pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0083038**
Facility Type	**Non-Municipal**	APS ID	**1115284**
Major / Minor	**Minor**	Authorization ID	**1487863**

Applicant and Facility Information

Applicant Name	**GSC 1685 Baltimore LLC**	Facility Name	**1685 Baltimore Pike Ofc Bldg**
Applicant Address	73 Shirley Trail	Facility Address	1685 Baltimore Pike
	Fairfield, PA 17320-8321		Gettysburg, PA 17325-7974
Applicant Contact	Jacob Johnson	Facility Contact	Jacob Johnson
Applicant Phone	(443) 718-7864	Facility Phone	(443) 718-7864
Client ID	385622	Site ID	625
Ch 94 Load Status	Not Overloaded	Municipality	Mount Joy Township
Connection Status		County	Adams
Date Application Received	June 7, 2024	EPA Waived?	Yes
Date Application Accepted	June 11, 2024	If No, Reason	

Purpose of Application: NPDES permit renewal and ownership transfer.

Summary of Review

On June 7, 2024, the Department received a NPDES permit No. PA0083038 renewal application for discharge of treated sewage located in Mount Joy Township, Adams County. The last permit was issued on 11/21/2019 and became effective on 12/1/2019. The permit expires on 11/30/2024.

The renewal application permit also noted that the original name changed to GSC 1685 Baltimore LLC which is owned by Mr. Johnson.

The average annual design flow and hydraulic design capacity is 0.005 MGD. The treated effluent is discharged to UNT Rock Creek.

WQM permit No. 0186410 was originally issued on January 7, 1987. The 0186410 T-1 & 0186410 T-2 were issued on 10/21/2013 & 11/21/2019. It will be transferred in conjunction with issuance of the final NPDES permit.

Sludge use and disposal description and location(s): N/A

Changes from the previous permit: The E. Coli. monitoring and report requirements will add to the proposed permit. The TRC IMAX limit corrected to 1.3 mg/L in the proposed permit.

Based on the review outlined in this fact sheet, it is recommended that the permit be drafted and published in the Pennsylvania Bulletin for public comments for 30 days.

Approve	Deny	Signatures	Date
X		*Hilaryle* Hilary H. Le / Environmental Engineering Specialist	August 2, 2024
X		*Maria D. Bebenek, P.E. for* Daniel W. Martin, P.E. / Environmental Engineer Manager	August 28, 2024

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.005
Latitude	39º 48' 12.35"	Longitude	-77º 12' 33.27"
Quad Name	Gettysburg	Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to Rock Creek (WWF)	Stream Code	59139
NHD Com ID	53320378	RMI	0.10 mil.
Drainage Area	0.53 mi.^{2}	Yield (cfs/mi^2)	See comments below
Q_{7-10} Flow (cfs)	See comments below	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	447.24	Slope (ft/ft)	
Watershed No.	13-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	City of Frederick, MD		
PWS Waters	Monocacy River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	Approximate 40.0 miles

Changes Since Last Permit Issuance:

Drainage Area
The discharge is to Unnamed Tributary 59139 to Rock Creek at RMI 0.10 mile. A drainage area upstream of the discharge is estimated to be 0.53 mi.^{2}, according to USGS PA StreamStats available at https://streamstats.usgs.gov/ss/.

Streamflow
There are no nearby stream gages with low flow data that have extensive or recent periods of record. Since USGS PA StreamStats estimated the drainage area that is below the minimum value allowed by USGS's regression equations, the USGS gage station No. 59041 on Rock Creek watershed (at the PA/MD border) will be used to calculate the Q_{7-10} at the point of discharge using a low flow yield method. The Q_{7-10} here is 2.71 cfs and the drainage area is 63.5 mi.^{2} which results in a Q_{7-10} low flow yield of 0.04 cfs/mi.^{2}. This information is used to obtain a chronic or 30-day (Q_{30-10}), and an acute or 1-day (Q_{1-10}) exposure stream flow for the discharge point as follows (Guidance No. 391-2000-023):

$$\text{Low Flow Yield} = Q_{7-10gage} / \text{Drainage Area}_{gage} = 2.71 \text{ cfs} / 63.5 \text{ mi.}^2 = 0.04 \text{ cfs/mi.}^2$$
$$Q_{7-10discharge} = 0.04 \text{ cfs/mi.}^2 * \text{Drainage Area}_{discharge} = 0.04 \text{ cfs/mi.}^2 * 0.53 \text{ mi.}^2 = 0.021 \text{ cfs}$$
$$Q_{30-10} = 1.36 * Q_{7-10discharge} = 1.36 * 0.021 \text{ cfs} = 0.029 \text{ cfs}$$
$$Q_{1-10} = 0.64 * Q_{7-10discharge} = 0.64 * 0.021 \text{ cfs} = 0.013 \text{ cfs}$$

Rock Creek
According to 25 Pa. Code § 93.9z, this stream is protected for Warm Water (WWF) and Migratory Fishes (MF). The DEP's 2024 Integrated Water Quality Report indicates that the Unnamed Tributary to Rock Creek is not impaired and there is no TMDL associated with this discharge.

Potable Water Supply Intake
The nearest downstream public water supply intake is the City of Frederick, MD intake on the Monocacy River, approximately 40.0 miles from the point of discharge. Given the nature and dilution, the discharge is not expected to significantly impact the water supply.

