pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northcentral Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0209066**
Facility Type	**Municipal**	APS ID	**1042256**
Major / Minor	**Minor**	Authorization ID	**1360027**

Applicant and Facility Information

Applicant Name	**Roulette Township**	Facility Name	**Roulette Township STP**
Applicant Address	PO Box 253	Facility Address	50 Station Lane
	Roulette, PA 16746-0253		Roulette, PA 16746
Applicant Contact	Jeremy Morey	Facility Contact	Jeremy Morey
Applicant Phone	(814) 544-7459	Facility Phone	(814) 544-7459
Client ID	78394	Site ID	246215
Ch 94 Load Status	Not Overloaded	Municipality	Roulette Township
Connection Status	No Limitations	County	Potter
Date Application Received	June 29, 2021	EPA Waived?	Yes
Date Application Accepted	July 8, 2021	If No, Reason	

Purpose of Application: Renewal of existing NPDES permit

Summary of Review

The above applicant has submitted a renewal application for an existing discharge in Roulette Township, Potter County. The treatment plant is a 0.13 MGD plant consisting of a wet well, muffin monster/bar screen, equalization tank, aeration tanks (2), clarifiers (2), a chlorinator, chlorine contact tank, a dechlorination tank, aerobic digesters (2), sludge drying beds (2) and an emergency generator.

All relative SOPs developed by the Department for new/reissuance of NPDES permits was used during the review of this application, unless otherwise noted.

Sludge use and disposal description and location(s): McKean County Landfill

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		*Chad A. Fabian* Chad A. Fabian / Project Manager	April 12, 2022
X		*Nicholas W. Hartranft, P.E.* Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	April 19, 2022

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.13
Latitude	41º 46' 43.37"	Longitude	-78º 9' 40.46"
Wastewater Description:	Sewage Effluent		
Receiving Waters	Allegheny River	Stream Code	42122
NHD Com ID	112371197	RMI	299
Drainage Area	123	Yield (cfs/mi^2)	0.074
Q_{7-10} Flow (cfs)	9.67	Q_{7-10} Basis	USGS Stream gage 03007800
Elevation (ft)	1520	Slope (ft/ft)	n/a
Watershed No.	16-C	Chapter 93 Class.	CWF
Existing Use	CWF-MF	Existing Use Qualifier	n/a
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Attaining Use(s)		
Nearest Downstream Public Water Supply Intake	Emlenton Water Company approximately 209 miles downstream on the Allegheny River		

Changes Since Last Permit Issuance: None

Treatment Facility Summary

Treatment Facility Name: Roulette Township STP

WQM Permit No.	Amended Date
5395402	12/22/2020

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Chlorine With Dechlorination	0.13

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.13	257	Not Overloaded	Aerobic Digestion	Landfill

Compliance History	
Summary of eDMRs:	A review of the previous 12 months of eDMR data shows several effluent violations have occurred. These effluent violations are identified in the Compliance Table on page 5 of this fact sheet.
Summary of Inspections:	The most recent inspection was performed by the Department on 3/3/2021. Several violations were noted during the inspection. In addition to the effluent violations noted in the inspection report, the treatment plant had several inoperable units (blowers, skimmer, equalization tank pumps, no standby power) and did not perform the required annual total nitrogen and total phosphorus monitoring.

Other Comments:

The facility was sent a notice of violation regarding the above non-compliance issues. Additionally, the facility entered into a Consent Order & Agreement on February 23, 2022 with the Department to remedy the physical conditions and effluent violations at the facility. It is recommended that the permit be drafted, regardless of the compliance status. Should the facility need to upgrade any treatment processes, a Water Quality Management permit may be necessary.

Compliance History

DMR Data for Outfall 001 (from March 1, 2021 to February 28, 2022)

Parameter	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21
Flow (MGD) Average Monthly	0.052	0.035	0.034	0.034	0.034	0.044	0.108	0.054	0.039	0.051	0.044	0.053
Flow (MGD) Daily Maximum	0.157	0.048	0.055	0.058	0.082	0.072	0.318	0.122	0.053	0.080	0.066	0.073
pH (S.U.) Minimum	6.0	6.0	6.0	6.0	6.0	6.1	6.0	6.0	6.0	6.0	6.2	6.3
pH (S.U.) Maximum	6.9	6.5	6.7	6.9	6.6	6.6	6.8	6.7	6.6	6.7	6.9	6.9
DO (mg/L) Minimum	3.39	3.40	4.17	4.38	4.29	3.01	3.22	3.12	3.21	3.12	3.12	3.05
TRC (mg/L) Average Monthly	0.06	0.06	0.05	0.04	0.05	0.06	0.06	0.02	0.06	0.06	0.09	0.09
TRC (mg/L) Instantaneous Maximum	0.18	0.22	0.10	0.10	0.10	0.17	0.15	0.06	0.12	0.12	0.15	0.20
CBOD5 (lbs/day) Average Monthly	8.42	3.25	8	< 3.65	4	10	19.59	3.87	4.26	5.25	6.9	9.93
CBOD5 (lbs/day) Weekly Average	6.3	4.51	13.14	8.26	5.6	12.73	14.31	3.95	7.64	9.87	7.4	11.08
CBOD5 (mg/L) Average Monthly	19.42	11.15	28.22	< 12.89	14.14	27.27	21.76	8.61	13.12	12.35	18.82	22.48
BOD5 (mg/L) Raw Sewage Influent Average Monthly	183.75	322.75	251.25	242.2	279.5	274.25	301.8	194.12	247.54	190.12	299.4	263.4
TSS (lbs/day) Average Monthly	4.77	2.59	7.57	< 2.65	3.34	5.79	11.60	< 2.35	< 2.81	2.84	3.33	1.49
TSS (lbs/day) Weekly Average	4.83	3.70	19.33	4.25	0.123	19.21	19.37	4.37	11.13	4.80	3.9	2.93
TSS (mg/L) Average Monthly	11	8.9	26.7	< 9.36	11.8	15.8	< 12.88	< 5.22	< 8.64	< 6.7	9.10	3.26
TSS (mg/L) Raw Sewage Influent Average Monthly	91	177.75	231.25	227.4	195.75	177.7	250.4	333	321.4	293.5	286	304.2
TSS (mg/L) Weekly Average	20	14.8	61	17.6	16.4	32	17.6	8.90	25.2	12.8	12	6.40
Fecal Coliform (CFU/100 ml) Geometric Mean	> 59.40	69.76	65.97	< 20	< 33.53	< 1880.99	305.73	< 839.15	185.78	< 9.10	< 3.76	< 7.96

Fecal Coliform (CFU/100 ml) Daily Maximum	> 2414.6	173	185	41	158	24196	4106	24196	2419.6	20	20	< 20.0
Total Nitrogen (mg/L) Average Monthly			16.78									
Total Phosphorus (mg/L) Average Monthly			2.07									
Total Copper (mg/L) Average Monthly			0.0175			0.0650			0.0316			0.0916

