

Application Type New
 Facility Type Non-Municipal
 Major / Minor Minor

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0095478
 APS ID 1010796
 Authorization ID 1304643

Applicant and Facility Information

Applicant Name	<u>Jefferson Estates Inc.</u>	Facility Name	<u>Jefferson Estates STP</u>
Applicant Address	<u>PO Box 65</u> <u>Perryopolis, PA 15473-0065</u>	Facility Address	<u>Rt 201 & Jefferson Drive</u> <u>Fayette City, PA 15401</u>
Applicant Contact	<u>Lenora Pollander</u>	Facility Contact	<u>Mark Krukowsky</u>
Applicant Phone	<u>(724) 984-9238</u>	Facility Phone	<u>724-321-0917</u>
Client ID	<u>355036</u>	Site ID	<u>253424</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Jefferson Township</u>
Connection Status		County	<u>Fayette</u>
Date Application Received	<u>February 4, 2020</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>February 10, 2020</u>	If No, Reason	
Purpose of Application	<u>Renew and transfer NPDES Permit PA0095478</u>		

Summary of Review

NPDES Permit PA0095478 was previously issued by the Department to Mary Agnes Sinclair on October 3, 2014. That permit expired on October 31, 2019. Because the permit expired and a renewal application was not submitted in a timely manner, the application that was submitted is considered "new" and the corresponding application fee was required. The existing permit number however is retained. Since the previously permit expired, the permit will be renewed and transferred to the new permittee simultaneously. The permittee is now Jefferson Estates, Inc.

Refer to remainder of fact sheet for additional information.

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		David R. Ponchione / Project Manager	
X		Donald J. Leone, P.E. / Environmental Engineer Manager	

Discharge, Receiving Waters and Water Supply Information

Outfall No.	<u>001</u>	Design Flow (MGD)	<u>0.021</u>
Latitude	<u>40° 4' 41.00"</u>	Longitude	<u>-79° 48' 33.00"</u>
Quad Name	<u>Fayette City</u>	Quad Code	<u>1807</u>
Wastewater Description: <u>Treated domestic sewage.</u>			

Receiving Waters	<u>Unnamed Tributary of Little Redstone Creek</u>	Stream Code	<u>39858</u>
NHD Com ID	<u>99410416</u>	RMI	<u>1.66</u>
Drainage Area	<u>3.6</u>	Yield (cfs/mi ²)	<u>0.026</u>
Q ₇₋₁₀ Flow (cfs)	<u>0.094</u>	Q ₇₋₁₀ Basis	<u>W.R. Bulletin #12, station #03074300, Lick Run</u>
Elevation (ft)	<u></u>	Slope (ft/ft)	<u>0.01</u>
Watershed No.	<u>19-C</u>	Chapter 93 Class.	<u>WWF</u>
Exceptions to Use	<u>None</u>	Exceptions to Criteria	<u>None</u>
Assessment Status	<u>Impaired</u>		
Cause(s) of Impairment	<u>Siltation, Organic Enrichment/Low D.O.</u>		
Source(s) of Impairment	<u>Agriculture, Small Residential Runoff, Abandoned Mining</u>		
TMDL Status	<u>Name: Redstone Creek Watershed Approved 4/9/2009</u>		

Nearest Downstream Public Water Supply Intake:
Washington Township Municipal Authority

Changes Since Last Permit Issuance: None

Other Comments: None

Treatment Facility Summary

Treatment Facility Name: Jefferson Estates STP

WQM Permit No.	Issuance Date
2674404	November 25, 1974
2674404 A11	November 1, 2002
2674404 A-2	April 13, 2004

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary with ammonia removal	Aero Flow activated sludge plant	Tablet chlorination	0.015
Hydraulic Capacity (MGD)	Organic Capacity (lbs./day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.021	59	Not Overloaded	Sludge holding tank	Hauling

Changes since last permit issuance: None

Other Comments: The original sewage treatment plant was designed for a hydraulic capacity of 0.021 mgd. The plant was initially designed for 80 equivalent dwelling units, 3.5 people per home, and an average daily design flow of 75 gpcd. The plant was installed in 1972, and consists of an aeration-settling tank, a sludge holding tank, and a chlorine contact tank.

The permittee subsequently modified the sewage treatment plant in 2003 to add a comminutor with bypass bar screen, equalization tank with blower, and replaced the contact tank and flow meter.

When the plant was upgraded, there was potential to add another 23 connections to the facility. The equalization tank and new chlorine contact tank were sized based on an average daily design flow of 0.026 mgd.

The NPDES permitted flow will remain 0.021 mgd because the original units limit the capacity to that flow.

Changes Since Last Permit Issuance: None

Other Comments: None

Compliance History

DMR Data for Outfall 001 (from January 1, 2019 to December 31, 2019)

Parameter	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19	MAY-19	APR-19	MAR-19	FEB-19	JAN-19
Flow (MGD) Average Monthly	0.016	0.017	0.013	0.013	0.012	0.013	0.014					
pH (S.U.) Minimum	7.2	7.3	7.3	7.3	7.2	7.2	7.3					
pH (S.U.) Maximum	7.5	7.5	7.4	7.5	7.4	7.5	7.5					
DO (mg/L) Minimum	4.2	4.1	4.1	4.2	4.2	4.2	4.2					
TRC (mg/L) Average Monthly	0.4	0.4	0.4	0.40	0.4	0.5	0.5					
TRC (mg/L) Instantaneous Maximum	0.6	0.7	0.7	0.60	0.6	0.6	0.6					
CBOD5 (mg/L) Average Monthly	5.5	19.65	3.0	3.0	3.00	3.0	3.0					
CBOD5 (mg/L) Instantaneous Maximum	6.5	36.3	3.0	3.0	3.00	3.0	3.0					
TSS (mg/L) Average Monthly	5.1	8.7	3.5	11.0	3.60	4.8	7.5					
TSS (mg/L) Instantaneous Maximum	9.2	15.8	4.0	13.0	5.20	4.8	11.2					
Fecal Coliform (CFU/100 ml) Geometric Mean	10	845	53	24	50	323	150					
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	24195	13000	274	52	50	492	452					
Ammonia (mg/L) Average Monthly	1.84	0.85	0.107	0.266	0.17	2.98	0.199					
Ammonia (mg/L) Instantaneous Maximum	0.372	1.6	0.1140	0.333	0.240	4.96	0.215					

Compliance History

Effluent Violations for Outfall 001, from: February 1, 2019 To: December 31, 2019

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Fecal Coliform	07/31/19	Geo Mean	323	CFU/100 ml	200	CFU/100 ml
Fecal Coliform	11/30/19	IMAX	13000	CFU/100 ml	10000	CFU/100 ml
Fecal Coliform	12/31/19	IMAX	24195	CFU/100 ml	10000	CFU/100 ml

Summary of Inspections: Facility had recent effluent violations for Fecal Coliform as shown above. Because this permit is being transferred to a new owner, Operations is not pursuing the 2019 violations. It appears the chlorinator was not adequately maintained which is an easy fix to the violations. If the plant needed a major repair to correct violations, the new permittee would be informed in the draft cover letter so that they are aware of the situation. There were earlier violations in 2015-2016 which were addressed with a Notice of Violation.

Development of Effluent Limitations

Outfall No. 001	Design Flow (MGD) 0.021
Latitude 40° 4' 41.00"	Longitude -79° 48' 33.00"
Wastewater Description: Treated domestic sewage	

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 limits are consistent with the previous NPDES permit.

Water Quality-Based Limitations

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

Parameter	Limit (mg/l)	SBC	Model
Ammonia-Nitrogen	5.0	Average Monthly	WQAM63

The Ammonia-Nitrogen limitations are the same as the previous NPDES permit.

Best Professional Judgement (BPJ) Limitations

Comments: According to the SOP-Establishing Effluent Limitations for Individual Sewage Permits, the minimum Dissolved Oxygen standard in Chapter 93 for warm water fisheries of 4.0 mg/l should be established as a minimum BPJ limit. This is applied for an activated sludge system. This limit was previously imposed on the facility.

Additional Considerations

According to the SOP-Establishing Effluent Limitations for Individual Sewage Permits, sewage discharges with design flows > 2,000 gpd will include monitoring, at a minimum, for Total Nitrogen and Total Phosphorus in new and reissued permits. The annual monitoring requirements for TN and TP are consistent with the previous permit.

The monitoring requirements for Ammonia Nitrogen, CBOD₅, TSS, and Fecal Coliform are consistent with Table 6-3 of the Permits Writers Manual and are consistent with the previous permit.

According to the SOP-New and Reissuance Individual Sewage NPDES Permits, Section IV, paragraph E.2, a monitoring frequency of 1/day for the pH, Dissolved Oxygen, and TRC parameters should be specified. These parameters were previously required to be sampled 1/day when the permit was renewed on October 3, 2014. DEP received a request after that final permit was issued requesting the 1/day monitoring frequencies for pH, dissolved oxygen, and total residual chlorine be reduced due to the expense to perform weekend sampling. The Department agreed to reduce the frequency for each of these parameters to 1/weekday. NPDES Permit PA0095478 was amended on December 15, 2014 to reflect these changes. Ms. Sinclair was informed by way of the permit amendment cover letter to plan accordingly for 1/day monitoring for the next renewal cycle. Therefore, this renewal/permit transfer will impose the daily sampling requirements.

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 , 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	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	0.021	XXX	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50.0	2/month	Grab
TSS	XXX	XXX	XXX	30.0	XXX	60.0	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	15.0	XXX	30.0	2/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	5.0	XXX	10.0	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab

Compliance Sampling Location: Outfall 001



PA0095478 Jefferson
Estates PR