Treatment Facility Summary				
Treatment Facility Name: 1685 Baltimore Pike Office Building WWTP				
WQM Permit No.	**Issuance Date**			
0186410	1/7/1987			
0186410 T-1	10/21/2013			
0186410 T-2	11/21/2019			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary With Ammonia Reduction	Extended Aeration	Hypochlorite	0.005
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.005		Not Overloaded	Anaerobic Digestion	Other WWTP

Changes Since Last Permit Issuance:

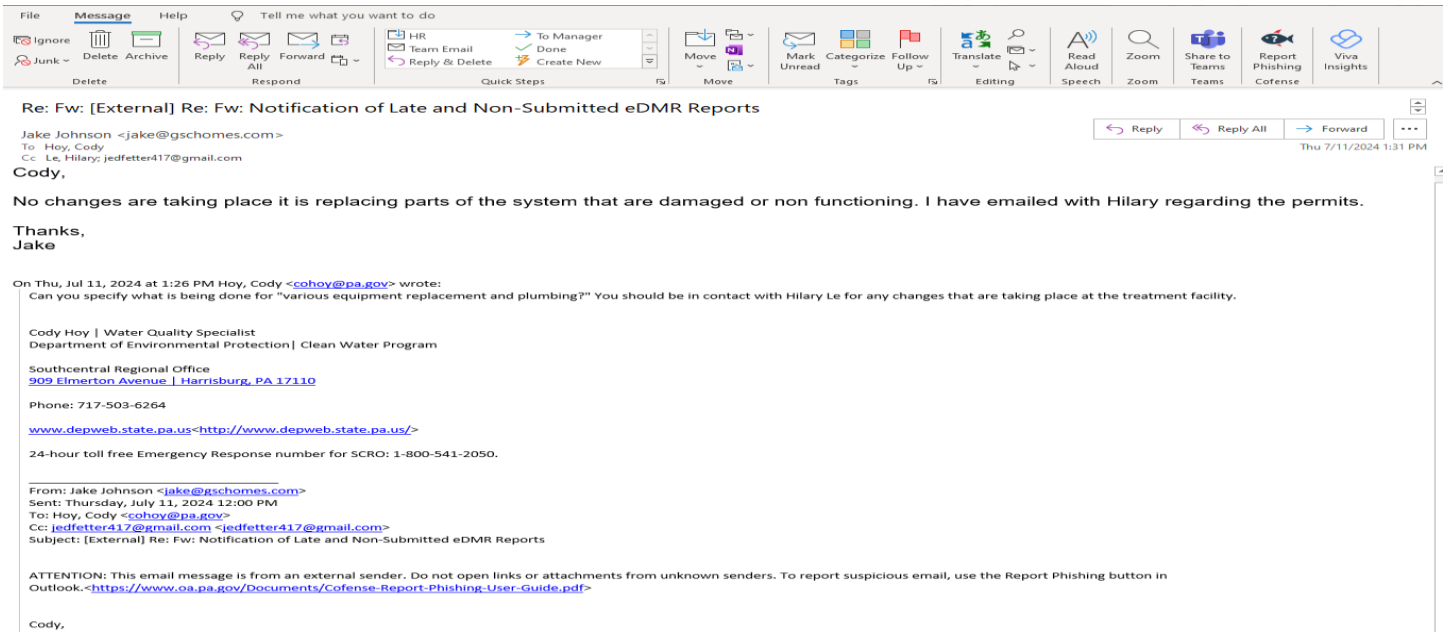
The WWTP train is as follows:

Bar Screen (1) – Aeration Tanks (2) – Settling Tank (1) – Tablet Chlorinator (1) – Chlorination Contact Tank (1) – Post Aeration Tank (1) – Sludge Holding Tank (1) - Discharge (Outfall to Unnamed Tributary to Rock Creek).

Calcium hypochlorite tablets are used for disinfection. Soda ash is used to control pH.

A sludge holding tank is used for solids storage.

The treatment plant is damaged (nonfunctioning) and needs replaced parts for the system per email from Mr. Johnson on 7/11/2024, see screen print below.



File Message Help Tell me what you want to do

Ignore Delete Archive Reply Reply All Forward HR Team Email Reply & Delete To Manager Done Create New Move Mark Unread Categorize Follow Up Translate Read Aloud Zoom Share to Teams Report Phishing Viva Insights

Delete Respond Quick Steps Move Tags Editing Speech Zoom Teams Cofense

Re: Fw: [External] Re: Fw: Notification of Late and Non-Submitted eDMR Reports

Jake Johnson <jake@gschomes.com>
To Hoy, Cody
Cc Le, Hilary; jedfetter417@gmail.com

Reply Reply All Forward
Thu 7/11/2024 1:31 PM

Cody,

No changes are taking place it is replacing parts of the system that are damaged or non functioning. I have emailed with Hilary regarding the permits.

Thanks,
Jake

On Thu, Jul 11, 2024 at 1:26 PM Hoy, Cody <cohoy@pa.gov> wrote:
Can you specify what is being done for "various equipment replacement and plumbing?" You should be in contact with Hilary Le for any changes that are taking place at the treatment facility.

Cody Hoy | Water Quality Specialist
Department of Environmental Protection| Clean Water Program

Southcentral Regional Office
909 Elmerton Avenue | Harrisburg, PA 17110

Phone: 717-503-6264

www.depweb.state.pa.us<http://www.depweb.state.pa.us/>

24-hour toll free Emergency Response number for SCRO: 1-800-541-2050.

