pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**New**	Application No.	**PA0267490**
Wastewater Type	**Sewage**	APS ID	**1042634**
Facility Type	**SRSTP**	Authorization ID	**1360660**

NPDES PERMIT FACT SHEET
INDIVIDUAL SFTF/SRSTP

Applicant, Facility and Project Information

Applicant Name	**Martin Reiff**	Facility Name	**Reiff SRSTP**
Applicant Address	10280 Newburg Road	Facility Address	10280 Newburg Road
	Orrstown, PA 17244-9637		Orrstown, PA 17244-9637
Applicant Contact	Martin Reiff	Facility Contact	Martin Reiff
Applicant Phone	(717) 860-6913	Facility Phone	(717) 860-6913
Client ID	364030	Site ID	850557
SIC Code	8800	Municipality	Lurgan Township
SIC Description	Private Households	County	Franklin
Date Application Received	July 7, 2021	WQM Required	Yes
Date Application Accepted	July 21, 2021	WQM App. No.	2821403
Project Description	New NPDES Permit.		

Summary of Review

This report supports the issuance of an NPDES permit for discharge of treated sewage from a new single residence sewage treatment plant (SRSTP) located in Lurgan Township, Franklin County. The WQM permit application is also received and the IRR has been prepared separately for the WQM permit.

Based on the review, it is recommended that the NPDES permit be drafted.

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		*Jinsu Kim* Jinsu Kim / Environmental Engineering Specialist	July 21, 2021
X		Maria D. Bebenek for Daniel W. Martin Daniel W. Martin, P.E. / Environmental Engineer Manager	July 21, 2021
X		Maria D. Bebenek Maria D. Bebenek, P.E. / Program Manager	July 21, 2021

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	.0004
Latitude	40º 6' 50.06"	Longitude	-77º 38' 36.43"
Quad Name		Quad Code	
Wastewater Description:	Treated Sewage		
Receiving Waters	Dry stream channel to Paxton Run (WWF, MF)	Stream Code	10549
NHD Com ID	56409091	RMI	5.8
Drainage Area	0.53	Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)	0.00606	Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	7-B	Chapter 93 Class.	
Existing Use	None	Existing Use Qualifier	None
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Carlisle Borough		
PWS Waters	Conodoguinet Creek	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	39

Drainage Area
The discharge will be to a dry stream channel to Paxton Run. This channel is not identified in eMapPA nor historical stream file. The channel enters Paxton Run at RM 5.8. A POFU survey was conducted by DEP biologist on May 18, 2021 and confirmed that the point of proposed discharge is completely dry and a POFU is in Paxton Run. A drainage area upstream of the proposed discharge point is estimated to be 0.53 sq.mi. according to USGS StreamStats available at https://streamstats.usgs.gov/ss/.

Streamflow
USGS StreamStats produced a Q7-10 of 0.00606 cfs at the POFU.

Paxton Run
Under 25 Pa Code §93.9o, the entire basin of Paxton Run is classified as warm water fishes and supports migratory fishes. No special protection water is therefore impacted by this discharge. No Class A Wild Trout Fishery will be impacted by this discharge. Based on DEP's 2020 integrated water quality report, Paxton Run is attaining the aquatic life use, but recreational use is impaired by pathogens from an unknown source.

Public Water Supply Intake
Based on eMapPA, the nearest downstream public water supply intake is located near Carlisle Borough on the Conodoguinet Creek approximately 39 miles from the proposed discharge. Given the distance and nature, the proposed discharge is not expected to impact the water supply.

Compliance History	
Summary of DMRs:	This is a new NPDES permit; therefore, no AMR is available for review.
Summary of Inspections:	There is no open violation associated with this facility or permittee.

Treatment Facility Summary

The proposed treatment system will be located in Lurgan Township, Cumberland County (10280 Newburg Road Orrstown, PA 17244. The proposed treatment system will serve a 3-bed room single family residence (400 GPD) and will be Ecoflo EC7 series system with an UV disinfection unit. The details of the proposed system are described in the Internal Review and Recommendation (IRR) report for the WQM permit application. The Official Act 537 Plan Revision was approved on June 10, 2021 (no. A3-28911-126-3S).

