Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0100935**
Facility Type	**Non-Municipal**	APS ID	**1096394**
Major / Minor	**Minor**	Authorization ID	**1454027**

Applicant and Facility Information

Applicant Name	**Shearer Properties LLC**	Facility Name	**Maple Winds MHP**
Applicant Address	PO Box 217	Facility Address	102 Barnwood Road
	Stoneboro, PA 16153-0217		Grove City, PA 16127
Applicant Contact	Kevin Shearer	Facility Contact	
Applicant Phone	(814) 282-6196	Facility Phone	
Applicant Email	shearerpllc@gmail.com		
Client ID	373245	Site ID	246725
Ch 94 Load Status	Not Overloaded	Municipality	Pine Township
Connection Status	No Limitations	County	Mercer
Date Application Received	August 31, 2023	EPA Waived?	Yes
Date Application Accepted	February 14, 2025	If No, Reason	

Purpose of Application: Renewal of a NPDES Permit for an Existing Discharge of 0.006 MGD

Summary of Review

This is a renewal Sewage Individual NPDES Permit for an Existing Design Flow of 0.006 MGD from a non-municipal minor sewage facility.

There are no proposed changes to effluent limitations as part of this permit renewal.

Act 14 – Proof of Notification was submitted and received.

This facility is currently using eDMR system.

SPECTIAL CONDITIONS: NONE

The EPA waiver is in effect.

There are NO open violations in WMS for the subject Client ID (373245) as of February 24, 2025.

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		Aeshah Shameseldin Aeshah Shameseldin / Project Manager	February 24, 2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	February 25, 2025

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.006
Latitude	41º 10' 31"	Longitude	-80º 4' 0"
Quad Name	Grove City	Quad Code	41080B1
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to Wolf Creek (CWF)	Stream Code	34324
NHD Com ID	126219185	RMI	0.38
Drainage Area	0.07 (Dry), 0.42 (Perennial)	Yield (cfs/mi^2)	0.001 (Dry Stream), 0.07 (Small Stream)
Q_{7-10} Flow (cfs)	0.0049 (Dry), 0.029 (Perennial)	Q_{7-10} Basis	Default
Elevation (ft)	1284	Slope (ft/ft)	---
Watershed No.	20-C	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)	7.0	Default
Temperature (°F)	68	Default
Hardness (mg/L)	100	Default
Other:		

Nearest Downstream Public Water Supply Intake	Pennsylvania American Water Company - Ellwood City		
PWS Waters	Connoquenessing Creek	Flow at Intake (cfs)	---
PWS RMI	0.2	Distance from Outfall (mi)	---

Changes Since Last Permit Issuance: None.

Other Comments: None.

Treatment Facility Summary

Treatment Facility Name: Maple Winds MHP

WQM Permit No.	Issuance Date
4371422 T-2	March 21, 2023

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Stabilization Lagoon	Hypochlorite	0.006

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.006	10.2	Not Overloaded		Landfill

Changes Since Last Permit Issuance: None.

Other Comments: Treatment facilities permitted under WQM Permit # 4371422 T-2 consist of: A 454,000 gallon (76-day detention time) primary waste stabilization pond, a 101,000-gallon secondary waste stabilization pond (17-day detention time), and tablet chlorine disinfection with a 299-gallon contact tank.

Compliance History

DMR Data for Outfall 001 (from January 1, 2024, to December 31, 2024)

Parameter	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24
Flow (MGD) Average Monthly	0.001	0.001	0.001					0.001	0.001	0.001	0.001	0.001
Flow (MGD) Daily Maximum	0.001	0.001	0.001					0.001	0.001	0.001	0.001	0.001
pH (S.U.) Instantaneous Minimum	6.9	7.1	7.0					7.7	7.2	7.5	6.2	6.1
pH (S.U.) Instantaneous Maximum	7.5	7.5	7.4					8.2	8.2	8.4	6.8	7.1
DO (mg/L) Instantaneous Minimum	5.2	5.5	6.1					7.9	7.9	7.8	5.0	5.3
TRC (mg/L) Average Monthly	0.4	0.4	0.4					0.4	0.23	0.4	0.2	0.1
TRC (mg/L) Instantaneous Maximum	0.47	0.47	0.49					0.48	0.48	0.49	1.14	0.36
CBOD5 (mg/L) Average Monthly	4	< 4	< 3					< 30	15	< 3	< 3	4
CBOD5 (mg/L) Instantaneous Maximum	4.89	< 5	3.76					57.6	18.7	4.91	4	4.77
TSS (mg/L) Average Monthly	< 5	5	< 5					< 26	< 9	< 8	< 5	< 7
TSS (mg/L) Instantaneous Maximum	5	6	5					46	13	10	< 5	8
Fecal Coliform (No./100 ml) Geometric Mean	< 14	< 1	< 1					< 1	< 13	< 1	< 1	< 10
Fecal Coliform (No./100 ml) Instantaneous Maximum	201	< 1	2					< 1	179	< 1	< 1	102
Total Nitrogen (mg/L) Average Quarterly	5.57						2.69			10.9		

Ammonia (mg/L) Average Monthly	1.6	2.1	< 1.1					3.1	< 0.8	1.9	< 4.3	6.2
Ammonia (mg/L) Instantaneous Maximum	1.79	2.3	1.69					4.14	1.44	2.31	8.3	9.44
Total Phosphorus (mg/L) Average Quarterly	4.98						0.6			< 1.0		

Compliance History

Effluent Violations for Outfall 001, from: February 1, 2024 To: December 31, 2024

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
CBOD5	05/31/24	Avg Mo	< 30	mg/L	25	mg/L
CBOD5	05/31/24	IMAX	57.6	mg/L	50	mg/L

Summary of Inspections: An inspection of the facility was conducted on September 28, 2022. The inspection report did not cite any violations.

Other Comments: ---

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .006
Latitude 41º 10' 31.00" **Longitude** -80º 4' 0.00"
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)
E. Coli	Report (No./100 ml)	IMAX	-	§ 92a.61

Comments: Monitoring for E. Coli is placed in the permit in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits."

Water Quality-Based Limitations

CBOD5, Ammonia, and DO are evaluated using WQM 7.0 (Attachment 1 and 2). TRC is evaluated using the Department's TRC evaluation spreadsheet (Attachment 3).

The following limitations were determined through water quality modeling (output files attached):

Parameter	Limit (mg/l)	SBC	Model
Dissolved Oxygen	4.0	Daily Min.	WQM 7.0
CBOD5	25	Average Monthly	WQM 7.0
	50	IMAX	
Ammonia Nitrogen (May 1 – Oct 31)	9.42	Average Monthly	WQM 7.0
	18.84	IMAX	
TRC	0.46	Average Monthly	TRC evaluation spreadsheet

Comments: WQM modeling didn't calculate more stringent average monthly Ammonia Nitrogen limit at perennial conditions. Current monitoring requirements are more protective and will be retained.

The TRC evaluation spreadsheet didn't calculate more stringent average monthly TRC limit at perennial conditions using the plant design flow, the technology-based limitations established in previous permits are attainable and will be retained.

Best Professional Judgment (BPJ) Limitations

Comments: Monitoring for total nitrogen, total phosphorus and raw sewage influent monitoring for $CBOD_5$ and TSS are placed in the permit in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits."

Anti-Backsliding

N/A

Proposed Effluent Limitations and Monitoring Requirements

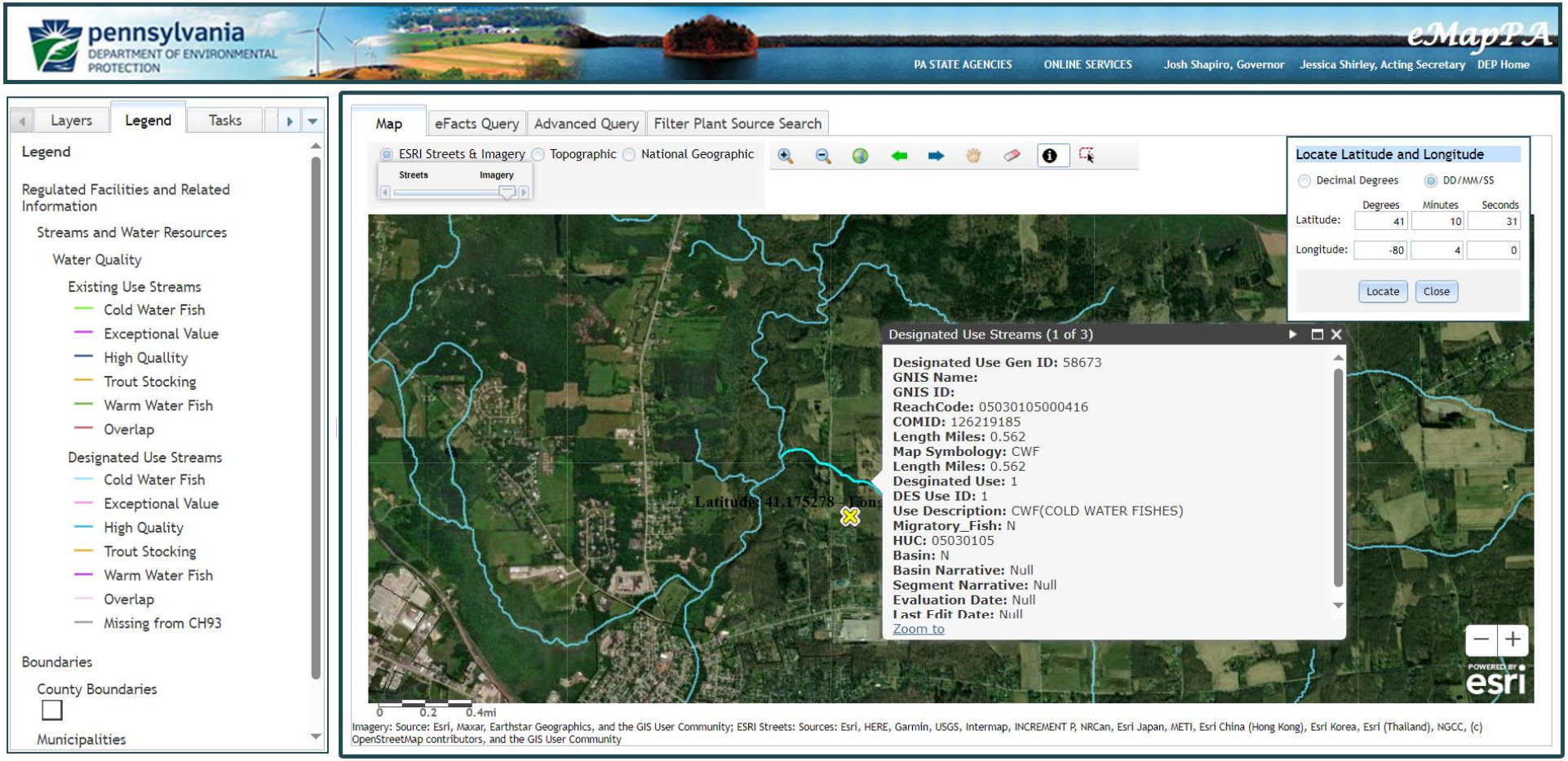
The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). 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	Estimate
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.4	XXX	1.3	1/day	Grab
CBOD5	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	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
Total Nitrogen	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	Grab
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	24.9	XXX	49.8	2/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	8.3	XXX	16.6	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	Grab

Compliance Sampling Location: Outfall 001, after disinfection.

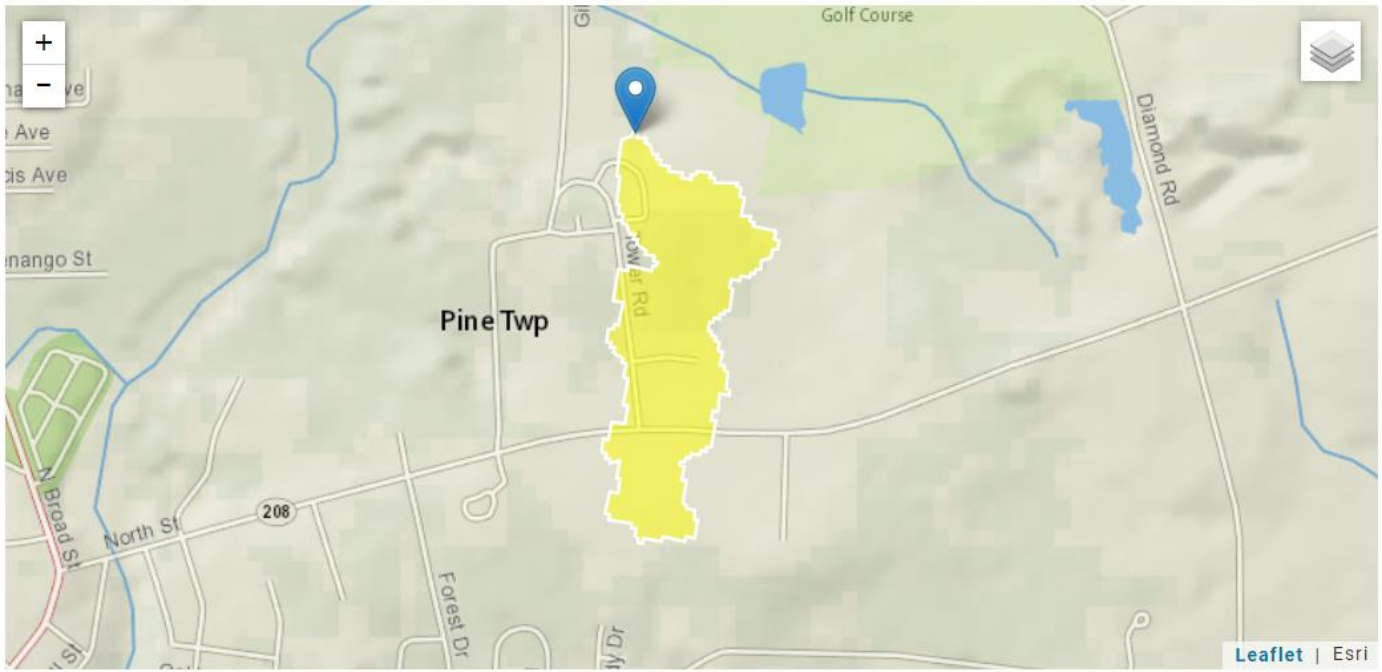
Outfall Location - eMap with Aerial Imagery



Dry Reach - Drainage Area Location – StreamStats with Aerial Imagery

StreamStats Report

Region ID:	PA
Workspace ID:	PA20250215190029370000
Clicked Point (Latitude, Longitude):	41.17527, -80.06657
Time:	2025-02-15 14:00:53 -0500



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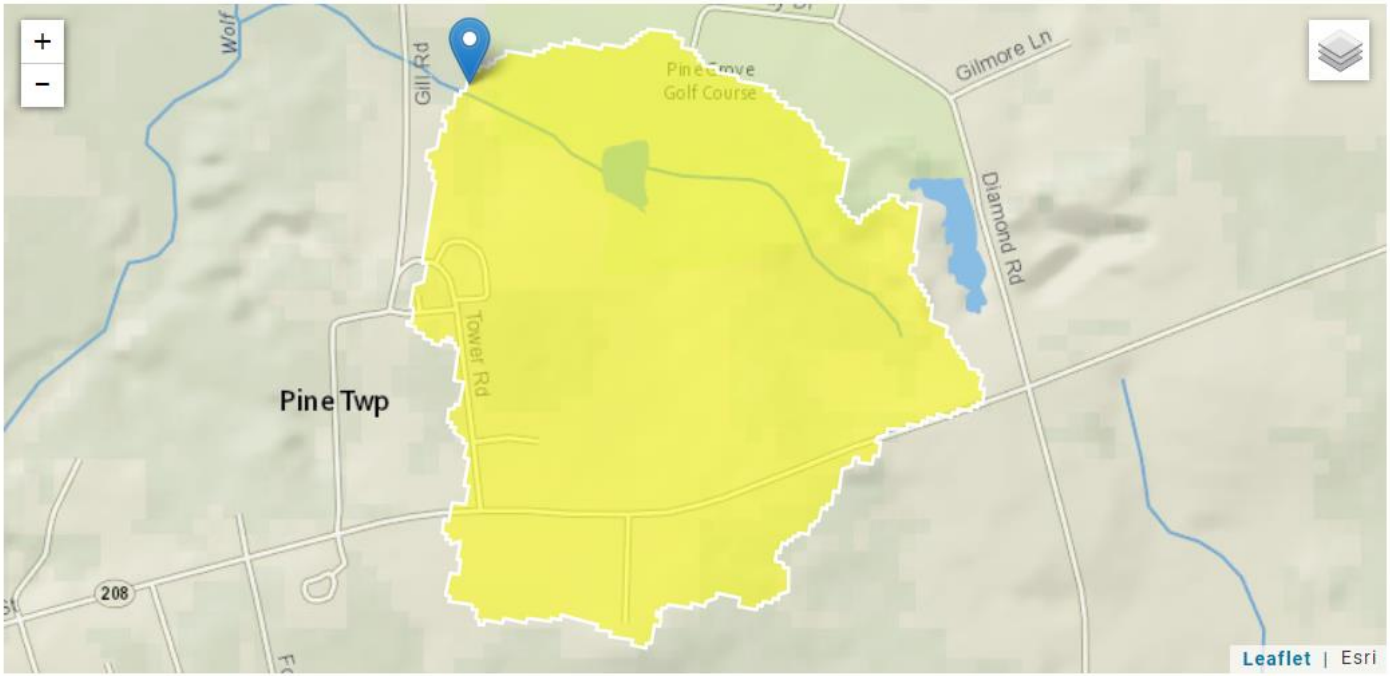
Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.0695	square miles

Perennial Reach - Drainage Area Location – StreamStats with Aerial Imagery

StreamStats Report

Region ID:	PA
Workspace ID:	PA20250215180729993000
Clicked Point (Latitude, Longitude):	41.17770, -80.06673
Time:	2025-02-15 13:07:55 -0500



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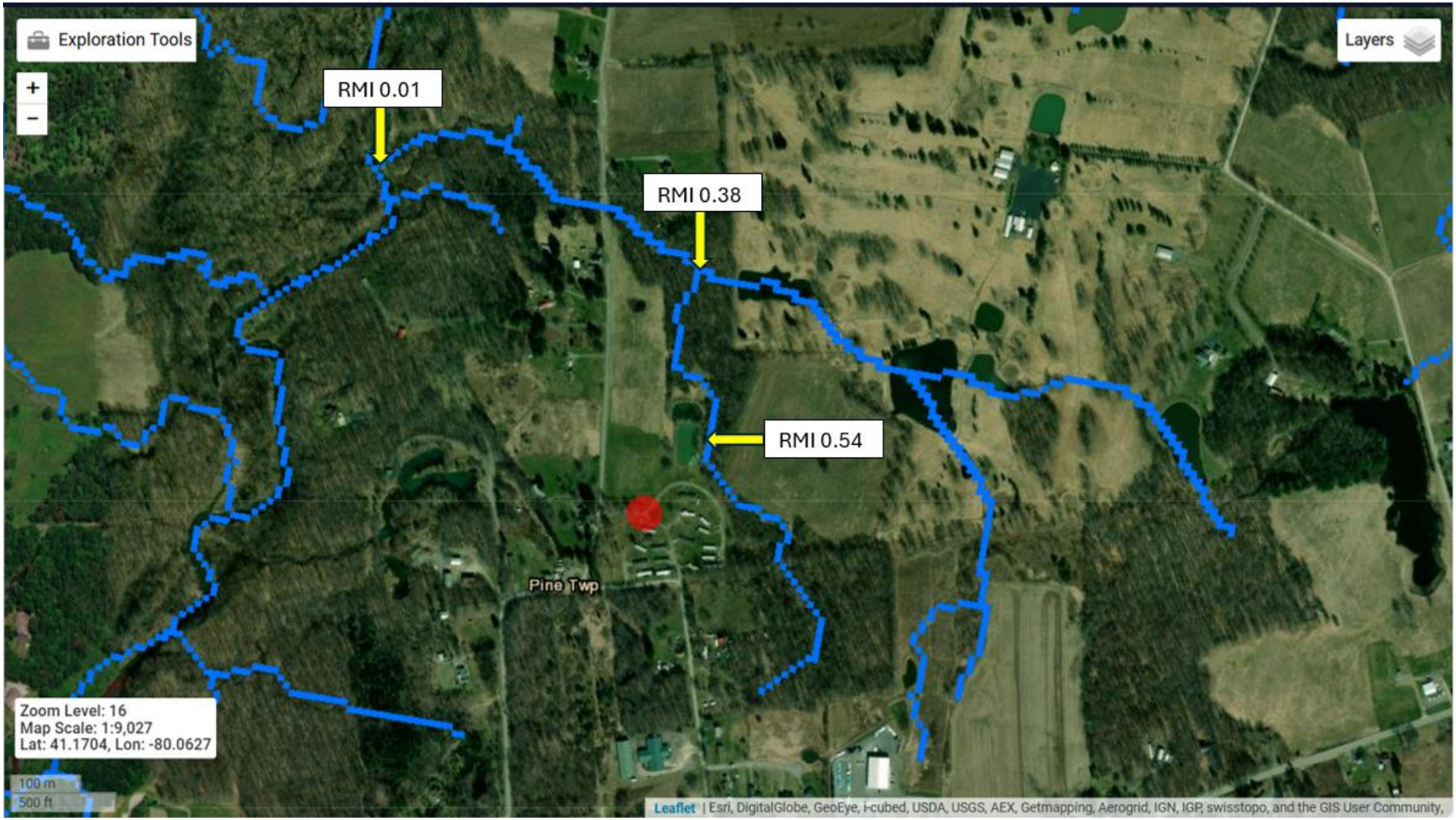
Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.42	square miles

A two-step model was used. The first step was for a dry stream evaluation. The DO simulation end-of-reach data was then used to evaluate the second step perennial stream reach. The second step evaluated perennial stream conditions. For modeling purposes, the outfall location was assigned an RMI value of 0.54, although the actual value on the dry stream is 0.16.



Attachment 1

Dry Reach Modeling

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20C	34324	Trib 34324 to Wolf Creek

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
0.540	Maple Winds MHP	PA0100935	0.006	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4

WQM 7.0 Modeling Specifications

Parameters	D.O.	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	2		

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20C	34324	Trib 34324 to Wolf Creek

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.540	0.006	20.000	7.300
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
1.139	0.255	4.469	0.032
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
24.81	1.500	24.81	0.700
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
4.032	27.269	Owens	2
Reach Travel Time (days)			
0.303			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.030	23.71	24.29	4.18
0.061	22.65	23.78	4.32
0.091	21.65	23.28	4.47
0.121	20.68	22.79	4.61
0.152	19.76	22.31	4.75
0.182	18.89	21.85	4.88
0.212	18.05	21.39	5.01
0.243	17.24	20.94	5.13
0.273	16.48	20.50	5.25
0.303	15.74	20.07	5.37

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
20C	34324	Trib 34324 to Wolf Creek	**0.540**	1284.00	0.07	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	0.001	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.30	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
Maple Winds MHP	PA0100935	0.0060	0.0000	0.0000	0.000	20.00	7.30

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	0.00	0.00	1.50
Dissolved Oxygen	4.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
20C	34324	Trib 34324 to Wolf Creek	**0.380**	1256.00	0.42	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	0.001	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.30	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

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
20C	34324	Trib 34324 to Wolf Creek

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)		
0.54	Maple Winds MHP	25	25	25	25	4	4	0	0

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
20C	34324	Trib 34324 to Wolf Creek

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
0.540	0.00	0.00	0.00	.0093	0.03314	.255	1.14	4.47	0.03	0.303	20.00	7.30
Q1-10 Flow												
0.540	0.00	0.00	0.00	.0093	0.03314	NA	NA	NA	0.00	0.000	0.00	0.00
Q30-10 Flow												
0.540	0.00	0.00	0.00	.0093	0.03314	NA	NA	NA	0.00	0.000	0.00	0.00

Attachment 2

Perennial Reach Modeling

For CBOD5 and DO, the resulting limits are the same as the inputs from the Dry Stream model therefore secondary limits are sufficient.

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20C	34324	Trib 34324 to Wolf Creek

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
0.380	Maple Winds MHP	PA0100935	0.006	CBOD5	15.74		
				NH3-N	9.42	18.84	
				Dissolved Oxygen			5.37

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		

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20C	34324	Trib 34324 to Wolf Creek

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.380	0.006	20.000	7.055
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
2.934	0.302	9.716	0.044
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
5.30	0.939	2.34	0.700
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.554	24.404	Owens	6
Reach Travel Time (days)			
0.518			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.052	5.05	2.25	8.24
0.104	4.81	2.17	8.24
0.155	4.58	2.09	8.24
0.207	4.36	2.02	8.24
0.259	4.15	1.95	8.24
0.311	3.96	1.88	8.24
0.362	3.77	1.81	8.24
0.414	3.59	1.75	8.24
0.466	3.42	1.69	8.24
0.518	3.26	1.63	8.24

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
20C	34324	Trib 34324 to Wolf Creek	**0.380**	1256.00	0.42	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	0.070	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
Maple Winds MHP	PA0100935	0.0060	0.0000	0.0000	0.000	20.00	7.30

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	15.74	2.00	0.00	1.50
Dissolved Oxygen	5.37	8.24	0.00	0.00
NH3-N	20.07	0.10	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
20C	34324	Trib 34324 to Wolf Creek	**0.010**	1236.00	51.20	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	0.070	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
		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

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
20C	34324	Trib 34324 to Wolf 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
0.380	Maple Winds MH	15.59	40.14	15.59	40.14	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
0.380	Maple Winds MH	1.86	9.42	1.86	9.42	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)		
0.38	Maple Winds MHP	15.74	15.74	9.42	9.42	5.37	5.37	0	0

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
20C	34324	Trib 34324 to Wolf Creek

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
0.380	0.03	0.00	0.03	.0093	0.01024	.302	2.93	9.72	0.04	0.518	20.00	7.06
Q1-10 Flow												
0.380	0.02	0.00	0.02	.0093	0.01024	NA	NA	NA	0.04	0.619	20.00	7.08
Q30-10 Flow												
0.380	0.04	0.00	0.04	.0093	0.01024	NA	NA	NA	0.05	0.452	20.00	7.04

Attachment 3

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.029	= Q stream (cfs)	0.5	= CV Daily
0.006	= 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)	0	=Decay Coefficient (K)

Source	Reference	AFC Calculations		Reference	CFC Calculations	
TRC	1.3.2.iii	WLA afc =	1.016	1.3.2.iii	WLA cfc =	0.983
PENTOXSD TRG	5.1a	LTAMULT afc =	0.373	5.1c	LTAMULT cfc =	0.581
PENTOXSD TRG	5.1b	LTA_afc=	0.378	5.1d	LTA_cfc =	0.571

Source		Effluent Limit Calculations		
PENTOXSD TRG	5.1f	AML MULT =	1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) =	0.466	AFC
		INST MAX LIMIT (mg/l) =	1.523	

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)**