

Application Type Renewal
Facility Type Municipal
Major / Minor Minor

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application No. PA0056847
APS ID 1116957
Authorization ID 1490720

Applicant and Facility Information

Applicant Name	<u>East Rockhill Township</u>	Facility Name	<u>East Rockhill Township WWTP</u>
Applicant Address	<u>1622 Ridge Road</u> <u>Perkasie, PA 18944</u>	Facility Address	<u>506 Branch Road</u> <u>Perkasie, PA 18944</u>
Applicant Contact	<u>Marianne Morano</u>	Facility Contact	<u>Kevin Franks</u>
Applicant Phone	<u>(215) 257-5167</u>	Facility Phone	<u>(267) 446-2728</u>
Client ID	<u>247961</u>	Site ID	<u>464023</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>East Rockhill Township</u>
Connection Status	<u>No Limitations</u>	County	<u>Bucks</u>
Date Application Received	<u>June 25, 2024</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u></u>	If No, Reason	<u></u>
Purpose of Application	<u>Permit Renewal.</u>		

Summary of Review

The applicant requests renewal of an NPDES permit to discharge 113,000 GPD of treated sewage from the sewage treatment plant into East Branch Perkiomen Creek. The treatment plant serves 350 residential units in East Rockhill Township. The treated effluent will continue to be discharged into the East Branch Perkiomen Creek. At the point of discharge the stream is classified as Trout Stocking Fishery (TSF), and Migratory Fishery (MF).

The treatment plant consists of an influent pump station with grinder, flow equalization, dual activated sludge extended aeration trains, an alum system for phosphorus removal, a UV disinfection system, effluent flow meter, carbon odor control system, back-up power generator, sludge holding and reed beds. Sludge generated at the WWTP is handled via a holding tank and reed beds. The sludge is hauled off-site for disposal at various landfills.

There are no changes to the wastewater characteristics, receiving waters or effluent flow from last renewal. The discharge is generally in compliance with the permit limits. Effluent limits for all the parameters will remain the same in this permit renewal. We have included quarterly monitoring for E. Coli in this permit renewal which is in consistent with SOP.

Approve	Deny	Signatures	Date
X		<i>Ketan Thaker</i> Ketan Thaker / Project Manager	10/22/2024
X		<i>Pravin Patel</i> Pravin C. Patel, P.E. / Environmental Engineer Manager	10/22/2024

Summary of Review

Following are effluent limits:

Parameters	Effluent Limits (AV. MO. mg/l)	Basis
CBOD5 (5/1 to 10/31)	20	WQM Model
CBOD5 (11/1 to 4/30)	25	WQM Model
Total Suspended Solids	30	25 Pa Code 92a.47
Ammonia as N (5/1-10/31)	10	WQM Model
Ammonia as N (11/1-4/30)	15	WQM Model
Phosphorus as P	2.0	25 Pa Code 92a.61
Fecal Coliform (#/100ml)	200 #/100 ml	25 Pa Code 92a.47
Dissolved Oxygen	5.0 Minimum	WQM Model
pH (STD Units)	6.0 – 9.0 SU at all times	25 Pa Code 92a.47
UV Intensity	Report	SOP
Total Residual Chlorine	0.5	25 Pa Code 92a.47-48
Total Dissolved Solids	Report	DRBC
Total Nitrogen	Report	25 Pa Code 92a.61
E. Coli	Report	25 Pa Code 92a.47

Act-14 Notification to Bucks County Commissioners on June 21, 2024.

Sludge use and disposal description and location(s): The sludge is hauled off-site for disposal at different landfills.

WQM 7.0 Effluent Limits

<u>SWP Basin</u>		<u>Stream Code</u>		<u>Stream Name</u>			
03E		1168		EAST BRANCH PERKIOMEN CREEK			
RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
15.900	E Rockhill WWTP	PA0056847	0.000	CBOD5	20		
				NH3-N	10	20	
				Dissolved Oxygen			5

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
03E	1168	EAST BRANCH PERKIOMEN CREEK

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
15.90	E Rockhill WWTP	20	20	10	10	5	5	0	0

WQM 7.0 D.O.Simulation

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>			
03E	1168	EAST BRANCH PERKIOMEN CREEK			
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>		<u>Analysis pH</u>	
15.900	0.113	20.084		7.000	
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>		<u>Reach Velocity (fps)</u>	
34.137	0.735	46.427		0.415	
<u>Reach CBOD5 (mg/L)</u>	<u>Reach Kc (1/days)</u>	<u>Reach NH3-N (mg/L)</u>		<u>Reach Kn (1/days)</u>	
2.30	0.212	0.17		0.705	
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>		<u>Reach DO Goal (mg/L)</u>	
8.189	35.856	Tsivoglou		6	
<u>Reach Travel Time (days)</u>	Subreach Results				
0.044	TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)	
	0.004	2.30	0.17	8.23	
	0.009	2.30	0.17	8.23	
	0.013	2.30	0.17	8.23	
	0.018	2.29	0.17	8.23	
	0.022	2.29	0.17	8.23	
	0.026	2.29	0.16	8.23	
	0.031	2.29	0.16	8.23	
	0.035	2.28	0.16	8.23	
	0.040	2.28	0.16	8.23	
	0.044	2.28	0.16	8.23	

WQM 7.0 Modeling Specifications

Parameters	D.O.	Use Inputted Q1-10 and Q30-10 Flows	<input checked="" type="checkbox"/>
WLA Method	EMPR	Use Inputted W/D Ratio	<input type="checkbox"/>
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	<input type="checkbox"/>
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	<input checked="" type="checkbox"/>
D.O. Saturation	90.00%	Use Balanced Technology	<input checked="" type="checkbox"/>
D.O. Goal	6		

WQM 7.0 Hydrodynamic Outputs

<u>SWP Basin</u>		<u>Stream Code</u>		<u>Stream Name</u>								
03E		1168		EAST BRANCH PERKIOMEN CREEK								
RMI	Stream Flow	PWS With	Net Stream Flow	Disc Analysis Flow	Reach Slope	Depth	Width	W/D Ratio	Velocity	Reach Trav Time	Analysis Temp	Analysis pH
	(cfs)	(cfs)	(cfs)	(cfs)	(ft/ft)	(ft)	(ft)		(fps)	(days)	(°C)	
Q7-10 Flow												
15.900	10.25	0.00	10.25	.1748	0.01263	.735	34.14	46.43	0.42	0.044	20.08	7.00
Q1-10 Flow												
15.900	6.56	0.00	0.00	.1748	0.01263	NA	NA	NA	0.00	0.000	0.00	0.00
Q30-10 Flow												
15.900	13.94	0.00	0.00	.1748	0.01263	NA	NA	NA	0.00	0.000	0.00	0.00

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
03E	1168	EAST BRANCH PERKIOMEN CREEK	15.900	310.00	25.00	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary		Stream	
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	Temp (°C)	pH	Temp (°C)	pH
Q7-10	0.100	0.00	10.25	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
E Rockhill WWTP	PA0056847	0.0000	0.1130	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	20.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	10.00	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
03E	1168	EAST BRANCH PERKIOMEN CREEK	15.600	290.00	29.13	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary		Stream	
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	Temp (°C)	pH	Temp (°C)	pH
Q7-10	0.100	0.00	16.66	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Summary of Review

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.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.113
Latitude	40° 22' 22.83"	Longitude	-75° 16' 56.20"
Quad Name	Telford	Quad Code	1643
Wastewater Description: Sewage Effluent			
Receiving Waters	East Branch Perkiomen Creek (TSF, MF)	Stream Code	1168
NHD Com ID	25999600	RMI	15.9
Drainage Area	25 sq. mi	Yield (cfs/mi ²)	0.1
Q ₇₋₁₀ Flow (cfs)	10.25	Q ₇₋₁₀ Basis	
Elevation (ft)	310	Slope (ft/ft)	
Watershed No.	3-E	Chapter 93 Class.	TSF, MF
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)			
Temperature (°F)			
Hardness (mg/L)			
Other:			
Nearest Downstream Public Water Supply Intake			
PWS Waters		Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	

Treatment Facility Summary				
Treatment Facility Name: East Rockhill Township WWTP				
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Ext. Aeration	Ultraviolet	0.113
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.113		Not Overloaded		

Compliance History

DMR Data for Outfall 001 (from September 1, 2023 to August 31, 2024)

Parameter	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23
Flow (MGD) Average Monthly	0.05025	0.04905	0.04963	0.04704	0.05172	0.05901 1	0.05423	0.06134	0.0639	0.05322	0.05167	0.05434
Flow (MGD) Daily Maximum	0.08483	0.07664	0.07945	0.06716	0.11003	0.10908	0.0691	0.10449	0.13883	0.08709	0.09064	0.07958
pH (S.U.) Instantaneous Minimum	6.8	6.4	6.8	6.6	6.6	6.8	6.8	6.9	6.8	7.0	6.6	6.9
pH (S.U.) Instantaneous Maximum	7.6	7.5	7.3	7.3	7.3	7.2	7.6	8.6	7.4	7.8	6.9	7.5
DO (mg/L) Instantaneous Minimum	5.6	5.4	5.4	5.6	5.4	5.3	5.6	5.8	5.5	5.3	5.3	5.4
TRC (mg/L) Average Monthly	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
TRC (mg/L) Instantaneous Maximum	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
CBOD5 (lbs/day) Average Monthly	< 0.6	0.9	< 0.8	3.0	2.0	1.0	2.0	1.0	2.0	1.0	< 1.0	1.0
CBOD5 (lbs/day) Raw Sewage Influent Average Monthly	62	92.0	69	115	77.0	81	118	116	141	104	94	95.0
CBOD5 (lbs/day) Weekly Average	< 0.6	1.0	0.9	3.0	2.0	1.0	2.0	1.0	2.0	2.0	< 1.0	1.0
CBOD5 (mg/L) Average Monthly	< 2.0	2.0	< 3.0	7.0	5.0	5.0	4.0	3.0	4.0	3.0	< 2.0	3.0
CBOD5 (mg/L) Raw Sewage Influent Average Monthly	207	239	229	276	183	236	260	278	296	273	196	228
CBOD5 (mg/L) Weekly Average	< 2.0	2.0	3.0	10.0	6.0	7.0	4.0	4.0	4.0	4.0	< 2.0	3.0

