pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0086428**
Facility Type	**Non-Municipal**	APS ID	**14076**
Major / Minor	**Minor**	Authorization ID	**1169912**

Applicant and Facility Information

Applicant Name	**Mazza Vineyards Inc.**	Facility Name	**Mt Hope Estate & Winery**
Applicant Address	2775 Lebanon Road Route 72	Facility Address	2775 Lebanon Road
	Manheim, PA 17545		Manheim, PA 17545
Applicant Contact	Scott Bowser	Facility Contact	Scott Bowser
Applicant Phone	(717) 665-7021	Facility Phone	(717) 443-8076
Client ID	73083	Site ID	259653
Ch 94 Load Status		Municipality	Rapho Township
Connection Status		County	Lancaster
Date Application Received	December 13, 2013	EPA Waived?	Yes
Date Application Accepted	January 6, 2014	If No, Reason	

Purpose of Application: NPDES RENEWAL.

Summary of Review

Mazza Vineyards, Inc. is the owner of the Mount Hope Winery. In 1996, the owners built a 0.025 MGD sewage facility to handle the large tourist visitation that occurs during the summer and fall programs. The total capacity is divided into 10,000 gpd for Mount Hope, 10,000 gpd for neighboring development, and 5,000 gpd for the Township. The original facility was permitted for 0.015 MGD because the neighboring land did not have planning. Planning was received on 12/97. Therefore, the facility was rerated to 0.025 MGD. The STP built consists of a large equalization tank followed by extended aeration with chlorination and de-chlorination. The facility has been hydraulically overloaded and unable to meet permit limits. The Department and Mazza entered a consent order and agreement (COA) signed on August 5th 2013, that accessed civil penalty for violations and requested a corrective action plan to address future violations. Under the terms of the COA, Mazza conducted an engineering audit of the treatment plant and concluded the treatment plant needs expansion and upgrade to address the hydraulic overload and to eliminate effluent violations. Mazza submitted and received planning approval for an expanded flow of 65,000gpd. The expanded treatment plant will serve the existing flow from the PA Renaissance Fare at the site, Hampton Inn, and Rapho Township. A new wastewater treatment plant with a capacity of 65000gpd is proposed to be built to replace the existing 0.025MGD plant. This current permit renewal will be based on the expanded flow of 0.065MGD. The WQM permit for the expansion is concurrently under review. The treatment plant discharges to Chiques Creek (formerly Chickies Creek) The point of discharge is directly upstream of the Hemlock Acres MHP sewage discharge (0.005 MGD) which comes from a septic tank/sand filter treatment facility. Due to the close proximity (about 300 feet), the two discharges will be combined and modeled as one. The previous protection report document that the stream at the point of discharge is about 10 feet wide and 2 to 6 inches deep with a silted substrate with an active aquatic community of stonefly larvae, caddis larvae, and two kinds of mayfly larvae. A pH was measured at 7.2 with a temperature of 19°C in July 1991 when inspecting the MHP. This pH can be expected because of the non-limestone geology and shaded banks. Site conditions are not expected to change significantly.

A topographic map showing the discharge location is presented in attachment A

Approve	Deny	Signatures	Date
x		J. Pascal Kwedza / Environmental Engineering Specialist	February 16, 2017
		Maria D. Bebenek, P.E. / Clean Water Program Manager	

Summary of Review

Changes to the existing Permit

- Instantaneous maximum will be added for Fecal Coliform following 25 PA code 92a.47(a)(4) and 92a.47(a)(5).
- Chesapeake Bay annual cap load for Total Nitrogen and Total Phosphorus has been added due to proposed expansion.

Discharge Parameter	DISCHARGE LIMITATIONS						MONITORING REQUIREMENTS	
	Mass Units			Concentrations			Minimum Measurement Frequency	Required Sample Type
	Total Monthly (lbs/mo)	Daily Maximum (lbs/day)	Total Annual (lbs/year)	Monthly Average (mg/l)	Daily Maximum (mg/l)	Inst. Maximum (mg/l)		
Flow (mgd)	Monitor & Report Avg	Monitor & Report	XXX	XXX	XXX	XXX	1/day	Measured
pH (S.U.)	XXX	XXX	XXX	From 6.0 to 9.0 inclusive			1/day	Grab
D.O.	XXX	XXX	XXX	Minimum of 5.0 mg/l at all times			1/day	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
Total Suspended Solids	XXX	XXX	XXX	30	XXX	60	2/month	8-hour comp
$CBOD_5$	XXX	XXX	XXX	25	XXX	50	2/month	8-hour comp
Fecal Coliform (5/1 to 9/30)	XXX	XXX	XXX	200	XXX	XXX	2/month	Grab
Fecal Coliform (10/1 to 4/30)	XXX	XXX	XXX	2000	XXX	XXX	2/month	Grab

