Pennsylvania Department of Environmental Protection

Southwest Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0206016**
Facility Type	**Non-Municipal**	APS ID	**1124229**
Major / Minor	**Minor**	Authorization ID	**1503830**

Applicant and Facility Information

Applicant Name	**Lightning Properties LLC**	Facility Name	**Clearview MHP**
Applicant Address	55 Timberline Drive	Facility Address	25 Old Plank Road
	Washington, PA 15301-8173		Washington, PA 15301-9037
Applicant Contact	Steve Stewart	Facility Contact	Same as Applicant
Applicant Phone	(724) 554-8317	Facility Phone	Same as Applicant
Client ID	364914	Site ID	238071
Ch 94 Load Status	Not Overloaded	Municipality	South Franklin Township
Connection Status	No Exceptions Allowed	County	Washington
Date Application Received	October 17, 2024	EPA Waived?	Yes
Date Application Accepted	October 23, 2024	If No, Reason	

Purpose of Application: NPDES Permit Renewal for Discharge of Treated Sewage Effluent.

Summary of Review

This application is for a renewal of the NPDES Permit PA0206016, which was previously issued on February 8, 2019 and expired on September 30, 2024. This application was received on October 17, 2025, thus, this application is considered late.

The existing treatment process consists of flow equalization, extended aeration, final clarification, chlorination and dechlorination. The facility was designed to treat sewage from 20 mobile homes.

The plant has a discharge of 0.0035 MGD to an UNT to Chartiers Creek, which is classified as warm-water fishery within the Pennsylvania watershed No. 20-F.

An Operations compliance check summary report was completed by DEP's Operations section on November 8, 2024 and concluded that this facility is generally in compliance with no open violations or pending enforcements. Checking on last time this facility was inspected, the inspection report on August 13, 2021 stated that no violations were noticed, and the facility is well maintained with no odors or operational issues.

The application stated that there were no changes to the facility conditions regarding discharge, receiving stream, or treatment technology. No changes are foreseen for the next five years, therefore, Act 537 was not needed.

No industrial users are discharging to this facility per the application.

The applicant provides a proof of Act 14, P.L. 834 compliance with the July 23, 2024 letters, no comments were received.

Approve	Deny	Signatures	Date
X		Hazim Aldalli Hazim Aldalli / Environmental Engineering Specialist	April 25 2025
X		Mahbuba Iasmin Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineering Manager	April 29, 2025

Summary of Review

Sludge use and disposal description and location(s): Sludge/ biosolids produced for 2023 was 0.19 dry tons and was hauled by a private contractor to be disposed in permitted landfill. Also, this plant (per application) is not receiving additional sludge from other sources.

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.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.0035
Latitude	40º 7' 53"	Longitude	-80º 17' 10"
Quad Name	Washington West	Quad Code	40080B3
Wastewater Description:	Sewage Effluent		

Receiving Waters	Chartiers Creek (WWF)	Stream Code	UNT to 36777
NHD Com ID	99694812	RMI	0.057
Drainage Area	0.1	Yield (cfs/mi^2)	0.00005
Q_{7-10} Flow (cfs)	0.000467	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	1141	Slope (ft/ft)	
Watershed No.	20-F	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use	None.	Exceptions to Criteria	None.
Assessment Status	Impaired		
Cause(s) of Impairment	NUTRIENTS, PATHOGENS, SILTATION		
Source(s) of Impairment	AGRICULTURE, SOURCE UNKNOWN, URBAN RUNOFF/STORM SEWERS		
TMDL Status	Final	Name	Chartiers Creek Watershed

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

Nearest Downstream Public Water Supply Intake		West View Municipal Authority	
PWS Waters	Ohio River	Flow at Intake (cfs)	4730
PWS RMI	35.26	Distance from Outfall (mi)	>20.0

- Changes Since Last Permit Issuance: Q_{7-10} flow, elevation, drainage area, and low flow yield were all updated to match USGS Stream Stats new data (see Attachment A).

- DEP updated its WQM 7.0 criteria for Ammonia-Nitrogen (NH_3-N) in 2019. Limits and conditions of this permit need to be redeveloped to an adequate level to protect water quality.

- *E. Coli* monitoring requirements will be introduced to this renewal which is in compliance with DEP SOP No. BCW-PMT-033 revised February 5, 2024.

Other Comments: None.

