspection occurred November 14, 2019. At this inspection, the CSO outfalls were observed. All treatment units were operational and online during the inspection. No violations were noted in the report.

CSO Outfalls

The WMA maintains two CSO outfalls within the combined sewer system. 002 is active while 003 has been welded close to prevent events. Outfall 002 is located 200 feet upstream of the WWTF and is equipped with a flow meter and baffle system. It was recently permitted to include automation of the CSO valve. Outfall 003 is located approximately 1,200 feet upstream of the WWTF. The outfall characteristics are as follows.

Outfall	Receiving Stream	Latitude	Longitude	Active
002	Marsh Creek	41°45'18"	-77°17'58"	Yes
003	Marsh Creek	41°45'11"	-77°17'50"	No

CSO Requirements

The permit will contain a Part C Special Condition for the CSO requirements. This condition will require a revised LTCP, in accordance with the following compliance schedule. According to recent CSO inspections, the Department is unable to determine the existence of 1. System Hydraulic Characterization Report and 2. NMC Implementation Documentation Report. The Department is also requiring these additional documents to be submitted as per the compliance schedule.

Milestone	Completion Date
Annual CSO Status Report/LTCP Progress Report/ NMC Implementation Documentation	April 01, 2021
System Hydraulic Characterization	December 01, 2022
Annual CSO Status Report/LTCP Progress Report	April 01, 2022
Revised LTCP	December 01, 2023

ADDITIONAL CONSIDERATIONS

Hauled-In Wastes

According to the application materials, the WMA accepts hauled-in wastes.

Mass Limitations

Existing mass limitations for CBOD₅ and TSS are calculated by multiplying the concentration (mg/L) by the flow (MGD) by the conversion (8.34).

Rounding of Limitations

Limitations have been rounded in accordance with the Department's *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits* (#362-0400-001).

Limit Multipliers

The instantaneous maximum limitations have been calculated using multipliers of 2.0 (for sewage discharges) and 2.5 (for toxic industrial discharges) for determining the IMAX. This practice is in accordance with the Department's *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits* (#362-0400-001).

Sample Frequencies and Types

The sample type and minimum measurement frequencies are in accordance with the Department's *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits* (#362-0400-001). The minimum measurement frequencies of the nutrient parameters are in accordance with the Department's *Phase III Watershed Implementation Plan* of the Chesapeake Bay TMDL.

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Standard Operating Procedures (SOPs)

The review of this permit application was performed in accordance with the Department's *SOP for New and Reissuance Sewage Individual NPDES Permit Applications* and *SOP for Establishing Effluent Limitations for Individual Sewage Permits* (SOP #BPNPSM-PMT-033).

Special Permit Conditions

Stormwater Prohibition
Approval Contingencies
Proper Waste Disposal
Solids Management for Non-Lagoon Treatment Systems
Combined Sewer Overflows
Whole Effluent Toxicity – No Permit Limits
Stormwater Requirements for Sewage Facilities ≥ 1.0 MGD
Total Residual Chlorine Schedule and Site-Specific Studies

Supplemental Discharge Monitoring Reports

Daily Effluent Monitoring
Non-Compliance Reporting
Biosolids Production and Disposal
Hauled-in Municipal Waste
Influent and Process Control
Lab Accreditation
CSO Monthly Report

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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" (362-0400-001), SOPs and/or BPJ.