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.065
Latitude	40º 14' 50.05"	Longitude	-76º 26' 37.24"
Quad Name		Quad Code	1734
Wastewater Description:	Sewage Effluent		
Receiving Waters	Chiques Creek	Stream Code	07919
NHD Com ID	57461967	RMI	26.25
Drainage Area	2.26	Yield (cfs/mi^2)	0.16
Q_{7-10} Flow (cfs)	0.36	Q_{7-10} Basis	USGS Gage Station
Elevation (ft)		Slope (ft/ft)	
Watershed No.	7-G	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Nutrients, Siltation		
Source(s) of Impairment	Agriculture		
TMDL Status		Name	

Background/Ambient Data		Data Source
pH (SU)		
Temperature (°F)		
Hardness (mg/L)		
Other:		

Nearest Downstream Public Water Supply Intake	Columbia Borough Water Company		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	30

Changes Since Last Permit Issuance:

Other Comments:

Water Supply:

The nearest water supply intake is 30 miles downstream at Columbia Borough, Lancaster County on the Susquehanna River by the Columbia Borough Water Company. No impact is expected from this discharge.

Treatment Facility Summary				
Treatment Facility Name: Mount Hope Estate & Winery				
WQM Permit No.	**Issuance Date**			
3695403 A-1				
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage			UV	0.065
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.065	130			

Changes Since Last Permit Issuance: None.

Other Comments:

The proposed new facility is a 0.065MGD PureStream BESST BNR package treatment plant. The system consists of two parallel internal 0.0325MGD plants with anoxic zone, aeration zone and a clarifier. UV disinfection is proposed. A screening unit is proposed prior to the system. The existing sludge handling tank will be used with the new system. The rest of the old tanks will be retained for use if needed. The Water Quality Permit for the construction of the facility is currently under review.

Compliance History

DMR Data for Outfall 001 (from November 1, 2015 to October 31, 2016)

Parameter	OCT-16	SEP-16	AUG-16	JUL-16	JUN-16	MAY-16	APR-16	MAR-16	FEB-16	JAN-16	DEC-15	NOV-15
Flow (MGD) Average Monthly	0.01719	0.015	0.0139	0.0044	0.0035	0.0025	0.00131	0.00162	0.00213 1	0.00224 52	0.00265	0.00275
Flow (MGD) Daily Maximum	0.0212	0.0196	0.0195	0.0099	0.01120	0.0063	0.0025	0.00280	0.0035	0.005	0.0058	0.0058
pH (S.U.) Minimum	6.36	6.9	7.15	6.28	6.21	6.58	6.82	6.94	7.07	7.37	6.91	6.73
pH (S.U.) Maximum	8.8	7.78	8.02	7.93	7.840	7.50	7.72	7.94	8.15	8.07	7.36	7.69
DO (mg/L) Minimum	6.43	5.95	5.24	6.03	5.470	5.70	7.14	5.72	9.00	9.00	9.00	6.73
TRC (mg/L) Average Monthly	0.227	0.182	0.045	0.0815	0.12	0.13	0.099	0.093	0.01	0.02	0.04	0.056
TRC (mg/L) Instantaneous Maximum	0.88	1.27	0.28	0.33	0.61	0.77	0.68	0.51	0.05	0.07	0.11	0.59
CBOD5 (mg/L) Average Monthly	3	2.15	4.1	< 2	2.90	2.8	4.70	10.70	2.8	4.05	2.95	5.19
TSS (mg/L) Average Monthly	20	8.5	11.5	10.5	8	10.50	11	24	8.5	2.5	4.50	7
Fecal Coliform (CFU/100 ml) Geometric Mean	50.914	8	33	38	1	< 1	1	< 2	< 1.5	00	0.50	3.5
Total Phosphorus (mg/L) Average Monthly	0.90	0.51	0.525	0.41	0.42	0.40	0.42	0.51	0.235	0.165	0.265	0.58

Compliance History

The facility had had numerous effluent violations and is under a COA to address violations. Under the COA, a civil penalty was assessed for the violations and has been settled by the permittee. The plant upgrade was proposed to address recurrence of violations. There is stipulation for any violation after the COA and was signed. The permittee has been pumping and hauling flow during extremely high flows to address the hydraulic overloads.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .025/0.065
Latitude 40º 14' 48.03" **Longitude** -76º 26' 36.65"
Wastewater Description: Sewage Effluent

Basis for Effluent Limitations

In general, the Clean Water Act(AWA) requires that the effluent limits for a particular pollutant be the more stringent of either technology-based limits or water quality-based limits. Technology-based limits are set according to the level of treatment that is achievable using available technology. A water quality-based effluent limit is designed to ensure that the water quality standards applicable to a waterbody are being met and may be more stringent than technology-based effluent limits.

Technology-Based Limitations

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

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

Comments: Weekly averages are not applicable to this discharge.

Receiving Stream

The receiving stream is Chiques Creek. According to 25 PA § 93.9o, this stream is protected for Warm Water Fishes (WWF) and Migratory fishes. It is located in Drainage List N and State Watershed 7-G with 07919 as stream Code. The creek is impaired and is not attaining its designated use and supporting aquatic life. See discussion in 303d listed stream section of the report below.