Treatment Facility Summary

Treatment Facility Name: Clearview MHP STP

WQM Permit No.	Issuance Date
6393404	11/29/1993
6393404 A-1	7/21/2003
6393404 T-1	8/26/2019
6393404 T-2	9/24/2021

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary With Ammonia Reduction	Extended Aeration	Chlorination	0.0035

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0035	N/A	Not Overloaded	N/A	N/A

Changes Since Last Permit Issuance: The NPDES and WQM permits were transferred to Lightning Properties LLC in 2021. The previous applicant was Marc Coleman of 413 Investments LLC. This amendment was for change in ownership only. No other changes were made to the NPDES Permit.

Other Comments: None.

Compliance History

Operations Compliance Check Summary Report

Facility: CLEARVIEW MHP

NPDES Permit No.: PA0206016

Compliance Review Period: 11/1/19-11/8/24

Inspection Summary:

INSPECTED DATE	INSP TYPE	AGENCY	INSPECTION RESULT DESC
12/28/2023	Administrative/File Review	PA Dept of Environmental Protection	Violation(s) Noted
08/13/2021	Compliance Evaluation	PA Dept of Environmental Protection	No Violations Noted
08/10/2021	Administrative/File Review	PA Dept of Environmental Protection	No Violations Noted

Violation Summary:

VIOLATION DATE	VIOLATION TYPE	VIOLATION TYPE DESC	RESOLVED DATE
12/28/2023	302.202	Operator Certification - Failure to submit annual system fee	01/10/2024

Open Violations by Client ID:

No open violations for Client ID 347860

Enforcement Summary:

ENF TYPE	ENF TYPE DESC	EXECUTED DATE	ENF FINALSTATUS	ENF CLOSED DATE
NOV	Notice of Violation	11/22/2021	Administrative Close Out	03/12/2024

Effluent Violation Summary:

Mon Pd	Outfall	Parameter	Sample	Permit	Unit	Stat Base Code	Facility Comment
Jul-24	001	Fecal Coliform	230	200	No./100 ml	Geometric Mean	Fecal coliform exception due to chlorine tablet feeder malfunction, repairs have been completed.

Jun-24	001	Dissolved Oxygen	3.5	4.0	mg/L	Instantaneous Minimum	Operational issues with DO, Chlorine and pH meters, repairs in progress.
Jun-23	001	Ammonia-Nitrogen	2.2	1.9	mg/L	Average Monthly	
Jan-18	001	Ammonia-Nitrogen	4.0	2.8	mg/L	Average Monthly	NH-3 exception due to RAS malfunction. RAS line frozen due to weather conditions. Corrective actions are in progress.
Sep-17	001	Ammonia-Nitrogen	2.8	1.9	mg/L	Average Monthly	
Mar-17	001	Ammonia-Nitrogen	5.3	2.8	mg/L	Average Monthly	
Mar-17	001	Ammonia-Nitrogen	8.9	5.6	mg/L	Instantaneous Maximum	
Jan-17	001	Ammonia-Nitrogen	10.5	5.6	mg/L	Instantaneous Maximum	Increased aeration & RAS rates to address NH3-N maximum exception.
Jan-17	001	Ammonia-Nitrogen	8.8	2.8	mg/L	Average Monthly	Increased aeration & RAS rates to address NH3-N average exception.

Compliance Status: Facility is generally in compliance with no open violations or pending enforcements.

Completed by: Amanda Illar **Completed date:** 11/8/24

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.0035
Latitude 40º 7' 53.00" **Longitude** -80º 17' 10.00"
Wastewater Description: Treated Sewage Effluent

Technology-Based Limitations

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

Pollutant	Limit (mg/L)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	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)
E. Coli (No./100 ml)	Report	IMAX	-	92a.61
D.O. (mg/L)	4.0	Min	-	BPJ
NH_3-N (mg/L)	25	Average Monthly	-	BPJ
	50	IMAX		
Total N (mg/L)	Report	Average Monthly	-	92a.61
Total P (mg/L)	Report	Average Monthly	-	92a.61

Comments: The existing discharge was evaluated using WQM 7.0 for $CBOD_5$, Ammonia Nitrogen and Dissolved Oxygen. The stream is effluent dominated, Dilution Ratio=(0.0003/0.0035)=0.0857; the ratio is less than 3:1. Per the dry stream definition that can be checked over the DEP's regulation (*Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers*, 2008), per the 1993 pollution report, the point of discharge is 300 ft upstream of the Chartiers Creek with a slope that maintains the water level to have appropriate mix for the effluent before discharging into the Creek mouth, meaning that the point of discharge will not be dry with normal weather conditions; therefore Advanced Treatment Requirements stated under DEP's SOP "*Establishing Effluent Limitations for Individual Sewage Permits,* Revised February 5, 2024" Part I.C.1 & 3 is not applicable.