From: Jake Johnson <jake@gschomes.com>
Sent: Thursday, July 11, 2024 12:00 PM
To: Hoy, Cody <cohoy@pa.gov>
Cc: jedfetter417@gmail.com <jedfetter417@gmail.com>
Subject: [External] Re: Fw: Notification of Late and Non-Submitted eDMR Reports

ATTENTION: This email message is from an external sender. Do not open links or attachments from unknown senders. To report suspicious email, use the Report Phishing button in Outlook.<https://www.oa.pa.gov/Documents/Cofense-Report-Phishing-User-Guide.pdf>

Cody,

Compliance History	
Summary of DMRs:	There were no DMR reported past 12-month.
Summary of Inspections:	4/7/21: Mr. Bettinger, DEP WQS, conducted a compliance evaluation inspection. There were violations noted during inspection such as 1. Owner failed to comply with the Act or Chapter 302 regulations. 2. Failure to use current pH buffers or reagent standards. 3. Failure to properly operate and maintain all facilities which are installed or used by the permittee to achieve compliance. The filed test results were within the permit limits.
Notice of Violation:	4/15/21 NOV: 1. The facility's certified wastewater treatment plant operator indicated that the owner does not respond to notifications about needed resources at the facility in violation of 25 PA Code 302.1202 (a)(4). Specifically, pH meter calibration supplies have not been provided, despite the operator notifying the owner. 2. The facility's wasting tank appears to be bulging inward and has significant flaking of the metal interior. This is a violation of Part B, I., E(2) of NPDES Permit No. PA0083038, which requires the permittee shall at all times properly operate and maintain plant facilities.
Other Comments:	There are eight (8) open violations associated with this facility.

Other Comments:

Compliance History

There were no DMR reported pas 12-month.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.005
Latitude 39º 48' 12.35" **Longitude** -77º 12' 33.27"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	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)

Comments:

Water Quality-Based Limitations

Flow
Flow monitoring remains unchanged in the proposed permit and is recommended by the Table 6-3 of the permit manual (ID No. 362-0400-001) & required by 25 Pa. Code §§ 92a.27 & 92a.61.

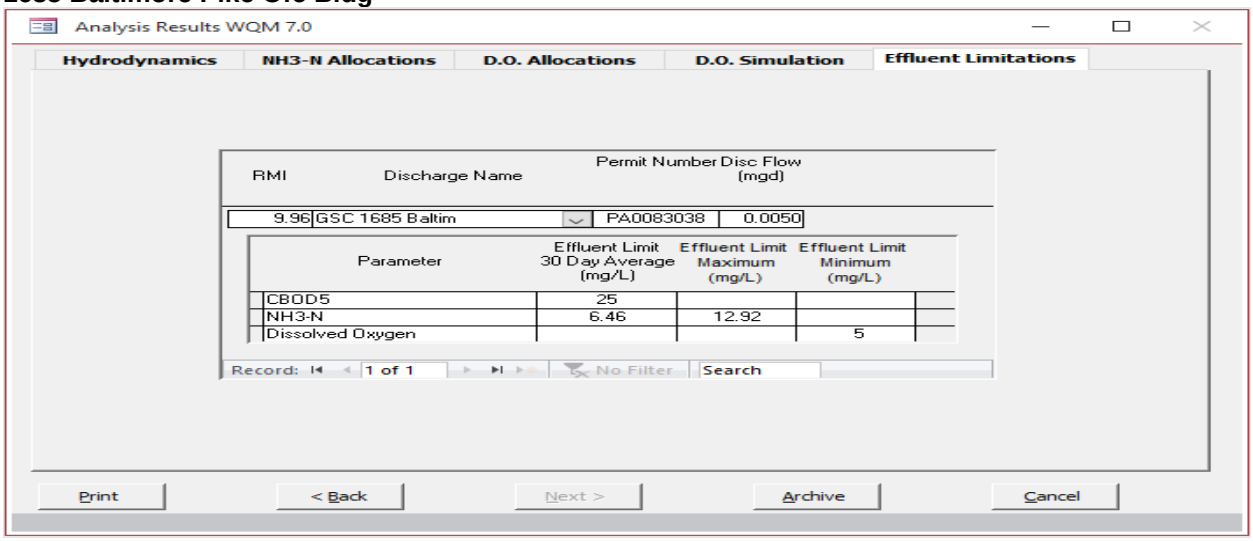
pH
The effluent discharge pH should remain above 6.0 and below 9.0 standard units according to 25 Pa. Code § 95.2(2).

Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)
Only the minimum treatment requirements of secondary treatment will be necessary to protect water quality. The existing limits of 25.0 mg/L average monthly and 50.0 mg/L instantaneous maximum will remain in the renewal permit. Past DMRs and inspection reports show that the facility has been consistently achieving concentrations under these limits.

Dissolved Oxygen (D.O.)
A minimum D.O. of 5.0 mg/L is required per 25 Pa. Code § 93.7. This is consistent with the previous permit and current Department criteria.

NH_3-N Calculations
NH_3-N calculations were first based on the Department's Implementation Guidance of Section 93.7 Ammonia Criteria, dated 11/4/97 (ID No. 391-2000-013). The following data is necessary to determine the in-stream NH_3-N criteria used in the attached computer model of the stream:

- Discharge pH = 7.0 (Default)
- Discharge Temperature = 25^0C (Default)
- Stream pH = 7.0 (Default)
- Stream Temperature = 25^0C (Default for WWF)
- Background NH_3-N = 0 (Default)



Regarding NH_3-N limits, the attached computer printout of the WQM 7.0 stream model (version 1.1) indicates that a limit of 6.46 mg/L as a monthly average and 12.92 mg/L instantaneous maximum (IMAX) are necessary to protect the aquatic life from toxicity effects at the point of discharge. However, the existing summer limits of 6.0 mg/L monthly average & 12.0 mg/L IMAX will remain in the proposed permit. The existing winter average monthly limit of 18.0 mg/L & IMAX limit of 36.0 mg/L will remain in place. Recent DMRs and inspection reports show that the facility has been consistently achieving these limits.