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

Discharge Parameter	Mass Limits (lb/day)		Concentration Limits (mg/L)				Monitoring Requirements	
	Monthly Average	Weekly Average	Minimum	Monthly Average	Weekly Average	IMAX	Minimum Measurement Frequency	Required Sample Type
Flow (MGD)	Report	Report Daily Maximum	XXX	XXX	XXX	XXX	Continuous	Metered
pH (SU)	XXX	XXX	6.0 Instantaneous Minimum	XXX	XXX	9.0	1/Day	Grab
Dissolved Oxygen	XXX	XXX	5.0 Instantaneous Minimum	XXX	XXX	XXX	1/Day	Grab
Total Residual Chlorine INTERIM	XXX	XXX	XXX	0.17	XXX	0.56	1/Day	Grab
Total Residual Chlorine FINAL ¹	XXX	XXX	XXX	0.09	XXX	0.29	1/Day	Grab
CBOD ₅	300	450	XXX	18	27	36	2/Week	24 Hour Composite
BOD ₅ Influent	Report	Report Daily Maximum	XXX	Report	XXX	XXX	2/Week	24 Hour Composite
Total Suspended Solids	500	750	XXX	30	45	60	2/Week	24 Hour Composite
TSS Influent	Report	Report Daily Maximum	XXX	Report	XXX	XXX	2/Week	24 Hour Composite
Fecal Coliform (No./100mL) (05/01-09/30)	XXX	XXX	XXX	200 Geometric Mean	XXX	1,000	1/Day	Grab
Fecal Coliform (No./100mL) (10/01-04/30)	XXX	XXX	XXX	2,000 Geometric Mean	XXX	10,000	1/Day	Grab
E. coli (No./100mL)	XXX	XXX	XXX	XXX	XXX	Report	1/Month	Grab
Ammonia Nitrogen (06/01-10/31)	25	37	XXX	1.5	2.2	3.0	2/Week	24 Hour Composite
Ammonia Nitrogen (11/01-05/31)	75	112	XXX	4.5	6.7	9.0	2/Week	24 Hour Composite
Total Phosphorus	33	50	XXX	2.0	3.0	4.0	2/Week	24 Hour Composite
Total Antimony (µg/L)	0.15	0.23 Daily Maximum	XXX	8.75	13.70 Daily Maximum	21.9	1/Week	24 Hour Composite
Total Cadmium (µg/L)	0.008	0.012 Daily Maximum	XXX	0.47	0.74 Daily Maximum	1.18	1/Week	24 Hour Composite
Total Copper (µg/L)	0.27	0.42	XXX	16.2	25.30 Daily Maximum	40.5	1/Week	24 Hour Composite
Total Boron (µg/L)	Report	Report Daily Maximum	XXX	Report	Report Daily Maximum	XXX	1/Week	24 Hour Composite
Total Cobalt (µg/L)	Report	Report Daily Maximum	XXX	Report	Report Daily Maximum	XXX	1/Week	24 Hour Composite
Free Cyanide (µg/L)	Report	Report Daily Maximum	XXX	Report	Report Daily Maximum	XXX	1/Week	24 Hour Composite
Total Silver (µg/L)	Report	Report Daily Maximum	XXX	Report	Report Daily Maximum	XXX	1/Week	24 Hour Composite

¹ – Final TRC limit will take effect approximately 3 years from permit effective date; tentatively scheduled for 01/01/2025.

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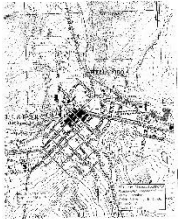
The limitations and monitoring requirements specified below are proposed for the draft permit, to comply with Pennsylvania's Chesapeake Bay Tributary Strategy.

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

Discharge Parameter	Mass Limits (lb/day)		Concentration Limits (mg/L)			Monitoring Requirements	
	Monthly	Annual	Minimum	Monthly Average	Maximum	Minimum Measurement Frequency	Required Sample Type
Ammonia-N	Report	Report	XXX	Report	XXX	2/Week	24 Hour Composite
Kjeldahl-N	Report	XXX	XXX	Report	XXX	2/Week	24 Hour Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	2/Week	24 Hour Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	1/Month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	2/Week	24 Hour Composite
Net Total Nitrogen	XXX	46,029	XXX	XXX	XXX	1/Year	Calculation
Net Total Phosphorus	XXX	4,871	XXX	XXX	XXX	1/Year	Calculation

END of Fact Sheet.

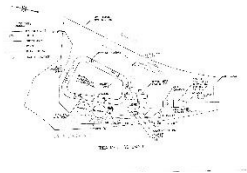
ATTACHMENT 01



ATTACHMENT 02



ATTACHMENT 03



ATTACHMENT 04

PERMIT INFORMATION	
Permit No.	PA0021687
Facility Name	[Illegible]
Location	[Illegible]
Effective Date	[Illegible]
Expiration Date	[Illegible]

ATTACHMENT 05

PERMIT INFORMATION	
Permit No.	PA0021687
Facility Name	[Illegible]
Location	[Illegible]
Effective Date	[Illegible]
Expiration Date	[Illegible]

ATTACHMENT 06

PERMIT INFORMATION	
Permit No.	PA0021687
Facility Name	[Illegible]
Location	[Illegible]
Effective Date	[Illegible]
Expiration Date	[Illegible]