The Total Suspended Solids, pH, and Fecal Coliform parameters are not evaluated using WQM 7.0. The grounds for the proposed technology-based limitations are listed in the above table.

Water Quality-Based Limitations

The following limitations were determined through water quality modeling (WQM 7.0), output files attached (see Attachments B and C):

Parameter	Limit (mg/l)	SBC	Model
TRC	0.02	Average Monthly	DEP TRC Calculation
$CBOD_5$ (May1-Oct 31)	25	Average Monthly	WQM7.0
$CBOD_5$ (Nov 1- Apr 30)	25	Average Monthly	WQM7.0
NH_3-N (May1-Oct 31)	2.0	Average Monthly	WQM7.0
NH_3-N (Nov 1- Apr 30)	3.3	Average Monthly	WQM7.0
Dissolved Oxygen	5.0	Minimum	WQM7.0

Comments: A WQBEL for Dissolved Oxygen D.O. of 5.0 mg/L should be maintained all the time based on DEP's water quality model WQM 7.0 version 1.10 (Appendix B). The new D.O. limit is more stringent of the current permit limit of 4 mg/L. Checking on the eDMRs, the facility can meet the newly imposed Dissolved Oxygen limit as the plant has achieved effluent limits of D.O. greater than the proposed limit. No compliance schedule is necessary.

WQM 7.0 was used to determine the newly WQBEL seasonal limits for Ammonia Nitrogen (NH_3-N) following PADEP's Implementation Guidance of Section 93.7 Ammonia Criteria, 1997.; The new Average Monthly Limits (AMLs) of 2.0 mg/L for the warm period is less stringent than the current permit limit of 1.9 mg/L. Also, WQM model produced a new AML of 3.3 mg/L for the cold period, which is less stringent than the current permit limit of 2.8 mg/L; previous limits will be carried over in accordance with anti-backsliding requirements, twice a month monitoring is required.

For the Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), the WQM 7.0 model generated a WQBEL AML of 25 mg/L a year around; no changes to $CBOD_5$ limits on this renewal were applied, twice a month monitoring is required.

Anti-Backsliding

The previously imposed limits for pH Effluent Limitation of (6.0 Minimum, and 9.0 Maximum SIU), Fecal Coliform AML Geo Mean seasonal limits of (200 & 2000 CFU/100 ml), TSS AML, and Ins. Max of (25, and 50 mg/L), Carbonaceous Biochemical Oxygen Demand CBOD5 yearly around AML, and Ins. Max of (25, and 50 mg/L), Ammonia-Nitrogen warm period AML of (1.9 mg/L), and Ammonia-Nitrogen cold period AML of (2.8 mg/L); will be all unchanged due to Anti-Backsliding as stated in 40 CFR Section 122.44(l).

Total Maximum Daily Load (TMDL) Considerations

This facility discharges to the Chartiers Creek Watersheds. This Watershed has a Final TMDL and is impaired by Metals and PCBs. Abandoned mine drainage is the source of the TMDL impairment. Also, barren lands and urban areas are considered as contributing sources (see page 5 of the TMDL document). No Waste Load Allocations (WLAs) have been developed for this treated sewage discharge.

In accordance with 40 CFR § 122.44(d)(1)(vii)(B), when developing WQBELs, the permitting authority shall ensure that effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available WLA pursuant to 40 CFR § 130.7.

The applicable water quality criteria for this watershed can be summarized in the following table:

Parameter	Application Value (mg/L)	Criterion Value (mg/L)	Total Recoverable/Dissolved
Aluminum (Al)	0.1	0.75	Total Recoverable
Iron (Fe)	0.0754	1.5	30-day average; Total
Manganese (Mn)	0.03	1.00	Total Recoverable
pH	6.2-8.3	6.0-9.0	N/A

The application effluent sampling results were compared with the water quality criteria that's assigned for the Chartiers Creek watershed (see page 12 of the TMDL document), the effluent concentrations for the TMDL parameters do not exceed the water quality criteria. Additionally, natural attenuation of PCB from sediments is expected to achieve the PCB TMDL goals. This sanitary sewage discharge is not expected to contribute to the stream Metals or PCB impairments. Annual monitoring requirements for Total Iron, Total Manganese, and Total Aluminum will be imposed for this renewal permit.

TN and TP Monitoring

Per SOP (No. BCW-PMT-033, *Establishing Effluent Limitations for Individual Sewage Permits, ver 2.0*):

- Nutrient monitoring is required, at a minimum, to establish the nutrient load from the wastewater treatment facility and the impacts that load may have on the quality of the receiving stream(s). Sewage discharges with design

flows > 2,000 gpd require monitoring, at a minimum, for Total Nitrogen and Total Phosphorus in new and reissued permits.

