Pennsylvania Department of Environmental Protection

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0086860**
Facility Type	**Municipal**	APS ID	**278871**
Major / Minor	**Minor**	Authorization ID	**1492794**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Springfield Township**	Facility Name	**Springfield Township Hollow Creek STP**
Applicant Address	PO Box 75	Facility Address	Water Street
	Seven Valleys, PA 17360-0075		Seven Valleys, PA 17360
Applicant Contact	Stanley Escher	Facility Contact	Stanley Escher
Applicant Phone	(717) 428-1413	Facility Phone	(717) 428-1413
Client ID	29132	Site ID	458970
Ch 94 Load Status	Not Overloaded	Municipality	Springfield Township
Connection Status		County	York
Date Application Received	July 19, 2024	EPA Waived?	No
Date Application Accepted	July 23, 2024	If No, Reason	Significant CB Discharge

Purpose of Application: NPDES Renewal

Summary of Review

Springfield Township has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of a NPDES permit for the Hollow Creek STP. The permit was last reissued on January 30, 2020 with an effective date of February 1, 2020. The permit expired on January 31, 2024, but the terms and conditions of the permit have been administratively extended since that time.

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

Sludge use and disposal description and location(s): Modern Landfill

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.

Approve	Deny	Signatures	Date
x		*Aaron Baar* Aaron Baar / Project Manager	April 16, 2025
x		*Daniel W. Martin* Daniel W. Martin, P.E. / Environmental Engineer Manager	June 11, 2025

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.7
Latitude	39º 52' 4.87"	Longitude	-76º 42' 54.35"
Quad Name	Glen Rock	Quad Code	2032
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to East Branch Codorus Creek (CWF)	Stream Code	08098
NHD Com ID	57471577	RMI	2.36
Drainage Area	0.65 sq. mi.	Yield (cfs/mi^2)	0.0143
Q_{7-10} Flow (cfs)	0.00927	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	583.15	Slope (ft/ft)	
Watershed No.	7-H	Chapter 93 Class.	CWF
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	

Background/Ambient Data		Data Source
pH (SU)	7.1	Analysis of most recent 12 months of DMR data (see attached)
Temperature (°C)	20	Model Default
Hardness (mg/L)	100	Model Default
Other:		

Nearest Downstream Public Water Supply Intake	The York Water Company		
PWS Waters	South Branch Codorus Creek	Flow at Intake (cfs)	
PWS RMI	0.30	Distance from Outfall (mi)	6.7

Drainage Area

The discharge is to the UNT to East Branch Codorus Creek at RMI 2.36. A drainage area upstream of the discharge is determined to be 0.65 sq.mi. according to USGS PA StreamStats available at https://streamstats.usgs.gov/ss/.

Stream Flow

According to StreamStats, the watershed has a Q_{7-10} of 0.00927 cfs. This information was used to obtain a LFY, a chronic 30-day (Q_{30-10}) and acute (Q_{1-10}) exposure stream flows for the discharge point as follows (Guidance No. 391-2000-023).

Q_{7-10} = 0.00927 cfs
Q_{30-10} = 1.36 * 0.00927 cfs = 0.0126 cfs
Q_{1-10} = 0.64 * 0.00927 cfs = 0.0059 cfs
LFY = 0.00927 cfs/0.65 mi^2 = 0.0143 cfs/mi^2

UNT to East Branch Codorus Creek

25 Pa Code §93.9 classifies the receiving water, UNT to East Branch Codorus Creek, with a Cold Water Fishery (CWF) Existing Use designation. 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. The discharge is in a stream segment listed as attaining uses.

Local Watershed Total Maximum Daily Loads (TMDLs)

According to PA's 2024 Integrated Water Quality Monitoring and Assessment Report, Hickory Creek in the vicinity of the point of discharge is impaired for recreation due to an unknown source of pathogens. The waterway's impairment is listed as Category 5 in the 2024 Integrated Report, indicating that the receiving water is impaired for one or more uses by a pollutant that require the development of a TMDL. No TMDL has been developed for Hickory Creek to date, so no local watershed TMDL has been taken into consideration during this review.

Public Water Supply Intake

The nearest downstream public water supply intake is the York Water Company intake on the South Branch Codorus Creek. Considering the distance and nature, the discharge is not expected to affect the water supply.

Class A Wild Trout Streams

The receiving stream is not a Class A Wild Trout stream; therefore, no Class A Wild Trout Fishery is impacted by this discharge.

Treatment Facility Summary

Treatment Facility Name: Springfield Township Hollow Cr STP

WQM Permit No.	Issuance Date
6706407 A-1	8/25/2017
6706407	8/24/2006

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Sequencing Batch Reactor	Ultraviolet	0.7

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.7	1460	Not Overloaded	Aerobic Digestion	Other WWTP

Springfield Township operates and owns the wastewater treatment facility located on Water Street (Springfield Township, York County). The facility serves portions of Springfield Township (41%), Jacobus Borough (28%), Loganville Borough (23%), and Seven Valleys Borough (8%); wastes are generally residential and commercial in nature, and all sewer systems are 100% separated. With an annual average design flow and hydraulic design capacity of 0.7 MGD, the treatment process is as follows:

Mechanical Bar Screen → Influent PS → Sequencing Batch Reactors (2) → UV Disinfection → Outfall 001

The application states that alum is introduced to the SBRs to facilitate phosphorus removal. An Aerobic Digester, Sludge Holding Tank, and Centrifuge are utilized for solids handling.

