pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**New**	Application No.	**PA0285277**
Wastewater Type	**Sewage**	APS ID	**1104050**
Facility Type	**SRSTP**	Authorization ID	**1467877**

NPDES PERMIT FACT SHEET
INDIVIDUAL SFTF/SRSTP

Applicant, Facility and Project Information

Applicant Name	**Joseph & Lisa Yakelis**	Facility Name	**Yakelis Properties SRSTP**
Applicant Address	1504 State Route 18	Facility Address	1504 State Route 18
	Aliquippa, PA 15001-5996		Aliquippa, PA 15001-5996
Applicant Contact	Joseph & Lisa Yakelis	Facility Contact	Colleen Berg
Applicant Phone	(412) 400-9191	Facility Phone	724-651-6311
Client ID	381327	Site ID	868592
SIC Code	8800	Municipality	Raccoon Township
SIC Description	Private Households	County	Beaver
Date Application Received	January 9, 2024	WQM Required	Yes
Date Application Accepted	January 22, 2024	WQM App. No.	0424400

Project Description: Application for a new NPDES Permit for Discharge of Treated Sewage

Summary of Review

The permittee proposed to construct a 0.0005 MGD single residence treatment facility to serve a proposed four-bedroom single-family house in Beaver County. The purpose of construction is to replace a malfunctioning on-lot system.

The sewage from this facility is treated by septic tank, Ecoflo Coco Filter, and UV disinfection prior to discharging to Trib 33615 to Service Creek, which is classified as a High-Quality (HQ) Cold Water Fishery (CWF) per Chapter 93 Designated Use.

The Associated WQM Permit No. 0424400 is also pending issuance by DEP.

Single Residence Treatment Plant (SRSTP) permittees are not required to register for eDMR.

Act 14-PL 834 Municipal Notification was documented by letters sent to Racoon Township and Beave County on May 1, 2023.

Biosolids treatment and disposal was not indicated on the application.

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

Approve	Deny	Signatures	Date
X		Stephanie Conrad / Environmental Engineering Specialist	February 3, 2024
x		Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineering Manager	February 5, 2024

Summary of Review
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)	0.0005
Latitude	40º 34' 43.50"	Longitude	-80º 23' 56.07"
Quad Name	Hookstown	Quad Code	1402
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary 33615 to Service Creek (HQ-CWF)	Stream Code	33615
NHD Com ID	99683174	RMI	0.7200
Drainage Area	1.84	Yield (cfs/mi^2)	0.0092
Q_{7-10} Flow (cfs)	0.017	Q_{7-10} Basis	USGS Stream Stats
Elevation (ft)		Slope (ft/ft)	
Watershed No.	20-D	Chapter 93 Class.	HQ-CWF
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	Name	Raccoon Creek Watershed

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

Nearest Downstream Public Water Supply Intake	Midland Boro Municipal Authority		
PWS Waters	Ohio River	Flow at Intake (MGD)	7.2
PWS RMI	4.41	Distance from Outfall (mi)	26.17

Changes Since Last Permit Issuance: N/A- New Permit Issuance

Other Comments: None

Treatment Facility Summary

Treatment Facility Name: McConnell Properties SRSTP

WQM Permit No.	Issuance Date	Purpose
0424400	Under Department Review	Permit from the Pennsylvania Department of Environmental Protection approving construction of a 0.0005 MGD SRSTP Ecoflo Coco Filter EC7-500-P-G-Pack-USA. The Pack contains a 1250-gallon septic tank, coco filters, and a Sanitron S 17 UV disinfection unit.

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Tertiary	ECOFLOW Coco Filter	UV Disinfection	0.0005

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0005		Not Overloaded		

Changes Since Last Permit Issuance: N/A- New Permit Issuance

Other Comments: Act 537 Planning was approved on April 12, 2023.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.0005
Latitude 40º 34' 43.5" **Longitude** -80º 23' 56.07"
Wastewater Description: 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 Department's Standard Operating Procedure (SOP) for *New and Reissuance Small Flow Treatment Facility Individual NPDES Permit Application* [SOP No. BCW-PMT-003 Version 1.8].

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/month
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).

Antidegradation Considerations:

Outfall 001 discharges to Tributary 33615 to Service Creek, which is a HQ-CWF.

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].

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 encourage 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.

Permit Limits

The limits to be imposed, which are provided below, represent the most stringent limitations between the TBELs and ABACT limits.

Parameter	Limit (mg/l)	SBC	Model	Basis
Fecal Coliform	200	Average	N/A	TBEL
BOD_5	10	Average	N/A	TBEL
TSS	10	Average	N/A	TBEL
Ammonia-Nitrogen	5.0	Average Monthly	N/A	Antidegradation ABACT
pH	6.0	Instantaneous Minimum	N/A	TBEL

Additional Considerations

Ultraviolet (UV) disinfection is used, therefore, Total Residual Chlorine (TRC) limits are not applicable. In accordance with the Department's SOP for *New and Reissuance Small Flow Treatment Facility Individual NPDES Permit Application* [SOP No. BCW-PMT-003 Version 1.8], routine monitoring of UV transmittance or intensity is not required for SRSTPs. Part C II has been added to the permit which requires the UV system to be cleaned monthly.

In accordance with the Department's SOP for *Establishing Effluent Limitations for Individual Sewage Permits* [SOP No. BCW-PMT-033 Version 1.9], SRSTPs are not required to monitor for Total Nitrogen or Total Phosphorus in new and reissued permits.

Racoon Creek TMDL

The receiving stream, Tributary 33615 to Service Creek, falls within the Raccoon Creek Watershed, for which there is a final TMDL. The TMDL was finalized February 3, 2005 and covers segments of the watershed that have been impacted by acid mine drainage (AMD). This facility is not anticipated to contribute to the impairment and monitoring for aluminum, iron, and manganese will therefore not be imposed.

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)	Report	XXX	XXX	XXX	XXX	XXX	1/year	Estimated
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/year	Grab
BOD_5	XXX	XXX	XXX	10.0	XXX	20.0	1/year	Grab
TSS	XXX	XXX	XXX	10.0	XXX	20.0	1/year	Grab
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200 Geo Mean	XXX	XXX	1/year	Grab
Ammonia-Nitrogen	XXX	XXX	XXX	5.0	XXX	10.0	1/year	Grab

Compliance Sampling Location: Outfall 001

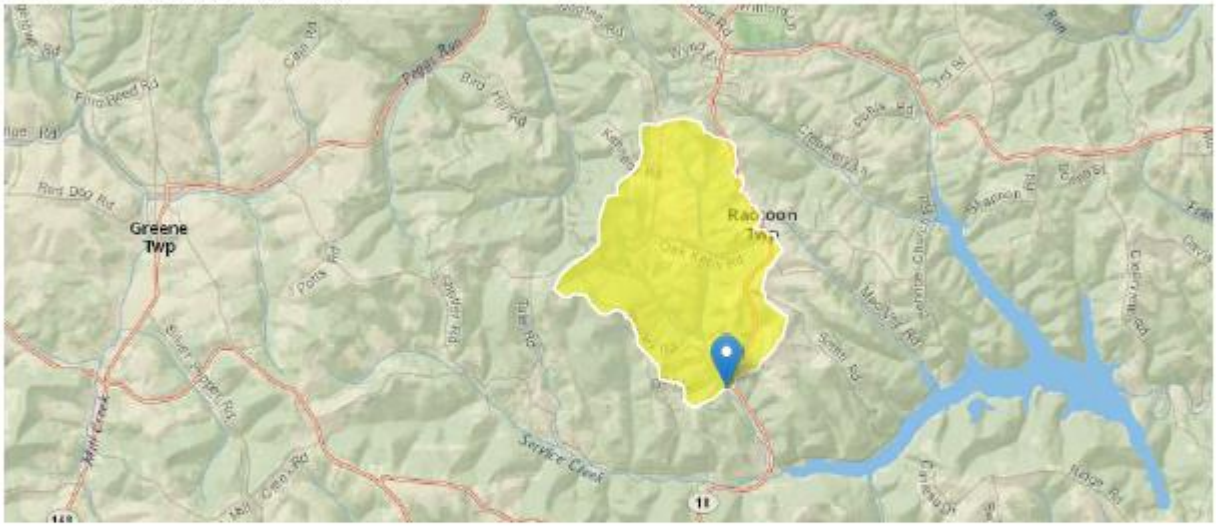
Other Comments: None

ATTACHMENT A

USGS Stream Stats Output

StreamStats Report

Region ID: PA
Workspace ID: PA20240202141358067000
Clicked Point (Latitude, Longitude): 40.57884, -80.39899
Time: 2024-02-02 09:14:20 -0500



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	1.84	square miles
ELEV	Mean Basin Elevation	1153	feet

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

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0544	ft^3/s

Statistic	Value	Unit
30 Day 2 Year Low Flow	0.102	ft^3/s
7 Day 10 Year Low Flow	0.017	ft^3/s
30 Day 10 Year Low Flow	0.0347	ft^3/s
90 Day 10 Year Low Flow	0.0683	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/)