

Application Type Renewal  
Facility Type Municipal  
Major / Minor Minor

**NPDES PERMIT FACT SHEET  
INDIVIDUAL SEWAGE**

Application No. PA0036773  
APS ID 1029908  
Authorization ID 1338725

**Applicant and Facility Information**

Applicant Name	<u>Shinglehouse Borough</u>	Facility Name	<u>Shinglehouse Borough</u>
Applicant Address	<u>PO Box 156</u> <u>Shinglehouse, PA 16748-0156</u>	Facility Address	<u>149 Wolcott Avenue</u> <u>Shinglehouse, PA 16748</u>
Applicant Contact	<u>Barry Church</u>	Facility Contact	<u>Barry Church</u>
Applicant Phone	<u>(814) 697-7644</u>	Facility Phone	<u>(814) 697-7644</u>
Client ID	<u>52772</u>	Site ID	<u>248324</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Shinglehouse Borough</u>
Connection Status	<u>No Limitations</u>	County	<u>Potter</u>
Date Application Received	<u>December 29, 2020</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>January 12, 2021</u>	If No, Reason	<u></u>
Purpose of Application	<u>Renewal of existing NPDES permit.</u>		

**Summary of Review**

The above permittee has submitted an NPDES renewal application for their existing discharge of treated sewage to Honeoye Creek, in Shinglehouse Borough in Potter County, PA. The treatment plant is a 0.16 MGD plant consisting of a comminutor, bar screen, primary clarifier, two trickling filters (one synthetic media and one rock media), one secondary clarifier, a chlorinator, a chlorine contact tank, and aerobic digesters with sludge drying beds.

Unless otherwise noted, all applicable Department Standard Operating Procedures (SOPs) were used during the review of the application and in the development of this fact sheet.

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		<i>Chad A. Fabian</i> Chad A. Fabian / Project Manager	December 8, 2021
X		<i>Nicholas W. Hartranft, P.E.</i> Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	December 9, 2021

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	.16
Latitude	41° 58' 5.48"	Longitude	-78° 11' 45.16"
Quad Name	Shinglehouse	Quad Code	1.11-4
Wastewater Description: Sewage Effluent			
Receiving Waters	Honeoye Creek	Stream Code	57216
NHD Com ID	112362503	RMI	0.5
Drainage Area	51 (USGS Streamstats)	Yield (cfs/mi <sup>2</sup> )	0.06
Q <sub>7-10</sub> Flow (cfs)	3.2	Q <sub>7-10</sub> Basis	Previously determined by watershed delineation
Elevation (ft)	480	Slope (ft/ft)	0.00947
Watershed No.	16-C	Chapter 93 Class.	CWF
Existing Use	CWF	Existing Use Qualifier	n/a
Exceptions to Use	None	Exceptions to Criteria	none
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	n/a		
Source(s) of Impairment	n/a		
TMDL Status	n/a	Name	n/a
Nearest Downstream Public Water Supply Intake	NY border approximately 8 river miles downstream on Oswayo Creek		

Changes Since Last Permit Issuance: None

Compliance History	
<b>Summary of DMRs:</b>	The facility utilizes the Department's eDMR system. There has been 1 noted effluent exceedance in the past year. The exceedance occurred in February of 2021 when they reported a monthly CBOD5 average monthly value of 43 mg/l, which is above the permit limitation of 40 mg/l. The eDMR effluent results for the previous 12 months can be found on the next page.
<b>Summary of Inspections:</b>	The last inspection performed by the Department occurred on 4/27/2021. The effluent violation noted above was the only violation documented during the inspection.

Other Comments:

The Department does not believe the above violation should hold up the draft permit renewal process.

Compliance History

DMR Data for Outfall 001 (from November 1, 2020 to October 31, 2021)

Parameter	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20
Flow (MGD) Average Monthly	0.079	0.062	0.072	0.079	0.069	0.082	0.061	0.079	0.049	0.061	0.086	0.05
Flow (MGD) Daily Maximum	0.207	0.268	0.371	0.334	0.161	0.17	0.211	0.138	0.104	0.134	0.458	0.100
pH (S.U.) Minimum	7.0	7.2	6.8	7.0	7.2	7.3	7.4	7.6	7.7	7.7	8.0	7.4
pH (S.U.) Maximum	8.4	8.6	7.8	8.8	8.6	8.5	8.6	8.8	8.3	8.5	8.9	8.7
DO (mg/L) Minimum	6.01	5.17	5.62	5.32	5.36	6.51	5.53	5.76	5.64	7.07	6.62	4.02
TRC (mg/L) Average Monthly	0.29	0.42	0.3	0.24	0.46	0.35	0.49	0.35	0.33	0.36	0.42	0.48
TRC (mg/L) Instantaneous Maximum	0.74	1.48	0.78	0.49	0.46	0.9	0.91	1.2	1.13	1.02	1.04	0.98
CBOD5 (lbs/day) Average Monthly	7	10	8	10	8	14	16	26	17	16	13	13
CBOD5 (lbs/day) Weekly Average	9	17	11	17	14	25	19	50	20	21	21	19
CBOD5 (mg/L) Average Monthly	14	20	17	16	14	18	35	38	43	35	23	30
CBOD5 (mg/L) Weekly Average	23	25	20	17	20	24	45	45	49	44	25	40
BOD5 (mg/L) Raw Sewage Influent Average Monthly	112	114	162	152	110	140	188	99	139	115	93	108
TSS (lbs/day) Average Monthly	7	10	8	9	8	8	8	8	9	5	6	7
TSS (lbs/day) Weekly Average	8	17	12	13	14	11	9	12	10	7	12	12
TSS (mg/L) Average Monthly	12	21	17	15	13	12	17	14	23	10	11	17
TSS (mg/L) Raw Sewage Influent Average Monthly	192	31	45	41	30	27	59	43	51	32	31	43
TSS (mg/L) Weekly Average	20	33	23	21	20	15	20	21	27	15	14	22

**NPDES Permit Fact Sheet  
Shinglehouse Borough**

**NPDES Permit No. PA0036773**

Fecal Coliform (CFU/100 ml) Geometric Mean	13	7	25	4	4	6	131	10	47	131	11	5
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	444.8	25.2	70	4	4	30	> 2419.6	70	494.4	9678.4	260	8
Total Nitrogen (mg/L) Average Monthly											8.030	
Total Phosphorus (mg/L) Average Monthly											7.23	
Total Copper (mg/L) Average Monthly		0.0383				0.0193		0.0278			0.0300	
Total Lead (mg/L) Average Monthly		< 0.00800				< 0.00800		< 0.00800			< 0.00800	

**Compliance History**

**Effluent Violations for Outfall 001, from: December 1, 2020 To: October 31, 2021**

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
CBOD5	02/28/21	Avg Mo	43	mg/L	40	mg/L

Development of Effluent Limitations				
Outfall No.	001	Design Flow (MGD)	.07	
Latitude	41° 58' 5.20"	Longitude	-78° 11' 45.20"	
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 <sub>5</sub>	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 existing TSS and CBOD5 limitations are seasonal. See the below effluent limitation chart for the existing and proposed TSS CBOD5 limitations. These seasonal limitations were based on 40 CFR 133.105(b) and (e), allowing a properly maintained trickling filter to discharge at these levels. Prior to these seasonal limitations being established (May 9, 1995), the facility had 8 straight years of non-compliance.

**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<sub>5</sub>), and ammonia-nitrogen (NH<sub>3</sub>-N) into free-flowing streams and rivers. To accomplish this, the model simulates two basic processes: the mixing and degradation of NH<sub>3</sub>-N in the stream and the mixing and consumption of DO in the stream due to the degradation of CBOD<sub>5</sub> and NH<sub>3</sub>-N. During the previous permit renewal, WQM7.0 modeling was performed for the discharge to the Honeoye Creek. The results of this modeling are attached. Per the Department’s SOP of reissuance of NPDES permits, since there has been no change to the discharge characteristics or receiving stream, additional modeling is not required.

During last permit issuance, a “Reasonable Potential Analysis” and PENTOXSD model run determined that monitoring was needed for total lead and total copper. Previous sampling was not performed to the Department’s Quantification Limit (QL) for the parameters, which resulted in monitor and report for the two parameters. These parameters were evaluated during this review using the Department’s new Toxic Management Spreadsheet (TMS). The results of the TMS are attached. The TMS results do not require continued monitoring and reporting of total copper and total lead. Therefore, these parameters have been removed from the draft permit.

Modeling for Total Residual Chlorine (TRC) showed that the above technology standard is protective of water quality standards. The existing dissolved oxygen (DO) monitoring will be 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. Also, per the SOP, E. Coli monitoring at 1/quarter is proposed for this permit cycle.

**Best Professional Judgment (BPJ) Limitations**

None

**Anti-Backsliding**

There will be no proposed relaxation of any existing effluent limitation in the draft permit.

**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) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> 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 Nov 1 - May 31	53	80	XXX	40	60	80	1/week	8-Hr Composite
CBOD5 Jun 1 - Oct 31	33	53	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 Nov 1 - May 31	60	87	XXX	45	65	90	1/week	8-Hr Composite
TSS Jun 1 - Oct 31	40	60	XXX	30	45	60	1/week	8-Hr Composite
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
E. Coli. (No./100 ml)	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	Grab

Outfall 001 , Continued (from Permit Effective Date through Permit Expiration Date )

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
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

Compliance Sampling Location: 001

Other Comments:

All the above effluent limitations, monitoring frequencies, and sample types are the same as the existing permit with the exception of the removal of monitoring and reporting requirements for total lead and total cooper as described above.

It is recommended the permit be drafted as described above.