Fecal Coliform
The recent coliform guidance in 25 Pa. Code § 92a.47(a)(4) requires a summer technology limit of 200/100 ml as a geometric mean (average monthly) and not greater than 1,000/100 ml (IMAX) and 25 Pa. Code § 92a.47(a)(5) requires a winter limit of 2,000/100 ml as a geometric mean (average monthly) and not greater than 10,000/100 ml (IMAX), respectively.

E. Coli
As recommended by DEP's SOP No. BCW-PMT-033, version 2.0 revised February 5, 2024, a routine monitoring for E. Coli will be included in the proposed permit under 25 Pa. Code § 92a.61. This requirement applies to all sewage dischargers greater than 0.002 MGD in their new and reissued permits. A monitoring frequency of 1/year will be included in the permit to be consistent with the recommendation from this SOP.

Total Suspended Solids (TSS)
The existing limits of 30.0 mg/L average monthly and 60.0 mg/L instantaneous maximum will remain in the renewal permit based on the minimum level of effluent quality attainable be secondary treatment based on 25 Pa. Code § 92a.47. Past DMRs and inspection reports show that the facility has been consistently achieving concentrations under these limits.

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 I, II, and III) dischargers will receive annual loading caps based on their design flow on August 29, 2005 and concentrations of 6.0 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 IV (0.2 - 0.4 MGD) and Phase V (below 0.2 MGD) will be required to monitor and report TN and TP during permit renewal. Any facility in Phases IV and V that undergoes expansion is subjected to cap load right away. This facility is 0.005 MGD plant, classified as a Phase V, and will be required to monitor and report TN and TP throughout next permit cycle. Consistent with SOP for establishing effluent limitation for individual sewage permit, annual monitoring frequency for nutrients is required for this discharge. Annual monitoring and report, and sample type will remain in the proposed permit.

Toxics
The facility treats mainly domestic sewage, there are no parameters of concern associated with this discharge.

Total Residual Chlorine (TRC)

The attached computer printout utilizes the equations and calculations as presented in the Department's May 1, 2003 Implementation Guidance for TRC (ID No. 391-2000-015) for developing chlorine limitations. The Guidance references 25 Pa. Code § 92.2d(3) which establishes a standard BAT limit of 0.5 mg/l unless a facility-specific BAT has been developed. The attached printout indicates that a water quality limit of 0.4 mg/L monthly average and 1.3 mg/L IMAX would be needed to prevent toxicity concerns. Past DMR and inspection data indicates the facility has capability to meet the limit with some adjustment in operation. Therefore, it is recommended that a TRC limit of 0.40 mg/L monthly average will remain in the proposed permit, and corrected IMAX limit from 1.40 mg/L to 1.30 mg/L in the proposed permit.

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.021	= Q stream (cfs)	0.5	= CV Daily
0.005	= 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 =	0.885	1.3.2.iii	WLA cfc =	0.855
PENTOXSD TRG	5.1a	LTAMULT afc =	0.373	5.1c	LTAMULT cfc =	0.581
PENTOXSD TRG	5.1b	LTA_afc=	0.330	5.1d	LTA_cfc =	0.497

Source		Effluent Limit Calculations		
PENTOXSD TRG	5.1f	AML MULT =	1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) =	0.406	AFC
		INST MAX LIMIT (mg/l) =	1.328	

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)

Anti-backsliding

Not applicable to this permit.