Development of Effluent Limitations and Monitoring Requirements

The proposed effluent limitations and monitoring requirements are derived from DEP's Standard Operating Procedure (SOP) for New and Reissuance Small Flow Treatment Facility Individual NPDES Permit Applications (SOP No. BPNPSM-PMT-003).

On February 1, 2017, DEP classified the proposed system as an alternate on-lot sewage treatment system and required this system (if installed) to meet 10 mg/L CBOD5, and 10 mg/L TSS as monthly averages. (Alternate technology no. A2017-0029-0001).

Facilities that are designed based on a flow of less than 2,000 GPD or considered as SRSTPs are exempt from the Bay requirements. Accordingly, it is not necessary for the permittee to perform nutrient monitoring.

Proposed Effluent Limitations and Monitoring Requirements

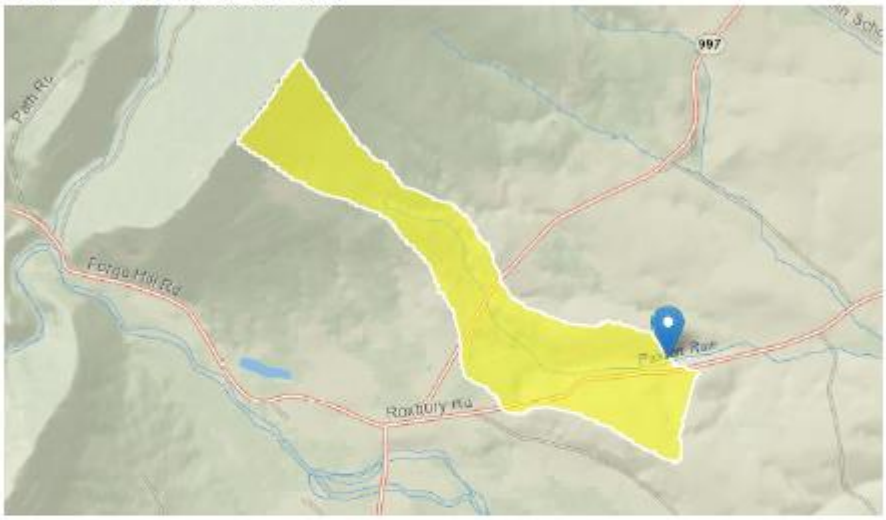
The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). 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)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Annual Average	Daily Maximum	Minimum	Annual Average	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	1/year	Estimate
CBOD5	XXX	XXX	XXX	10	XXX	20	1/year	Grab
Total Suspended Solids	XXX	XXX	XXX	10	XXX	20	1/year	Grab
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200	XXX	XXX	1/year	Grab

StreamStats Report

Region ID: PA
Workspace ID: PA20210721133912109000
Clicked Point (Latitude, Longitude): 40.11390, -77.64334
Time: 2021-07-21 09:39:28 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.53	square miles
PRECIP	Mean Annual Precipitation	39	inches
STRDEN	Stream Density -- total length of streams divided by drainage area	2.55	miles per square mile
ROCKDEP	Depth to rock	4	feet
CARBON	Percentage of area of carbonate rock	0	percent

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.53	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	39	inches	35	50.4
STRDEN	Stream Density	2.55	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	4	feet	3.32	5.65
CARBON	Percent Carbonate	0	percent	0	99

Low-Flow Statistics Disclaimers [Low Flow Region 2]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report [Low Flow Region 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0192	ft^3/s
30 Day 2 Year Low Flow	0.0299	ft^3/s
7 Day 10 Year Low Flow	0.00606	ft^3/s
30 Day 10 Year Low Flow	0.00963	ft^3/s
90 Day 10 Year Low Flow	0.0189	ft^3/s

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/)

COMMONWEALTH OF PENNSYLVANIA
Department of Environmental Protection

May 18, 2021
Stream Code: 10549
Stream File: 2.21.0

SUBJECT: **Point of First Use Survey**
Paxton Run
Martin Reiff SFTF
Lurgan Township, Franklin County