The receiving stream (UNT of Chartiers Creek) is not impaired for nutrients (per eMapPA, and the reviewed eDMRs), also, the stringent proposed Ammonia limits will help in lowering Total Nitrogen, therefore; advanced treatment requirements for TN, and TP will not be imposed.

Annual monitoring has been applied at Outfall 001.

Disinfection

Total Residual Chlorine (TRC) AML limit of 0.02 mg/L and IMAX of 0.07 mg/L were calculated based on the DEP preset values entered in the Department Calculation Sheet (Appendix C) for chlorine stream and discharge demands. Reviewing renewal application effluent sampling and eDMR values for TRC; the facility can meet the newly imposed TRC limits as this plant has achieved lower than the new proposed limits; no compliance schedule is necessary, twice a month monitoring has been imposed at Outfall 001.

E. Coli

Pursuant to 25 Pa. code § 92a.61(b), annual monitoring for *E. Coli* will be imposed at Outfall 001 to determine if *E. Coli* will be a pollutant of concern, which is consistent with DEP SOP No. BCW-PMT-033 revised February 5, 2024.

Monitoring Frequency Considerations

The monitoring frequencies justified above are consistent with current policy and Table 6-3 of DEP's Technical Guidance for the Development and Specification of Effluent Limitations.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.02	XXX	0.07	1/day	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50.0	2/month	Grab
TSS	XXX	XXX	XXX	30.0	XXX	60.0	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	2.8	XXX	5.6	2/month	Grab
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	1.9	XXX	3.8	2/month	Grab
E.Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Total Aluminum	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/year	Grab

Outfall 001, Continued (from Permit Effective Date through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Total Iron	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/year	Grab
Total Manganese	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/year	Grab

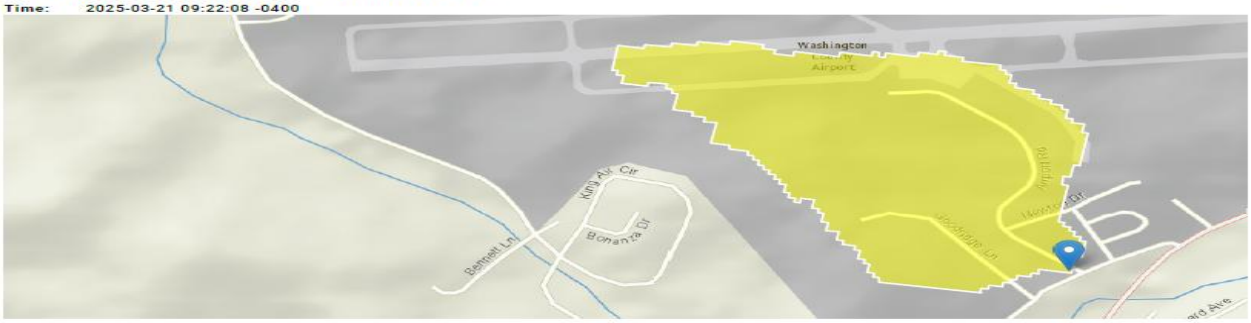
Compliance Sampling Location: at Outfall 001.

Other Comments: None.

ATTACHMENT A:
USGS StreamStats

StreamStats Report

Region ID: PA
Workspace ID: PA20250321132142848000
Clicked Point (Latitude, Longitude): 40.13143, -80.28594
Time: 2025-03-21 09:22:08 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.1	square miles
ELEV	Mean Basin Elevation	1141	feet

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.1	square miles	2.26	1400
ELEV	Mean Basin Elevation	1141	feet	1050	2580

Low-Flow Statistics Disclaimers [Low Flow Region 4]

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

Low-Flow Statistics Flow Report [Low Flow Region 4]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.00195	ft^3/s
30 Day 2 Year Low Flow	0.00418	ft^3/s
7 Day 10 Year Low Flow	0.000467	ft^3/s
30 Day 10 Year Low Flow	0.00118	ft^3/s
90 Day 10 Year Low Flow	0.00268	ft^3/s

Low-Flow Statistics Citations

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

Application Version: 4.28.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

ATTACHMENT B:
WQM7.0 Model Results (Summer)