**NPDES Permit Fact Sheet
East Rockhill Township WWTP**

NPDES Permit No. PA0056847

BOD5 (lbs/day) Raw Sewage Influent Average Monthly	84	135	65	132	86.0	74	162	134	129	85	96	97.0
BOD5 (mg/L) Raw Sewage Influent Average Monthly	281	421	216	310	213	222	351	322	271	234	201	230
TSS (lbs/day) Average Monthly	2.0	3.0	2.0	15	6.0	4.0	< 0.9	2.0	7.0	1.0	0.7	4.0
TSS (lbs/day) Raw Sewage Influent Average Monthly	61	76.0	63	99	81	69	94	110	118	92	55	110
TSS (lbs/day) Weekly Average	2.0	4.0	3.0	23	8.0	5.0	< 0.4	2.0	10.0	2.0	1.0	5.0
TSS (mg/L) Average Monthly	7.0	7.0	8.0	40	14	15	< 2.0	5.0	14.0	3.0	2.0	9.0
TSS (mg/L) Raw Sewage Influent Average Monthly	204	217	206	249	190	211	210	263	250	245	128	259
TSS (mg/L) Weekly Average	7.0	8.0	8.0	65	14	26	< 1.0	6.0	22.0	4.0	2.0	10.0
Total Dissolved Solids (mg/L) Daily Maximum			609			988			917			1010
Fecal Coliform (No./100 ml) Geometric Mean	6.0	< 108	< 2.0	< 12	< 2.0	12	38	< 13	< 17	< 2.0	< 6.0	< 2.0
Fecal Coliform (No./100 ml) Instantaneous Maximum	11	5800	2.0	78	< 2.0	15	64	90	139	< 2.0	16	< 2.0
UV Intensity (mW/cm²) Daily Minimum	4.1	2.7	1.0	1.0	1.0	1.2	1.0	1.0	1.0	1.0	1.0	1.0
Total Nitrogen (mg/L) Average Monthly	< 46.9	< 49.5	< 49.7	< 54.99	< 61.12	< 38.27	< 35.26	< 39.7	< 36.67	< 46.16	< 41.82	< 46.47
Ammonia (lbs/day) Average Monthly	0.01	0.06	0.03	0.2	0.01	0.3	1.9	0.2	0.10	< 0.5	0.01	0.06
Ammonia (mg/L) Average Monthly	0.01	0.1	< 1.0	1.0	0.1	1.0	5.0	1.0	< 1.0	< 1.0	< 1	0.01

**NPDES Permit Fact Sheet
East Rockhill Township WWTP**

NPDES Permit No. PA0056847

Total Phosphorus (lbs/day) Average Monthly	0.6	0.7	0.6	1.1	0.8	0.4	0.5	0.5	0.7	0.5	0.9	0.5
Total Phosphorus (mg/L) Average Monthly	1.9	2.0	2.0	3.0	2.0	1.4	1.0	1.1	1.6	1.4	2.0	1.2

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" (386-0400-001), 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 Daily Max	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	See Permit	Grab
CBOD5 Nov 1 - Apr 30	24	38	XXX	25	40	50	2/month	24-Hr Composite
CBOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/month	Grab
CBOD5 May 1 - Oct 31	19	28	XXX	20	30	40	2/month	24-Hr Composite
BOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/month	Grab
TSS Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/month	Grab
TSS	28	42	XXX	30	45	60	2/month	24-Hr Composite
Total Dissolved Solids	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab

Outfall001 , 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		
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
UV Intensity (mW/cm ²)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Metered
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Ammonia Nov 1 - Apr 30	14.1	XXX	XXX	15	XXX	30	2/month	24-Hr Composite
Ammonia May 1 - Oct 31	9.4	XXX	XXX	10	XXX	20	2/month	24-Hr Composite
Total Phosphorus	1.9	XXX	XXX	2.0	XXX	4	2/month	24-Hr Composite



Approve	Deny	Signatures	Date
X		<i>Ketan Thaker</i> Ketan Thaker / Project Manager	10/22/2024
X		<i>Pravin Patel</i> Pravin C. Patel, P.E. / Environmental Engineer Manager	10/22/2024