Pennsylvania Department of Environmental Protection

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0281743**
Wastewater Type	**Sewage**	APS ID	**1015107**
Facility Type	**SFTF**	Authorization ID	**1514879**

NPDES PERMIT FACT SHEET
INDIVIDUAL SFTF/SRSTP

Applicant, Facility and Project Information

Applicant Name	**Nell Rd Homeowners Assoc**	Facility Name	**Nell Road Home-Owners' Association SFTF**
Applicant Address	315 Forest Drive New Oxford, PA 17350	Facility Address	Nell Road East Berlin, PA 17316
Applicant Contact	Steve Junkin	Facility Contact	Steve Junkin
Applicant Phone	(717) 649-6393	Facility Phone	(717) 649-6393
Client ID	356137	Site ID	836588
SIC Code	6514	Municipality	Reading Township
SIC Description	Fin, Ins & Real Est - Dwelling Operators, Except Apartments	County	Adams
Date Application Received	February 3, 2025	WQM Required	
Date Application Accepted	February 12, 2025	WQM App. No.	
Project Description	NPDES permit renewal.		

Summary of Review

An application was submitted on February 3, 2025 for reissuance of an NPDES permit to discharge treated sewage from the small flow treatment plant (SFTF) located in Reading Township, Adams County. The permit was last reissued on July 8, 2020, and became effective on August 1, 2020. The permit expires on July 31, 2025.

The facility has a design capacity of 2000 gpd, and discharges to an UNT to Mud Run, which is classified for Warm Water and Migratory Fishes (WWF & MF). The facility is not eligible for coverage under the PAG-04 because the proposed design is not one of the ones included in the DEP's Small Flow Treatment Facilities Manual.

The WQM No. 0119402 original was issued on 7/8/2020.

Sludge use and disposal description and location(s): N/A

Changes from the previous permit: BOD_5 limits changed to $CBOD_5$ limits. The Treatment Facility Summary corrected from previous factsheet dated 5/26/2020 as follows:

- The facility proposed to serve the 3 -bedroom single family residence.
- The process consists of two (2) 2,000-gal Multi-Compartment Septic Tanks → a 1,500-gallon dosing tank → two (2) Ecoflo (ECP-970G) filters system or equal → integral UV disinfection → pump, and 4-inch PVC outfall pipe.

Based on the review outline in this fact sheet, it is recommended that the permit be drafted and published in the Pennsylvania Bulletin for public comments for 30 days.

Approve	Deny	Signatures	Date
X		*Hilaryle* Hilary H. Le / Environmental Engineering Specialist	July 3, 2025 Revised August 18, 2025
X		*Daniel W. Martin* Daniel W. Martin, P.E. / Environmental Engineer Manager	August 20, 2025

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.002
Latitude	39º 59' 36.00"	Longitude	-77º 1' 28."
Quad Name	Hampton	Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Trib. 08626 to Mud Run (WWF, MF)	Stream Code	08626
NHD Com ID	57468693	RMI	0.60
Drainage Area	0.06 mi.^{2}	Yield (cfs/mi^2)	0.02
Q_{7-10} Flow (cfs)	0.001	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	500	Slope (ft/ft)	
Watershed No.	7-F	Chapter 93 Class.	WWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Algae, Siltation		
Source(s) of Impairment	Agriculture, Urban Runoff/Storm Sewers		
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Wrightsville Water Supply Co., York County		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI	28.52 miles	Distance from Outfall (mi)	Approximate 50 miles

Changes Since Last Permit Issuance:

Drainage Area/Stream Flows
The discharge is to Unnamed Tributary 08626 to Mud Run at RMI 0.6 mile. A drainage area upstream of the discharge is estimated to be 0.06 mi.^{2}, according to USGS StreamStats available at https://streamstats.usgs.gov/ss/. USGS StreamStats also produced a Q_{7-10} flow of 0.001 cfs at the point of proposed discharge.

Unnamed Tributary to Mud Run to Bermudian Creek
Under 25 Pa Code §93.9o, Unnamed Tributary to Mud Run to Bermudian Creek is designated as Warm-Water & Migratory Fishes (WWF & MF). The Tributary 08626 to Mud Run is currently impaired for algae & siltation as a result of agriculture & urban runoff/storm sewers. TMDLs have not been developed to address these impairments. Bermudian Creek does not support a Class A Wild Trout fishery. Therefore, no Class A Wild Trout fishery is impacted by this discharge.

Public Water Supply Intake
According to DEP's eMapPA available at http://www.depgis.state.pa.us/emappa/, the nearest downstream public water supply intake is Wrightsville Borough Municipal Authority, York County located on Susquehanna River, approximately 50 miles from the point of proposed discharge. Given the nature and distance, the proposed discharge is not expected to impact the water supply

Compliance History	
Summary of DMRs:	The effluent sample results with the NPDES renewal 2025 application were 3.4 mg/L of BOD_5, 5 No./100 ml of Fecal Coliform, and 2 mg/L of TSS.
Summary of Inspections:	**4/19/2022**: Mr. Bettinger, WQS DEP, conducted a compliance evaluation inspection. There were no violations noted during inspection. Recommendations were to collect and analyze the annual samples by an accredited laboratory for pH, BOD_5, TSS, and Fecal Coliform, submit the AMRs to the DEP by June 30th of each calendar year, and notify the Department via phone call when the system is scheduled to become operational.
Other Comments:	There are currently no open violations associated with the permittee or the facility.

Other Comments:

Treatment Facility Summary

The facility is proposed to serve the 3-bedroom single family residences and will discharge 2,000 gallons per day of treated effluent to Unnamed Tributary 08626 to Mud Run to Bermudian Creek, located at Nell Road, East Berlin, PA 17316. The facilities will be owned and maintained by Nell Road Homeowners' Association. The proposed treatment process, according to the application, is as follows:

Two (2) 2,000-gallon Multi-compartment septic tanks → a 1,500-gallon dosing tank → two (2) Ecoflo (EC7-970G) filters or equal→ integral UV disinfection system → pump, and 4-inch PVC outfall 001 to dry stream channel Unnamed Tributary 08626 to Mud Run to Bermudian Creek.

Dry stream channel discharge from the SFTF evaluations are as follows [25 Pa Code §§ 74.64c(2) – 74.64c(3)]:

- The design flow of discharge will be 0.002 MGD, it will flow evenly throughout the year with no seasonal variations.
- There are no water supplies or groundwater uses within 200 feet on either side of the proposed discharge channel to the receiving stream.
- The discharge point of the SFTF will be located 750 feet from the western property line, 550 feet from the eastern property line, 350 feet to the southern property line, north 950 feet to the point of discharge of the channel into Mud Run. The closest water supply would be from the south to the existing well of proposed Lot 3 which is 300 feet from the SFTF discharge point into the existing channel and the surface area at the well site is 36 feet above the discharge point elevation.
- The discharge channel for the SFTF will be located on the same Lot as SFTF is located on and there will not be any nuisance or adverse impact created from the channel as the surrounding land condition will remain undisturbed or uninhabited.

The proposed septic tanks will have enough capacity to handle the proposed design flow. An effluent filter will be provided at the end of the septic tank to reduce settleable and floatable solids in the effluent. The Ecoflo EC7-1350-G/P-DV filters will be provided, which has been demonstrated to produce effluent that does not exceed 10 mg/L BOD_5 and 10 mg/L TSS. The proposed UV disinfection system will be able to provide an effluent fecal coliform concentration less than or equal to 200 No./100 ml.

The primary treatment tank sludge levels will be monitored yearly and pumped out no longer than 3-year intervals. The outlet of the tank will have an effluent filter, preventing solids from leaving the tank. The UV unit will be accessible from the ground surface, allowing the UV bulb to be replaced or cleaned. The UV unit has an alarm-light system to alert for a treatment malfunction, and one or more spare bulbs will be kept on site for emergency replacement.

Development of Effluent Limitations and Monitoring Requirements

Unless stated otherwise below, the proposed effluent limitations and monitoring requirements listed on page 4 of the Fact sheet 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) version 1.8 revised November 9, 2023. First, all existing monitoring frequencies have been changed to reflect the requirements specified in the SOP (i.e., all average monthly codes have been modified to annual average due to WMS coding issues). This is a reasonable approach as the permittee has been submitting annual maintenance reports consistently and no significant maintenance/operation issues are found.

Water Quality-Based Limitations

DEP's Standard Operating Procedures (SOP) for the Clean Water Program SOP No. BPNPSM-PMT-003 version 1.8 revised November 9, 2023, indicates that in determining effluent limitations for the reissuance of a permit for a Small Flow Treatment Facility (SFTF), water quality modeling via PentoxSD and/or WQM will not be conducted.

Additional Considerations

Flow monitoring:
Flow monitoring will be continued in this renewal in accordance with DEP's SOP BPNPSM-PMT-003 version 1.8 revised November 9, 2023. The reporting frequency will be revised to one a month and sample type is Measured (for SFTF).

Carbon Biochemical Oxygen Demand ($CBOD_5$):
DEP's Standard Operating Procedure (SOP) No. BPNPSM-PMT-003, version 1.8 revised November 9, 2023 suggests average monthly BOD_5 limit to be 10.0 mg/L and instantaneous maximum (IMAX) limit to be 20.0 mg/L for new or renewal permits. It is recommended that existing limits be carried over in this renewal and BOD_5 limits be replaced by $CBOD_5$ to comply with the recent SOP. The minimum monitoring frequency will remain the same as 1/month.

Total Suspended Solids (TSS):
DEP's Standard Operating Procedure (SOP) No. BPNPSM-PMT-003, version 1.8 revised November 9, 2023 suggests average monthly TSS limit to be 10.0 mg/L and instantaneous maximum (IMAX) limit to be 20.0 mg/L. Existing limits are recommended to be carried over in this renewal. Minimum monitoring frequency will remain the same as 1/month.

Fecal Coliform:
Per SOP, a year-round average monthly limit for fecal coliform geometric mean to be 200/100 ml for all new or renewal. The existing permit has seasonal limit which is recommended to be replaced by year-round limit. Existing permit also has IMAX limit for summer and winter which is also suggested to be removed. The unit of Fecal Coliform is changed from CFU/100 ml to No./100 ml to comply with Central Office directive. Please see attached email. The minimum monitoring frequency will remain the same as 1/month.

Chesapeake Bay Requirements:
No nutrient monitoring requirement is recommended for this facility. Facilities that are designed based on a flow of less than or equal to 2,000 GPD or considered as SFTFs are exempt from the Bay requirements.

Total Maximum Daily Load (TMDL):
The discharge is located in a stream segment listed as attaining uses; therefore, no TMDL has been taken into consideration during this review.

Anti-Degradation Requirements:
The discharge is to non-special protection waters/watershed. No HQ/EV waters are impacted by this discharge. The effluent limits for this discharge have been developed to ensure that existing instream water uses and the level of water quality necessary to protect the existing uses are maintained and protected.

Other Considerations:
No Class A Wild Trout Fishery is impacted by this discharge. Considering dilution and distance from the intake, the discharge is not expected to affect the water supply.

Existing Effluent Limitations and Monitoring Requirements

Outfall 001,

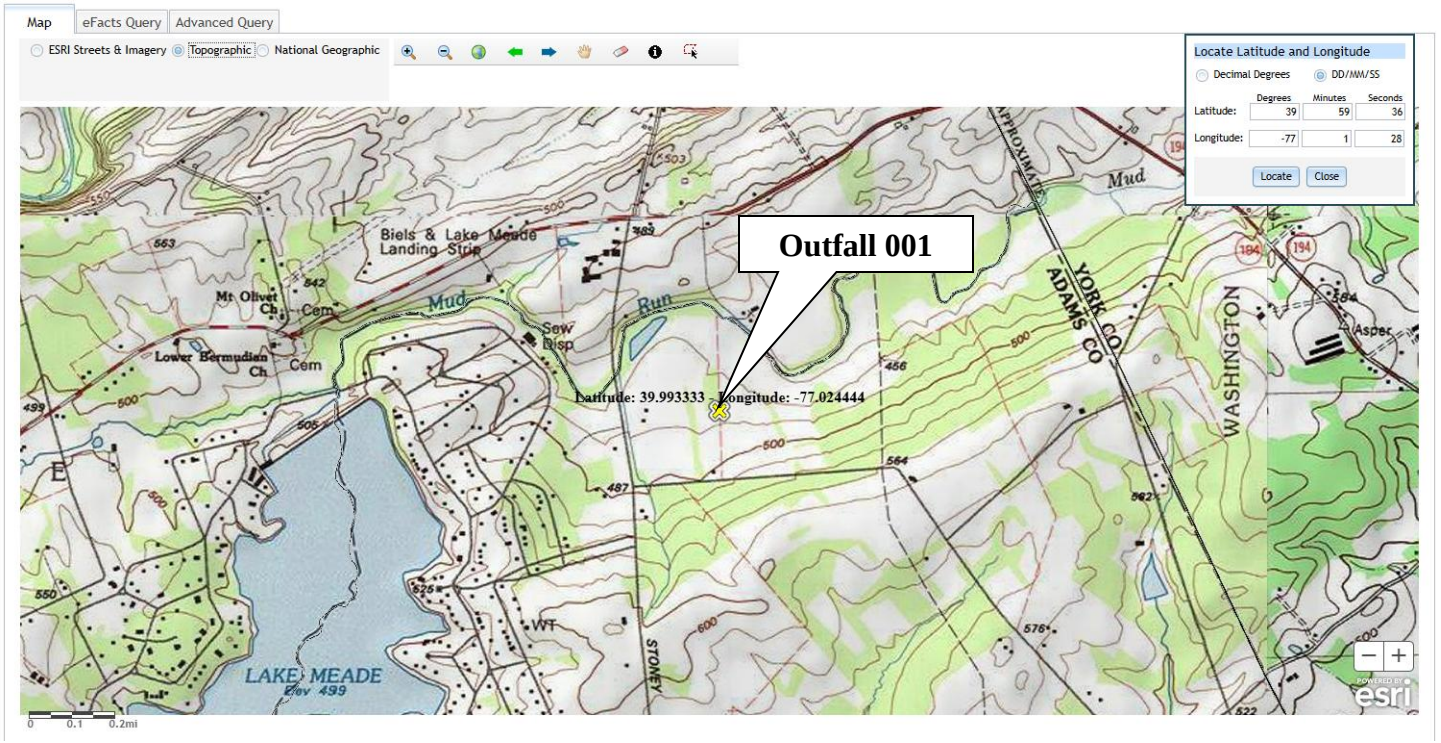
Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	1/month	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/month	Grab
$CBOD_5$	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

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/month	Measured
pH (S.U.)	XXX	XXX	6.0 Avg Mo	XXX	XXX	9.0	1/month	Grab
$CBOD_5$	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


Map
eFacts Query
Advanced Query
ESRI Streets & Imagery
Topographic
National Geographic
Locate Latitude and Longitude
Decimal Degrees
DD/MM/SS
Degrees
Minutes
Seconds
Latitude: 39 59 36
Longitude: -77 1 28
Locate
Close
Outfall 001
Latitude: 39.993333 , Longitude: -77.024444
Biels & Lake Meade Landing Strip
Mt Olivet Ch
Cem
Lower Bermudian Ch
Cem
Mud Run
Sew Disp
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Asper
LAKE MEADE
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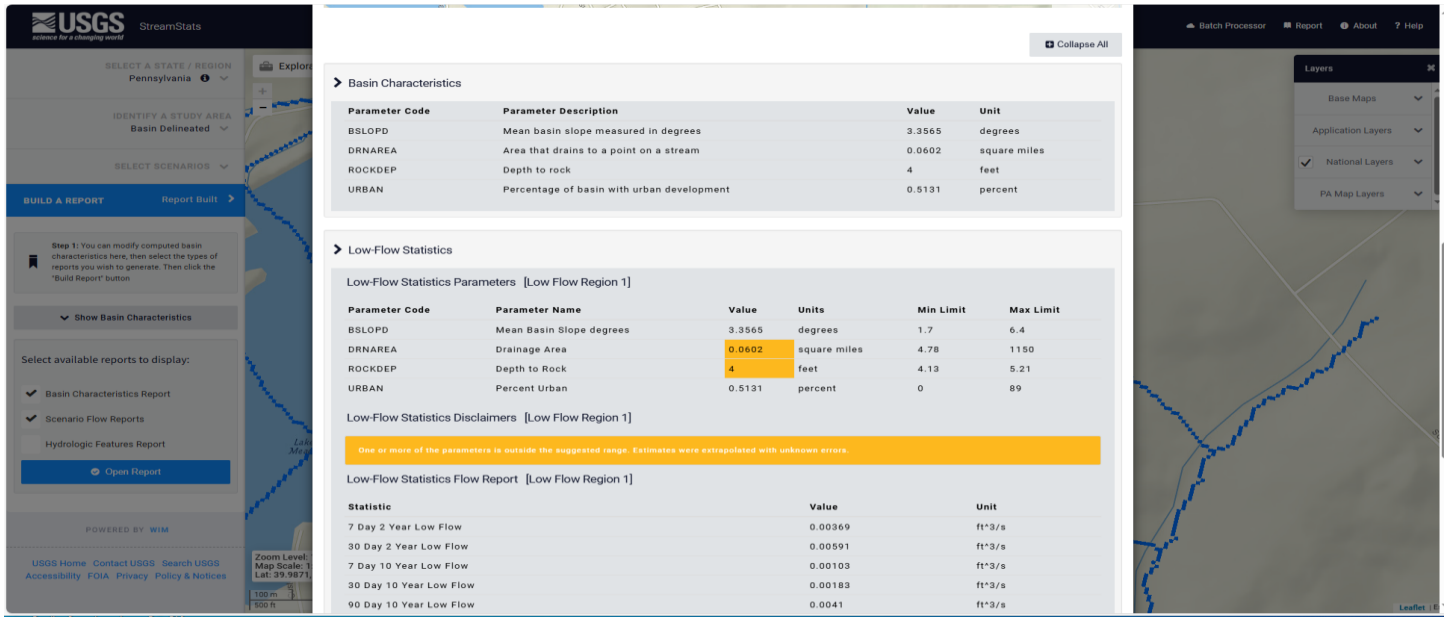
USGS
StreamStats
Collapse All
Basin Characteristics
Parameter Code | Parameter Description | Value | Unit
BSLOPD | Mean basin slope measured in degrees | 3.3565 | degrees
DRNAREA | Area that drains to a point on a stream | 0.0602 | square miles
ROCKDEP | Depth to rock | 4 | feet
URBAN | Percentage of basin with urban development | 0.5131 | percent
Low-Flow Statistics
Low-Flow Statistics Parameters [Low Flow Region 1]
Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit
BSLOPD | Mean Basin Slope degrees | 3.3565 | degrees | 1.7 | 6.4
DRNAREA | Drainage Area | 0.0602 | square miles | 4.78 | 1150
ROCKDEP | Depth to Rock | 4 | feet | 4.13 | 5.21
URBAN | Percent Urban | 0.5131 | percent | 0 | 89
Low-Flow Statistics Disclaimers [Low Flow Region 1]
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 1]
Statistic | Value | Unit
7 Day 2 Year Low Flow | 0.00369 | ft^3/s
30 Day 2 Year Low Flow | 0.00591 | ft^3/s
7 Day 10 Year Low Flow | 0.00103 | ft^3/s
30 Day 10 Year Low Flow | 0.00183 | ft^3/s
90 Day 10 Year Low Flow | 0.0041 | ft^3/s
Batch Processor
Report
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PA Map Layers