Compliance History	
Summary of DMRs:	DMR results for the past year are presented below.
Summary of Inspections:	Since the last renewal of the facility's NPDES permit, the following inspections have been logged in WMS: November 22, 2021: A CEI was conducted by Kevin Buss following receipt of the facility's Chesapeake Bay Annual Report showing a Net Effluent Nitrogen cap load violation. No violations were noted. After review, gross Nitrogen was inadvertently reported as Net Nitrogen in the Annual Report summary. The facility purchased 646 Nitrogen credits, allowing for an additional 672 pounds. Results were entered correctly in the Annual Chesapeake Bay Summary. February 14, 2023: A CEI was conducted by Shawn Lesitsky following receipt of the facility's Chesapeake Bay Annual Report showing a Net Effluent Nitrogen cap load violation. No violations were noted. After review, it was found that the facility had purchased 4,250 credits to meet their cap load, however the values reported on the DMR did not reflect the purchased credits. It was also noted that the facility had used outdated delivery ratios on the Department's Chesapeake Bay Annual Supplemental form. These ratios were updated in the Summer of 2022. With the new ratio applied, Springfield remained in compliance with the cap load with the credits they had purchased. The correct delivery ratios of 0.685 Total Nitrogen and 0.397 Total Phosphorus were provided to Springfield, along with additional documentation to help with future nutrient reporting. An updated supplemental spreadsheet was also provided for the new compliance year. The total phosphorus cap load was met with or without purchase of credits and is in compliance. DEP recommended that Springfield revise the Annual Chesapeake Bay supplemental form as well as revise the Effluent Net Total Nitrogen on the Annual DMR to reflect the credits purchased. May 9, 2024 A CEI was conducted by Shawn Lesitsky. No violations were noted. Only observations are recorded. The following non-compliance was documented: 1. 25 Pa. Code 92a.61(c): Failure to monitor pollutants as required by the NPDES permit. Supernatant from the digester and centrifuge drain back to the influent wet well. It is recommended that these sludgerelated wastewater streams not be active during influent sample collection.

Other Comments: As of April 16, 2025, there are no open violations associated with this facility.

Existing Effluent Limitations and Monitoring Requirements

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	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	0.013	XXX	0.042	1/day	Grab
CBOD5	58	87	XXX	10	15	20	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS	58	87	XXX	10	15	20	1/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
Nitrate-Nitrite	XXX	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Nitrate-Nitrite (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	Calculation
Total Nitrogen (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Nitrogen (lbs) Effluent Net	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Ammonia Nov 1 - Apr 30	24.5	XXX	XXX	4.2	XXX	8.4	1/week	24-Hr Composite
Ammonia May 1 - Oct 31	8.1	XXX	XXX	1.4	XXX	2.8	1/week	24-Hr Composite
Ammonia (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) [1]		Concentrations (mg/L)				Minimum [2] Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
TKN	XXX	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TKN (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Phosphorus	11.6	XXX	XXX	2.0	XXX	4	1/week	24-Hr Composite
Total Phosphorus (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Phosphorus (lbs) Effluent Net	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Zinc	0.46	XXX	XXX	0.079	XXX	0.158	1/week	24-Hr Composite

Compliance Sampling Location: Outfall 001

Compliance History

DMR Data for Outfall 001 (from March 1, 2024 to February 28, 2025)

Parameter	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24
Flow (MGD) Average Monthly	0.443	0.425	0.429	0.390	0.420	0.414	0.441	0.431	0.451	0.512	0.617	0.561
Flow (MGD) Daily Maximum	0.548	0.497	0.497	4.86	0.506	0.524	0.547	0.493	0.548	0.572	1.018	0.722
pH (S.U.) Instantaneous Minimum	6.62	6.95	7.05	6.93	6.88	6.77	6.41	6.63	6.51	6.31	6.39	6.44
pH (S.U.) Instantaneous Maximum	7.70	7.76	7.56	7.69	7.58	7.37	8.38	7.53	8.02	7.23	7.16	7.20
DO (mg/L) Instantaneous Minimum	9.29	9.08	8.97	8.21	7.88	7.23	7.21	7.06	7.12	7.78	8.47	9.60
TRC (mg/L) Average Monthly	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
TRC (mg/L) Instantaneous Maximum	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
CBOD5 (lbs/day) Average Monthly	< 9.13	< 8.67	< 9.44	< 8.07	< 7.89	< 8.7	< 11.39	< 9.25	< 9.15	10.04	27.09	12.15
CBOD5 (lbs/day) Weekly Average	9.71	9.13	12.02	< 8.61	< 8.51	10.98	13.11	10.29	12.7	10.69	44.15	15.5
CBOD5 (mg/L) Average Monthly	< 2.65	< 2.6	< 2.6	< 2.4	< 2.4	< 2.63	< 3.08	< 2.6	< 2.48	< 2.4	4.4	2.7
CBOD5 (mg/L) Weekly Average	< 2.8	2.8	2.9	2.4	2.4	3.3	3.7	2.8	3.2	2.5	7.1	3.5
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	732.6	645	840.8	607	578.37	709	613.9	579	558	836	958	841
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	1498.9	1076	1311	682	831	941	1001.2	761	622	1051	1307	1019
BOD5 (mg/L) Raw Sewage Influent Average Monthly	214	195	240	181	176.6	214	165	164	152	200	166	186.25

TSS (lbs/day) Average Monthly	12.86	20.12	11.39	13.47	9.96	13.3	17.68	16.86	19.6	17.59	90.33	7.985
TSS (lbs/day) Raw Sewage Influent Average Monthly	547.1	461	602.3	461	346	459	392.7	291	400	784	714	735
TSS (lbs/day) Raw Sewage Influent Daily Maximum	1097.1	783	1114	750	615	1168	891.6	471	640	998	1051	1063
TSS (lbs/day) Weekly Average	20.31	29.35	22.9	17.93	16.05	19.5	22.67	35.28	31.8	29.1	173.2	14.2
TSS (mg/L) Average Monthly	3.75	6	3.25	4	3	4	4.8	4.75	5.25	4.2	14.25	1.75
TSS (mg/L) Raw Sewage Influent Average Monthly	160	139	173	137	106	140	105.6	82	110	187	124	163
TSS (mg/L) Weekly Average	6	9	7	5	5	6	6	10	8	7	31	3
Fecal Coliform (No./100 ml) Geometric Mean	< 8.5	5.32	< 1.78	< 4.01	< 124.8	55.1	38	8.18	< 1.68	< 1.6	< 7.17	< 1.49
Fecal Coliform (No./100 ml) Instantaneous Maximum	31	201	5	129	488	326	158	112	4	6	240	5
Nitrate-Nitrite (mg/L) Average Monthly	16.75	15.25	12.25	14.75	15	< 12.6	< 13.64	11.45	12.75	16	14.5	13.6
Nitrate-Nitrite (lbs) Total Monthly	1782.8	1579.45	1373.61	1492.5	1531	< 1255.5	< 1560.9	1253.95	1407	2077	2467.5	1916
Total Nitrogen (mg/L) Average Monthly	< 17.25	< 15.87	< 12.95	< 15.38	< 15.6	< 14.64	< 12.9	< 12.22	< 13.48	< 16.50	< 15.43	< 14.125
Total Nitrogen (lbs) Effluent Net Total Monthly	< 1664	< 1643.93	< 1455.5	< 1549.5	< 1592	< 1310.4	< 1725.46	< 1340.75	< 1487.25	< 2132.8	< 2622.5	< 1975
Total Nitrogen (lbs) Total Monthly	< 1664	< 1643.93	< 1455.5	< 1549.5	< 1592	< 1310.4	< 1725.46	< 1340.75	< 1487.25	< 2132.8	< 2622.5	< 1975
Total Nitrogen (lbs) Effluent Net Total Annual						12785						
Total Nitrogen (lbs) Total Annual						12785						
Ammonia (lbs/day) Average Monthly	< 0.334	< 0.34	< 0.36	< 0.34	< 0.329	< 0.33	< 0.53	< 0.35	< 0.368	< 0.61	< 0.67	< 0.78

Ammonia (mg/L) Average Monthly	< 0.10	< 0.10	< 0.10	0.10	< 0.10	< 0.10	< 0.14	< 0.10	< 0.10	< 0.15	< 0.12	< 0.175
Ammonia (lbs) Total Monthly	< 10.7	< 10.54	< 11.16	< 10.2	< 10.2	< 9.9	< 16.43	< 10.85	< 11.04	< 18.91	< 0.85	< 24.18
Ammonia (lbs) Total Annual						< 206						
TKN (mg/L) Average Monthly	< 0.50	< 0.62	< 0.7	< 0.63	< 0.598	< 0.54	< 0.50	< 0.77	< 0.73	< 0.50	< 0.925	< 0.50
TKN (lbs) Total Monthly	< 53.32	< 64.48	< 81.84	< 63	< 60.8	< 54	< 57.47	< 83.7	< 79.8	< 64.48	< 158.85	< 70.06
Total Phosphorus (lbs/day) Average Monthly	8.09	7.77	5.8	6.74	6.24	6.14	6.30	9.09	7.48	5.39	7.89	5.85
Total Phosphorus (mg/L) Average Monthly	2.35	2.45	1.625	2.0	1.9	1.85	1.68	2.575	2.05	1.29	1.4	1.295
Total Phosphorus (lbs) Effluent Net Total Monthly	250.8	240.87	179.8	202.2	193.4	184.2	195.3	281.79	224.4	167.09	236.7	181.35
Total Phosphorus (lbs) Total Monthly	250.8	240.87	179.8	202.2	193.4	184.2	195.3	281.79	224.4	167.09	236.7	181.35
Total Phosphorus (lbs) Effluent Net Total Annual						1704						
Total Phosphorus (lbs) Total Annual						1704						
Total Zinc (lbs/day) Average Monthly	0.116	0.101	0.10	0.095	0.174	0.09	0.13	0.13	0.17	0.24	0.39	0.157
Total Zinc (mg/L) Average Monthly	0.034	0.0305	0.027	0.028	0.052	0.027	0.034	0.038	0.046	0.056	0.061	0.035

Compliance History

Effluent Violations for Outfall 001, from: April 1, 2024 To: February 28, 2025

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
TSS	04/30/24	Avg Mo	90.33	lbs/day	58	lbs/day
TSS	04/30/24	Wkly Avg	173.2	lbs/day	87	lbs/day
TSS	04/30/24	Avg Mo	14.25	mg/L	10	mg/L
TSS	04/30/24	Wkly Avg	31	mg/L	15	mg/L
Total Phosphorus	02/28/25	Avg Mo	2.35	mg/L	2.0	mg/L
Total Phosphorus	06/30/24	Avg Mo	2.05	mg/L	2.0	mg/L
Total Phosphorus	07/31/24	Avg Mo	2.575	mg/L	2.0	mg/L
Total Phosphorus	01/31/25	Avg Mo	2.45	mg/L	2.0	mg/L

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .7
Latitude 39º 52' 5.02" **Longitude** -76º 42' 54.23"
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: These standards apply, subject to water quality analysis and BPJ where applicable.

Water Quality-Based Limitations

CBOD5, NH3-N and Dissolved Oxygen (DO)

1. WQM 7.0 version 1.0b is a water quality model designed to assist DEP to determine appropriate permit requirements for CBOD5, NH3-N and DO. DEP's guidance no. 391-2000-007 provides the technical methods contained in WQM 7.0 for conducting wasteload allocation and for determining recommended NPDES effluent limits for point source discharges. The model was utilized using data derived by USGS StreamStats and the model output indicated that existing WQBELs for CBOD5 is still protective of water quality. However, the model also determined that existing WQBEL of 1.4 mg/L for ammonia (warm weather) is no longer protective of water quality. A new WQBEL of 1.3 mg/L for ammonia (warm weather) is proposed in this permit. Instantaneous limits for ammonia were updated with the Department's standard 2.0x multiplier. Updated winter limits were calculated with the Department's standard 3.0x multiplier for ammonia. Based on DMR data, the facility can already meet the proposed limits.

   The model also determined that the facility's existing DO limits of 5 mg/L are still protective of water quality.

   See attached for model inputs and outputs.

Toxics

A reasonable potential (RP) analysis was done for Total Copper, Total Lead and Total Zinc. The Department's Toxics Management Spreadsheet (Version 1.4) was used to perform the RP analysis for these parameters at a pH of 7.1 and a discharge hardness of 100 mg/L. The sample sizes in the application for Total Copper and Total Lead were less than 10, so the maximum reported effluent concentration was utilized in the analysis for these parameters. The last two-years of DMR data was pulled for Total Zinc and the values were evaluated using TOXCONC. The analysis indicates that limits for Total Copper may be needed to be protective of water quality and that a monitoring requirement for Total Zinc would be appropriate.

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

Pollutants	Mass Limits		Concentration Limits				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			
Total Copper	0.055	0.086	0.009	0.015	0.024	mg/L	0.009	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	Report	Report	Report	Report	Report	mg/L	0.12	AFC	Discharge Conc > 10% WQBEL (no RP)

☑ ***Other Pollutants without Limits or Monitoring***

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Total Lead	N/A	N/A	Discharge Conc < TQL

Based on limited sampling results provided with the application, the existing facility appears to already be able to meet the recommended Total Copper limits. However, due to the limited sample size of the data (1 sample result), the Department proposes a monitor-and-report requirement for Total Copper.

While the RP analysis for Total Zinc indicates that monitoring will be sufficient, the existing limits will be left in place due to federal anti-backsliding requirements.

In conformity with the Department's *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits* (PA Doc No. 362-0400-001), Table 6-3 (plant design flow = 0.45 mgd,), weekly testing of Total Copper and Total Zinc are proposed.

The full TMS report is presented at the end of this report.

E. Coli Monitoring

In conformity with the Department's *Establishing Effluent Limitations for Individual Sewage Permits* (SOP No. BCW-PMT-033) and as authorized by § 92a.61 of the PA Code, quarterly E. Coli monitoring has been proposed in this permit. The collection method will be via grab sample.

Best Professional Judgment (BPJ) Limitations

TDS / Sulfate / Chloride / Bromide / 1,4-Dioxane:

Total Dissolved Solids (TDS) and its major constituents including sulfate, chloride, and bromide have emerged as pollutants of concern in several major watersheds in the Commonwealth. The conservative nature of these solids allows them to accumulate in surface waters and they may remain a concern even if the immediate downstream public water supply is not directly impacted. Under the authority of § 92a.61, statewide guidance distributed by the Department's Central Office on January 23, 2014 stated the following:

> *For point source discharges and upon issuance or reissuance of an individual NPDES permit:*
>
> - *Where the concentration of TDS in the discharge exceeds 1,000 mg/L, or the net TDS load from a discharge exceeds 20,000 lbs/day, and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for TDS, sulfate, chloride, and bromide. Discharges of 0.1 MGD or less should monitor and report for TDS, sulfate, chloride, and bromide if the concentration of TDS in the discharge exceeds 5,000 mg/L.*
>
> - *Where the concentration of bromide in a discharge exceeds 1 mg/L and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for bromide. Discharges of 0.1 MGD or less should monitor and report for bromide if the concentration of bromide in the discharge exceeds 10 mg/L.*

- *Where the concentration of 1,4-dioxane (CAS 123-91-1) in a discharge exceeds 10 µg/L and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for 1,4-dioxane. Discharges of 0.1 MGD or less should monitor and report for 1,4-dioxane if the concentration of 1,4-dioxane in the discharge exceeds 100 µg/L.*

The table below compares the above thresholds for monitoring requirements with the concentrations documented in the current application:

Department Monitoring Thresholds and Expected Discharge Concentrations for TDS and Related Parameters

Parameter	Threshold for Discharges >0.1 MGD	Threshold for Discharges ≤0.1 MGD	Max. Concentration in Application
TDS	1,000 mg/L or 20,000 lbs/day	5,000 mg/L	358 mg/L
Sulfate	NA	NA	41 mg/L
Chloride	NA	NA	66 mg/L
Bromide	1 mg/L	10 mg/L	0.5 mg/L
1,4-Dioxane	10 µg/L	100 µg/L	Not Tested

Based on the sampling results in the application, no additional limits are proposed in the draft permit. 1,4-Dioxane was not evaluated as minor permits are not required to sample the parameter.

Total Residual Chlorine/UV Disinfection

In the previous renewal of this permit., TRC limits were left in place despite the fact that the facility's disinfection system has been switched to UV. The reasoning behind the decision at the time was continued TRC excursions of the BPJ limit for TRC in the receiving water.

A review of the facility's DMRs has shown that the facility has not experienced a TRC violation since December 2020 or a fecal violation since June 2019. As such, the Department proposes to eliminate the existing TRC limits in this renewal. In lieu of TRC limits, the Department proposes a new monitoring requirement for UV intensity to track the efficacy of the facility's disinfection system. The facility's WQM amendment from 2017 authorizing the installation of the UV system indicates that a UV intensity monitoring system was to be installed.

Total Phosphorus & Total Nitrogen

DEP's SOP no. BPNPSM-PMT-033 (Establishing Effluent Limitations for Individual Sewage Permits) recommends monitoring requirements for Total Phosphorus and Total Nitrogen for all sewage facilities. Therefore, routine monitoring for Total Phosphorus and Total Nitrogen are recommended to be continued in this permit. Sampling frequency for is currently required 1/week, which is consistent with Table 6.3 in Guidance Doc. 362-0400-001. No change is proposed.

Additional Considerations

Flow Monitoring

The requirement to monitor the volume of effluent will remain in the draft permit per 40 CFR § 122.44(i)(1)(ii).

Monitoring Frequency and Sample Type

Unless discussed otherwise above, the permit's monitoring frequency and sample type for all parameters will remain unchanged from the last permit renewal.

Antidegradation Requirements

All effluent limitations and monitoring requirements 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.

Anti-backsliding Requirement

All effluent limits proposed in this fact sheet are as stringent as effluent limits specified in the existing permit renewal unless noted otherwise above. This approach is in accordance with 40 CFR §122.44(l(1).

Annual Fees

An annual fee clause is continued in the permit in accordance with 25 Pa. Code § 92a.62. The facility covered by the permit is classified in the Minor Sewage Facility >=0.05 and <1 MGD fee category, which has an annual fee of $1,000.

Mass Loading Limitations

Unless stated otherwise in this fact sheet, mass loading effluent limits are calculated based on the formula: design flow (average annual) (MGD) x concentration limit (mg/L) at design flow x conversion factor (8.34).

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	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	58	87	XXX	10	15	20	1/week	24-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Suspended Solids	58	87	XXX	10	15	20	1/week	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	Report Avg Qrtly	Report Daily Max	XXX	1/quarter	Grab
Ultraviolet light intensity (µw/cm²)	XXX	XXX	Report	Report	XXX	XXX	1/day	Measured
Ammonia-Nitrogen Nov 1 - Apr 30	22.7	XXX	XXX	3.9	XXX	7.8	1/week	24-Hr Composite

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	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Ammonia-Nitrogen May 1 - Oct 31	7.5	XXX	XXX	1.3	XXX	2.6	1/week	24-Hr Composite
Total Phosphorus	11.6	XXX	XXX	2.0	XXX	4	1/week	24-Hr Composite
Copper, Total	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	1/week	24-Hr Composite
Zinc, Total	0.46	XXX	XXX	0.079	XXX	0.158	1/week	24-Hr Composite

Compliance Sampling Location: Outfall 001

Proposed Effluent Limitations and Monitoring Requirements

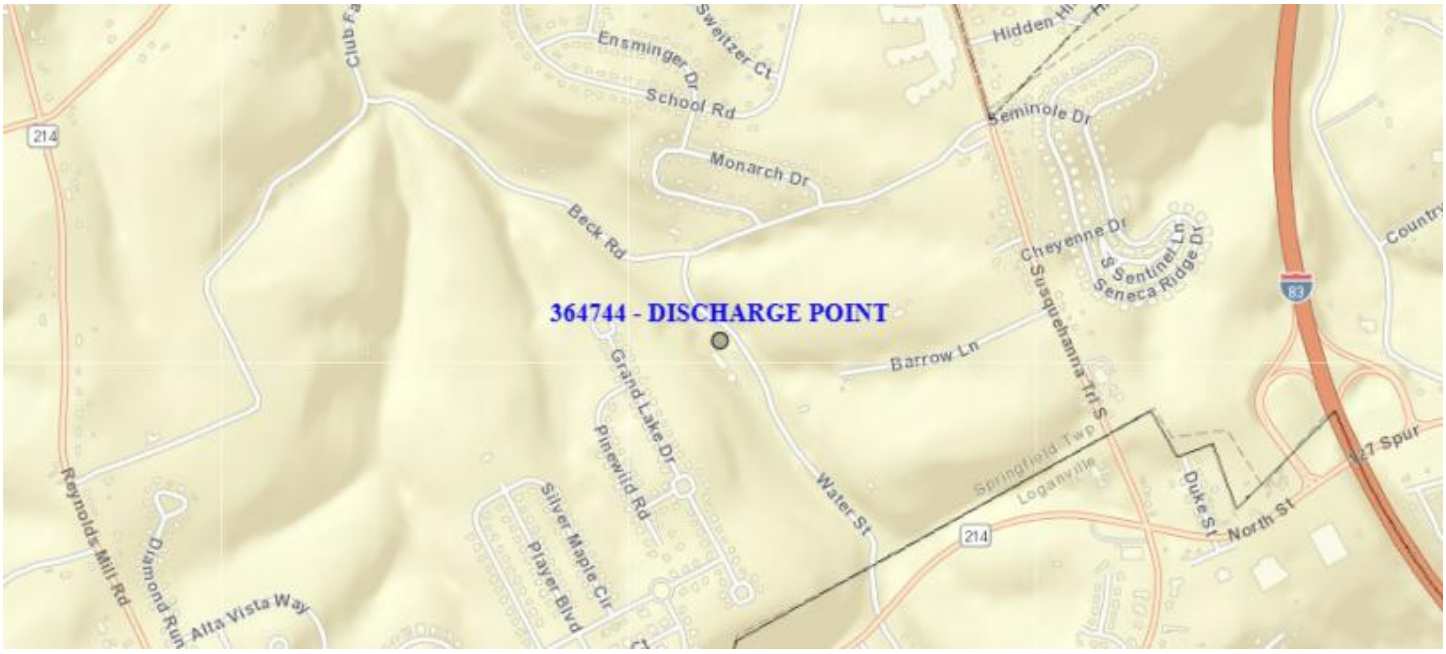
The limitations and monitoring requirements specified below are proposed for the draft permit, to comply with Pennsylvania's Chesapeake Bay Tributary Strategy.

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Monthly	Annual	Monthly	Monthly Average	Maximum	Instant. Maximum		
Ammonia--N	Report	Report	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Net Total Nitrogen	Report	12785	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	1704	XXX	XXX	XXX	XXX	1/month	Calculation

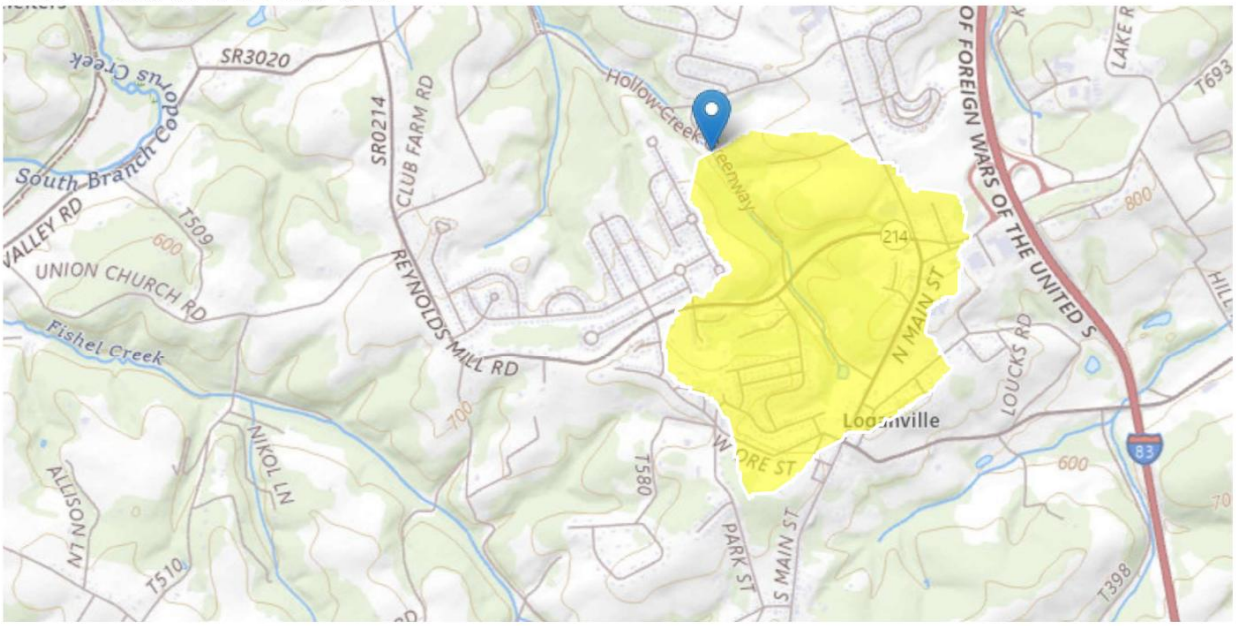
Compliance Sampling Location: Outfall 001

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:
☐	Other:


364744 - DISCHARGE POINT
Ensminger Dr
Sweitzer Ct
School Rd
Hidden Hl
Seminole Dr
Monarch Dr
Beck Rd
Cheyenne Dr
Sentinel Ln
Seneca Ridge Dr
Susquehanna Trl S
Barrow Ln
Grand Lake Dr
Pinewild Rd
Water St
Springfield Twp
Loganville
Duke St
North St
Reynolds Mill Rd
Diamond Run
Alta Vista Way
Silver Maple Cir
Player Blvd
214
83

StreamStats Report

Region ID: PA
Workspace ID: PA20250416114406243000
Clicked Point (Latitude, Longitude): 39.86790, -76.71500
Time: 2025-04-16 07:44:33 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	5.6418	degrees
DRNAREA	Area that drains to a point on a stream	0.65	square miles
ROCKDEP	Depth to rock	3	feet
URBAN	Percentage of basin with urban development	15.5866	percent

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
BSLOPD	Mean Basin Slope degrees	5.6418	degrees	1.7	6.4

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.65	square miles	4.78	1150
ROCKDEP	Depth to Rock	3	feet	4.13	5.21
URBAN	Percent Urban	15.5866	percent	0	89

Low-Flow Statistics Disclaimers [Low Flow Region 1]

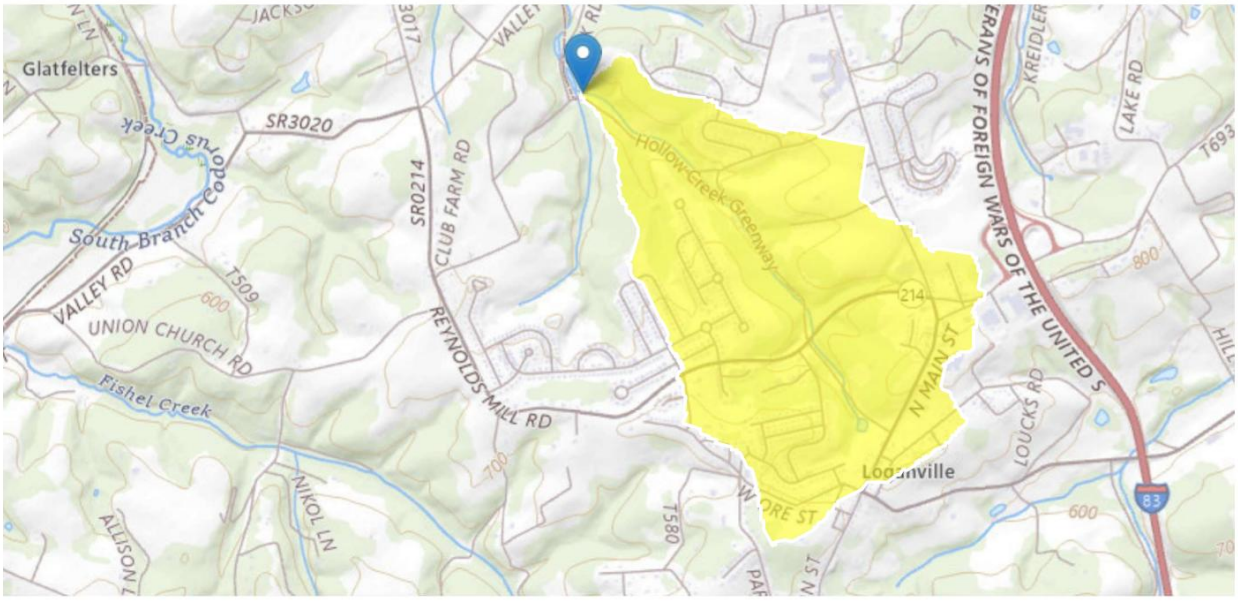
One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

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

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0302	ft^3/s
30 Day 2 Year Low Flow	0.0501	ft^3/s
7 Day 10 Year Low Flow	0.00927	ft^3/s
30 Day 10 Year Low Flow	0.017	ft^3/s
90 Day 10 Year Low Flow	0.0342	ft^3/s

StreamStats Report

Region ID: PA
Workspace ID: PA20250416115207832000
Clicked Point (Latitude, Longitude): 39.87327, -76.72384
Time: 2025-04-16 07:52:36 -0400



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Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	5.6618	degrees
DRNAREA	Area that drains to a point on a stream	1	square miles
ROCKDEP	Depth to rock	3	feet
URBAN	Percentage of basin with urban development	10.0881	percent

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
BSLOPD	Mean Basin Slope degrees	5.6618	degrees	1.7	6.4
DRNAREA	Drainage Area	1	square miles	4.78	1150
ROCKDEP	Depth to Rock	3	feet	4.13	5.21

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
URBAN	Percent Urban	10.0881	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	0.0425	ft^3/s
30 Day 2 Year Low Flow	0.0702	ft^3/s
7 Day 10 Year Low Flow	0.013	ft^3/s
30 Day 10 Year Low Flow	0.0237	ft^3/s
90 Day 10 Year Low Flow	0.0476	ft^3/s

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
07H	8098	Trib 08098 to E Branch Codorus Cr

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)
2.360	Hollow Crk STP	PA0086860	0.700	CBOD5	10		
				NH3-N	1.33	2.66	
				Dissolved Oxygen			5

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
07H	8098	Trib 08098 to E Branch Codorus Cr

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
2.360	Hollow Crk STP	10.11	2.8	10.11	2.8	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
2.360	Hollow Crk STP	1.32	1.33	1.32	1.33	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)		
2.36	Hollow Crk STP	10	10	1.33	1.33	5	5	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
07H	8098	Trib 08098 to E Branch Codorus Cr

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
2.360	0.700	24.958	7.099
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
7.648	0.527	14.513	0.271
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
9.93	1.497	1.32	1.025
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.028	54.759	Tsivoglou	5
Reach Travel Time (days)			
0.144			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.014	9.67	1.30	6.52
0.029	9.41	1.28	7.21
0.043	9.16	1.26	7.53
0.058	8.91	1.24	7.54
0.072	8.67	1.23	7.54
0.087	8.44	1.21	7.54
0.101	8.21	1.19	7.54
0.115	7.99	1.17	7.54
0.130	7.78	1.16	7.54
0.144	7.57	1.14	7.54

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 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
07H	8098	Trib 08098 to E Branch Codorus Cr

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												
2.360	0.01	0.00	0.01	1.0829	0.01891	.527	7.65	14.51	0.27	0.144	24.96	7.10
Q1-10 Flow												
2.360	0.01	0.00	0.01	1.0829	0.01891	NA	NA	NA	0.27	0.145	24.97	7.10
Q30-10 Flow												
2.360	0.01	0.00	0.01	1.0829	0.01891	NA	NA	NA	0.27	0.144	24.94	7.10

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
07H	8098	Trib 08098 to E Branch Codorus Cr	**2.360**	583.15	0.65	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	0.01	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
Hollow Crk STP	PA0086860	0.7000	0.7000	0.7000	0.000	25.00	7.10

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	10.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	1.40	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
07H	8098	Trib 08098 to E Branch Codorus Cr	**1.720**	519.26	1.00	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	0.01	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
		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	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

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Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **Hollow Creek STP** NPDES Permit No.: **PA0086860** Outfall No.: **001**

Evaluation Type: **Custom / Additives** Wastewater Description: **Treated Sewage w/ Commercial Contributic**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.7	100	7.1						

				0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Total Copper	mg/L	<	0.005									
Total Lead	mg/L	<	0.001									
Total Zinc	mg/L		0.056			0.3792						

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Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Hollow Creek STP, NPDES Permit No. PA0086860, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **UNT to East Branch Codorus Creek**

No. Reaches to Model: 1

- (●) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	008098	2.36	583.15	0.65			Yes
End of Reach 1	008098	1.72	519.26	1			Yes

Q $_{7\text{-}10}$

Location	RMI	LFY (cfs/mi²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	2.36		0.00927									100	7		
End of Reach 1	1.72		0.013												

Q $_{h}$

Location	RMI	LFY (cfs/mi²)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	2.36														
End of Reach 1	1.72														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Hollow Creek STP, NPDES Permit No. PA0086860, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All ○ Inputs ○ Results ○ Limits

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.000 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.10

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Copper	0	0		0	13.439	14.0	14.1	Chem Translator of 0.96 applied
Total Lead	0	0		0	64.581	81.6	82.3	Chem Translator of 0.791 applied
Total Zinc	0	0		0	117.180	120	121	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): 0.000 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.10

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Copper	0	0		0	8.956	9.33	9.41	Chem Translator of 0.96 applied
Total Lead	0	0		0	2.517	3.18	3.21	Chem Translator of 0.791 applied
Total Zinc	0	0		0	118.139	120	121	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 0.000 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Copper	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 0.015 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Copper	0	0		0	N/A	N/A	N/A	

Total Lead	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	0.055	0.086	0.009	0.015	0.024	mg/L	0.009	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	Report	Report	Report	Report	Report	mg/L	0.12	AFC	Discharge Conc > 10% WQBEL (no RP)

☑ ***Other Pollutants without Limits or Monitoring***

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Total Lead	N/A	N/A	Discharge Conc < TQL

Feb-25		Jan-25		Dec-24		Nov-24		Oct-24
6.62	2.399E-07	7.41	3.89045E-08	7.56	2.754E-08	7.17	6.761E-08	7.13
7.21	6.166E-08	7.3	5.01187E-08	7.46	3.467E-08	6.93	1.175E-07	7.37
7.19	6.457E-08	7.39	4.0738E-08	7.35	4.467E-08	7.03	9.333E-08	6.98
7.57	2.692E-08	7.23	5.88844E-08	7.26	5.495E-08	7.17	6.761E-08	6.96
7.67	2.138E-08	7.2	6.30957E-08	7.25	5.623E-08	7.26	5.495E-08	7.06
7.14	7.244E-08	7.34	4.57088E-08	7.13	7.413E-08	7.07	8.511E-08	7.18
7.29	5.129E-08	7.44	3.63078E-08	7.3	5.012E-08	7.04	9.12E-08	7.19
7.2	6.31E-08	7.43	3.71535E-08	7.44	3.631E-08	7.1	7.943E-08	7.16
7.56	2.754E-08	7.23	5.88844E-08	7.15	7.079E-08	7.24	5.754E-08	7
7.23	5.888E-08	7.22	6.0256E-08	7.22	6.026E-08	7.3	5.012E-08	7.1
7.7	1.995E-08	7.37	4.2658E-08	7.2	6.31E-08	7.54	2.884E-08	7
7.53	2.951E-08	7.46	3.46737E-08	7.4	3.981E-08	7.27	5.37E-08	7.04
7.61	2.455E-08	7.22	6.0256E-08	7.19	6.457E-08	7.1	7.943E-08	7.09
7.46	3.467E-08	7.76	1.7378E-08	7.46	3.467E-08	7.08	8.318E-08	7.16
7.23	5.888E-08	7.31	4.89779E-08	7.41	3.89E-08	7.03	9.333E-08	7.16
7.28	5.248E-08	6.95	1.12202E-07	7.12	7.586E-08	7.35	4.467E-08	7.15
7.87	1.349E-08	7.26	5.49541E-08	7.27	5.37E-08	7.55	2.818E-08	7.1
7.41	3.89E-08	7.52	3.01995E-08	7.23	5.888E-08	7.2	6.31E-08	6.97
7.41	3.89E-08	7.24	5.7544E-08	7.24	5.754E-08	7.29	5.129E-08	7.01
7.37	4.266E-08	7.18	6.60693E-08	7.05	8.913E-08	7.22	6.026E-08	7.23
7.16	6.918E-08	7.36	4.36516E-08	7.22	6.026E-08	7.29	5.129E-08	7.19
7.4	3.981E-08	7.3	5.01187E-08	7.54	2.884E-08	7.29	5.129E-08	7.14
7.55	2.818E-08	7.25	5.62341E-08	7.22	6.026E-08	7.26	5.495E-08	7.58
7.47	3.388E-08	7.24	5.7544E-08	7.47	3.388E-08	7.26	5.495E-08	7.06
7.44	3.631E-08	7.32	4.7863E-08	7.17	6.761E-08	7.36	4.365E-08	7.15
7.37	4.266E-08	7.34	4.57088E-08	7.43	3.715E-08	7.24	5.754E-08	6.88
7.26	5.495E-08	7.37	4.2658E-08	7.31	4.898E-08	7.31	4.898E-08	7.09
7.2	6.31E-08	7.32	4.7863E-08	7.43	3.715E-08	7.55	2.818E-08	7.3
		7.2	6.30957E-08	7.37	4.266E-08	7.69	2.042E-08	7.31
		7.24	5.7544E-08	7.46	3.467E-08	7.65	2.239E-08	7.18
		7.23	5.88844E-08	7.48	3.311E-08			7.2
AVG:	5.035E-08		5.11655E-08		5.066E-08		5.947E-08	
AVG pH:	7.3		7.3		7.3		7.2	

Mean pH: 7.1

Sep-24			Aug-24		Jul-24		Jun-24		May-24
7.413E-08	7.68	2.089E-08	7.07	8.511E-08	7.31	4.898E-08	7.15	7.079E-08	6.91
4.266E-08	7.23	5.888E-08	6.77	1.698E-07	7.52	3.02E-08	7.17	6.761E-08	6.36
1.047E-07	7.88	1.318E-08	6.41	3.89E-07	7.25	5.623E-08	7.05	8.913E-08	6.95
1.096E-07	7.93	1.175E-08	7.08	8.318E-08	7.44	3.631E-08	6.99	1.023E-07	6.82
8.71E-08	7.97	1.072E-08	7.22	6.026E-08	6.67	2.138E-07	6.83	1.479E-07	7.2
6.607E-08	7.82	1.514E-08	7.05	8.913E-08	6.84	1.445E-07	6.81	1.549E-07	7.02
6.457E-08	7.94	1.148E-08	7.19	6.457E-08	6.94	1.148E-07	6.96	1.096E-07	6.96
6.918E-08	7.89	1.288E-08	7.11	7.762E-08	7.47	3.388E-08	7.25	5.623E-08	6.73
0.0000001	8.26	5.495E-09	6.69	2.042E-07	7.18	6.607E-08	7.19	6.457E-08	6.9
7.943E-08	8.17	6.761E-09	6.87	1.349E-07	6.99	1.023E-07	7.02	9.55E-08	7.13
0.0000001	8.17	6.761E-09	6.9	1.259E-07	6.86	1.38E-07	7.14	7.244E-08	7.01
9.12E-08	8.15	7.079E-09	7.2	6.31E-08	7.09	8.128E-08	7.38	4.169E-08	7.13
8.128E-08	8.14	7.244E-09	6.81	1.549E-07	6.63	2.344E-07	7.04	9.12E-08	7.02
6.918E-08	8.11	7.762E-09	6.76	1.738E-07	7.05	8.913E-08	6.9	1.259E-07	6.67
6.918E-08	8.16	6.918E-09	7.04	9.12E-08	7.12	7.586E-08	7.07	8.511E-08	6.72
7.079E-08	8.07	8.511E-09	7.01	9.772E-08	7.15	7.079E-08	6.72	1.905E-07	7.07
7.943E-08	8.14	7.244E-09	7.14	7.244E-08	7.21	6.166E-08	7.17	6.761E-08	7.12
1.072E-07	8.09	8.128E-09	7.19	6.457E-08	7.53	2.951E-08	6.95	1.122E-07	7.01
9.772E-08	7.92	1.202E-08	7.23	5.888E-08	6.99	1.023E-07	7.01	9.772E-08	6.96
5.888E-08	7.96	1.096E-08	7.03	9.333E-08	7.15	7.079E-08	7.17	6.761E-08	6.93
6.457E-08	8.06	8.71E-09	7.1	7.943E-08	7.14	7.244E-08	7.04	9.12E-08	6.89
7.244E-08	8.1	7.943E-09	6.99	1.023E-07	7.08	8.318E-08	6.52	3.02E-07	6.31
2.63E-08	8	1E-08	8.38	4.169E-09	7.1	7.943E-08	6.51	3.09E-07	6.56
8.71E-08	8.04	9.12E-09	7.14	7.244E-08	7.06	8.71E-08	6.92	1.202E-07	6.73
7.079E-08	8.03	9.333E-09	7.23	5.888E-08	7.11	7.762E-08	7.27	5.37E-08	6.96
1.318E-07	8.05	8.913E-09	7.3	5.012E-08	7.28	5.248E-08	8.02	9.55E-09	6.82
8.128E-08	8.05	8.913E-09	6.78	1.66E-07	8.01	9.772E-09	6.78	1.66E-07	6.81
5.012E-08	7.85	1.413E-08	7.23	5.888E-08	7.27	5.37E-08			6.94
4.898E-08	7.9	1.259E-08	7.09	8.128E-08	7.08	8.318E-08	6.93	1.175E-07	6.85
6.607E-08	8.1	7.943E-09	6.88	1.318E-07	7.02	9.55E-08	7.09	8.128E-08	7.17
6.31E-08			6.82	1.514E-07	6.93	1.175E-07			7.23
7.693E-08		1.158E-08		1.068E-07		8.429E-08		1.09E-07	
7.1		7.9		7.0		7.1		7.0	

	Apr-24		Mar-24	
1.23E-07	6.84	1.445E-07	6.54	2.884E-07
4.365E-07	6.92	1.202E-07	6.44	3.631E-07
1.122E-07	6.94	1.148E-07	7.02	9.55E-08
1.514E-07	6.87	1.349E-07	6.86	1.38E-07
6.31E-08	7.16	6.918E-08	6.47	3.388E-07
9.55E-08	7	0.0000001	6.6	2.512E-07
1.096E-07	6.92	1.202E-07	7.02	9.55E-08
1.862E-07	7.01	9.772E-08	6.98	1.047E-07
1.259E-07	6.95	1.122E-07	6.85	1.413E-07
7.413E-08	6.765	1.718E-07	6.95	1.122E-07
9.772E-08	6.54	2.884E-07	7.05	8.913E-08
7.413E-08	6.69	2.042E-07	7.06	8.71E-08
9.55E-08	6.88	1.318E-07	7.02	9.55E-08
2.138E-07	6.66	2.188E-07	6.88	1.318E-07
1.905E-07	6.39	4.074E-07	6.91	1.23E-07
8.511E-08	6.92	1.202E-07	6.97	1.072E-07
7.586E-08	6.94	1.148E-07	6.93	1.175E-07
9.772E-08	6.87	1.349E-07	6.95	1.122E-07
1.096E-07	6.75	1.778E-07	7.2	6.31E-08
1.175E-07	6.81	1.549E-07	6.81	1.549E-07
1.288E-07	6.79	1.622E-07	7	0.0000001
4.898E-07	6.94	1.148E-07	7.03	9.333E-08
2.754E-07	6.9	1.259E-07	7.02	9.55E-08
1.862E-07	6.89	1.288E-07	7.02	9.55E-08
1.096E-07	6.98	1.047E-07	6.91	1.23E-07
1.514E-07	6.42	3.802E-07	6.93	1.175E-07
1.549E-07	6.54	2.884E-07	6.91	1.23E-07
1.148E-07	6.56	2.754E-07	6.87	1.349E-07
1.413E-07	6.66	2.188E-07	6.9	1.259E-07
6.761E-08	6.55	2.818E-07	6.75	1.778E-07
5.888E-08			6.82	1.514E-07
1.456E-07		1.74E-07		1.403E-07
6.8		6.8		6.9