Streamflows

Streamflow will be correlated with past streamflow records taken from the nearby USGS gage station on the Conestoga River at Lancaster City. $Q_{7\text{-}10}$, $Q_{30\text{-}10}$, and winter $Q_{7\text{-}10}$ will be calculated by 0.16 cfs/mi^2, 1.27 and 1.17 x $Q_{7\text{-}=10}$. $Q_{1\text{-}10}$ will be calculated using a factor of 0.64 x $Q_{7\text{-}10}$, which was derived by Central Office in their February 1987 NH_3 Implementation Guidance. The drainage area upstream of the discharge has been revised to 2.26 mi^2 based of streamStats calculation. The resulting streamflows are as follows:

$Q_{7\text{-}10}$ = 2.26 mi^2 x 0.16 cfs/mi^2 = 0.36 cfs
$Q_{30\text{-}10}$ = 1.27 x 0.36 cfs = 0.46 cfs
$Q_{7\text{-}10}$ (winter) = 1.17 x 0.36 cfs = 0.42 cfs
$Q_{1\text{-}10}$ = 0.64 x 0.36 cfs = 0.23 cfs

NH_3N Calculations:

NH_3N calculations will be based on the Department's Implementation Guidance of Section 93.7 Ammonia Criteria, dated 11/4/97 (ID #391-2000-013). The following data is necessary to determine the instream NH_3N criteria used in the attached computer model of the stream:

STP pH	=	7.0	(Default)
STP Temp	=	25°C	(Default)
Stream pH	=	7.8	(taken from the WQN station on Chiques Creek from July-September) (7.2 was measured on 7/91)
Stream Temp	=	20° C	(taken from the WQN station on Chiques Creek from July-September) (19° C was measured on 7/91)
Background NH_3N	=	0	(assumed)

$CBOD_5$ & NH_3-N

The attached computer printout of the WQM 7.0 stream model (attachment B) indicates that secondary treatment is adequate to protect water quality. As mentioned in the General Section, Mazza Vineyards facility discharge was modelled together with Hemlock Acres MHP as one discharge to determine limitations due their close proximity to each other. Inspection Reports and DMRs indicate that Mazza Vineyards consistently achieve less than 15 mg/l $CBOD_5$. Secondary treatment is recommended for this permit cycle. This is consistent with the existing permit.

The attached computer printout of the WQM 7.0 stream model (attachment B) indicates that an average monthly summer limit of 6.5 mg/l NH_3 is necessary to protect the aquatic life from toxicity effects. Winter limitation of 19.5 mg/l NH_3 which is 3 times the summer limitation is adequate to protect the aquatic life from toxicity effects during the winter months.

Dissolved Oxygen

The existing permit contains a limit of 5 mg/l for Dissolved Oxygen (DO). DEP's Technical Guidance for the Development and Specification of Effluent Limitations (362-0400-001, 10/97) suggests that either the adopted minimum stream D.O. criteria for the receiving stream or the effluent level determined through water quality modeling be used for the limit. Since the WQM 7.0 model was run using a minimum D.O. of 5.0 mg/l as well, this limit will be continued in the renewed permit with a daily monitoring requirement per DEP guidance.

Total Suspended Solids:

There are no water quality criteria for TSS. A limit of 30 mg/l is the required minimum level of effluent quality attainable by secondary treatment as defined in EPA's 40 CFR Chapter 1, Part 133, Section 133.102(b) and in PA Code 92a.47(a)(1) in the existing permit will remain.

Fecal Coliform:

In addition to the existing summer and winter limitations (geometric mean) for fecal coliform, instantaneous maximum limitations of 1,000/100 ml and 10,000/100 ml will be added to the permit following PA code 92a.47(a)(4) and 92a.47(a)(5) for summer and winter respectively.

Biosolids Management

Sludge is hold up in an aerobic digester and hauled out by a licensed hauler periodically.

Chesapeake Bay Strategy:

The Department formulated a strategy to comply with the EPA and Chesapeake Bay Foundation requirements by reducing point source loadings of Total Nitrogen (TN) and Total Phosphorus (TP). Sewage discharges have been prioritized based on their delivered TN and TP loadings to the Bay. The highest priority (Phases 1, 2, and 3) dischargers will receive annual loading caps based on their design flow on August 29, 2005 and concentrations of 6 mg/l TN and 0.8 mg/l TP. These limits may be achieved through a combination of treatment technology, credits, or offsets if approved by

DEP. Phase 4 (0.2 -0.4mgd) and Phase 5(below 0.2mdg) will be required to monitor and report TN and TP during permit renewal. Any facility in Phases 4 and 5 that undergoes expansion is subjected to cap load right away.

