Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0101117**
Facility Type	**Non-Municipal**	APS ID	**1122946**
Major / Minor	**Minor**	Authorization ID	**1501780**

Applicant and Facility Information

Applicant Name	**Freedom First Rentals LLC**	Facility Name	**Shady Acres MHP**
Applicant Address	PO Box 5205	Facility Address	16050 Parsons Ln
	Conneaut Lake, PA 16316-5205		Edinboro, PA 16412
Applicant Contact	Dennis Mears	Facility Contact	
Applicant Phone	(814) 795-9813	Facility Phone	
Applicant Email	freedomfirstrentals@gmail.com		
Client ID	371326	Site ID	447613
Ch 94 Load Status	Not Overloaded	Municipality	Cussewago Township
Connection Status		County	Crawford
Date Application Received	October 7, 2024	EPA Waived?	Yes
Date Application Accepted	December 11, 2024	If No, Reason	

Purpose of Application: Renewal NPDES Permit for a Small Flow Treatment Facility

Summary of Review

This is a renewal application for a NPDES Permit for an SFTF consists of (WQM Permit No. 2073407 T-3): 2 (2532-gallon) septic tanks in line, a holding tank pumped to 2 surface sand filters, and a chlorine tablet box with a 500-gallon contact tank. The discharge is to a dry swale and then to UNT to Cussewago Creek (WWF). The design is for 9-units at 27-people, 4.6-PPD, 0.17-ppcd and 70-gpcd.

Act 14 – Proof of Notification was submitted and received.

SPECTIAL CONDITIONS: NONE

The EPA waiver is in effect.

There are NO open violations in WMS for the subject Client ID (371326) as of December 20, 2024.

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 / Civil Engineer	December 20, 2024
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	December 23, 2024

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.002
Latitude NHD	41º 50' 35.19"	Longitude NHD	-80º 13' 28.26"
Latitude DP	41º 50' 41.35"	Longitude DP	-80º 13' 36.80"
Quad Name	Edinboro South	Quad Code	41080G2
Wastewater Description:	Sewage Effluent		

Receiving Waters	UNT to Cussewago Creek (WWF)	Stream Code	52468
NHD Com ID	127348127	RMI	confluence with Cussewago Creek is at RMI 30.22
Drainage Area	0 (Dry), 12.3 sq. mi (perennial)	Yield (cfs/mi^2)	0.1
Q_{7-10} Flow (cfs)	0 (Dry), 1.23 (perennial)	Q_{7-10} Basis	Default
Elevation (ft)	1283	Slope (ft/ft)	---
Watershed No.	16-D	Chapter 93 Class.	WWF
Existing Use	---	Existing Use Qualifier	---
Exceptions to Use	---	Exceptions to Criteria	---
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	---		
Source(s) of Impairment	---		
TMDL Status	---	Name	---

Background/Ambient Data		Data Source
pH (SU)	7.0	Default
Temperature (°F)	77	Default
Hardness (mg/L)	100	Default
Other:		

Nearest Downstream Public Water Supply Intake		Aqua Pennsylvania, Inc. - Emlenton	
PWS Waters	Allegheny River	Flow at Intake (cfs)	---
PWS RMI	90.0	Distance from Outfall (mi)	---

Changes Since Last Permit Issuance: None.

Other Comments: None.

Treatment Facility Summary

Treatment Facility Name: Shady Acres MHP

WQM Permit No.	Issuance Date
2073407 T-3	August 31, 2023

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Septic Tank Sand Filter	Hypochlorite	0.002

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.002	4.6	Not Overloaded	Anaerobic Digestion	Other WWTP

Changes Since Last Permit Issuance: None.

Other Comments: Design is for 0.002 MGD, however the discharge is less than 0.001 MGD.

Compliance History

DMR Data for Outfall 001 (from November 1, 2023 to October 31, 2024)

Parameter	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23
Flow (GPD) Average Monthly	0.0005	0.00045	0.00011	0.00013	0.00013	0.0012	0.00013	0.00012	0.00015	0.00016	0.0009	0.00005
pH (S.U.) Instantaneous Minimum	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
pH (S.U.) Instantaneous Maximum	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
DO (mg/L) Daily Minimum	6.8	7.8	9.5	8.2	7.6	9.2	9.1	11.4	11.4	15.8	8.8	8.8
TRC (mg/L) Average Monthly	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
BOD5 (mg/L) Average Monthly	3.0	6.3	16.0	< 3.0	< 3.0	< 4.8	< 4.8	4.7	4.7	< 4.0	< 4.0	< 4.0
TSS (mg/L) Average Monthly	5.0	60.0	12.0	< 5.0	< 7.7	< 5.0	8.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Fecal Coliform (No./100 ml) Average Monthly	12.0	< 1	< 1	< 1	< 1	< 1.0	< 1	< 1	< 1	< 1	< 1	< 1.0

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.

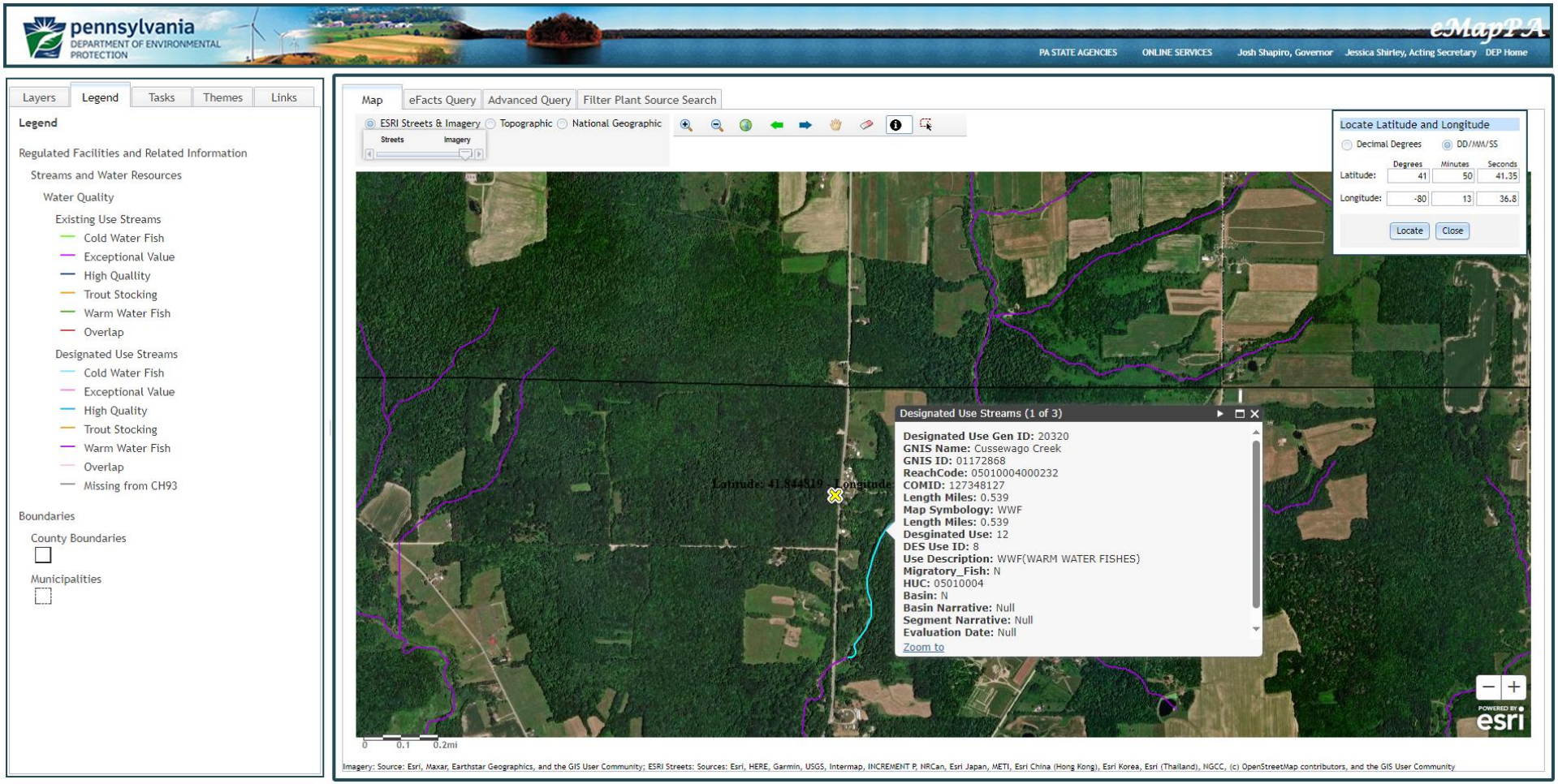
Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

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 (GPD)	Report	XXX	XXX	XXX	XXX	XXX	1/week	Estimate
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	Upon Request	Grab
DO	XXX	XXX	4.0 Daily Min	XXX	XXX	XXX	Upon Request	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/month	Grab
BOD5	XXX	XXX	XXX	10.0	XXX	20.0	1/month	Grab
TSS	XXX	XXX	XXX	10.0	XXX	20.0	1/month	Grab
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/month	Grab

Compliance Sampling Location: Outfall 001, after disinfection.

Other Comments: Flow is monitor only based on Chapter 92a.61. The limits for BOD5, Total Suspended Solids are BPJ-based on the Department's "Small Flow Treatment Facilities Manual." Fecal Coliform are technology-based on Chapter 92a.47. The limits for pH are technology-based on Chapter 93.7. The TRC limitations from the previous permit are imposed pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(1).

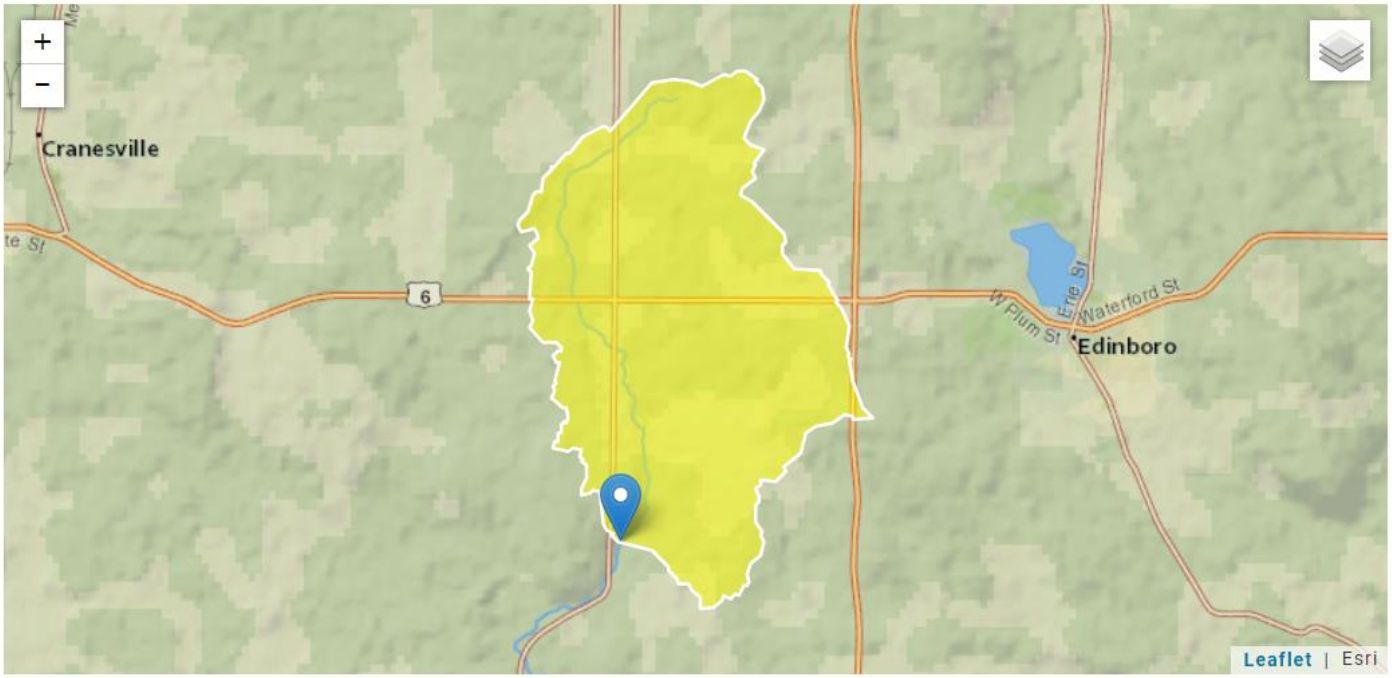
Outfall Location - eMap with Aerial Imagery



Drainage Area Location at perennial conditions – StreamStats with Aerial Imagery

StreamStats Report

Region ID:	PA
Workspace ID:	PA20241220175739190000
Clicked Point (Latitude, Longitude):	41.84300, -80.22459
Time:	2024-12-20 12:58:02 -0500



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	12.3	square miles

TRC Evaluation

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

1.23	= Q stream (cfs)	0.5	= CV Daily
0.002	= 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 = 126.835	1.3.2.iii	WLA cfc = 123.647
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 47.262	5.1d	LTA_cfc = 71.883

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.500	BAT/BPJ
		INST MAX LIMIT (mg/l) = 1.635	

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)

The department's TRC evaluation spreadsheet didn't calculate more stringent WQBELs for the TRC limit at perennial conditions using the facility design flow. The technology-based limitations established in previous permits are attainable and will be retained.