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
20F	36777	CHARTIERS CREEK	46.800	1211.00	0.10	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	0.000	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Clearview MHP	PA0206016	0.0035	0.0035	0.0035	0.000	20.00	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	4.00	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
20F	36777	CHARTIERS CREEK	45.500	1201.00	7.67	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	0.013	0.10	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Clearview MHP	PA0206016	0.0000	0.0000	0.0000	0.000	20.00	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	4.00	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
20F	36777	CHARTIERS 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												
46.800	0.00	0.00	0.00	.0054	0.00146	.246	1.35	5.47	0.02	4.479	20.40	7.00
Q1-10 Flow												
46.800	0.00	0.00	0.00	.0054	0.00146	NA	NA	NA	0.02	4.552	20.26	7.00
Q30-10 Flow												
46.800	0.00	0.00	0.00	.0054	0.00146	NA	NA	NA	0.02	4.409	20.52	7.00

WQM 7.0 Modeling Specifications

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

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WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20F	36777	CHARTIERS CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
46.800	0.004	20.397	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
1.347	0.246	5.471	0.018
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
23.17	0.537	1.90	0.722
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.257	19.652	Owens	5
Reach Travel Time (days)			
4.479			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.448	18.14	1.37	8.07
0.896	14.20	0.99	8.18
1.344	11.11	0.72	8.18
1.792	8.70	0.52	8.18
2.240	6.81	0.38	8.18
2.687	5.33	0.27	8.18
3.135	4.17	0.20	8.18
3.583	3.26	0.14	8.18
4.031	2.56	0.10	8.18
4.479	2.00	0.07	8.18

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
20F	36777	CHARTIERS 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
46.800	Clearview MHP	9.49	10.01	9.49	10.01	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
46.800	Clearview MHP	1.85	2.06	1.85	2.06	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
46.80	Clearview MHP	25	25	2.06	2.06	5	5	0	0

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20F	36777	CHARTIERS 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)
46.800	Clearview MHP	PA0206016	0.004	CBOD5	25		
				NH3-N	2.06	4.12	
				Dissolved Oxygen			5

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ATTACHMENT B:
WQM7.0 Model Results (Winter)

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
20F	36777	CHARTIERS CREEK	**46.800**	1211.00	0.10	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	0.000	0.00	0.00	0.000	0.000	0.0	0.00	0.00	5.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Clearview MHP	PA0206016	0.0035	0.0035	0.0035	0.000	15.00	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	4.00	12.51	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
20F	36777	CHARTIERS CREEK	**45.500**	1201.00	7.67	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	0.026	0.10	0.00	0.000	0.000	0.0	0.00	0.00	5.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Clearview MHP	PA0206016	0.0000	0.0000	0.0000	0.000	15.00	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	4.00	12.51	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
20F	36777	CHARTIERS 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												
46.800	0.00	0.00	0.00	.0054	0.00146	.246	1.35	5.47	0.02	4.479	14.21	7.00
Q1-10 Flow												
46.800	0.00	0.00	0.00	.0054	0.00146	NA	NA	NA	0.02	4.552	14.48	7.00
Q30-10 Flow												
46.800	0.00	0.00	0.00	.0054	0.00146	NA	NA	NA	0.02	4.409	13.95	7.00

WQM 7.0 Modeling Specifications

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

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20F	36777	CHARTIERS CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
46.800	0.004	14.206	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
1.347	0.246	5.471	0.018
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
23.17	0.714	3.09	0.448
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.596	16.969	Owens	5
Reach Travel Time (days)			
4.479			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.448	18.14	2.53	9.05
0.896	14.20	2.07	9.24
1.344	11.11	1.69	9.24
1.792	8.70	1.39	9.24
2.240	6.81	1.13	9.24
2.687	5.33	0.93	9.24
3.135	4.17	0.76	9.24
3.583	3.26	0.62	9.24
4.031	2.56	0.51	9.24
4.479	2.00	0.42	9.24

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
20F	36777	CHARTIERS 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
46.800	Clearview MHP	14.58	15.38	14.58	15.38	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
46.800	Clearview MHP	3.01	3.36	3.01	3.36	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
46.80	Clearview MHP	25	25	3.36	3.36	5	5	0	0

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20F	36777	CHARTIERS 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)
46.800	Clearview MHP	PA0206016	0.004	CBOD5	25		
				NH3-N	3.36	6.72	
				Dissolved Oxygen			5

ATTACHMENT C:
DEP Total Residual Chlorine Calculation Sheet

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.000467	= Q stream (cfs)	0.5	= CV Daily
0.0035	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 0.047	1.3.2.iii	WLA cfc = 0.038
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.017	5.1d	LTA_cfc = 0.022

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.021	AFC
		INST MAX LIMIT (mg/l) = 0.070	

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