The facility is a phase 5 facility undergoing expansion from 0.025MGD to 0.065MGD. The facility received planning approval for the expanded flow of 0.065MDG. The Pennsylvania's Chesapeake Bay Tributary Strategy Point Source Implementation Plan required cap load to the lesser of a cap load based on the design flow before August 29, 2005 and the facility's existing performance or default values of 4mg/l TP and 22mg/l TN but in no case will the load exceed 974lbs TP and 7306lbs TN annually. This results in a total maximum annual phosphorus loading cap of 152 lbs/year based on a design annual waste flow of 0.025MGD and existing performance of 2 mg/l of TP and a total maximum annual nitrogen loading cap of 1,674lbs/year based a design flow of 0.025MGD and a default value 22mg/l TN.

Phosphorus:

See 303d listed streams stream section of the report for phosphorus limitation discussion.

Total Residual Chlorine:

The existing average monthly water quality limit of 0.5mg/l and 1.6mg/l maximum daily will remain in the permit in the interim prior to plant upgrade. The facility proposed UV disinfection after plant upgrade and will be required to monitor and report UV light intensity or transmittance.

Toxics

A reasonable potential (RP) analysis was done for pollutant submitted with the application. No pollutants were detected above criteria. Toxics discharge levels in the effluent are not a concern at this time.

Stormwater:

No stormwater outfall is associated with this facility

Antidegradation (93.4):

The effluent limits for this discharge have been developed to ensure that existing instream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. No High Quality Waters are impacted by this discharge. No Exceptional Value Waters are impacted by this discharge.

Class A Wild Trout Fisheries:

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

303d Listed Streams

Chiques Creek was on Pennsylvania's 1996 303(d) List of Impaired Waters (List) as being impaired by nutrients from agricultural sources. The impairment was modified as indicated in the 1998 List to also include siltation from agriculture. The Chiques Creek Watershed TMDL for phosphorus and sediment was developed by Pennsylvania Department of Environmental Protection (DEP) and approved by the United States Environmental Protection Agency (EPA) on 4/9/2001. The Department determined and the EPA agreed that the TMDL was ineffective. DEP provided a rationale for withdrawal of the TMDL, and on October 28, 2015 EPA approved withdrawal of the TMDL (See attachment C & D).

The Department is currently engaged in developing a TMDL Alternative in accordance with EPAs approval of the withdrawal of the TMDL. Given that the existing discharge is contributing to the impairment and the existing discharge is proposing to be expanded, phosphorus controls on the discharge are necessary. The TMDL Alternative is not yet complete, so wasteload allocations for point sources have not been developed; however, the permittee would like to move forward with expansion of the flow. The Department is proposing to include an average monthly concentration limit of 0.5 mg/L phosphorus in the permit. Per DMRs data, the existing discharge concentration of phosphorus exceeded 0.5mg/l five times during the past twelve months however after plant upgrade the facility should be able to meet the limit without difficulty. The existing limit of 2mg/l will be required in the interim and a limit of 0.5 mg/L as a monthly average will be apply after plant upgrade. The limit will provide for a reduction in both concentration and loading of phosphorus to the

receiving stream. Given that the new facility will include a biological nutrient removal treatment process removal of phosphorus biologically along with filtration and chemical addition will allow them to meet the limits and reduce their overall loading to the Chiques Creek. Once the TMDL Alternative is developed, the requirements will be implemented in accordance with the alternative in future permit renewals or amendments. The permit will have a reopener clause for phosphorus.

Chiques Creek TMDL Alternative Update

The Chiques Creek TMDL Alternative is currently being drafted by the Susquehanna River Basin Commission (SRBC). Partners in the TMDL alternative effort have been working together for the last 18 months to replace the withdrawn Chiques Creek nutrient and sediment TMDLs originally approved by US EPA in 2001.

The Agriculture and Environment Center of Penn State University(PSU) is currently leading five workgroups in keeping with DEP's commitment to increased public engagement as part of the new 303(d) Vision. These workgroups include teams looking at agriculture, stormwater, and planning/monitoring. Two other teams are comprised of municipal managers and focused on MS4 permitting requirements along with bigger picture issues associated with the TMDL alternative.

SRBC is currently reviewing options for TMDL targets and working with Land studies and PSU on efforts to model pollutant reductions resulting from BMP implementation. DEP is expecting the draft TMDL alternative to be available sometime in the first quarter of 2017. The draft will undergo considerable workgroup and stakeholder review and followed by widespread presentation to the public.

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 End of Plant Upgrade

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	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	25.0	XXX	50	2/month	8-Hr Composite
Total Suspended Solids	XXX	XXX	XXX	30.0	XXX	60	2/month	8-Hr Composite
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000	XXX	10,000	2/month	Grab
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200	XXX	1,000	2/month	Grab
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	19.5	XXX	39	2/month	8-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	6.5	XXX	13	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	2.0	XXX	4	2/month	8-Hr Composite

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at Outfall 001

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: End of Plant Upgrade through Permit Expiration

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	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	25.0	XXX	50	2/month	8-Hr Composite
Total Suspended Solids	XXX	XXX	XXX	30.0	XXX	60	2/month	8-Hr Composite
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000	XXX	10,000	2/month	Grab
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200	XXX	1,000	2/month	Grab
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	19.5	XXX	39	2/month	8-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	6.5	XXX	13	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	0.5	XXX	1	2/month	8-Hr Composite
Ultraviolet light transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at Outfall 001

Proposed Effluent Limitations and Monitoring Requirements

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 End of Plant Upgrade

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Monthly	Annual	Monthly	Monthly Average	Maximum	Instant. Maximum		
Ammonia--N	Report	Report	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Net Total Nitrogen	Report	Report	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	Report	XXX	XXX	XXX	XXX	1/month	Calculation

Compliance Sampling Location: 001

Proposed Effluent Limitations and Monitoring Requirements

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

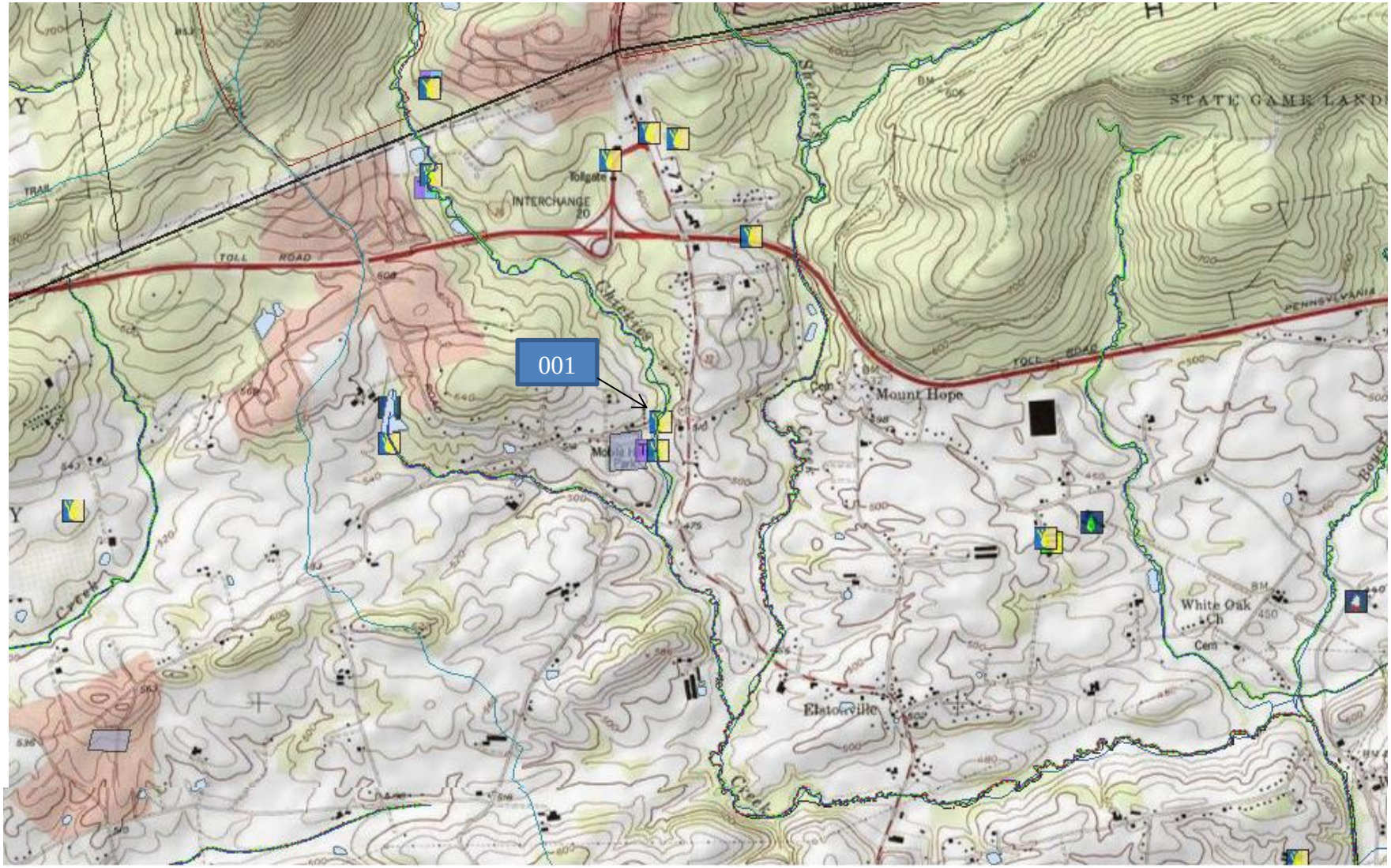
Outfall 001, Effective Period: End of Plant Upgrade through Permit Expiration Date

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Monthly	Annual	Monthly	Monthly Average	Maximum	Instant. Maximum		
Ammonia--N	Report	Report	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Net Total Nitrogen	Report	1,674	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	152	XXX	XXX	XXX	XXX	1/month	Calculation

