Pennsylvania Department of Environmental Protection

Southwest Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0098558**
Facility Type	**Non-Municipal**	APS ID	**1057307**
Major / Minor	**Minor**	Authorization ID	**1385968**

Applicant and Facility Information

Applicant Name	**Fox Den Acres Enterprises, Inc.**	Facility Name	**Fox Den Acres Campground STP**
Applicant Address	390 Wilson Fox Road	Facility Address	390 Wilson Fox Road
	New Stanton, PA 15672-2439		New Stanton, PA 15672-2439
Applicant Contact	Mr. Steven L. Dansak	Facility Contact	Same as Applicant
Applicant Phone	412.260.4447	Facility Phone	Same as Applicant
Client ID	331714	Site ID	250303
Ch 94 Load Status	Not Overloaded	Municipality	Hempfield Township
Connection Status	No Limitations	County	Westmoreland
Date Application Received	February 22, 2022	EPA Waived?	Yes
Date Application Accepted		If No, Reason	

Purpose of Application: Application for the Renewal of a NPDES permit for the discharge of treated Sewage.

Summary of Review

The Authority has applied for a renewal of NPDES Permit No. PA0098558, which was previously issued by the Department on August 11, 2017. That permit expired on August 31, 2022 and a timely renewal application was received on February 22, 2022.

WQM Permit Amendment No. 6516403 was issued on April 4, 2017 authorizing the modification of an existing STP to treat a reduced annual average design flow/design hydraulic capacity of 0.0183 MGD (annual average design flow was reduced from 0.064 MGD to 0.0183 MGD). Effluent limits were evaluated using the current capacity of the modified STP. Please refer to the Treatment Plant Summary Section of this Fact Sheet for a detailed discussion and justification of changes made to the STP since the last permit issuance.

The STP consists of an existing 800,000 gallon waste stabilization pond, an existing 2,500,000 gallon waste stabilization pond, two 2,000 gallon grit tanks (installed prior to each of the waste stabilization ponds), one 1,250 gallon septic tank (to serve applicants existing house), one 51 GPM submersible effluent pump, and a portable trailer mounted Trojan UV disinfection system.

The receiving stream, UNT to Sewickley Creek, is currently classified as a WWF, located in State Watershed No. 19-D.

Application data indicates that there are no industrial or commercial users in the system and the facility does receive hauled-in wastes.

The Authority has complied with Act 14 Notifications and no comments were received.

Approve	Deny	Signatures	Date
X		William C. Mitchell, E.I.T. / Project Manager	October 24, 2024
X		Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineering Manager	October 28, 2024

Summary of Review

Changes since the last permit include:

- Addition of E.Coli monitoring
- Addition of TMDL monitoring requirements for Iron, Manganese and Aluminum
- Part C.I.E was added to the permit stating that "The permittee is only authorized to discharge from Outfall 001 & 002 annually between January 1 and April 30. Season effluent limits were developed based upon colder period model results.

Sludge use and disposal description and location(s): Application data indicates that the total sludge/biosolids production within the facility for the previous year was zero dry tons. The facility did not receive additional sludge from other sources.

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.0183
Latitude	40º 14' 14.33"	Longitude	-79º 35' 51.54"
Quad Name	Mount Pleasant	Quad Code	1709
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to Sewickley Creek (WWF)	Stream Code	37692
NHD Com ID	69912897	RMI	1.20
Drainage Area	2.43	Yield (cfs/mi^2)	0.009835
Q_{7-10} Flow (cfs)	0.0239	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	971	Slope (ft/ft)	0.00279
Watershed No.	19-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Final (March 12, 2009)	Name	Sewickley Creek Watershed

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

Nearest Downstream Public Water Supply Intake	Westmoreland County Municipal Authority - McKeesport		
PWS Waters	Youghiogheny River	Flow at Intake (cfs)	510
PWS RMI	1.30	Distance from Outfall (mi)	29.36

Changes Since Last Permit Issuance: WQM Permit Amendment was issued that reduced the STP's annual average design flow/design hydraulic capacity to 0.0183 MGD and UV replaced TRC for disinfection purposes.

Other Comments: For modeling purposes drainage area, yield, Q7/10 flow, elevation, slope are the same for Outfalls 001 & 002. Distance between the outfalls are less than 0.02 miles.

The discharge is to an Unnamed Tributary to Sewickley Creek, which is part of the Sewickley Creek Watershed that has a Final TMDL and is impaired by metals and pH. This sewage discharge is not expected to contribute to the stream impairment for which abandoned mine drainage is source of such impairment.

No WLAs have been developed for this sewage discharge and they are not expected to contribute to the stream impairment for these pollutants. 1/month monitoring of these pollutants will be added to part A of the permit to ensure that one annual sample is collected from outfall 001. These pollutants will be evaluated during the next permit cycle to ensure this discharge is not contributing to stream impairment.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	0.0183
Latitude	40º 14' 12.60"	Longitude	-79º 35' 51.54"
Quad Name	Mount Pleasant	Quad Code	1709
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to Sewickley Creek (WWF)	Stream Code	37692
NHD Com ID	69912947	RMI	1.22
Drainage Area	2.43	Yield (cfs/mi^2)	0.009835
Q_{7-10} Flow (cfs)	0.0239	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	971	Slope (ft/ft)	0.00279
Watershed No.	19-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Final (March 12, 2009)	Name	Sewickley Creek Watershed

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

Nearest Downstream Public Water Supply Intake	Westmoreland County Municipal Authority - McKeesport		
PWS Waters	Youghiogheny River	Flow at Intake (cfs)	510
PWS RMI	1.30	Distance from Outfall (mi)	29.36

Changes Since Last Permit Issuance: WQM Permit Amendment was issued that reduced the STP's annual average design flow/design hydraulic capacity to 0.0183 MGD and UV replaced TRC for disinfection purposes.

Other Comments: For modeling purposes drainage area, yield, Q7/10 flow, elevation, slope are the same for Outfalls 001 & 002. Distance between the outfalls are less than 0.02 miles.

The discharge is to an Unnamed Tributary to Sewickley Creek, which is part of the Sewickley Creek Watershed that has a Final TMDL and is impaired by metals and pH. This sewage discharge is not expected to contribute to the stream impairment for which abandoned mine drainage is source of such impairment.

No WLAs have been developed for this sewage discharge and they are not expected to contribute to the stream impairment for these pollutants. 1/month monitoring of these pollutants will be added to part A of the permit to ensure that one annual sample is collected from outfall 002. These pollutants will be evaluated during the next permit cycle to ensure this discharge is not contributing to stream impairment.

Treatment Facility Summary

Treatment Facility Name: Fox Den Acres Campground STP

WQM Permit No.	Issuance Date
6571416	06/21/1971
6577429	02/15/1978
6516403 (Amendment Permit)	04/04/2017

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Stabilization Lagoon	Ultraviolet	0.0183

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0183		Not Overloaded	N/A - Lagoon	Hauled Offsite

Changes Since Last Permit Issuance: WQM Permit Amendment was issued that reduced the STP's combined annual average design flow/design hydraulic capacity from 0.064 MGD to 0.0183 MGD and UV replaced TRC for disinfection purposes.

Other Comments:

WQM Permit Application data indicated that Annual Average Design Flow of Outfall 001 (lagoon 1) was 0.0044 MGD and that the Annual Average Design Flow of Outfall 002 (lagoon 2) was 0.0139 MGD resulting in a combined Design Flow of 0.0183 MGD, which is based upon 180 operating days.

The STP consists of an existing 800,000 gallon waste stabilization lagoon, an existing 2,500,000 gallon waste stabilization lagoon, two 2,000 gallon grit tanks (installed prior to each of the waste stabilization ponds), one 1,250 gallon septic tank (to serve applicants existing house), one 51 GPM submersible effluent pump, and a portable trailer mounted Trojan UV disinfection system (rated peak flow capacity of 0.074 MGD).

Please note that only one Outfall discharges at one time, as only one portable effluent pump and trailer mounted UV system is on-site.

There have been two past effluent limit violations for Ammonia-Nitrogen as indicated in the Compliance History Section of this Fact Sheet. There is also the potential of this facility being in an existing hydraulic overload situation based upon the Annual Average Flow (previous 3 years) for Outfall 002 due to the reduced Annual Average Design Flow of the STP approved under WQM Permit Amendment No. 6516403. The Department will have a discussion with the permittee during the draft permit comment period on operational changes that should occur at the STP to stay in compliance with its WQM Permit.

Compliance History

Operations Compliance Check Summary Report

Facility: Fox Den Acres STP

NPDES Permit No.: PA0098558

Compliance Review Period: 09/2019 – 08/2024

Inspection Summary:

INSP ID	INSPECTED DATE	INSP TYPE	AGENCY	INSPECTION RESULT DESC
3739560	04/02/2024	Administrative/File Review	PA Dept of Environmental Protection	No Violations Noted
3749864	04/02/2024	Compliance Evaluation	PA Dept of Environmental Protection	No Violations Noted
3360582	04/04/2022	Routine/Partial Inspection	PA Dept of Environmental Protection	Violation(s) Noted
3343064	04/04/2022	Administrative/File Review	PA Dept of Environmental Protection	No Violations Noted

Violation Summary:

VIOL ID	VIOLATION DATE	VIOLATION TYPE DESC	RESOLVED DATE	INSP ID	VIOLATION COMMENT
954922	04/04/2022	NPDES - Non-compliance with an issued permit, not classified by any other code	07/13/2022	3360582	Owner does not have Accreditation by rule (a lab id) test his pH and DO. He said he was unaware of this.

Open Violations by Client ID:

No violations for client ID 331714

Enforcement Summary:

No enforcement found

DMR Violation Summary:

START	END	PARAMETER	SAMPLE	PERMIT	UNIT OF MEASURE	STATISTICAL BASE CODE
03/01/2023	03/31/2023	Ammonia-Nitrogen	8.09	7.0	mg/L	Average Monthly
03/01/2020	03/31/2020	Ammonia-Nitrogen	9.20	7.0	mg/L	Average Monthly

Compliance Status:

In compliance

Completed by: John Murphy

Completed date: 8/27/2024

Development of Effluent Limitations

Outfall No. 001 & 002 **Design Flow (MGD)** 0.0183
Latitude 40º 14' 14.33" & 40º 14' 12.60" **Longitude** -79º 35' 50.49" & -79º 35' 51.54"
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: The discharge was evaluated using WQM 7.0 Version 1.1 (Attachment 2) to evaluate $CBOD_5$, ammonia nitrogen, and dissolved oxygen. The modeling results show the above technology based effluent limitations are appropriate for CBOD5.

Impose the above Technology-Based Limitations for CBOD*5*, TSS, pH, and fecal coliform.

Water Quality-Based Limitations

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

Parameter	Limit (mg/l)	SBC	Model
Ammonia-Nitrogen (May 1 to Oct 31)	3.41	Average monthly	WQM 7.0 Version 1.1
Ammonia-Nitrogen (Nov 1 to April 30)	10.23	Average monthly	See Comments below

Comments: Since ammonia-nitrogen WQBELs are calculated for the summer period, winter limits are evaluated also. Pursuant to DEP's Ammonia Guidance, WQBELs for the winter period are set by multiplying the summer limits by three, unless modeling indicates that more stringent WQBELs are needed for winter.

For winter period modeling, the low-flow yield (representing Q7-10 flow) is doubled consistent with DEP's Ammonia Guidance. Default stream and discharge temperatures of 5°C and 15°C, respectively, also are assumed based on the Ammonia Guidance. The results of the modeling (Attachments 2 & 3) indicate that winter limits for ammonia-nitrogen calculated using a summer limit multiplier of three are more stringent than the winter modeling results. Therefore, WQBELs calculated for ammonia-nitrogen using the summer limit multiplier of 3 will apply from November through April.

Due to anti-backsliding, the previously permitted WQBEL for ammonia-nitrogen (January 1 to April 30) of 7.0 mg/L (Average Monthly) will be re-imposed.

Best Professional Judgment (BPJ) Limitations

Comments: A minimum Dissolved Oxygen (DO) limit of 4.0 mg/L will be established based on BPJ to ensure adequate operation and maintenance (Section I.A, Note 6, SOP No. BCW-PMT-033, Establishing Effluent Limitations for Individual Sewage Permits).

Anti-Backsliding

Section 402(o) of the Clean Water Act (CWA), enacted in the Water Quality Act of 1987, establishes anti-backsliding rules governing two situations. The first situation occurs when a permittee seeks to revise a Technology-Based effluent limitation based on BPJ to reflect a subsequently promulgated effluent guideline which is less stringent. The second situation addressed by Section 402(o) arises when a permittee seeks relaxation of an effluent limitation which is based upon a State treatment standard of water quality standard.

Previous limits can be used pursuant to EPA's anti-backsliding regulation 40 CFR 122.44 (l) Reissued permits. (1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued. Interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under §122.62). (2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.

Due to anti-backsliding, the previously permitted WQBEL for ammonia-nitrogen (January 1 to April 30) of 7.0 mg/L (Average Monthly) will be re-imposed.

Monitoring Requirements

The STP consists of two lagoons with two separate outfalls that is only permitted to discharge between January 1 through April 30 to UNT of Sewickley Creek. The batch annual discharge of each lagoon (only one Outfall discharges at one time) takes about a month and typically occurs in March (lagoon 1, Outfall 001) and April (lagoon 2, Outfall 002). In order to get a representative sample of the effluent the sampling frequencies from the previous permit will be re-imposed:

- flow, pH, DO, and UV "Daily when Discharging"
- CBOD5, TSS, fecal coliform, and ammonia-nitrogen "3/week"
- E. Coli, total N, total P, total aluminum, total iron, total manganese "1/month"

Additional Considerations

Ultraviolet (UV) disinfection replaced the existing chlorine disinfection system. Part A will contain, at a minimum, routine monitoring of UV transmittance (%) at the same monitoring frequency (Daily when Discharging) that would be used for TRC per Section I.A, Note 4, SOP No. BCW-PMT-033, Establishing Effluent Limitations for Individual Sewage Permits.

Sewage discharges will include monitoring, at a minimum, for *E. Coli*, in new and reissued permits, with a monitoring frequency of 1/month per 25 Pa. Code § 92a.061 and Section I.A, Note 12, SOP No. BCW-PMT-033, Establishing Effluent Limitations for Individual Sewage Permits.

Nutrient monitoring is required to establish the nutrient load from the wastewater treatment facility and the impacts that load may have on the quality of the receiving stream(s). The discharge is to waters not impaired for nutrients. A 1/month monitoring requirement for Total N & Total P has been added to the permit per Chapter 92a.61 and Section I.A, Note 7 & 8, SOP No. BCW-PMT-033, Establishing Effluent Limitations for Individual Sewage Permits.

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)	Required
	Average Monthly	Average Weekly	Instantaneous Minimum	Average Monthly	Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD) Jan 1 - Apr 30	Report	Report Daily Max	XXX	XXX	XXX	XXX	Daily when Discharging	Measured
pH (S.U.) Jan 1 - Apr 30	XXX	XXX	6.0	XXX	XXX	9.0	Daily when Discharging	Grab
DO Jan 1 - Apr 30	XXX	XXX	4.0	XXX	XXX	XXX	Daily when Discharging	Grab
CBOD5 Jan 1 - Apr 30	XXX	XXX	XXX	25.0	XXX	50.0	3/week	Grab
TSS Jan 1 - Apr 30	XXX	XXX	XXX	30.0	XXX	60.0	3/week	Grab
Fecal Coliform (No./100 ml) Jan 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	3/week	Grab
E. Coli (No./100 ml) Jan 1 - Apr 30	XXX	XXX	XXX	XXX	XXX	Report	1/month	Grab
UV Transmittance (%) Jan 1 - Apr 30	XXX	XXX	Report	XXX	XXX	XXX	Daily when Discharging	Measured
Total Nitrogen Jan 1 - Apr 30	XXX	XXX	XXX	Report	XXX	XXX	1/month	Grab
Ammonia-Nitrogen Jan 1 - Apr 30	XXX	XXX	XXX	7.0	XXX	14.0	3/week	Grab
Total Phosphorus Jan 1 - Apr 30	XXX	XXX	XXX	Report	XXX	XXX	1/month	Grab
Total Aluminum Jan 1 - Apr 30	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/month	Grab
Total Iron Jan 1 - Apr 30	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/month	Grab

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Instantaneous Minimum	Average Monthly	Maximum	Instant. Maximum		
Total Manganese Jan 1 - Apr 30	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/month	Grab

Compliance Sampling Location: Outfall 001

Other Comments: Outfall 001 typically discharges annually in March.

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 002, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2)	Required
	Average Monthly	Average Weekly	Instantaneous Minimum	Average Monthly	Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD) Jan 1 - Apr 30	Report	Report Daily Max	XXX	XXX	XXX	XXX	Daily when Discharging	Measured
pH (S.U.) Jan 1 - Apr 30	XXX	XXX	6.0	XXX	XXX	9.0	Daily when Discharging	Grab
DO Jan 1 - Apr 30	XXX	XXX	4.0	XXX	XXX	XXX	Daily when Discharging	Grab
CBOD5 Jan 1 - Apr 30	XXX	XXX	XXX	25.0	XXX	50.0	3/week	Grab
TSS Jan 1 - Apr 30	XXX	XXX	XXX	30.0	XXX	60.0	3/week	Grab
Fecal Coliform (No./100 ml) Jan 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	3/week	Grab
E. Coli (No./100 ml) Jan 1 - Apr 30	XXX	XXX	XXX	XXX	XXX	Report	1/month	Grab
UV Transmittance (%) Jan 1 - Apr 30	XXX	XXX	Report	XXX	XXX	XXX	Daily when Discharging	Measured
Total Nitrogen Jan 1 - Apr 30	XXX	XXX	XXX	Report	XXX	XXX	1/month	Grab
Ammonia Jan 1 - Apr 30	XXX	XXX	XXX	7.0	14.0 Daily Max	XXX	3/week	Grab
Total Phosphorus Jan 1 - Apr 30	XXX	XXX	XXX	Report	XXX	XXX	1/month	Grab
Total Aluminum Jan 1 - Apr 30	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/month	Grab
Total Iron Jan 1 - Apr 30	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/month	Grab

Outfall 002 , Continued (from Permit Effective Date through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Instantaneous Minimum	Average Monthly	Maximum	Instant. Maximum		
Total Manganese Jan 1 - Apr 30	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/month	Grab

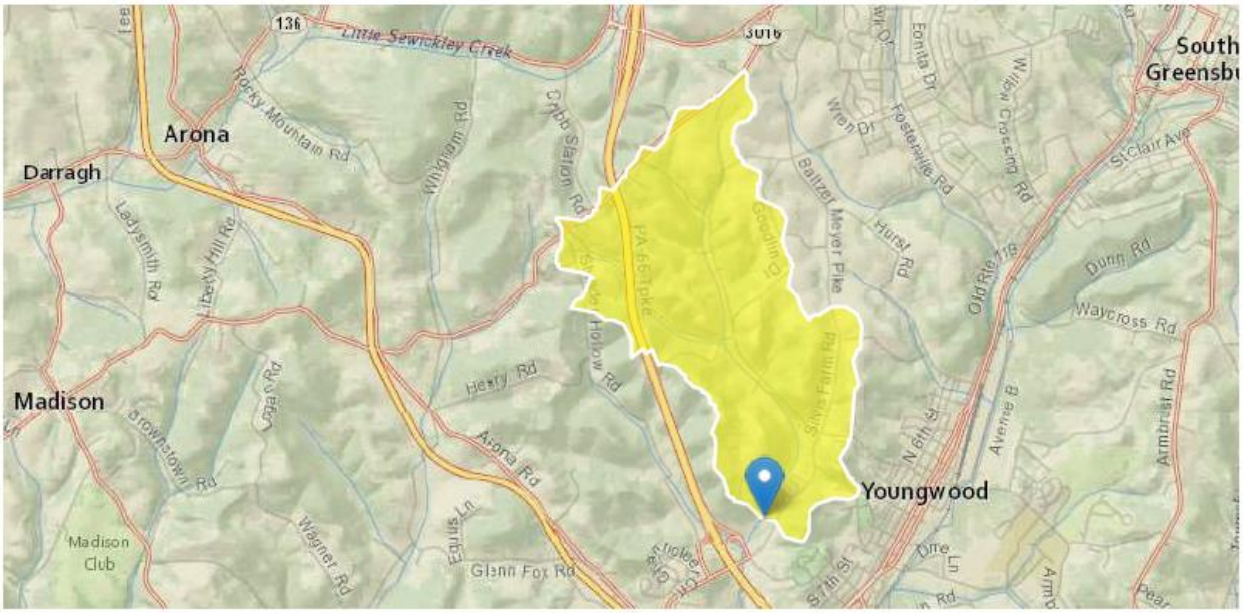
Compliance Sampling Location: Outfall 002

Other Comments: Outfall 002 typically discharges annually in April.

Attachment 1 – USGS StreamStats Report

PA0098558 - StreamStats Report

Region ID: PA
Workspace ID: PA20241018151039788000
Clicked Point (Latitude, Longitude): 40.23695, -79.59758
Time: 2024-10-18 11:11:03 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	2.43	square miles
ELEV	Mean Basin Elevation	1145	feet

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2.43	square miles	2.26	1400
ELEV	Mean Basin Elevation	1145	feet	1050	2580

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

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	0.0743	ft^3/s	43	43
30 Day 2 Year Low Flow	0.137	ft^3/s	38	38
7 Day 10 Year Low Flow	0.0239	ft^3/s	66	66
30 Day 10 Year Low Flow	0.0477	ft^3/s	54	54
90 Day 10 Year Low Flow	0.0925	ft^3/s	41	41

Low-Flow Statistics Citations

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

Application Version: 4.24.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Attachment 2 – WQM 7.0 Version 1.1 – Summer Period

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
19D	37692	Trib 37692 to Sewickley Creek	**1.200**	971.00	2.43	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	0.010	0.00	0.00	0.000	0.000	10.0	0.00	0.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Fox Den Acres	PA0098558	0.0000	0.0183	0.0000	0.000	20.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.38	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
19D	37692	Trib 37692 to Sewickley Creek	**0.793**	965.00	3.83	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	0.010	0.00	0.00	0.000	0.000	10.0	0.00	0.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		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 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
19D	37692	Trib 37692 to Sewickley 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												
1.200	0.02	0.00	0.02	.0283	0.00279	.326	5.08	15.6	0.03	0.789	22.29	7.00
Q1-10 Flow												
1.200	0.02	0.00	0.02	.0283	0.00279	NA	NA	NA	0.03	0.873	21.75	7.00
Q30-10 Flow												
1.200	0.03	0.00	0.03	.0283	0.00279	NA	NA	NA	0.03	0.725	22.67	7.00

WQM 7.0 Modeling Specifications

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

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
19D	37692	Trib 37692 to Sewickley 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
1.200	Fox Den Acres	14.49	22.32	14.49	22.32	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
1.200	Fox Den Acres	1.59	3.41	1.59	3.41	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)		
1.20	Fox Den Acres	25	25	3.41	3.41	3	3	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
19D	37692	Trib 37692 to Sewickley Creek

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
1.200	0.018	22.289	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
5.084	0.326	15.604	0.032
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
14.47	1.319	1.85	0.835
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.463	17.989	Owens	5
Reach Travel Time (days)			
0.789			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.079	12.89	1.73	6.45
0.158	11.48	1.62	6.84
0.237	10.23	1.52	7.07
0.316	9.11	1.42	7.25
0.395	8.12	1.33	7.41
0.474	7.23	1.25	7.54
0.552	6.44	1.17	7.67
0.631	5.74	1.09	7.78
0.710	5.11	1.02	7.88
0.789	4.55	0.96	7.90

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
19D	37692	Trib 37692 to Sewickley 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)
1.200	Fox Den Acres	PA0098558	0.000	CBOD5	25		
				NH3-N	3.41	6.82	
				Dissolved Oxygen			3

Attachment 3 – WQM 7.0 Version 1.1 – Winter Period

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
	19D	37692	Trib 37692 to Sewickley Creek	**1.200**	971.00	2.43	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	0.020	0.00	0.00	0.000	0.000	10.0	0.00	0.00	5.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Fox Den Acres	PA0098558	0.0000	0.0183	0.0000	0.000	15.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	12.80	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
19D	37692	Trib 37692 to Sewickley Creek	**0.793**	965.00	3.83	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	0.020	0.00	0.00	0.000	0.000	10.0	0.00	0.00	5.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		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 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
19D	37692	Trib 37692 to Sewickley 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												
1.200	0.05	0.00	0.05	.0283	0.00279	.345	5.66	16.41	0.04	0.639	8.72	7.00
Q1-10 Flow												
1.200	0.03	0.00	0.03	.0283	0.00279	NA	NA	NA	0.03	0.738	9.81	7.00
Q30-10 Flow												
1.200	0.07	0.00	0.07	.0283	0.00279	NA	NA	NA	0.04	0.570	8.03	7.00

WQM 7.0 Modeling Specifications

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

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
19D	37692	Trib 37692 to Sewickley 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
1.200	Fox Den Acres	24.1	50	24.1	50	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
1.200	Fox Den Acres	4.08	13.45	4.08	13.45	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)		
1.20	Fox Den Acres	25	25	13.45	13.45	3	3	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
19D	37692	Trib 37692 to Sewickley Creek

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
1.200	0.018	8.720	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
5.665	0.345	16.410	0.039
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
10.56	1.270	5.00	0.294
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
9.155	13.498	Owens	5
Reach Travel Time (days)			
0.639			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.064	10.06	4.91	9.79
0.128	9.58	4.82	10.08
0.192	9.13	4.73	10.24
0.256	8.70	4.64	10.33
0.320	8.29	4.56	10.39
0.383	7.90	4.47	10.44
0.447	7.53	4.39	10.45
0.511	7.17	4.31	10.45
0.575	6.83	4.23	10.45
0.639	6.51	4.15	10.45

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
19D	37692	Trib 37692 to Sewickley 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)
1.200	Fox Den Acres	PA0098558	0.000	CBOD5	25		
				NH3-N	13.45	26.9	
				Dissolved Oxygen			3