Compliance History

Effluent Violations for Outfall 001, from: April 1, 2021 To: February 28, 2022

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
CBOD5	09/30/21	Avg Mo	27.27	mg/L	25	mg/L
CBOD5	12/31/21	Avg Mo	28.22	mg/L	25	mg/L
CBOD5	12/31/21	Wkly Avg	42.6	mg/L	40	mg/L
CBOD5	09/30/21	Wkly Avg	42.4	mg/L	40	mg/L
TSS	12/31/21	Wkly Avg	61	mg/L	45	mg/L
Fecal Coliform	07/31/21	Geo Mean	< 839.15	CFU/100 ml	200	CFU/100 ml
Fecal Coliform	08/31/21	Geo Mean	305.73	CFU/100 ml	200	CFU/100 ml
Fecal Coliform	02/28/22	Geo Mean	> 59.40	CFU/100 ml	2000	CFU/100 ml
Fecal Coliform	09/30/21	Geo Mean	< 1880.99	CFU/100 ml	200	CFU/100 ml
Fecal Coliform	07/31/21	Daily Max	24196	CFU/100 ml	1000	CFU/100 ml
Fecal Coliform	09/30/21	Daily Max	24196	CFU/100 ml	1000	CFU/100 ml
Fecal Coliform	08/31/21	Daily Max	4106	CFU/100 ml	1000	CFU/100 ml
Fecal Coliform	06/30/21	Daily Max	2419.6	CFU/100 ml	1000	CFU/100 ml
Fecal Coliform	02/28/22	Daily Max	> 2414.6	CFU/100 ml	10000	CFU/100 ml

Development of Effluent Limitations			
Outfall No.	001	**Design Flow (MGD)**	.13
Latitude	41º 46' 43.10"	**Longitude**	-78º 9' 40.50"
Wastewater Description:	Sewage Effluent		

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
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Comments: The above technology limitations are the existing limitations in the NPDES permit.

Water Quality-Based Limitations

The Department's WQM7.0 model allows the Department to evaluate point source discharges of dissolved oxygen (DO), carbonaceous BOD ($CBOD_5$), and ammonia-nitrogen (NH_3-N) into free-flowing streams and rivers. To accomplish this, the model simulates two basic processes: the mixing and degradation of NH_3-N in the stream and the mixing and consumption of DO in the stream due to the degradation of $CBOD_5$ and NH_3-N. Previously, WQM7.0 modeling was performed for the discharge to the Allegheny River. Per the Department's SOP for reissuance of NPDES permits, additionally modeling is not required since there has been no change to the wastewater characteristics or the receiving stream. The results of this modeling are attached. The modeling shows that existing limitations are protective of water quality standards.

Previously, a "Reasonable Potential Analysis" and PENTOXSD model run determined that monitoring was needed for total copper. The Department's toxic management spreadsheet (TMS) was used during this review to model the total copper results using the previous 12 months of sampling results. The TMS is attached. The TMS recommends monitoring for copper. The Department recommends keeping the same 1/quarter monitoring frequency. No other toxics were evaluated, as the facility does not serve any industrial users, nor are they required to test for toxics in the renewal application due to the size and nature of the discharge.

Modeling for Total Residual Chlorine (TRC) showed that the above technology standard is protective of water quality standards. The TRC model is attached. Dissolved oxygen monitoring will be required in this permit to assure water quality standards are maintained.

The discharge is not in the Chesapeake Bay Watershed. However, per the Department's SOP, monitoring for total phosphorus and total nitrogen will be required 1/year.

Best Professional Judgment (BPJ) Limitations

None

Anti-Backsliding

This draft does not propose the reduction of any existing effluent limitation.

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	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.)	XXX	XXX	6.0	XXX	9.0 Max	XXX	1/day	Grab
DO	XXX	XXX	Report	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
CBOD5	27	43	XXX	25	40	50	1/week	8-Hr Composite
BOD5 Raw Sewage Influent	XXX	XXX	XXX	Report	XXX	XXX	1/week	8-Hr Composite
TSS Raw Sewage Influent	XXX	XXX	XXX	Report	XXX	XXX	1/week	8-Hr Composite
TSS	33	49	XXX	30	45	60	1/week	8-Hr Composite
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	10000 Daily Max	XXX	1/week	Grab
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	1000 Daily Max	XXX	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	Grab
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/year	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	1/year	8-Hr Composite

Outfall 001, Continued (from 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	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Total Copper	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	8-Hr Composite

Compliance Sampling Location: 001

Other Comments:

All of the above proposed effluent limits and monitoring requirements are the same as the existing permit with the exception of e. coli. E. coli monitoring is not in the existing permit, but is recommended now based on the Department's SOP for establishing effluent limitations for sewage dischargers.

It is recommended the permit be drafted as described above.