TO: **Mike McNulty**
Clean Water Program

FROM: **Andrew Blascovich**
Aquatic Biologist 2
Clean Water Program

As requested, I investigated a proposed discharge point for a proposed small flow treatment facility (SFTF) to an unnamed tributary (UNT) to Paxton Run in Lurgan Township, Franklin County. The proposed sewage flow is 400 gallons per day. The property is vacant and is located adjacent to 10280 Newburg Road in Orrstown, PA approximately 1 mile east of Roxbury. Access to the property is from a gravel pull-off. See Figure 1. Martin Reiff Location Map Point of First Use Survey for the property location.

The Paxton Run basin has a designated protected use of warm water fishes (WWF) and migratory fishes (MF) under Title 25 of the Pennsylvania Code, Chapter 93. The 2020 integrated water quality monitoring and assessment report indicates Paxton Run is attaining the Aquatic Life Use, but Recreational Use is impaired by pathogens from an unknown source as of the last assessment.

On 14 May 2021 the subject site was accessed as previously described. The plan (by Diffenbaugh Wadel Inc.) provided to me indicates the proposed discharge will be in a UNT several meters upstream from the roadway culvert under SR 0641 (Newburg Road). Upon investigation, the UNT is completely dry. This contradicts the statement in the project narrative (provided to me) that indicates the discharge point being located downstream from the point of first use on the tributary. There was no water in the tributary.

Permission was obtained to enter the Stoltzfus property to the north which is across SR 0641 and is where the UNT enters Paxton Run. Paxton Run is dammed immediately upstream of the lane accessing the Stoltzfus property. The pond can be seen easily on satellite imagery mapping. Downstream of the dam and lane, Paxton Run continues flowing to the east in a well-defined channel. I was able to sample riffle habitat in Paxton Run approximately 20 meters downstream of the lane. The sample location (Roxbury, PA Quadrangle; N: 40.11367, W: -77.64546) is approximately 150 meters upstream of where the UNT from the Reiff property would enter Paxton Run. Figure 2 illustrates the sampling, property, and proposed discharge locations.

This survey site was assigned macroinvertebrate station ID 20210514-1000-ablascovic. At the sampling station the stream has a well-defined channel, and at the time of sampling stream flow was likely normal and was being regulated by the upstream impoundment. The channel is approximately 1 m wide with very shallow flow. Riffles are only occasional. Algae is very abundant on the available substrate. The riparian zone through this reach of stream is mostly an active cattle pasture and emergent floodplain wetland complex. The landowner (Ms. Stoltzfus) indicated to me that during summer months, the stream often has very little to no water flowing once the pond recedes several feet. Habitat was assessed and scored at 124 out of 240, which is marginal. Images 1 through 5, attached, depict the sampling and site conditions.

Sampling for macroinvertebrates was completed using a standard 500 µm mesh kick net and hand picking. Several kicks were completed, resulting in the collection of five taxonomic families, as listed in Table 1. No EPT families were observed. Water chemistry field data, which was obtained with a YSI ProDSS portable field meter, is shown in Table 2.

In summary, the channel at the proposed discharge point is intermittent at best, possibly ephemeral. Based on the findings of this investigation and the guidance document "Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales and Storm Sewers," the point of first surface water use is in Paxton Run on the Stoltzfus property, downstream of the discharge point.

cc: Tim Wagner
Kristen Bardell

Table 1:
Macroinvertebrates
Paxton Run

Macroinvertebrate Taxa	*Pollution Tolerance Value*	*Relative Abundance*
Oligochaeta	10	C
Cambaridae	6	P
Trepaxonemata	9	C
Chironomidae	6	C
Simulidae	6	VA
Total Number of Taxa: 5		

VA=Very Abundant (>100), A=Abundant (25-99), C=Common (10-24), P=Present (3-9), R = Rare (<3)

Table 2:
Water Chemistry
Paxton Run

Parameter	*Units*	
Specific Conductance, Field	µS	118.7
Dissolved Oxygen, Field	mg/L	8.65
Temperature, Field	°C	14.6
pH, Field	units	7.29