pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0272779**
Facility Type	**Municipal**	APS ID	**975002**
Major / Minor	**Minor**	Authorization ID	**1240480**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Neshannock Creek Watershed Joint Municipal Authority**	Facility Name	**Neshannock Creek Watershed Joint Municipal Authority WWTP**
Applicant Address	369 McClelland Road	Facility Address	Along I-80
	Mercer, PA 16137-6313		Mercer, PA 16137
Applicant Contact	Patrick Suhrie	Facility Contact	
Applicant Phone	(724) 748-4808	Facility Phone	
Client ID	309243	Site ID	779757
Ch 94 Load Status	Not Overloaded	Municipality	East Lackawannock Township
Connection Status	No Limitations	County	Mercer
Date Application Received	August 15, 2018	EPA Waived?	Yes
Date Application Accepted	August 24, 2018	If No, Reason	

Purpose of Application: Renewal of a NPDES Permit for an existing discharge of treated sewage from a POTW.

Summary of Review

No changes to discharge quantity or quality were proposed as part of this permit renewal.

The facility became operational in June 2016.

There are currently no open violations listed in EFACTS for this permittee (6/11/2019).

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		Adam J. Pesek, E.I.T. / Environmental Engineering Specialist	
X		Justin C. Dickey, P.E. / Environmental Engineer Manager	

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.15
Latitude	41º 11' 46"	Longitude	80º 13' 23"
Quad Name	Mercer	Quad Code	04034
Wastewater Description:	Sewage Effluent		
Receiving Waters	Neshannock Creek (TSF)	Stream Code	35515
NHD Com ID	130031795	RMI	23.3400
Drainage Area	108.1	Yield (cfs/mi^2)	0.0558
Q_{7-10} Flow (cfs)	6.05	Q_{7-10} Basis	Avg of Cool Spring Crk near Mercer and Neshannock Crk @ East Brook
Elevation (ft)	1073	Slope (ft/ft)	0.00162
Watershed No.	20-A	Chapter 93 Class.	TSF
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		Name	

Background/Ambient Data		Data Source
pH (SU)	7.86	Median of Dept.-taken samples upstream between 7/11 and 8/1 of 2017
Temperature (°C)	25	Default (TSF)
Hardness (mg/L)		
Other: NH_3-N	0.25	Used in Mercer STP modeling

Nearest Downstream Public Water Supply Intake	PA American Water Company – Ellwood District		
PWS Waters	Beaver River	Flow at Intake (cfs)	450
PWS RMI	12.5	Distance from Outfall (mi)	34.5

Changes Since Last Permit Issuance: New, closer water supply intake becoming operational in 2019.

Other Comments:

Treatment Facility Summary

Treatment Facility Name: Neshannock Creek Watershed Joint Municipal Authority WWTP

WQM Permit No.	Issuance Date
4314402	12/30/2014

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Ultraviolet	0.15

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.15	400	Not Overloaded	Aerobic digestion	Landfill

Changes Since Last Permit Issuance:

Other Comments:

Compliance History

DMR Data for Outfall 001 (from May 1, 2018 to April 30, 2019)

Parameter	APR-19	MAR-19	FEB-19	JAN-19	DEC-18	NOV-18	OCT-18	SEP-18	AUG-18	JUL-18	JUN-18	MAY-18
Flow (MGD) Average Monthly	0.093	0.091	0.099	0.080	0.076	0.077	0.072	0.088	0.082	0.076	0.093	0.079
Flow (MGD) Weekly Average	0.105	0.176	0.118	0.111	0.095	0.080	0.079	0.110	0.089	0.090	0.104	0.088
pH (S.U.) Minimum	6.6	6.7	6.5	6.7	6.6	6.7	6.6	6.6	6.2	6.4	6.4	6.1
pH (S.U.) Maximum	7.3	7.1	7.1	7.1	7.2	7.1	7.1	7.2	7.1	7.0	7.0	7.1
CBOD5 (lbs/day) Average Monthly	4.3	< 2.9	< 7.6	< 1.8	< 3.7	< 2.9	< 2.2	< 2.4	4.8	11.2	< 2.7	3.6
CBOD5 (lbs/day) Weekly Average	6	4	14	3	< 9	5	4	3	8	14	4	5
CBOD5 (mg/L) Average Monthly	6	< 4	< 10	< 3	< 6	< 5	< 4	< 4	7	15	< 4	7
CBOD5 (mg/L) Weekly Average	9	7	17	5	< 12	9	8	5	9	21	7	12
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	149	193	168	112	110	152	119	141	143	183	143	153
BOD5 (mg/L) Raw Sewage Influent Average Monthly	218	292	235	245	215	236	228	203	213	236	210	270
TSS (lbs/day) Average Monthly	12.8	< 6.3	< 5.5	< 3.6	< 5.7	< 3.2	4.3	< 4.3	< 6.7	10.1	< 4.3	< 4.2
TSS (lbs/day) Raw Sewage Influent Average Monthly	91	86	57	51	50	55	40	84	91	73	71	34
TSS (lbs/day) Weekly Average	26.0	14.3	9.2	6.1	9.0	< 3.6	7.4	7.1	14.0	17.6	6.0	6.2
TSS (mg/L) Average Monthly	19	< 10	< 8	< 8	< 10	< 5	8	< 6	< 12	13	< 7	< 8

TSS (mg/L) Raw Sewage Influent Average Monthly	131	131	79	106	94	90	77	119	132	99	108	58
TSS (mg/L) Weekly Average	38	22	13	11	15	< 5	14	9	28	19	10	14
Fecal Coliform (CFU/100 ml) Geometric Mean	< 8	< 5	< 9	28	24	125	150	29	< 4	30	17	60
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	15	5	16	49	649	2420	2420	141	8	98	186	466
UV Intensity (µw/cm²) Average Monthly	2.0	1.7	1.9	1.8	2.1	2.6	3	3.4	4.3	4.3	4.8	3.6
Total Nitrogen (mg/L) Average Monthly		25.7			28.1			31.4			24.8	
Ammonia (lbs/day) Average Monthly							< 0.4	< 0.6	< 0.5	< 0.6	< 0.5	< 0.5
Ammonia (mg/L) Average Monthly							< 1	< 0.8	< 0.8	< 1	< 0.8	< 0.8
Total Phosphorus (mg/L) Average Monthly		3.87			6.25			6.4			3.38	

Compliance History	
Summary of DMRs:	Look good
Summary of Inspections:	Inspection done August 8, 2018. No major issues found. Garbage found at the outfall is supposedly from the county jail (which is connected to this system). According to the permittee, the jail is looking into solutions to minimize garbage leaving their site.

Other Comments:

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.15
Latitude 41º 11' 46.00" **Longitude** 80º 13' 23.00"
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: TRC limits are not applicable because chlorine disinfection is not used in treatment.

Water Quality-Based Limitations

The following limitations were determined through water quality modeling (output files attached):

Parameter	Limit (mg/l)	SBC	Model
Ammonia Nitrogen (5/1 – 10/31)	13.0	Average Monthly	WQM 7.0 Ver. 1.0b (2014).

Comments: Multiple discharge modeling done for the Mercer State Correctional Institution renewal in 2018 was referenced for this renewal (See Attachment A). No new modeling was conducted as the WQM 7.0 modeling referenced above should still be valid as there have been no substantial changes that have occurred since that modeling was done.

Monitoring is placed in the permit during winter months because the calculated limit (3 times the summer limit) is well above the BPJ tech-based limit of 25 mg/l, which is considered easily achievable.

Best Professional Judgment (BPJ) Limitations

Comments: A dissolved oxygen limit of a minimum of 4.0 mg/l and monitoring for UV intensity, total nitrogen, and total phosphorus is placed in the permit in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits."

Influent monitoring for BOD_5 and total suspended solids was placed in the permit in accordance with the Department's SOP entitled "New and Reissuance Sewage Individual NPDES Permits."

Anti-Backsliding

N/A

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	Daily Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	9.0 Daily Max	XXX	1/day	Grab
DO	XXX	XXX	4.0	XXX	XXX	XXX	1/day	Grab
CBOD5	31.3	50	XXX	25.0	40.0	50	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS	37.5	56.3	XXX	30.0	45.0	60	1/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
UV Intensity (µw/cm²)	XXX	XXX	Report	Report	XXX	XXX	1/day	Grab
Total Nitrogen	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Ammonia Nov 1 - Apr 30	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Ammonia May 1 - Oct 31	16.2	XXX	XXX	13.0	XXX	26	1/week	24-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	Daily Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Total Phosphorus	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite

Compliance Sampling Location: Outfall 001 (after disinfection)

Other Comments: