Pennsylvania Department of Environmental Protection

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0043567**
Facility Type	**Municipal**	APS ID	**209**
Major / Minor	**Minor**	Authorization ID	**1532446**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**York Springs Municipal Authority Adams County**	Facility Name	**York Springs STP**
Applicant Address	311 Main Street	Facility Address	8455 Carlisle Pike
	York Springs, PA 17372-0222		York Springs, PA 17372-9515
Applicant Contact	Kevin Beaverson	Facility Contact	Kevin Beaverson
Applicant Phone	(717) 528-7955	Facility Phone	(717) 528-7955
Client ID	191441	Site ID	251150
Ch 94 Load Status	Not Overloaded	Municipality	York Springs Borough
Connection Status	No Limitations	County	Adams
Date Application Received	June 27, 2025	EPA Waived?	Yes
Date Application Accepted	July 1, 2025	If No, Reason	

Purpose of Application: NPDES Permit Renewal.

Summary of Review

Keller Engineers, on behalf of the York Springs Municipal Authority (Authority/Permittee), applied to the Pennsylvania Department of Environmental Protection (DEP) for issuance of the NPDES permit. The permit was reissued on December 16, 2020, and became effective on January 1, 2021. The permit expires on December 31, 2025.

The discharge design flow is 0.120 MGD. This facility is owned and operated by York Springs Borough and serves York Springs Borough (74%), Latimore Township (12%), and Huntingdon Township (14%).

WQM Part II No. 0186409 original was issued on 10/17/1986, and first amendment WQM Part II No. 0186409 A-1 was issued on July 13, 2020, to replace Chlorine disinfection with a UV disinfection system. However, the inspection reported dated 4/30/2024 was indicated there were no longer plans to have UV disinfection.

Sludge use and disposal description and location(s): N/A because sludge is hauled by Peck's Septic Service, LLC.

Changes from the previous permit: The E. Coli monitoring and report requirements will be added to the proposed permit. The Raw Sewage Influent "Weekly Average" concentration (mg/L) report of BOD_5 & TSS will be added to the proposed permit which were missing in the previous permit.

Based on the review outlined in this fact sheet, it is recommended that the permit be drafted. A public notice of the draft permit will be published in the *Pennsylvania Bulletin* for public comments for 30 days.

Approve	Deny	Signatures	Date
X		*Hilaryle* Hilary H. Le / Environmental Engineering Specialist	October 3, 2025
X		*Daniel W. Martin* Daniel W. Martin, P.E. / Environmental Engineer Manager	November 18, 2025

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.12
Latitude	40º 0' 8.36"	Longitude	-77º 6' 25.74"
Quad Name	Dillsburg	Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Gardner Run (WWF)	Stream Code	08712
NHD Com ID	57468871	RMI	0.66 mile
Drainage Area	0.31 mi.^{2}	Yield (cfs/mi^2)	0.061
Q_{7-10} Flow (cfs)	0.019	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	575	Slope (ft/ft)	
Watershed No.	7-F	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Not Assessed		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Wrightsville Water Supply Co., York County		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI	29 miles	Distance from Outfall (mi)	Approximate 54 miles

Changes Since Last Permit Issuance:

Drainage Area
The discharge is to Gardner Run at RMI 0.66 mile. A drainage area upstream of the discharge is estimated to be 0.31 mi.^{2}, according to USGS PA StreamStats available at https://streamstats.usgs.gov/ss/.

Stream Flow
According to USGS StreamStats, the discharge point has a Q_{7-10} of 0.019 cfs and a drainage area of 0.31 mi.^{2}, which results in a Q_{7-10} low flow yield of 0.061 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):

Q_{7-10} = 0.019 cfs
Low Flow Yield = 0.019 cfs / 0.31 mi.^{2} = 0.061 cfs/mi.^{2}
Q_{30-10} = 1.36 * 0.019 cfs = 0.026 cfs
Q_{1-10} = 0.64 * 0.019 cfs = 0.012 cfs

The resulting Q_{7-10} dilution ratio is: Q_{stream} / $Q_{discharge}$ = 0.019 cfs / [0.120 MGD * (1.547 cfs/MGD)] = 0.10:1

Gardner Run
25 Pa. Code § 93.9o classifies Gardner Run as Warm-Water Fishes (WWF) surface water. Based on the 2024 Integrated Report, Gardner Run, assessment unit ID 18609, is not impaired. A TMDL currently does not exist for this stream segment, therefore, no TMDL has been taken into consideration during this review.

Public Water Supply
The closest water supply intake is located downstream from the discharge in the Wrightsville Water Supply Co., York County approximately 54.0 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: York Springs STP				
WQM Permit No.	**Issuance Date**			
0186409	10/17/1986			
0186409 A-1	7/13/2020			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary	Activated Sludge	Chlorine With Dechlorination	0.12
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.12	250	Not Overloaded		

Changes Since Last Permit Issuance:

Other Comments:
The WWTP train will be as follows:

Fine Screen Press (1) ⇒ Aeration Tanks (2) ⇒ Clarifiers (2) ⇒ Chlorine Contact Tanks (with liquid feed) (2) ⇒ Dechlorination Unit (1) ⇒ Discharge

The chemical uses Sodium Aluminate solution for phosphate precipitation.

The biosolids production/ total sewage sludge within the facility for the previous year is 14.5 dry tons.

Compliance History	
Summary of DMRs:	DMRs reported last 12 months are summarized in the next page.
Summary of Inspections:	4/30/2024: Mr. Hoy, DEP WQS, conducted compliance evaluation inspection. There were violations noted during inspection. The effluent at Outfall 001 appeared clear. Field test results were within the permit limits. Recommendations were 1. Repairing or replacing the broken weir teeth as soon as possible. 2. Ensuring the sample collector strainer does not interfere with the flow meter. Requests were 1. The effluent composite sampling be connected to the effluent flow meter so that composite samples are flow proportional as required by NPDES Permit No. PA0043567 Part A. 2. The NIST traceable thermometers are utilized for the effluent composite sampler, effluent composite sampler, as sample storage refrigerator and that temperature, date, and time is recorded when removing the samples from the refrigerated units. 3. Notification when aeration is shut off during wet weather events as required by NPDES permit No. PA0043567 Part A III.C.4.a.i. 4. A written report is submitted to report a bypass as required by NPDES Permit No. PA0043567 Part A III.C.4.b.ii. 5. Keeping copies of sludge hauling invoices on-site so they are readily available for review for future inspections.
Other Comments:	There are no open violations associated with this facility or permittee.

Other Comments:

Compliance History

DMR Data for Outfall 001 (from August 1, 2024 to July 31, 2025)

Parameter	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24
Flow (MGD) Average Monthly	0.077	0.065	0.116	0.075	0.073	0.081	0.059	0.074	0.057	0.069	0.079	0.093
Flow (MGD) Daily Maximum	0.143	0.134	0.260	0.112	0.115	0.172	0.083	0.223	0.078	0.144	0.188	0.358
pH (S.U.) Instantaneous Minimum	7.3	7.3	7.3	7.4	7.3	7.3	7.4	7.4	7.1	7.1	7.4	7.3
pH (S.U.) Instantaneous Maximum	7.6	7.6	7.6	7.6	7.6	7.7	7.6	7.5	7.5	7.6	7.7	7.7
DO (mg/L) Instantaneous Minimum	6.1	7.0	7.0	8.3	8.5	8.4	9.0	7.5	7.2	6.3	5.7	6.0
TRC (mg/L) Instantaneous Minimum	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
TRC (mg/L) Instantaneous Maximum	0.04	0.05	0.04	0.06	0.06	0.06	0.04	0.06	0.06	0.05	0.05	0.06
CBOD5 (lbs/day) Average Monthly	3.2	< 2.5	< 3.8	2.2	< 1.8	2.8	2.0	2.8	< 2.0	< 3.0	5.0	5.0
CBOD5 (lbs/day) Weekly Average	6.5	2.9	9.1	2.8	2.4	3.5	2.9	3.7	2.6	4.6	6.0	15.3
CBOD5 (mg/L) Average Monthly	4.3	< 3.6	< 3.5	4.0	< 3.2	4.9	4.0	5.2	< 4.5	< 5.2	< 3.7	< 4.6
CBOD5 (mg/L) Weekly Average	7.1	6.3	5.7	5.1	3.6	6.4	4.5	7.2	5.5	8.7	5.0	9.5
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	85	85	113	113	99	95	95	148	106	89	83	121
BOD5 (lbs/day) Raw Sewage Influent Weekly Average	99	94	151	151	135	106	133	266	114	112	118	192
BOD5 (mg/L) Raw Sewage Influent Average Monthly	135	123	196	196	161	174	195	186	209	151	155	181
TSS (lbs/day) Average Monthly	5.0	2.0	5.0	1.0	2.0	2.0	2.0	5.0	5.0	6.0	3.0	5.0

TSS (lbs/day) Raw Sewage Influent Average Monthly	30	33	36	36	37	43	36	59	37	38	35	44
TSS (lbs/day) Raw Sewage Influent Weekly Average	38	37	69	69	61	78	71	134	47	61	50	75
TSS (lbs/day) Weekly Average	15.0	4.0	14.0	2.0	3.0	4.0	6.0	6.0	5.0	10.0	4.0	11.0
TSS (mg/L) Average Monthly	7.0	3.0	4.0	3.0	3.0	3.0	5.0	9.0	10.0	10.0	5.0	5.0
TSS (mg/L) Raw Sewage Influent Average Monthly	48	48	62	62	59	76	74	67	73	66	62	66
TSS (mg/L) Weekly Average	16.0	4.0	9.0	4.0	4.0	5.0	13.0	11.0	11.0	13.0	6.0	7.0
Fecal Coliform (No./100 ml) Geometric Mean	13	6	< 14	51	35	< 5	< 17	< 2	39	< 11	31	< 6
Fecal Coliform (No./100 ml) Instantaneous Maximum	205	37	308	2420	79	313	1553	8	345	2420	276	649
Nitrate-Nitrite (lbs/day) Total Monthly	609	< 354	< 406	< 231	< 343	< 208	333	< 333	461	< 573	257	< 1467
Nitrate-Nitrite (mg/L) Average Monthly	21.41	< 18.4	< 15.4	< 14.4	< 21.4	< 14.4	15.52	< 23.4	33.51	< 15.4	17.41	< 29.4
Total Nitrogen (lbs/day) Total Monthly	623	< 403	< 419	< 299	< 551	< 216	430	< 395	482	< 592	278	< 1547
Total Nitrogen (lbs/day) Total Annual											< 17.4	
Total Nitrogen (mg/L) Average Monthly	21.91	< 20.9	< 15.9	< 18.7	< 34.4	< 14.9	20.02	< 27.8	35.01	< 15.9	18.81	< 31.0
Ammonia (lbs/day) Average Monthly	0.3	0.4	< 0.3	< 0.2	1.0	< 0.6	0.4	0.4	< 0.1	0.6	0.3	0.6
Ammonia (mg/L) Average Monthly	0.5	0.7	< 0.4	< 0.4	2.0	< 1.2	0.7	0.9	< 0.2	1.0	0.6	0.9
TKN (lbs/day) Total Monthly	< 14	< 48	< 13	69	208	< 7	97	63	21	< 19	21	80
TKN (mg/L) Average Monthly	< 0.5	< 2.5	< 0.5	4.3	13	< 0.5	4.5	4.4	1.5	< 0.5	1.4	1.6
Total Phosphorus (lbs/day) Total Monthly	19	16	14	6	6	3	8	5	9	15	14	21

Total Phosphorus (lbs/day) Total Annual											0.5	
Total Phosphorus (mg/L) Average Monthly	0.9	0.6	0.4	0.4	0.4	0.2	0.5	0.3	0.7	0.8	0.8	0.7

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	Weekly Average	Average Monthly	Weekly Average	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	XXX	9.0	1/day	Grab
D.O.	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	0.02 Daily Min	XXX	XXX	0.06	1/day	Grab
$CBOD_5$	15.0	22.0	15.0	22.0	XXX	30.0	1/week	8-Hr Composite
BOD_5 Raw Sewage Influent	Report	Report	Report	XXX	XXX	XXX	1/week	24-Hr Composite
TSS	30.0	45.0	30.0	45.0	XXX	60.0	1/week	8-Hr Composite
TSS Raw Sewage Influent	Report	Report	Report	XXX	XXX	XXX	1/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/week	Grab
Ammonia Nov 1 - Apr 30	4.5	XXX	4.5	XXX	XXX	9.0	1/week	8-Hr Composite
Ammonia May 1 - Oct 31	1.5	XXX	1.5	XXX	XXX	3.0	1/week	8-Hr Composite
Total Phosphorus	Report Total Mo	XXX	2.0	XXX	XXX	4.0	1/week	8-Hr Composite

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

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	Weekly Average	Average Monthly	Weekly Average	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	XXX	9.0	1/day	Grab
D.O.	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	0.02 Daily Min	XXX	XXX	0.06	1/day	Grab
$CBOD_5$	15.0	22.0	15.0	22.0	XXX	30.0	1/week	8-Hr Composite
BOD_5 Raw Sewage Influent	Report	Report	Report	Report	XXX	XXX	1/week	24-Hr Composite
TSS	30.0	45.0	30.0	45.0	XXX	60.0	1/week	8-Hr Composite

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Average Monthly	Weekly Average	Maximum	Instant. Maximum		
TSS Raw Sewage Influent	Report	Report	Report	Report	XXX	XXX	1/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
Ammonia Nov 1 - Apr 30	4.5	XXX	4.5	XXX	XXX	9.0	1/week	8-Hr Composite
Ammonia May 1 - Oct 31	1.5	XXX	1.5	XXX	XXX	3.0	1/week	8-Hr Composite
Total Phosphorus	Report Total Mo	XXX	2.0	XXX	XXX	4.0	1/week	8-Hr Composite
TKN	Report Total Mo	XXX	Report	XXX	XXX	XXX	1/month	8-Hr Composite
Nitrate-Nitrite	Report Total Mo	XXX	Report	XXX	XXX	XXX	1/month	8-Hr Composite
Total Nitrogen	Report Total Mo	XXX	Report	XXX	XXX	XXX	1/month	Calculation
Total Nitrogen	XXX	Report Total Annual	XXX	XXX	XXX	XXX	1/year	Calculation
Total Phosphorus	XXX	Report Total Annual	XXX	XXX	XXX	XXX	1/year	Calculation

Compliance Sampling Location:

Other Comments:

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .12
Latitude 40º 0' 8.36" **Longitude** -77º 6' 25.74"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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

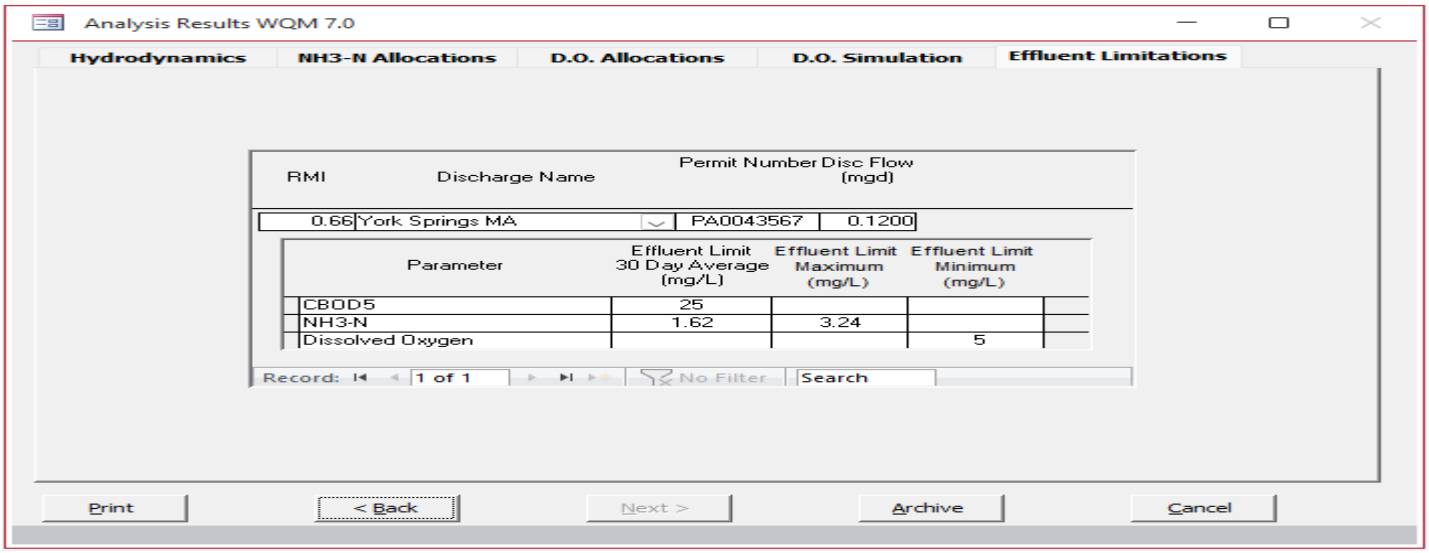
Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	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

Ammonia (NH_3-N):
NH_3-N calculations were based on the Department's Implementation Guidance of Section 93.7 Ammonia Criteria, dated 11/4/97 (Document 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 per 391-2000-007)
- Discharge Temperature 25°C (Default per 391-2000-007)
- Stream pH 7.0 (Default per 391-2000-006)
- Stream Temperature 20°C (Default for WWF per 391-2000-003)
- Background NH_3-N 0 mg/L (Assumed since no upstream WWTPs)



The detailed model results are attached. The above method indicates that at a discharge of 0.120 MGD, limits (rounded according to the NPDES Technical Guidance 362-0400-001) of 1.62 mg/L NH_3-N as a monthly average (AML) and 3.24 mg/L NH_3-N instantaneous maximum (IMAX) are necessary to protect the aquatic life from toxicity effects. However, the existing permit 1.5 mg/L AML & 3.0 mg/L IMAX are more stringent and will remain unchanged in the proposed permit. Recent DMR and inspection data indicate that the facility is consistently meeting these limits under proper operation. Mass limits are calculated as follows:

Summer average monthly mass limit: 1.5 mg/L x 0.120 MGD x 8.34 = 1.5 lbs/day
Winter average monthly mass limit: 4.5 mg/L x 0.120 MGD x 8.34 = 4.5 lbs/day

Carbonaceous Biochemical Oxygen Demand ($CBOD_5$):
The attached computer printout of the WQM 7.0 stream model indicates that an average monthly limit of 25 mg/L, or secondary treatment, is adequate to protect the water quality of the stream. Due to anti-backsliding policy, the existing year-round average monthly limit (AML) of 15 mg/L, average weekly limit (AWL) of 22 mg/L and IMAX of 30 mg/L will remain in the proposed permit. Recent DMRs and inspection reports show that the facility has been consistently achieving concentrations below this limit. Mass limits are calculated as follows:

Average monthly mass limit: 15 mg/L x 0.120 MGD x 8.34 = 15.0 lbs/day
Average weekly mass limit: 22 mg/L x 0.120 MGD x 8.34 = 22.0 lbs/day

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.

pH:
The effluent discharge pH should remain above 6 and below 9 standard units according to 25 Pa. Code § 95.2(1).

Total Suspended Solids (TSS):
The existing limits of 30 mg/L average monthly, 45 mg/L average weekly, and 60 mg/L instantaneous maximum will remain in the proposed permit based on the minimum level of effluent quality attainable by secondary treatment based on 25 Pa. Code § 92a.47. Recent DMRs and inspection reports show that the facility has been consistently achieving concentrations below these limits. Mass limits are calculated as follows:

Average monthly mass limit: 30.0 mg/L x 0.120 MGD x 8.34 = 30.0 lbs/day
Average weekly mass limit: 45.0 mg/L x 0.120 MGD x 8.34 = 45.0 lbs/day

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 and an instantaneous maximum not greater than 1,000/100ml and 25 Pa. Code § 92a.47(a)(5) requires a winter limit of 2,000/100ml as a geometric mean and an instantaneous maximum not greater than 10,000/100ml.

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/quarter will be included in the permit to be consistent with the recommendation from this SOP.

Influent BOD_5 and TSS Monitoring:
The permit will include influent BOD_5 and TSS monitoring at the same frequency as is done for effluent in order to implement 25 Pa. Code § 94.12 and assess percent removal requirements, per DEP policy.

Total Phosphorus:
The existing permit has phosphorus limitations of 2.0 mg/L average monthly and 4.0 mg/L instantaneous maximum. The most recent 12 months of DMR data indicate consistent compliance with the existing limits, which will remain in the proposed permit. Mass limit is calculated as follows:

Average monthly mass limit: 2.0 mg/L x 0.120 MGD x 8.34 = 2.0 lbs/day

Stormwater:
There is no stormwater outfall associated with this facility.

Toxics:
Review of the permit application revealed no toxic parameters of concern. The application states that there are no industrial wastewater contributions.

Total Residual Chlorine (TRC):
Based on the attached TRC Excel Spreadsheet calculator, which uses the equations and calculations from the Department's May 1, 2003 Implementation Guidance for Total Residual Chlorine (ID No. 391-2000-015), the facility's discharge must meet a monthly average limit of 0.02 mg/L and an instantaneous maximum limit of 0.077 mg/L. The existing limits of 0.02 mg/L monthly average and 0.06 mg/L instantaneous maximum are more stringent and will remain in the proposed permit. Recent DMRs and inspection reports show that the facility has been consistently achieving these limits.

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.019	= Q stream (cfs)	0.5	= CV Daily
0.12	= 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 = 0.052	1.3.2.iii	WLA cfc = 0.043
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.019	5.1d	LTA_cfc = 0.025

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.024	AFC
		INST MAX LIMIT (mg/l) = 0.077	

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)

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 by Central Office based on their delivered TN 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 mg/L TN and 0.8 mg/L TP. These limits may be achieved through a combination of treatment technology, credits, or offsets. Phase IV (0.2 -0.4 MGD) will be required to monitor and report TN and TP during permit renewal monthly and Phase V (below 0.2 MGD) will monitor during current permit renewal once a year. However, any facility in Phases IV and V that undergoes expansion is subjected to cap load right away. This plant, classified as a phase V, will be required to monitor and report for Total Phosphorus, Nitrate-Nitrite as N, Total Kjeldahl Nitrogen, and Total Nitrogen.

The monthly "Monitor & Report" requirements for Nitrate-Nitrite as N, and Total Kjeldahl Nitrogen; and monthly calculation "Monitor & Report" for TN will remain in the proposed permit. The yearly calculation "Report" for TP & TN will remain in the proposed permit.

303d Listed Streams:
The discharge is not located on a 303d listed stream segment. The stream segment that receives the discharge is listed as attaining its uses for aquatic life and fish consumption.

Antidegradation (93.4):
The effluent limits for this discharge have been developed to ensure that existing in-stream 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.

WQM 7.0 Data:

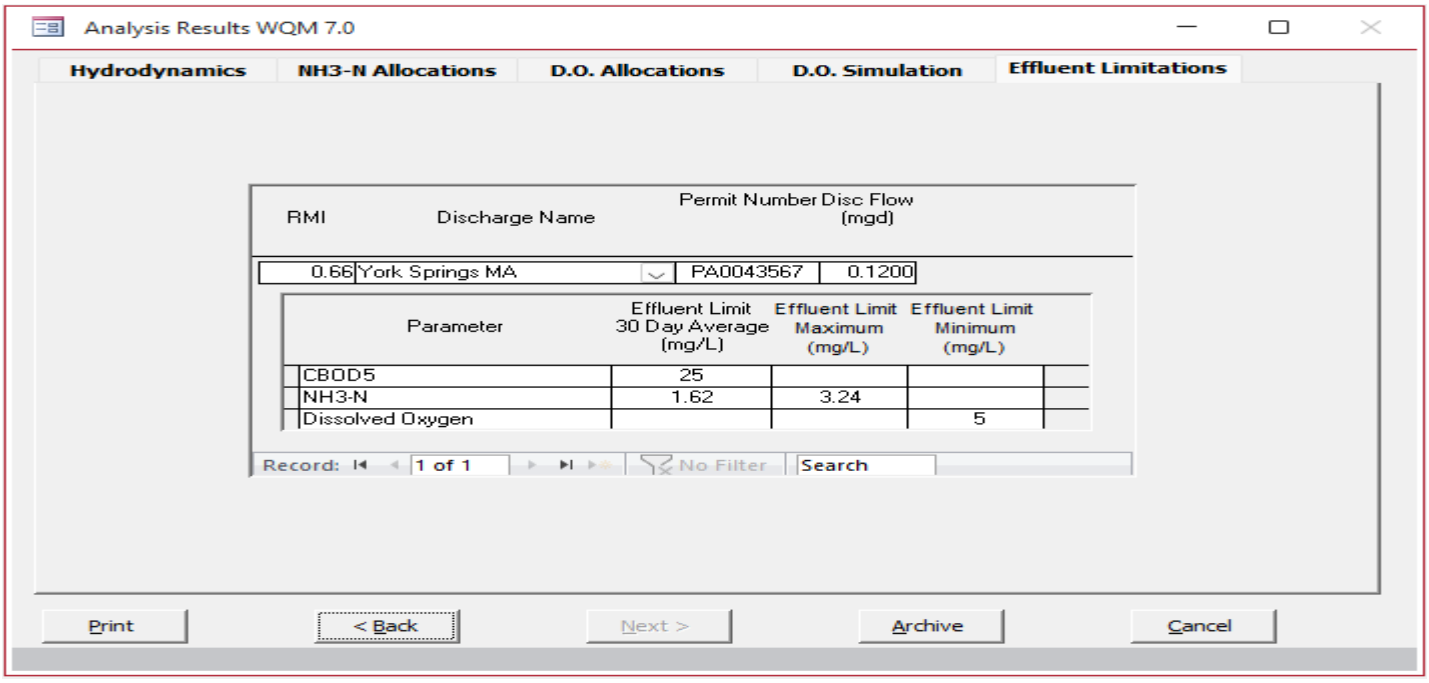
*	Discharge pH	7.0	(Default per 391-2000-007)
*	Discharge Temperature	25°C	(Default per 391-2000-007)
*	Stream pH	7.0	(Default per 391-2000-006)
*	Stream Temperature	20°C	(Default for WWF per 391-2000-003)
*	Background NH_3-N	0 mg/L	(Assumed since no upstream WWTPs)