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

Attachments

A. Topographical Map



B. WQ M Model Results

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
07G	7919	CHICKIES CREEK

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)
27.840	Mazza Vineyds	PA0086428	0.065	CBOD5	25		
				NH3-N	6.53	13.06	
				Dissolved Oxygen			5

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)
27.610	Hemlock Acres	PA0043028	0.005	CBOD5	25		
				NH3-N	21.93	43.86	
				Dissolved Oxygen			5

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
07G	7919	CHICKIES CREEK	**27.840**	496.00	2.26	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	0.160	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.80	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
Mazza Vineyds	PA0086428	0.0650	0.0650	0.0650	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

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
07G	7919	CHICKIES CREEK	**27.610**	494.00	2.32	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	0.160	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.80	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
Hemlock Acres	PA0043028	0.0052	0.0052	0.0052	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

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
07G	7919	CHICKIES CREEK	**26.250**	490.00	2.38	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	0.160	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.80	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	0.00	0.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
07G	7919	CHICKIES CREEK

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 (°C)	Analysis pH
Q7-10 Flow												
27.840	0.36	0.00	0.36	.1006	0.00165	.462	9.63	20.84	0.10	0.135	21.09	7.47
27.610	0.37	0.00	0.37	.1087	0.00056	.484	10.28	21.25	0.10	0.862	21.13	7.46
Q1-10 Flow												
27.840	0.23	0.00	0.23	.1006	0.00165	NA	NA	NA	0.09	0.163	21.51	7.38
27.610	0.24	0.00	0.24	.1087	0.00056	NA	NA	NA	0.08	1.034	21.57	7.37
Q30-10 Flow												
27.840	0.46	0.00	0.46	.1006	0.00165	NA	NA	NA	0.12	0.121	20.90	7.51
27.610	0.47	0.00	0.47	.1087	0.00056	NA	NA	NA	0.11	0.775	20.94	7.50

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	1.27	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
07G	7919	CHICKIES CREEK

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
27.840	Mazza Vineyds	6.08	20.07	6.08	19.51	2	3
27.610	Hemlock Acres	4.12	50	6.12	48.6	2	3

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
27.840	Mazza Vineyds	1.34	7.44	1.34	6.53	2	12
27.610	Hemlock Acres	1.11	25	1.34	21.93	2	12

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)		
27.84	Mazza Vineyds	25	25	6.53	6.53	5	5	0	0
27.61	Hemlock Acres	25	25	21.93	21.93	5	5	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
07G	7919	CHICKIES CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
27.840	0.065	21.088	7.467
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
9.627	0.462	20.843	0.104
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
7.00	1.136	1.42	0.761
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.537	20.395	Owens	5
Reach Travel Time (days)			
0.135			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.014	6.89	1.41	7.68
0.027	6.78	1.39	7.79
0.041	6.67	1.38	7.88
0.054	6.57	1.36	7.95
0.068	6.46	1.35	8.00
0.081	6.36	1.34	8.04
0.095	6.26	1.32	8.08
0.108	6.16	1.31	8.08
0.122	6.06	1.29	8.08
0.135	5.96	1.28	8.08

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
27.610	0.070	21.132	7.457
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
10.283	0.484	21.254	0.096
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
6.20	0.900	1.61	0.764
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.030	17.823	Owens	5
Reach Travel Time (days)			
0.862			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.086	5.72	1.50	8.07
0.172	5.27	1.41	8.07
0.258	4.85	1.32	8.07
0.345	4.47	1.23	8.07
0.431	4.12	1.16	8.07
0.517	3.80	1.08	8.07
0.603	3.50	1.01	8.07
0.689	3.23	0.95	8.07
0.775	2.97	0.89	8.07
0.862	2.74	0.83	8.07

C.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Decision Rationale

Withdrawal of the Chickies (aka Chiques) Creek Watershed Total Maximum Daily Load for Phosphorus and Sediment Lancaster County, Pennsylvania

Jon M. Capacasa, Director
Water Protection Division

Date: OCT 28 2015

Decision Rationale
Withdrawal of the Chickies (aka Chiques) Creek Watershed
Total Maximum Daily Load for Phosphorus and Sediment
Lancaster County, Pennsylvania

I. Introduction

The United States Environmental Protection Agency, Region III (EPA) approved the phosphorus and sediment Total Maximum Daily Loads (TMDLs) for the Chickies Creek Watershed on April 9, 2001 (herein referred to as the "2001 TMDLs"). The waterbody has since been renamed Chiques Creek. The approval was based on information known at that time to address the water quality impairments identified in Pennsylvania's 1996 Section 303(d) list. The cause of the impairment to Chiques Creek and its tributaries was attributed to agriculture. In a letter dated August 7, 2015, Pennsylvania Department of Environmental Protection (PADEP) submitted a request for EPA to approve the withdrawal of the 2001 TMDLs. The request was accompanied with a separate rationale document entitled, *Chiques Creek Withdrawal Rationale and TMDL/TMDL Alternative Proposal* (the "Rationale"). This decision rationale summarizes our review of PADEP's documentation supporting the withdrawal of the 2001 TMDLs. PADEP public noticed the Rationale on December 20, 2015.

II. Summary

Generally, if a State determines that a TMDL needs to be revised, EPA recommends that current TMDLs stay in place until replaced with another TMDL. This ensures that activities to reduce sources will be occurring within the watershed while the TMDL is being revised. However, as described in the August 7, 2015 letter and Rationale, PADEP has determined that these TMDLs are inadequate for addressing the nutrient and sediment impairments in the Chiques Creek and that the current TMDL is hindering restoration activities within the watershed. Specifically, in the 2001 TMDLs, five NPDES permittees are listed in the phosphorus TMDL with WLA's set at their current discharge (i.e. no reductions are required) and no permits are considered in the sediment TMDLs. PADEP has provided evidence that there are approximately 66 NPDES permittees that were left out or omitted in the 2001 TMDL, including 19 municipal separate storm sewer systems (MS4s) and 33 concentrated animal feeding operations (CAFOs). These permits cannot be renewed and updated with appropriate reductions to their discharge until the TMDL is revised. However, because the TMDL is over 14 years old, the 2001 TMDL cannot be easily revised in a timely manner. EPA expects that any new TMDL in Chiques Creek will incorporate a reassessment of the land uses in the watershed, an inventory all the point and nonpoint sources of sediment and nutrients in the watershed and a remodeling of those sources and the reductions needed to meet applicable water quality standards based on current conditions.

It is important to note that EPA has established the Chesapeake Bay TMDL in December 2010 and Chiques Creek is located within the Bay watershed and is effected by the reductions required in the TMDL. In accordance with the Bay TMDL, reductions in upstream portions of the Chesapeake Bay Watershed are necessary from various source sectors including wastewater treatment plants, stormwater, and agriculture sources. In order to meet their requirements under EPA's Chesapeake Bay TMDL, three wastewater treatment plants in the Chiques Creek watershed have made upgrades and have reduced their nutrient loads to the watershed. The Chesapeake Bay TMDL also made aggregate allocations of nutrients and sediment to nonpoint sectors such as agricultural and stormwater based on Pennsylvania's commitment in their Watershed Implementation Plan to make certain reductions in nutrient and sediment loading from those sectors (i.e., agriculture and stormwater). These allocations (and associated reductions) are made in the

aggregate to the sector in Pennsylvania's portion of the Susquehanna River and does not specifically give sub-allocations (and associated reductions) to the nonpoint sources for the Chiques Creek Watershed. Because of the Bay TMDL, reductions of sediment and nutrient loads will continue in the Chiques Creek watershed, even though the 2001 TMDL is being withdrawn.

PADEP has also committed to replacing the TMDL with a new TMDL by March 2016 unless an alternative restoration approach is determined to be more immediately beneficial or practicable in achieving water quality standards. As described in EPA's *A Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program* (the "Vision") dated December 2013, States are provided flexibility in using available tools beyond TMDLs to attain water quality restoration and protection. The Vision promotes (as appropriate) other tools (or "alternatives") that may be more immediately beneficial or practicable to achieving applicable water quality standards under certain circumstances than pursuing a TMDL approach in the near-term. EPA has provided information on implementing the CWA 303(d) Program Vision in its August 13, 2015 memorandum, *Information Concerning 2016 Clean Water Act Sections 303(d), 305(b), and 314 Integrated Reporting and Listing Decisions* (2016 IR Memo). The 2016 IR Memo directs states to include a description in it integrated reports. Reporting under the Vision directs states to demonstrate such an approach is on track by showing steady and continuing improvements in water quality or adequate progress in implementing the plan. Pennsylvania is selecting Chiques Creek Watershed as a priority watershed under the Vision whereby the States have the opportunity to set long-term CWA 303(d) priorities from FY 2016 to FY 2022 to strategically focus their efforts. PADEP provided in the rationale the proposal of a pilot alternative restoration approach for Chiques Creek restoration, which includes activities for reassessment and remodeling work that could be used to support either approach. PADEP is utilizing Section 106 and the Chesapeake Bay Regulatory and Accountability Program (CBRAP) to fund this pilot which provides a higher level of confidence that a TMDL or an alternative restoration approach will occur in a timely manner.

Finally, PADEP has committed to taking a watershed-wide approach to be inclusive of the entire Chiques Creek Watershed. This will capture additional impaired segments for which no TMDLs have been established. It will also capture segments for which other TMDLs were developed. EPA expects PADEP to re-list the impaired waterbodies within Chiques Creek Watershed under Category 5 of its 2016 Integrated Report, and identify the pollutants of concern.

III. Conclusion

Based on the factors discussed above, EPA is approving the withdrawal of the 2001 TMDLs with the expectation that revised TMDLs will be submitted to EPA by March 2016 for approval unless an alternative restoration approach, as described in EPA's *A Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program* dated December 2013, is documented and the actions are being implemented.

D.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

OCT 2 8 2015

Mr. Lee McDonnell, P.E., Director
Bureau of Point and Non-Point Source Management
Pennsylvania Department of Environmental Protection
Rachel Carson State Office Building
P.O. Box 8774
Harrisburg, Pennsylvania 17105-8774

Dear Mr. McDonnell:

Thank you for your letter dated August 7, 2015, requesting the United States Environmental Protection Agency, Region III (EPA) to approve the withdrawal of the phosphorus and sediment Total Maximum Daily Loads (TMDLs) developed by the Pennsylvania Department of Environmental Protection (PADEP) for the Chiques Creek Watershed. We approved the TMDLs on April 9, 2001 (herein referred to as the "2001 TMDLs") based on information known at that time to address the water quality impairments caused by agriculture in Chiques Creek Watershed identified in Pennsylvania's 1996 Section 303(d) list. Generally, EPA recommends that TMDLs stay in place until replaced with another TMDL. However, based on the factors discussed below and in the attached decision rationale, EPA is approving PADEP's withdrawal of the 2001 TMDLs with the expectation that PADEP will submit revised TMDLs for the Chiques Creek Watershed to EPA for approval by March 2016 unless an alternative restoration approach, as described in EPA's *A Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program* dated December 2013, is documented and the actions are being implemented.

We understand through your rationale that the 2001 TMDLs are an ineffective and inaccurate planning tool for reductions from the various sectors in the Chiques Creek Watershed. Keeping the TMDLs in place puts the sole burden for reductions on the agricultural community and does not provide appropriate reductions to other sources within the watershed. The 2001 TMDLs do not provide any allocations for many of the existing point sources. Because the watershed is within the Chesapeake Bay Watershed, point sources may need permit limits to address allocations under the Chesapeake Bay TMDL. We expect the implementation of the Chesapeake Bay TMDL will be used as the interim planning tool for nutrient and sediment reductions for the various sectors within the Chiques Creek Watershed while PADEP considers the options for TMDL development or an alternative that will ensure the protection of the local water quality within the watershed. EPA expects PADEP to re-list the impaired waterbodies within Chiques Creek Watershed under Category 5 of its 2016 Integrated Report, and identify the pollutants of concern.

PADEP identified Chiques Creek Watershed as a priority watershed under the new collaborative framework for implementing the CWA Section 303(d) Program – *A Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program* (the "Vision"). PADEP's TMDL Program has been working internally with their Water Quality Monitoring Program to gather data necessary to assess baseline conditions within the watershed to support TMDL development or an alternative restoration approach. While EPA expects TMDLs to still be the predominant tool used to ensure water quality standards are achieved, EPA recognizes that under certain circumstances there are alternative restoration approaches that may be more immediately beneficial or practicable in achieving water quality standards than pursuing the TMDL approach in the near-term. Should PADEP pursue an alternative restoration approach, EPA provided information on implementing the Vision in its August 13, 2015 memorandum, *Information Concerning 2016 Clean Water Act Sections 303(d), 305(b), and 314 Integrated Reporting and Listing Decisions* (2016 IR Memo). An alternative restoration approach is a near-term plan, or description of actions, with a schedule and milestones, that is more immediately beneficial or practicable to achieving water quality standards. Actions, including specific best management practices (BMPs), should address sources, both point and nonpoint sources, responsible for the impairment, and identify clear mechanisms to address them. Appropriate mechanisms to address point sources include permits and other enforceable mechanisms. The schedule needs to identify when water quality standards will be met. The 2016 IR Memo directs states to include a description of the alternative restoration approach in it integrated reports. Pursuing an alternative restoration approach does not meet the state's obligation to develop a TMDL for an impaired waterbody. By 2022, the state needs to show steady and continuing improvement in water quality or adequate progress in implementing the action plan to maintain a low priority ranking for TMDL development.

Furthermore, PADEP expressed its hopes to address the various deficiencies in the 2001 TMDLs through intensive public engagement and grant program coordination in this pilot effort. PADEP along with the Susquehanna River Basin Commission supported through the Chesapeake Bay Implementation Grant (CBIG) have already began engaging local stakeholders in this process. We encourage the grant program coordination to be extended to include program integration in order to engage the agricultural community. State activities funded under various grants (e.g. CBIG, Chesapeake Bay Regulatory and Accountability Program (CBRAP), Section 106 grant) may support site visits and/or activities to ensure compliance of agricultural sources with federal and state regulatory requirements, expand voluntary nutrient management practices, and accelerate implementation of high priority agricultural conservation practices within Chiques Creek Watershed. This coordinated approach would help involve the agricultural community to be more engaged in the process and establish clear mechanisms to implement sediment and nutrient reducing BMPs.

We look forward to working with PADEP as you develop and implement your restoration approach in the Chiques Creek Watershed. Please call me or Ms. Ashley Toy at 215-814-2774 if you have any further questions or concerns about these issues.

Sincerely,

Jon M. Capacasa, Director
Water Protection Division

cc: Kelly Hefner, PADEP
Steve Taglang, PADEP