Class A Wild Trout Fisheries

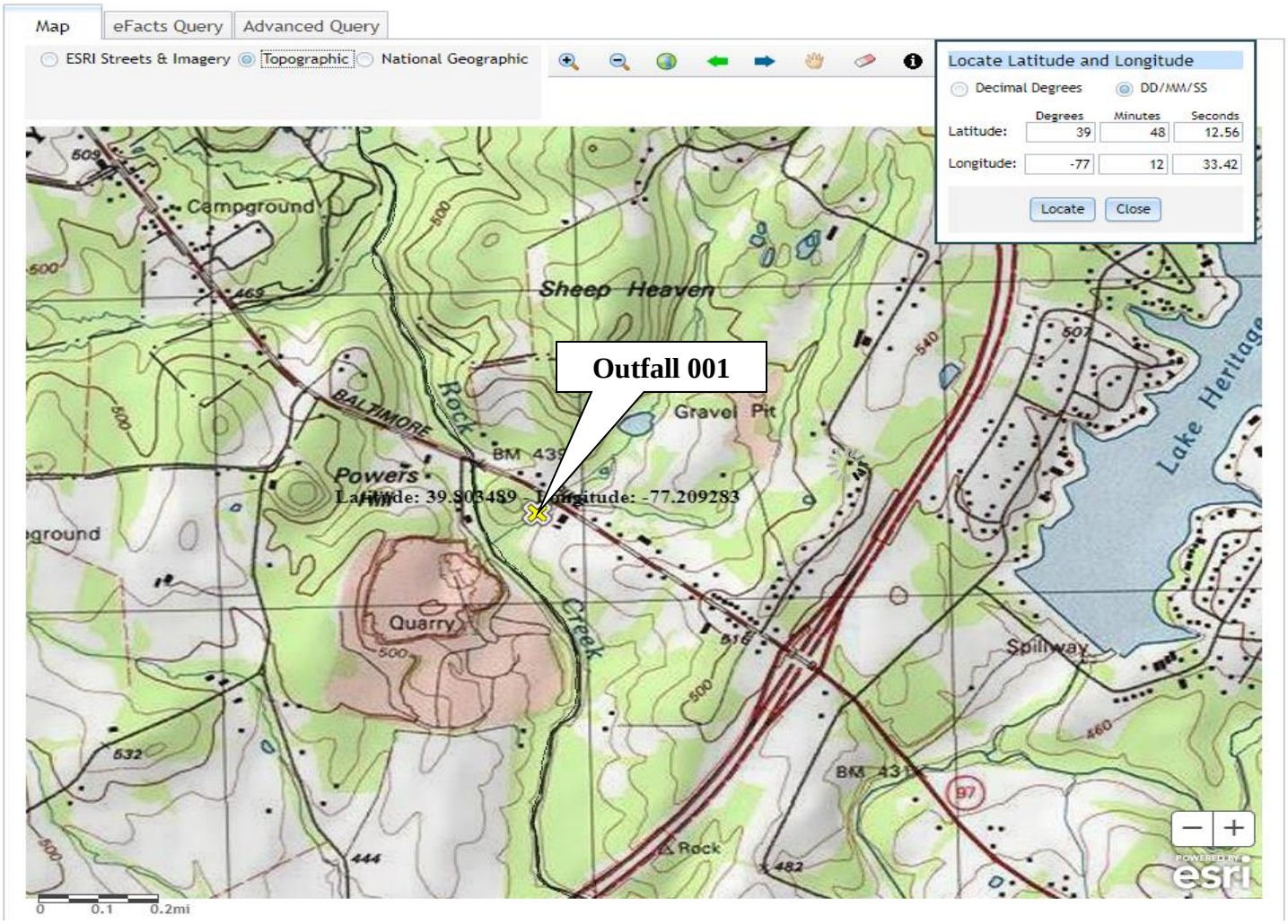
No Class A Wild Trout Fisheries are impacted by this discharge.

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.

- Discharge pH = 7.0 (Default)
- Discharge Temperature = 25^{0}C (Default)
- Stream pH = 7.0 (Default)
- Stream Temperature = 25^{0}C (Default for WWF)
- Background NH_3-N = 0 (Default)

1. Outfall 001 on Trib 59139 to Rock Creek
   a. Elevation: 447.24 ft
   b. RMI: 9.96 miles to Monocacy River located at PA & MD boundaries
   c. Drainage Area: 0.53 mi^2
   d. Low Flow Yield: 0.04 cfs/mi^2
   e. Discharge Flow: 0.005 MGD
2. Just before 59041 to Rock Creek
   a. Elevation: 405.64 ft
   b. RMI: 8.31 miles to Monocacy River located at PA & MD boundaries
   c. Drainage Area: 24.7 mi^2
   d. Low Flow Yield: 0.04 cfs/mi^2
   e. Discharge Flow: 0.000 MGD



USGS StreamStats

Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	0	percent
DRNAREA	Area that drains to a point on a stream	0.53	square miles
PRECIP	Mean Annual Precipitation	41	inches
ROCKDEP	Depth to rock	4.6	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	4.14	miles per square mile

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

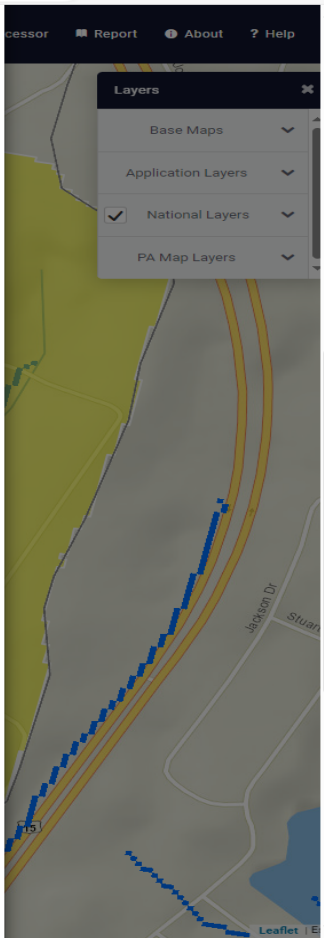
Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.53	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	41	inches	35	50.4
STRDEN	Stream Density	4.14	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	4.6	feet	3.32	5.65
CARBON	Percent Carbonate	0	percent	0	99

Low-Flow Statistics Disclaimers [Low Flow Region 2]

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 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0192	ft^3/s
30 Day 2 Year Low Flow	0.0288	ft^3/s
7 Day 10 Year Low Flow	0.007	ft^3/s
30 Day 10 Year Low Flow	0.0103	ft^3/s
90 Day 10 Year Low Flow	0.0178	ft^3/s



USGS StreamStats

Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	0	percent
DRNAREA	Area that drains to a point on a stream	63.5	square miles
PRECIP	Mean Annual Precipitation	41	inches
ROCKDEP	Depth to rock	4.4	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	2.44	miles per square mile

Low-Flow Statistics

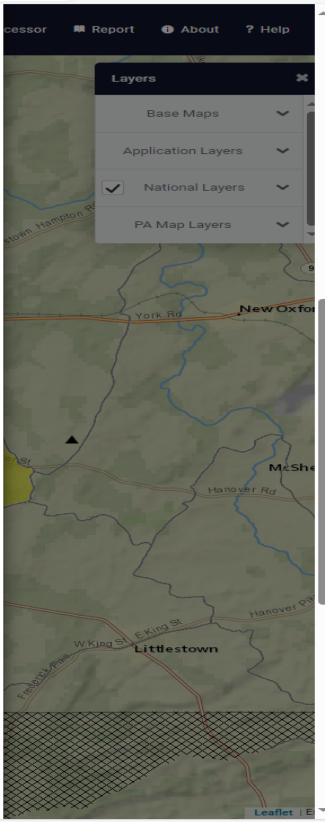
Low-Flow Statistics Parameters [Low Flow Region 2]

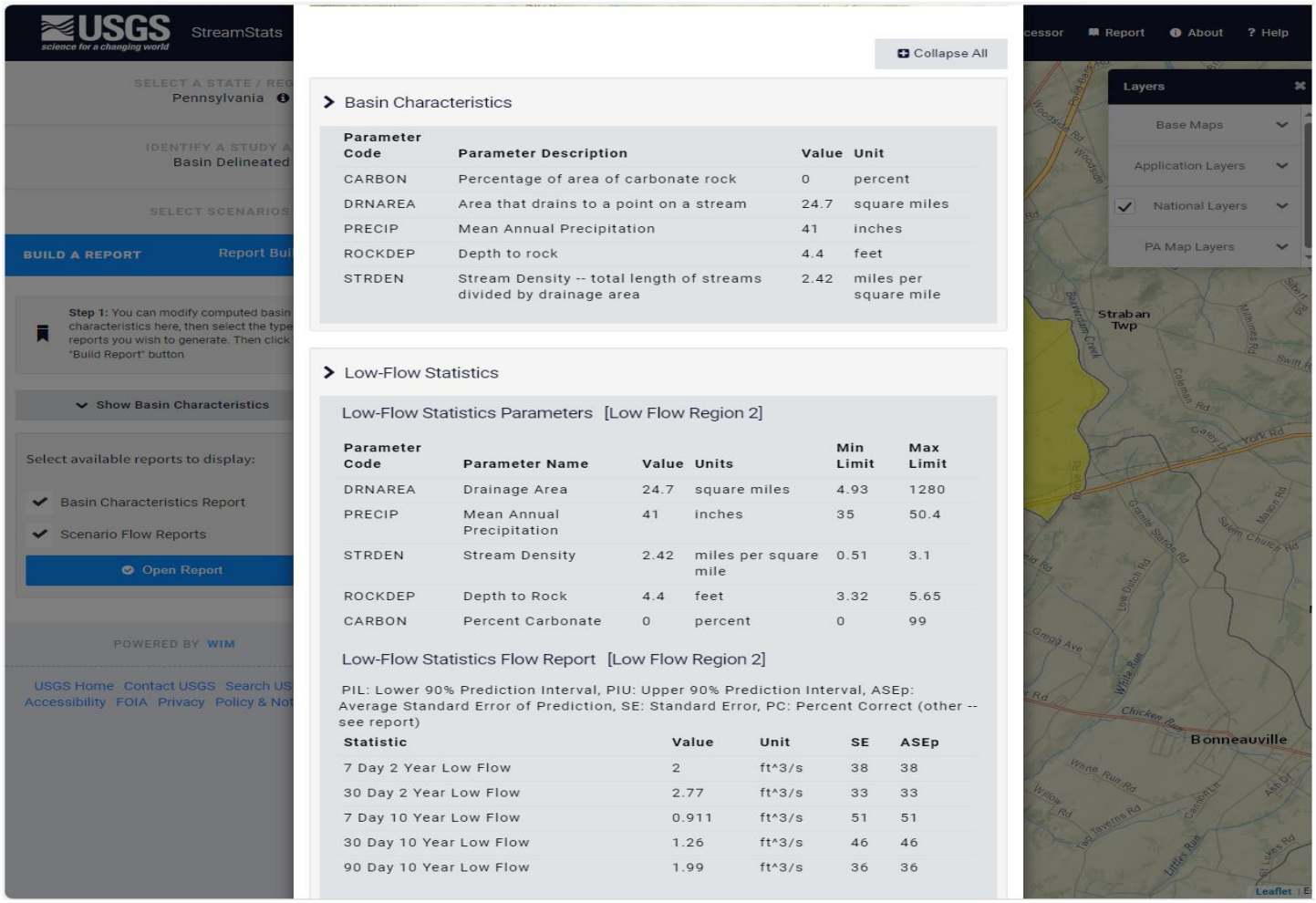
Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	63.5	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	41	inches	35	50.4
STRDEN	Stream Density	2.44	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	4.4	feet	3.32	5.65
CARBON	Percent Carbonate	0	percent	0	99