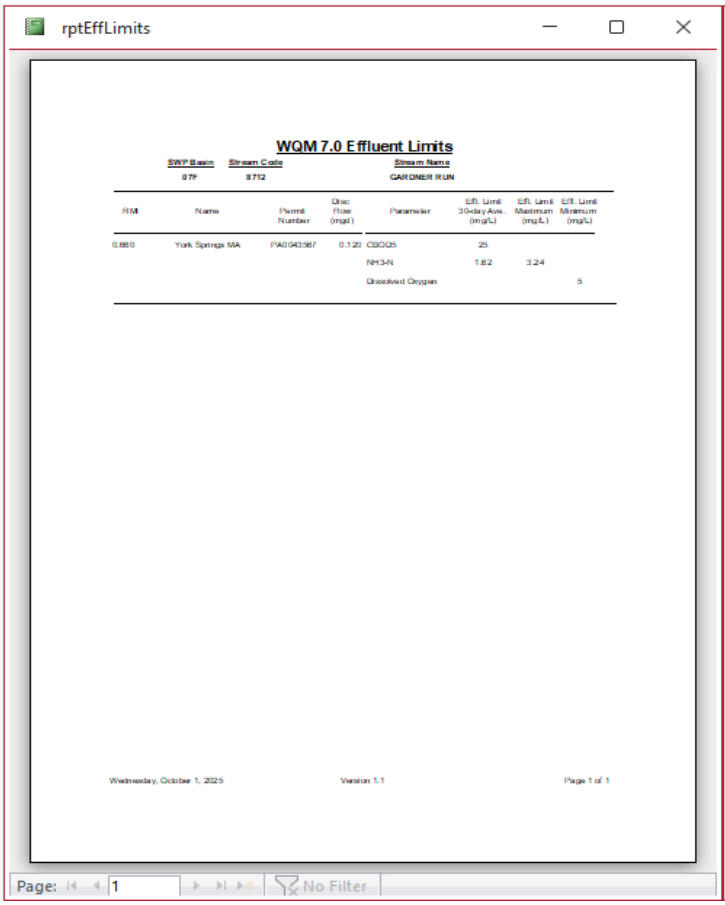
Node 1: Outfall 001 on Gardner Run (08712)

Elevation:	575 ft (USGS National Map Viewer)
Drainage Area:	0.31 $mi.^2$ (USGS PA StreamStats)
River Mile Index:	0.66 (PA DEP eMapPA)
Low Flow Yield:	0.061 $cfs/mi.^2$
Discharge Flow:	0.120 MGD

Node 2: Just before confluence with Bermudian Creek

Elevation:	513 ft (USGS National Map Viewer)
Drainage Area:	0.70 $mi.^2$ (USGS PA StreamStats)
River Mile Index:	0.001 (PA DEP eMapPA)
Low Flow Yield:	0.061 $cfs/mi.^2$
Discharge Flow:	0.0 MGD




rptEffLimits
WQM 7.0 Effluent Limits
SWP Basin
07F
Stream Code
8712
Stream Name
GARDNER RUN
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)
0.680
York Springs MA
PA0043567
0.120
CBOD5
25
NH3-N
1.82
3.24
Dissolved Oxygen
5
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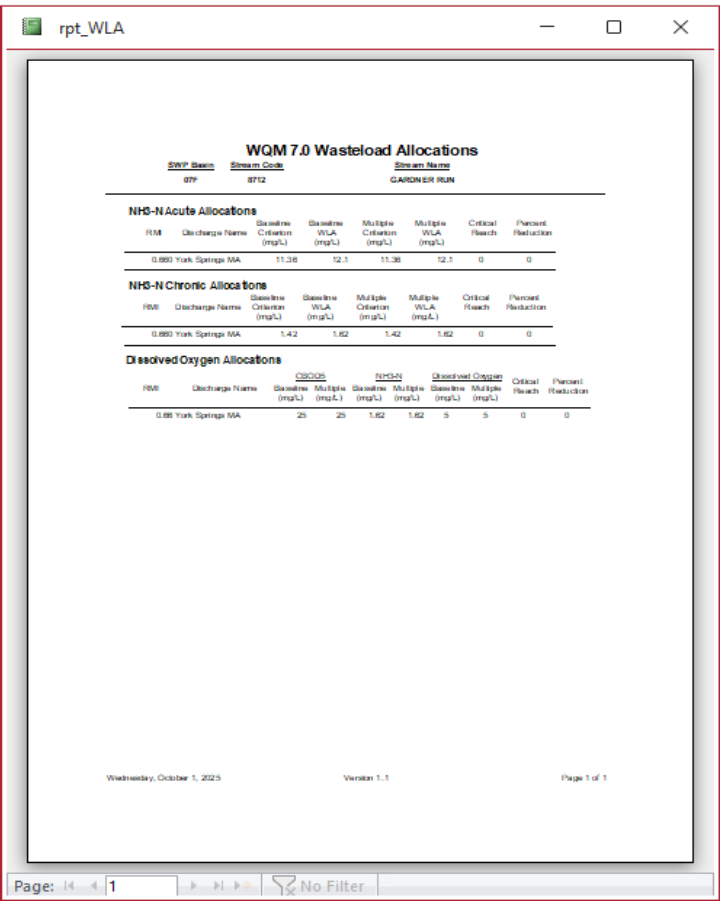
rpt_WLA
WQM 7.0 Wasteload Allocations
SWP Basin
07F
Stream Code
8712
Stream Name
GARDNER RUN
NH3-N Acute Allocations
RMI
Discharge Name
Baseline Criterion (mg/L)
Baseline WLA (mg/L)
Multiple Criterion (mg/L)
Multiple WLA (mg/L)
Critical Reach
Percent Reduction
0.680 York Springs MA
11.38
12.1
11.38
12.1
0
0
NH3-N Chronic Allocations
0.680 York Springs MA
1.42
1.82
1.42
1.82
0
0
Dissolved Oxygen Allocations
CBOD5
NH3-N
Dissolved Oxygen
0.68 York Springs MA
25
25
1.82
1.82
5
5
0
0
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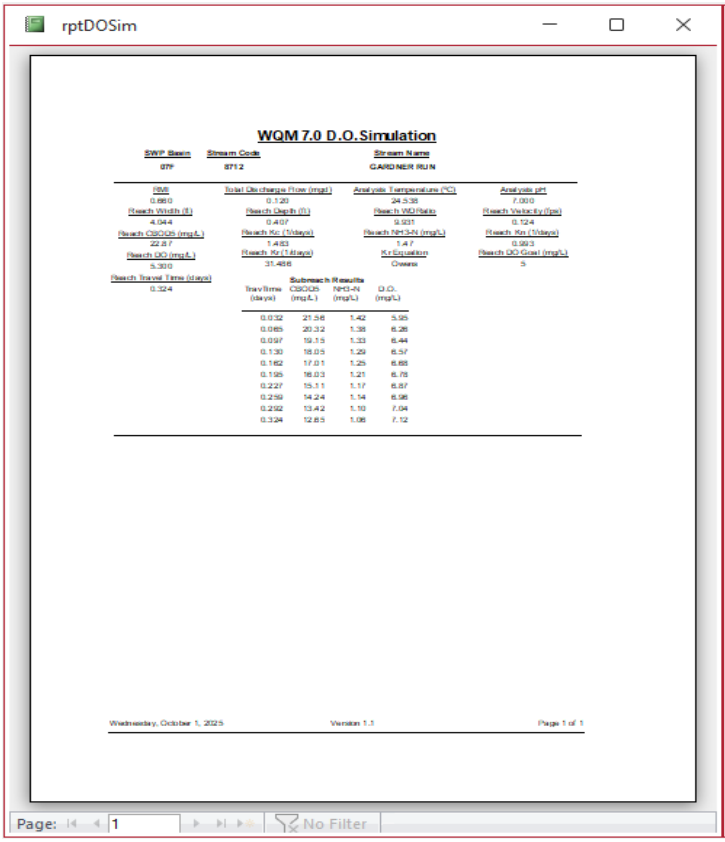
rptDOSim
WQM 7.0 D.O.Simulation
SWP Basin
07F
Stream Code
8712
Stream Name
GARDNER RUN
RMI
0.680
Reach Width (ft)
4.044
Reach CBOD5 (mg/L)
22.87
Reach DO (mg/L)
5.300
Reach Travel Time (days)
0.324
Total Discharge Flow (mgd)
0.120
Reach Depth (ft)
0.407
Reach Kc (1/days)
1.483
Reach Kr (1/days)
35.466
Analysis Temperature (°C)
24.535
Reach WD Ratio
9.931
Reach NH3-N (mg/L)
1.47
Kr Equation
Owens
Analysis pH
7.000
Reach Velocity (fps)
0.124
Reach Ka (1/days)
0.993
Reach DO Goal (mg/L)
5
Subreach Results
TravTime (days)
CBOD5 (mg/L)
NH3-N (mg/L)
D.O. (mg/L)
0.032 21.56 1.42 5.95
0.065 20.32 1.38 6.26
0.097 19.15 1.33 6.44
0.130 18.05 1.29 6.57
0.162 17.01 1.25 6.68
0.195 16.03 1.21 6.78
0.227 15.11 1.17 6.87
0.259 14.24 1.14 6.96
0.292 13.42 1.10 7.04
0.324 12.65 1.06 7.12
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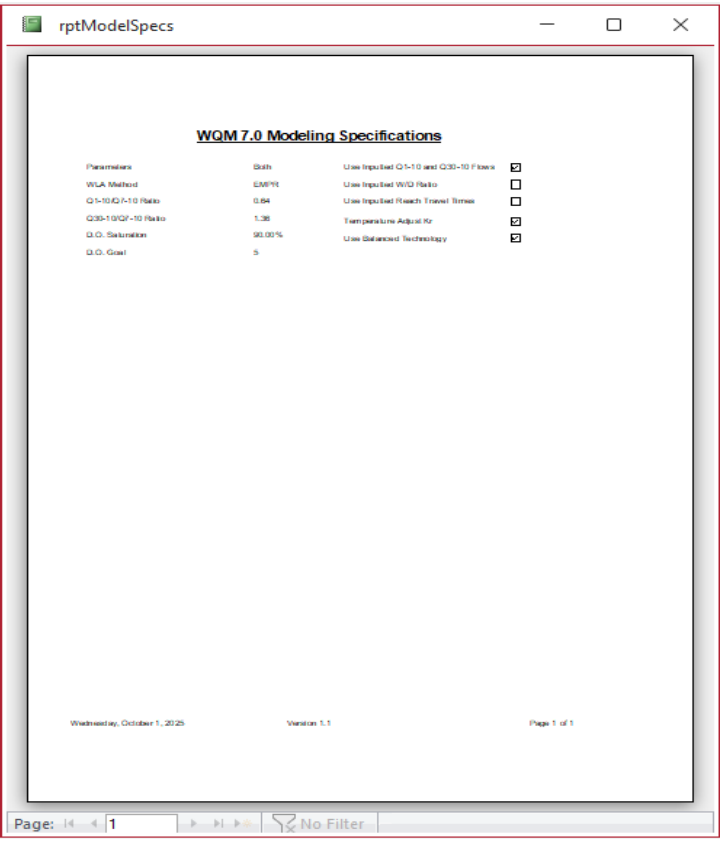
rptModelSpecs
WQM 7.0 Modeling Specifications
Parameters
Both
WLA Method
EMPR
Q1-10/Q7-10 Ratio
0.64
Q30-10/Q7-10 Ratio
1.36
D.O. Saturation
90.00%
D.O. Goal
5
Use Inputted Q1-10 and Q30-10 Flows
Use Inputted W/D Ratio
Use Inputted Reach Travel Times
Temperature Adjust Kr
Use Balanced Technology
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rptHydro

WQM 7.0 Hydrodynamic Outputs

SWP Basin: 07F | Stream Code: 8712 | Stream Name: GARDNER RUN

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												
0.880	0.02	0.00	0.02	.1896	0.01782	.407	4.04	9.93	0.12	0.324	24.54	7.00
Q1-10 Flow												
0.880	0.01	0.00	0.01	.1896	0.01782	NA	NA	NA	0.12	0.330	24.69	7.00
Q30-10 Flow												
0.880	0.03	0.00	0.03	.1896	0.01782	NA	NA	NA	0.13	0.318	24.39	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
07F	8712	GARDNER RUN	0.880	575.00	0.31	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	0.061	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
York Springs MA	PA0043567	0.1200	0.1200	0.1200	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
07F	8712	GARDNER RUN	0.001	513.00	0.70	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	0.061	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
York Springs MA	PA0043567	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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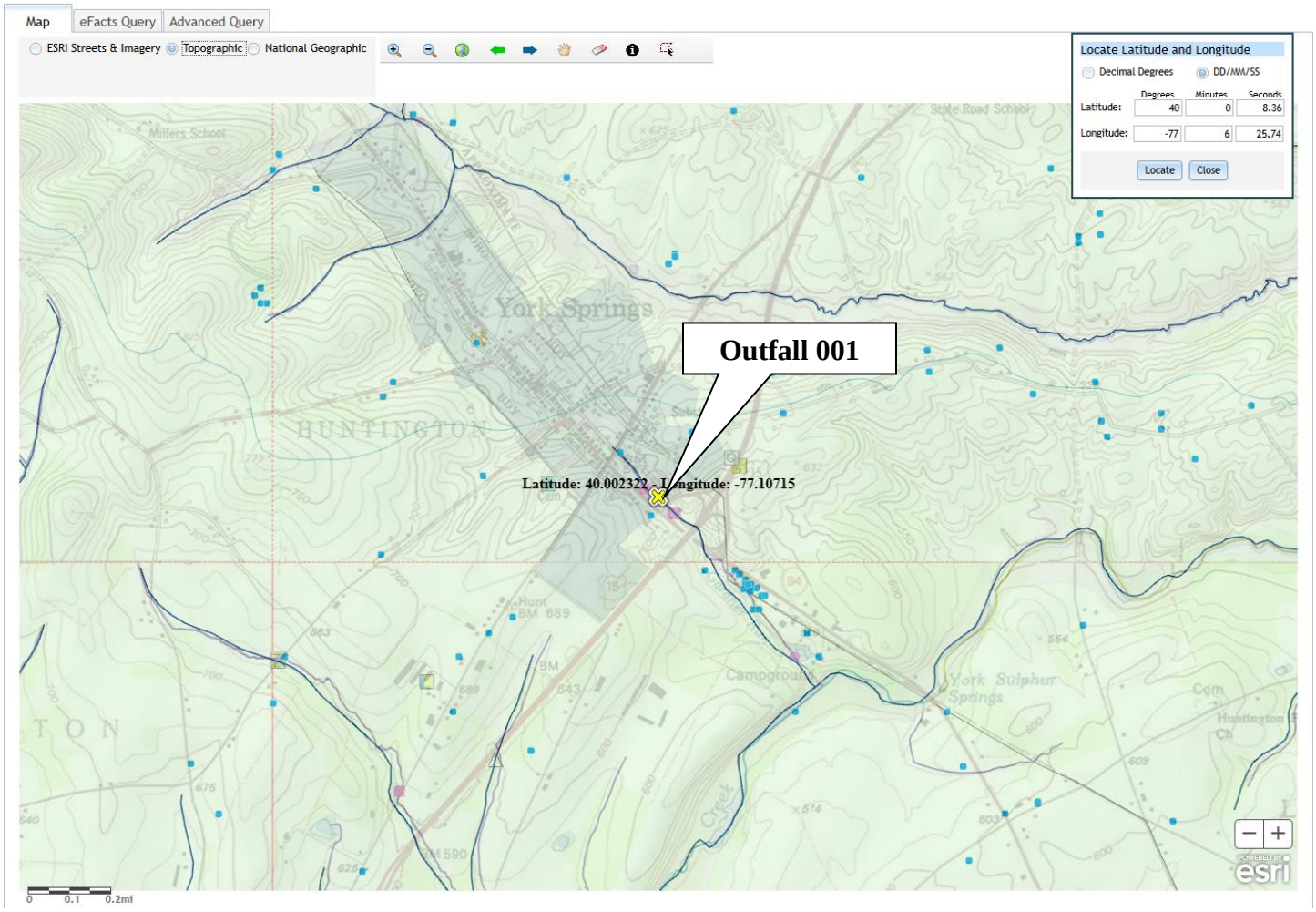
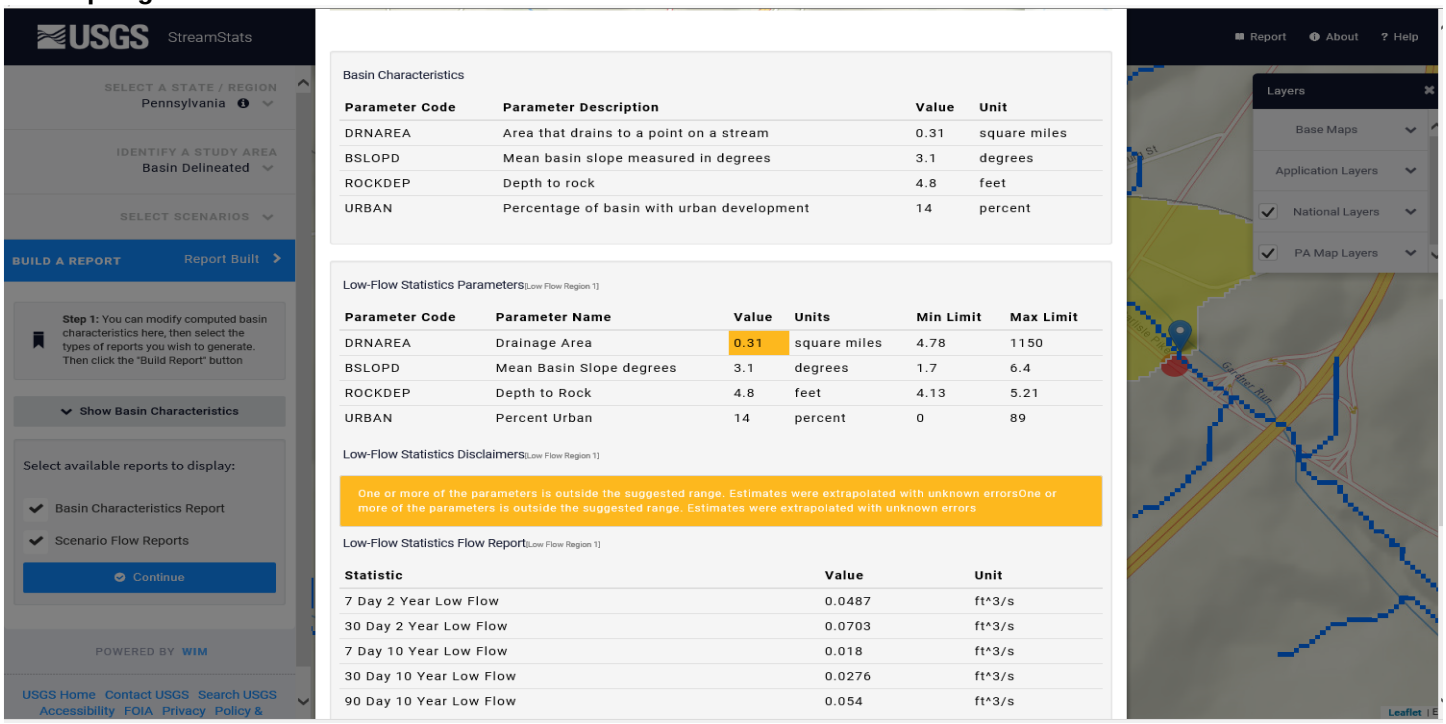

Map
eFacts Query
Advanced Query
ESRI Streets & Imagery
Topographic
National Geographic
Locate Latitude and Longitude
Decimal Degrees
DD/MM/SS
Degrees
Minutes
Seconds
Latitude:
40
0
8.36
Longitude:
-77
6
25.74
Locate
Close
Outfall 001
Latitude: 40.002322 , Longitude: -77.10715
York Springs
HUNTINGTON
Millers School
State Road School
York Sulphur Springs
Campground
0
0.1
0.2mi
esri



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.31	square miles
BSLOPD	Mean basin slope measured in degrees	3.1	degrees
ROCKDEP	Depth to rock	4.8	feet
URBAN	Percentage of basin with urban development	14	percent

Low-Flow Statistics Parameters[Low Flow Region 1]

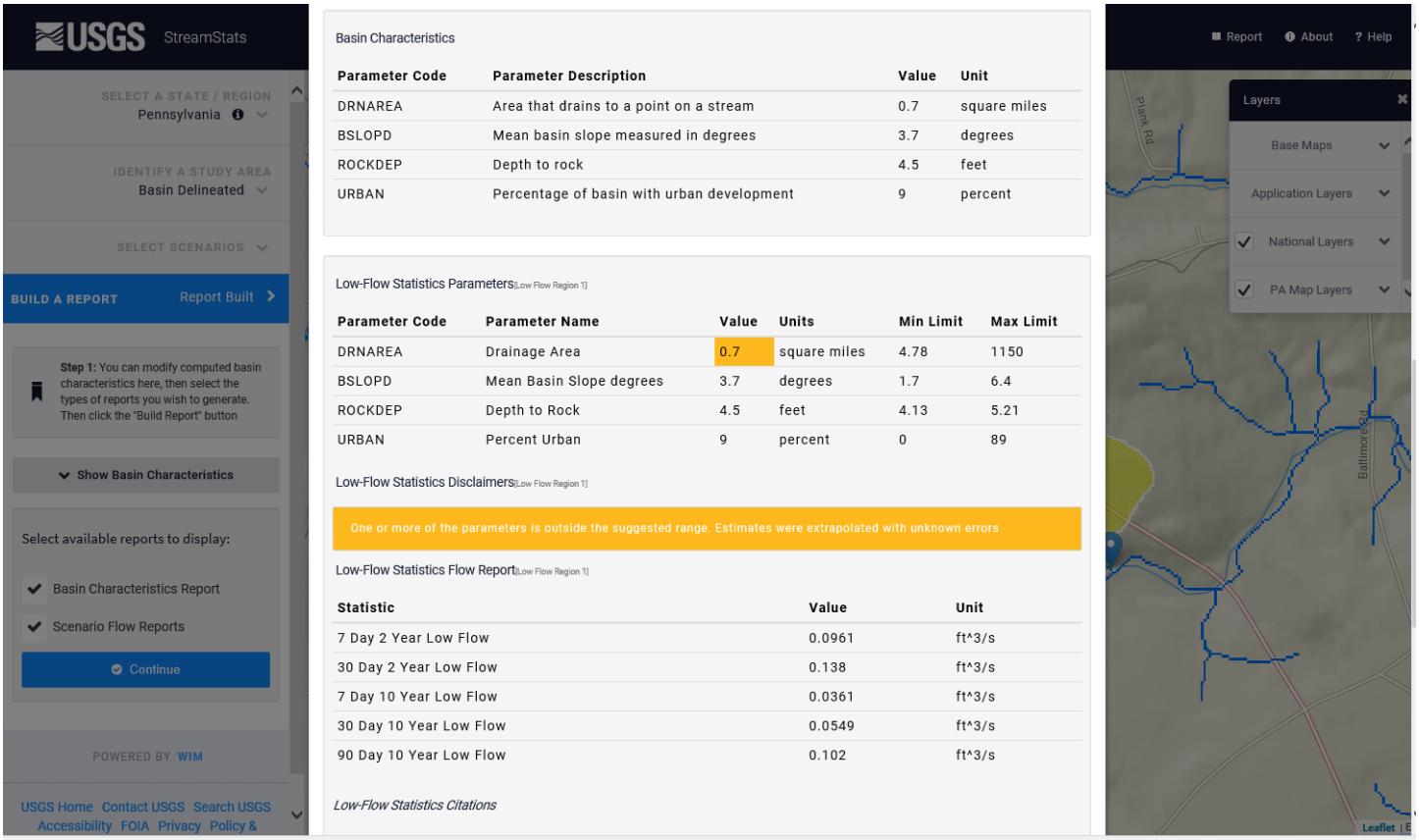
Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.31	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	3.1	degrees	1.7	6.4
ROCKDEP	Depth to Rock	4.8	feet	4.13	5.21
URBAN	Percent Urban	14	percent	0	89

Low-Flow Statistics Disclaimers[Low Flow Region 1]

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

Low-Flow Statistics Flow Report[Low Flow Region 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0487	ft^3/s
30 Day 2 Year Low Flow	0.0703	ft^3/s
7 Day 10 Year Low Flow	0.018	ft^3/s
30 Day 10 Year Low Flow	0.0276	ft^3/s
90 Day 10 Year Low Flow	0.054	ft^3/s



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.7	square miles
BSLOPD	Mean basin slope measured in degrees	3.7	degrees
ROCKDEP	Depth to rock	4.5	feet
URBAN	Percentage of basin with urban development	9	percent

Low-Flow Statistics Parameters[Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.7	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	3.7	degrees	1.7	6.4
ROCKDEP	Depth to Rock	4.5	feet	4.13	5.21
URBAN	Percent Urban	9	percent	0	89

Low-Flow Statistics Disclaimers[Low Flow Region 1]

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 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0961	ft^3/s
30 Day 2 Year Low Flow	0.138	ft^3/s
7 Day 10 Year Low Flow	0.0361	ft^3/s
30 Day 10 Year Low Flow	0.0549	ft^3/s
90 Day 10 Year Low Flow	0.102	ft^3/s

Low-Flow Statistics Citations

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: