Pennsylvania Department of Environmental Protection

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**New**	Application No.	**PA0285331**
Wastewater Type	**Sewage**	APS ID	**1115330**
Facility Type	**SFTF**	Authorization ID	**1487976**

NPDES PERMIT FACT SHEET
INDIVIDUAL SFTF/SRSTP

Applicant, Facility and Project Information

Applicant Name	**Rachel Stainbrook**	Facility Name	**Stainbrook Properties SFTF**
Applicant Address	210 E George Street Carmichaels, PA 15320-1204	Facility Address	51 Deer Park Drive 63 Deer Park Drive Prosperity, PA 15329-1521
Applicant Contact	Ryan Christopher	Facility Contact	Same as Applicant
Applicant Phone	(412) 582-8100	Facility Phone	Same as Applicant
Client ID	386353	Site ID	873158
SIC Code	8800	Municipality	Morris Township
SIC Description	Private Households	County	Greene
Date Application Received	June 4, 2024	WQM Required	Yes
Date Application Accepted	June 10, 2024	WQM App. No.	3024400

Project Description: Application for a new NPDES permit authorize a discharge of a treated Sewage.

Summary of Review

The applicant proposes to construct 800 GPD Small Flow Treatment Facility (SFTF) that will serve two existing three-bedroom dwellings in Morris Township, Greene County. The proposed SFTF will replace an existing malfunctioning on-lot system.

WQM Permit No. 0223405 will be issued concurrently with the final issuance of the NPDES Permit.

Any additional flow to this dwelling (e.g., addition of 100 GPD to the treatment system capacity) will have to go through DEP permit amendment process.

The discharge is directly to UNT Bates Fork which is classified as HQ-WWF and located in State Watershed 19-B.

This discharge does not qualify for a general permit because it discharges to a high-quality stream. General permits cannot be issued to high-quality streams.

This WQM permit is being issued to approve the operation and discharge of treated sewage effluent from a SFTF Module 16 consisting of (see page 8):

- Two parallel Singulair Bio-Kinetic Model 960-500 Treatment tank. This system is rated for a capacity of 2600 gallons, and up to 600 gpd to treat.
- Three treatment chambers (Flow Equalization, Pretreatment, Aeration, Clarification, and Tertiary Filtration) connected in series with a total volume of 1300 gallons.

Approve	Deny	Signatures	Date
X		Hazim Aldalli / Environmental Engineering Specialist	August 22, 2024
X		Christopher Kriley, P.E. / Program Manager	September 4, 2024

Summary of Review

- Hydro-Kinetic Bio-Film Reactor (HKBFR) system installed in the clarification chamber which mainly include Micronically Molded Design Flow Filter, and a peak flow filter.

- A Norweco AT 1500 UV Disinfection System preinstalled by the manufacturer.

The project drawings (see page 8) shows an average of 160 feet of a 4 inches schedule 40 PVC pipe that will deliver the effluent from the treatment plant to the point of discharge (UNT of Bates Fork), which is located adjacent to the applicant property. The last 10 feet of the discharge pipe will be perforated, and the pipe will be placed above the normal high Creek water level with some riprap under the pipe level to prevent erosion.

The effluent pipe diameter listed on the Site plan is 4 inches and it is consistent with the DEP's Small Facilities Manual, Rev. November 2023.

The proposed treatment unit has a rated capacity of 1350 GPD and it's NSF Certified for the treatment of Residential Wastewater.

Sampling should be grabbed after disinfection. Sampling Port is described under Sec. 2.6 on page 58 of the Owner's Manual, also can be checked over the unit drawings (see page 8).

DEP's current policy does not require eDMR to be used for SFTF.

Act 537 Planning was approved for this project on March 12, 2024. The facility has failing on-lot system; therefore, the applicant is seeking approval for direct discharge to UNT Bates Fork .

The applicant has no open or unresolved violations per WMS Client ID report on July 22, 2024.

The Act – 14 PL 834 Municipal Notifications were provided by the March 22, 2024 letters attached to the application, and no comments were noticed.

Permit issuance is recommended.

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 and Stream Data – 2 - Receiving Waters and PWS

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.0008
Latitude	40º 1' 1"	Longitude	-80º 17' 19"
Quad Name	Prosperity	Quad Code	40080A3
Wastewater Description:	Sewage Effluent		
Receiving Waters	Tributary 40535 of Bates Fork (HQ-WWF)	Stream Code	40535
NHD Com ID	99413226	RMI	0.80
Drainage Area	0.0706	Yield (cfs/mi^2)	0.0047
Q_{7-10} Flow (cfs)	0.000334	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	1349	Slope (ft/ft)	0.001
Watershed No.	19-B	Chapter 93 Class.	HQ-WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use	None.	Exceptions to Criteria	None.
Assessment Status	Attaining Use(s): Aquatic Life.		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Changes Since Last Permit Issuance: N/A. This is a new permit.

Other Comments: None.

Treatment Facility Summary				
Treatment Facility Name: Stainbrook Properties SFTF				
WQM Permit No.	**Issuance Date**			
6391404	Processing			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Tertiary	Extended Aeration	Ultraviolet	0.0008
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.0008	2.04	Not Overloaded	Aerobic Tank	None/Semi Annual Cleaning

Changes Since Last Permit Issuance: N/A (New Facility).

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.0008
Latitude 40º 1' 1" **Longitude** -80º 17' 19"
Wastewater Description: Treated Sewage Effluent

Technology-Based Limitations (TBELs)

The following effluent limitations and monitoring requirements, at a minimum, will be established in all new and renewed SFTF permits based on the requirements of DEP's "Standard Operating Procedure (SOP) for Clean Water Program New and Reissuance Small Flow Treatment Facility Individual NPDES Permit Application" (SOP No. BCW-PMT-003, Version 1.8, Final, November 9, 2012, Revised May 17, 2019).

Parameter	Avg	IMAX	Sample Type	Frequency: SFTFs	Frequency: SRSTPs
Flow (GPD)	Report	XXX	Estimate (SRSTPs) Measured (SFTFs)	1/month	1/year
BOD5 (mg/L)	10	20	Grab	1/month	1/year
TSS (mg/L)	10	20	Grab	1/month	1/year
pH*	6.0 S.U. Inst. Min.	9.0 S.U.	Grab	1/month	1/year
TRC (mg/L)	Report for SRSTPs; Use TRC Spreadsheet to determine WQBELs or 0.02 mg/L for SFTFs		Grab	1/month	1/year
Fecal Coliform (No./100 ml)	200 Geometric Mean (SFTFs) / Average (SRSTPs)		Grab	1/month	1/year

***** Technology-Based effluent limits for pH will be imposed based upon Federal Regulation 133.102(c) and State Regulation 95.2(1).

Additional TBELs:

Outfall 001 discharges to Tributary 40535 of Bates, which is classified as a HQ-WWF.

The following Antidegradation Best Available Combination of Technologies (ABACT) effluent limits, at a minimum, will be established based on the requirements of DEP's "Water Quality Antidegradation Implementation Guidance" (Doc. No. 391-0300-002; November 29, 2003).

Parameter	Treatment Process Performance Expectations (mg/L)		
	<2,000 gpd	2,000-50,000 gpd	>50,000 gpd
$CBOD_5$ (May 1 – Oct. 31)	10	10	10
$CBOD_5$ (Nov. 1 – Apr. 30)	20	20	10
Suspended Solids	20	10	10
NH_3-N (May 1 – Oct. 31)	5.0	3.0	1.5
NH_3-N (Nov. 1 – Apr. 30)	15.0	9.0	4.5
Effective disinfection	Disinfection should be accomplished using a method that leaves no detectable residual. Disinfection using ultra-violet light or other non-chlorine based systems is encouraged and must be considered.		
Other parameters, as needed	*Determined by the size and characteristics of the proposed discharge, may include – NO_2/NO_3-N, Total Phosphorus, Copper, Lead, Zinc*		

The limitations and monitoring requirements, specified on page 7 of this Fact Sheet, reflect the most stringent limitation amongst the above Technology-Based Effluent Limitations.

Additional Considerations:

Annual BOD_5 limitations were imposed instead of $CBOD_5$ seasonal limits which reflect the most stringent limitation amongst the Technology-Based Effluent Limitations and also based upon the Department's SOP – *New and Reissuance Individual SFTF NPDES Permits*, and per DEP *Small Flow Treatment Facilities Manual* (Nov. 2023).

Due to antibacksliding rules, TBELs for Suspended Solids AML of 10 mg/L will be applied for this discharge since the anti-degradation limits are less stringent.

Based on the proposed design discharge, and after applying the anti-degradation analysis results Ammonia-Nitrogen NH_3-N seasonal limits will be AML of 5.0 mg/L, Ins Max of 10.0 mg/L for the warm period, and AML of 15 mg/L, Ins Max of 30 mg/L for the cold period.

SFTFs/SRSTPs are not required to monitor for Total Nitrogen and Total Phosphorus in new and reissued permits. The receiving stream is not impaired for nutrients.

Using UV for disinfection is compatible with the SOP No. BCW-PMT-003 Rev. November 9, 2023 under Sec. F.2. Special condition Part C 150 will be included within the new permit to ensure good O&M practices.

Monthly Sampling frequencies will be imposed for the proposed facility are consistent with current policy and Table 6-3 of DEP's Technical Guidance for the Development and Specification of Effluent Limitations. Monthly monitoring is required for these parameters to provide minimum assurance that the facility is being operated properly.

Proposed Effluent Limitations and Monitoring Requirements

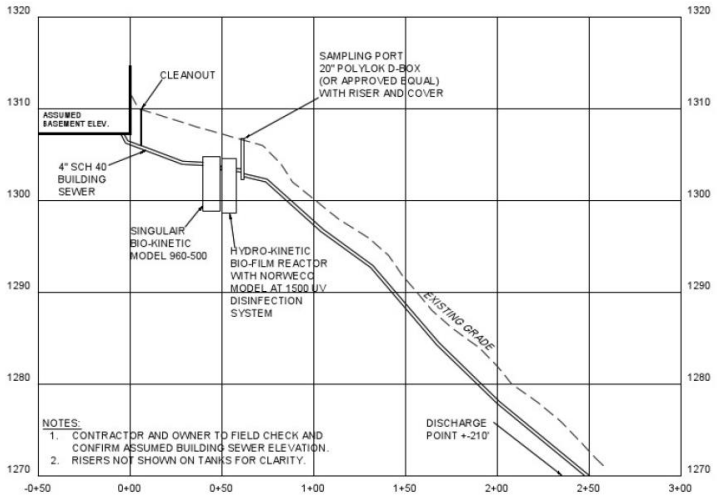
The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

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

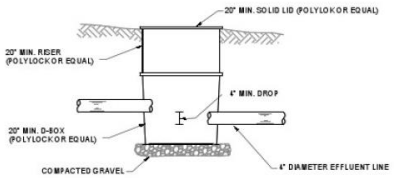
Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	0.0008	XXX	XXX	XXX	XXX	XXX	1/month	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	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
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	15.0	XXX	30.0	1/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	5.0	XXX	10.0	1/month	Grab

Compliance Sampling Location: Outfall 001 at the proposed sampling port.

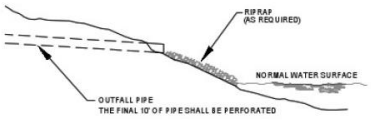
Other Comments: Effluent sampling should be always after disinfection.



SYSTEM PROFILE
1"=50' H. & 1"=10' V.



SAMPLING PORT DETAIL



OUTFALL DETAIL

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
FREDERICK RICHARD BRANT
ENGINEER
No. PE054388E

ANDRASKO & BRANT, INC.
645 EAST PITTSBURGH STREET, #353
GREENSBURG, PA 15601
APPLIED SOIL SCIENCE SINCE 1994

CLIENT
CHRISTOPHER BACKHOE & PLUMBING, INC.
210 EAST GEORGE STREET
CARMICHAELS, PA 15320

PROJECT
SMALL FLOW TREATMENT FACILITY
MORRIS TOWNSHIP, GREENE COUNTY, PA

DATE 3/22/2024
SCALE N.T.S.
DRAWING 5277 Christopher
LAYOUT SFTF 3
SHEET NO. 3-5

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

WATER MANAGEMENT SYSTEM
OPEN VIOLATIONS BY CLIENT

7/22/2024 9:52:53 AM

Client ID: 386353
Client: All

Open Violations: 0

No data was found using the criteria entered. Please revise your choices and try again.

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Page 1 of 1