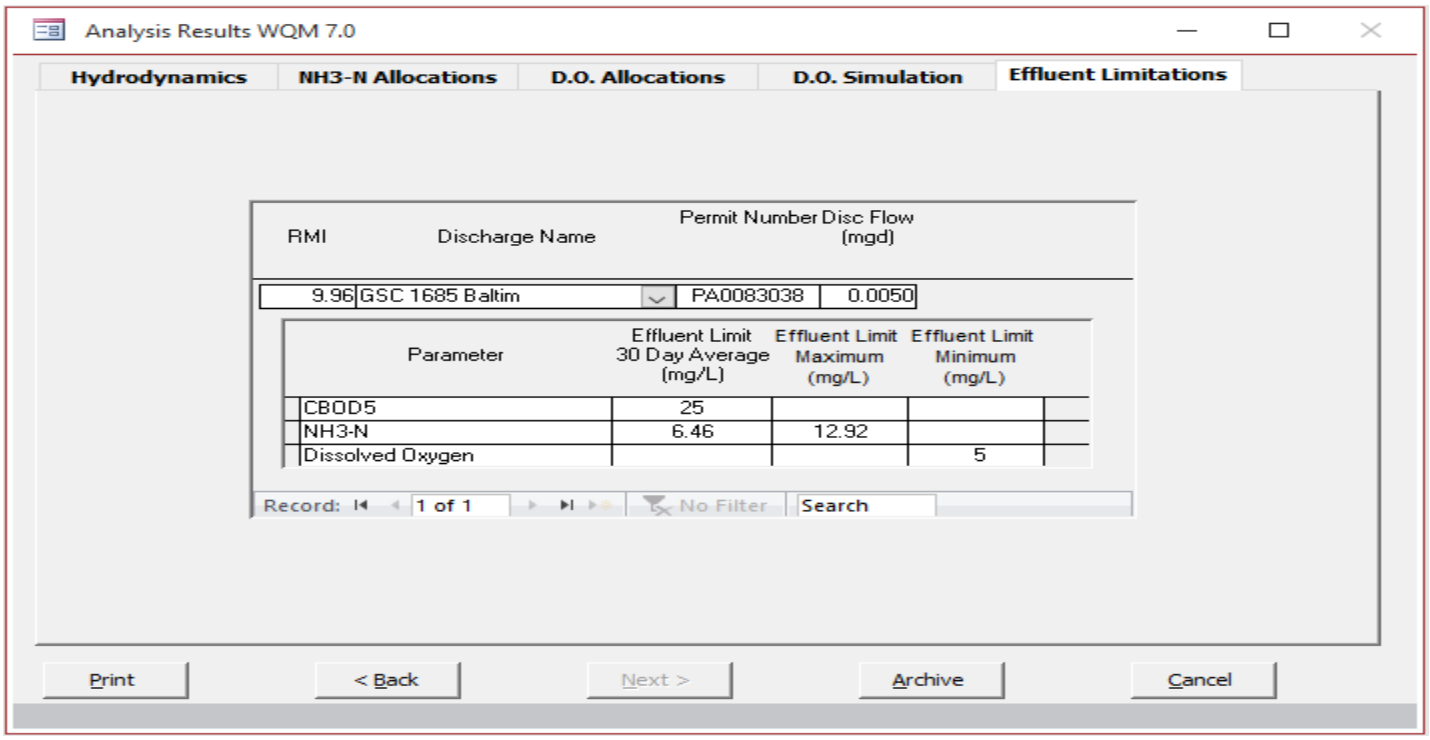
Low-Flow Statistics Flow Report [Low Flow Region 2]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	5.62	ft^3/s	38	38
30 Day 2 Year Low Flow	7.65	ft^3/s	33	33
7 Day 10 Year Low Flow	2.71	ft^3/s	51	51
30 Day 10 Year Low Flow	3.67	ft^3/s	46	46
90 Day 10 Year Low Flow	5.67	ft^3/s	36	36




USGS
science for a changing world
StreamStats
Pennsylvania
Basin Delineated
BUILD A REPORT
Step 1: You can modify computed basin characteristics here, then select the type reports you wish to generate. Then click "Build Report" button
Show Basin Characteristics
Select available reports to display:
Basin Characteristics Report
Scenario Flow Reports
Open Report
POWERED BY WIM
USGS Home Contact USGS Search US
Accessibility FOIA Privacy Policy & Not
Collapse All
Basin Characteristics
Parameter Code | Parameter Description | Value | Unit
CARBON | Percentage of area of carbonate rock | 0 | percent
DRNAREA | Area that drains to a point on a stream | 24.7 | square miles
PRECIP | Mean Annual Precipitation | 41 | inches
ROCKDEP | Depth to rock | 4.4 | feet
STRDEN | Stream Density -- total length of streams divided by drainage area | 2.42 | miles per square mile
Low-Flow Statistics
Low-Flow Statistics Parameters [Low Flow Region 2]
Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit
DRNAREA | Drainage Area | 24.7 | square miles | 4.93 | 1280
PRECIP | Mean Annual Precipitation | 41 | inches | 35 | 50.4
STRDEN | Stream Density | 2.42 | miles per square mile | 0.51 | 3.1
ROCKDEP | Depth to Rock | 4.4 | feet | 3.32 | 5.65
CARBON | Percent Carbonate | 0 | percent | 0 | 99
Low-Flow Statistics Flow Report [Low Flow Region 2]
PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct (other -- see report)
Statistic | Value | Unit | SE | ASEp
7 Day 2 Year Low Flow | 2 | ft^3/s | 38 | 38
30 Day 2 Year Low Flow | 2.77 | ft^3/s | 33 | 33
7 Day 10 Year Low Flow | 0.911 | ft^3/s | 51 | 51
30 Day 10 Year Low Flow | 1.26 | ft^3/s | 46 | 46
90 Day 10 Year Low Flow | 1.99 | ft^3/s | 36 | 36
Report
About
Help
Layers
Base Maps
Application Layers
National Layers
PA Map Layers
Straban Twp
Bonneauville
Leaflet


Analysis Results WQM 7.0
Hydrodynamics
NH3-N Allocations
D.O. Allocations
D.O. Simulation
Effluent Limitations
RMI | Discharge Name | Permit Number | Disc Flow (mgd)
9.96 | GSC 1685 Baltim | PA0083038 | 0.0050
Parameter | Effluent Limit 30 Day Average (mg/L) | Effluent Limit Maximum (mg/L) | Effluent Limit Minimum (mg/L)
CBOD5 | 25
NH3-N | 6.46 | 12.92
Dissolved Oxygen | 5
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rptEffLimits

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
13D	59139	Trib 59139 to Rock Creek

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Eff. Limit 30-day Ave. (mg/L)	Eff. Limit Maximum (mg/L)	Eff. Limit Minimum (mg/L)
9.960	GSC 1685 Baltim	PA0083038	0.005	CBOD5	25		
				NH3-N	6.46	12.92	
				Dissolved Oxygen			5

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rpt_WLA

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
13D	59139	Trib 59139 to Rock 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
9.960	GSC 1685 Baltim	11.07	30.5	11.07	30.5	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
9.960	GSC 1685 Baltim	1.37	6.46	1.37	6.46	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5 Baseline (mg/L)	CBOD5 Multiple (mg/L)	NH3-N Baseline (mg/L)	NH3-N Multiple (mg/L)	Dissolved Oxygen Baseline (mg/L)	Dissolved Oxygen Multiple (mg/L)	Critical Reach	Percent Reduction
9.96	GSC 1685 Baltim	25	25	6.46	6.46	5	5	0	0

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rptDOSim

WQM 7.0 D.O. Simulation

SWP Basin	Stream Code	Stream Name
13D	59139	Trib 59139 to Rock Creek

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
9.960	0.005	25.000	7.000
Reach Width (ft)	Reach Depth (ft)	Reach W/D Ratio	Reach Velocity (fps)
3.000	0.291	10.309	0.033
Reach CBOD5 (mg/L)	Reach Kr (1/days)	Reach NH3-N (mg/L)	Reach Ka (1/days)
6.15	0.366	1.73	1.029
Reach DO (mg/L)	Reach Kr (1/days)	Kr Equation	Reach DO Goal (mg/L)
7.376	24.470	Owens	6
Reach Travel Time (days)			
3.046			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.305	7.08	1.26	7.54
0.609	6.15	0.92	7.54
0.914	5.35	0.67	7.54
1.219	4.65	0.49	7.54
1.523	4.04	0.36	7.54
1.828	3.51	0.26	7.54
2.133	3.05	0.19	7.54
2.437	2.65	0.14	7.54
2.742	2.30	0.10	7.54
3.046	2.00	0.08	7.54

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rptModelSpecs

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	6		

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rptHydro

WQM 7.0 Hydrodynamic Outputs

SWP Basin: 13D | Stream Code: 59139 | Stream Name: Trib 59139 to Rock Creek

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	WD Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
9.960	0.02	0.00	0.02	.0077	0.00478	.291	3.01	10.34	0.03	3.046	25.00	7.00
Q1-10 Flow												
9.960	0.01	0.00	0.01	.0077	0.00478	NA	NA	NA	0.03	3.616	25.00	7.00
Q30-10 Flow												
9.960	0.03	0.00	0.03	.0077	0.00478	NA	NA	NA	0.04	2.672	25.00	7.00

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rptGeneral

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
13D	59139	Trib 59139 to Rock Creek	9.960	447.24	0.53	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfm)	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	0.040	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
GSC 1685 Baltim	PA0083038	0.0050	0.0050	0.0050	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

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rptGeneral

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
13D	59139	Trib 59139 to Rock Creek	8.310	405.64	24.70	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfm)	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	0.040	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
GSC 1685 Baltim	PA0083038	0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

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

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Existing Effluent Limitations and Monitoring Requirements

Outfall 001,

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	1/week	Weir
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
D.O.	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.40	XXX	1.40	1/day	Grab
$CBOD_5$	XXX	XXX	XXX	25	XXX	50	2/month	Grab
TSS	XXX	XXX	XXX	30	XXX	60	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/month	Grab
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	18.0	XXX	36.0	2/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	6.0	XXX	12.0	2/month	Grab
Total Nitrogen	Report Annl Avg	Report Total Annual	XXX	Report Annl Avg	XXX	XXX	1/year	Calculation
Total Phosphorus	Report Annl Avg	Report Total Annual	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite

Proposed Effluent Limitations and Monitoring Requirements

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

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Weir
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
D.O.	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.40	XXX	1.30	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	2,000 Geo Mean	XXX	10,000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
Total Nitrogen	Report Annl Avg	Report Total Annual	XXX	Report Annl Avg	XXX	XXX	1/year	Calculation
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	18.0	XXX	36.0	2/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	6.0	XXX	12.0	2/month	Grab
Total Phosphorus	Report Annl Avg	Report Total Annual	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite

Compliance Sampling Location:

Other Comments:

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment)
☐	Toxics Management Spreadsheet (see Attachment)
☒	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
☐	Pennsylvania CSO Policy, 386-2000-002, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
☐	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
☒	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
☒	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
☒	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 386-2000-020, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 386-2000-010, 3/1999.
☐	Design Stream Flows, 386-2000-003, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
☒	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	SOP: BCW-PMT-033
☐	Other: