Pennsylvania Department of Environmental Protection

Northcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0101427**
Wastewater Type	**Sewage**	APS ID	**1106583**
Facility Type	**SRSTP**	Authorization ID	**1471481**

NPDES PERMIT FACT SHEET INDIVIDUAL SFTF/SRSTP

Applicant, Facility and Project Information

Applicant Name	**Brian J. Buchsen**	Facility Name	**Buchsen SFTF**
Applicant Address	383 Irish Farm Road	Facility Address	383 Irish Farm Road
	Coudersport, PA 16915-8048		Coudersport, PA 16915-8048
Applicant Contact	Brian Buchsen	Facility Contact	Brian Buchsen
Applicant Phone	(814) 203-2508	Facility Phone	(814) 203-2508
Client ID	6697	Site ID	254000
SIC Code	4952	Municipality	Sweden Township
SIC Description	Trans. & Utilities - Sewerage Systems	County	Potter
Date Application Received	February 1, 2024	WQM Required	Existing
Date Application Accepted	February 6, 2024	WQM App. No.	5382403
Project Description	Renewal of an existing permit for the discharge of treated sewage.		

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		Derek S. Garner / Project Manager	December 30, 2024
X		Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	December 30, 2024

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (GPD)	600
Latitude	41º 46' 5.70"	Longitude	-77º 53' 4.08"
Quad Name	Sweden Valley	Quad Code	0422
Wastewater Description:	Sewage Effluent		

Receiving Waters	Trout Run (HQ-CWF) (1)	Stream Code	58462
NHD Com ID	112370059	RMI	0.48
Drainage Area	n/a	Yield (cfs/mi^2)	n/a
Q_{7-10} Flow (cfs)	n/a	Q_{7-10} Basis	n/a
Elevation (ft)	n/a	Slope (ft/ft)	n/a
Watershed No.	16-C	Chapter 93 Class.	HQ-CWF
Existing Use	n/a	Existing Use Qualifier	n/a
Exceptions to Use	n/a	Exceptions to Criteria	n/a
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	n/a		
Source(s) of Impairment	n/a		
TMDL Status	n/a	Name	n/a

Nearest Downstream Public Water Supply Intake	PA/NY Border		
PWS Waters	Alleghany River	Flow at Intake (cfs)	15.4
PWS RMI	281.06	Distance from Outfall (mi)	37.2

(1) The outfall discharges to an intermittent unnamed tributary of Trout Run. For the purpose of establishing effluent limits, the permit has historically designated the point of first use as Trout Run.

Treatment Facility Summary

The Buchsen Small Flow Treatment Facility is a 600 GPD sewage treatment plant that serves a three-home apartment building. The construction and operation of the SFTF was approved under WQM Permit No. 5382403 on January 3, 1983. Treatment consists of:

One (1) 1,000-gallon septic tank
One (1) distribution box
One (1) 600 sq. ft. sand filter
One (1) erosion tablet chlorinator
One (1) 400-gallon chlorine contact tank.

Treated effluent is ultimately discharged via Outfall 001 to an intermittent unnamed tributary of Trout Run.

Compliance History

The facility was most recently inspected by DEP on May 31, 2023. No violations were noted in the inspection report.

There are no open violations associated with the permittee.

Development of Effluent Limitations and Monitoring Frequencies

Outfall No. 001 **Design Flow (GPD)** 600
Latitude 41º 46' 5.70" **Longitude** -77º 53' 4.08"
Wastewater Description: Sewage

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
BOD_5	10	Average Monthly	125.3(a)(2)(i)	DEP SFTF Design Manual (Document 362-0300-002)
	20	IMAX		
Total Suspended Solids	10	Average Monthly	125.3(a)(2)(i)	DEP SFTF Design Manual (Document 362-0300-002)
	20	IMAX		
pH	6.0 – 9.0 S.U.	IMIN – IMAX	133.102(c)	95.2(1)
Total Residual Chlorine (1)	0.5	Average Monthly	-	92a.47(a)(8)
Fecal Coliform	200 / 100 ml	Geo Mean	-	92a.47(a)(4)

Discharges in existence prior to a special protection designation (high quality or exceptional value) are “grandfathered” and considered to be part of the existing quality of the waterbody. “Grandfathered” flows are not subject to “the non-discharge alternatives” or social or economic justification. Given that this facility was constructed in 1983, which is prior to the stream being designated high quality, the “grandfathered” discharge of chlorine will be allowed.

Water Quality-Based Limitations

DEP generally does not assign WQBELs to small flow treatment facilities. However, the existing technology-based limits for TRC were evaluated. The attached TRC evaluation indicates that the existing limits are protective of Trout Run.

Best Professional Judgement (BPJ) Limitations

DEP does not propose any limits or monitoring requirements based on BPJ.

Anti-Backsliding

In accordance with 40 CFR 122.44(l)(1) and (2), this permit does not contain effluent limitations, standards, or conditions that are less stringent than the previous permit.

Existing Effluent Limitations and Monitoring Requirements

The existing effluent limitations and monitoring requirements are as follows:

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	1/month	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/month	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	XXX	1/month	Grab

Compliance Sampling Location: Outfall 001

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.

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	1/month	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/month	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	XXX	1/month	Grab

Compliance Sampling Location: Outfall 001

TRC EVALUATION

Input appropriate values in B4:B8 and E4:E7

0.0383	= Q stream (cfs)	0.5	= CV Daily
0.0006	= 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 = 13.182	1.3.2.iii	WLA cfc = 12.844
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 4.912	5.1d	LTA_cfc = 7.467

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)