

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

**NPDES PERMIT FACT SHEET  
INDIVIDUAL SEWAGE**

Application No. PA0033294  
APS ID 832191  
Authorization ID 1251427

**Applicant and Facility Information**

Applicant Name	<u>South Franklin Township</u>	Facility Name	<u>Franklin Manor STP</u>
Applicant Address	<u>100 Municipal Road</u> <u>Washington, PA 15301-9000</u>	Facility Address	<u>70 Security Drive</u> <u>Washington, PA 15301</u>
Applicant Contact	<u>Mr. Tyler Linick</u>	Facility Contact	<u>Same as Applicant</u>
Applicant Phone	<u>724.225.4828</u>	Facility Phone	<u>Same as Applicant</u>
Client ID	<u>92076</u>	Site ID	<u>252733</u>
Ch 94 Load Status	<u></u>	Municipality	<u>South Franklin Township</u>
Connection Status	<u></u>	County	<u>Washington</u>
Date Application Received	<u>November 5, 2018</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>November 11, 2018</u>	If No, Reason	<u></u>
Purpose of Application	<u>Application for Renewal of an Existing NPDES Permit.</u>		

**Summary of Review**

The applicant has applied for a renewal of NPDES Permit No. PA0033294, which was previously issued by the Department on May 15, 2014. That permit expired on May 31, 2019.

Please note that this is a privately owned facility that is operated by the Municipality of South Franklin Township.

WQM Permit No. 6384416 authorized construction of the plant to treat an average design flow of 0.06 mgd. The existing treatment process consists of a bar screen, a flow equalization tank, 2 aeration tanks, 2 final clarifiers, a chlorine contact tank with tablet chlorinator, and an aerobic sludge digester.

The receiving stream, Unnamed Tributary to Chartiers Creek, is classified as a WWF and is located in State Watershed No. 20-F.

The applicant has complied with Act 14 Notifications and no comments were received.

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		/s/ William C. Mitchell, E.I.T. / Project Manager	March 23, 2020
X		/s/ Donald J. Leone, P.E. / Environmental Engineer Manager	March 24, 2020

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	<u>001</u>	Design Flow (MGD)	<u>0.06</u>
Latitude	<u>40° 6' 18.00"</u>	Longitude	<u>-80° 17' 36.00"</u>
Quad Name	<u>Prosperity</u>	Quad Code	<u>1803</u>
Wastewater Description: <u>Sewage Effluent</u>			
Receiving Waters	<u>Unnamed Tributary to Chartiers Creek (WWF)</u>	Stream Code	<u>37159</u>
NHD Com ID	<u>99694836</u>	RMI	<u>0.17</u>
Drainage Area	<u>0.299</u>	Yield (cfs/mi <sup>2</sup> )	<u>0.034</u>
Q <sub>7-10</sub> Flow (cfs)	<u>0.0102</u>	Q <sub>7-10</sub> Basis	<u>Adjusted yield for Chartiers Creek</u>
Elevation (ft)	<u></u>	Slope (ft/ft)	<u></u>
Watershed No.	<u>20-F</u>	Chapter 93 Class.	<u>WWF</u>
Existing Use	<u></u>	Existing Use Qualifier	<u></u>
Exceptions to Use	<u></u>	Exceptions to Criteria	<u></u>
Assessment Status	<u>Not Assessed</u>		
Cause(s) of Impairment	<u></u>		
Source(s) of Impairment	<u></u>		
TMDL Status	<u>Final, Final</u>	Name	<u>Chartiers Creek, &amp; Chartiers Creek Watershed</u>
Background/Ambient Data		Data Source	
pH (SU)	<u></u>		<u></u>
Temperature (°F)	<u></u>		<u></u>
Hardness (mg/L)	<u></u>		<u></u>
Other:	<u></u>		<u></u>
Nearest Downstream Public Water Supply Intake	<u>Western Pennsylvania Water Company</u>		
PWS Waters	<u></u>	Flow at Intake (cfs)	<u></u>
PWS RMI	<u></u>	Distance from Outfall (mi)	<u></u>

Changes Since Last Permit Issuance: NONE

Other Comments:

The discharge is to an UNT to Chartiers Creek, which flows into the Chartiers Creek Watershed that has a Final TMDL and is impaired by PCB and Chlordane. No WLAs have been developed for this sewage discharge and they are not expected to contribute to the stream impairment for these pollutants.

The discharge is to an UNT to Chartiers Creek, which flows into the Chartiers Creek Watershed that has a Final TMDL and is impaired by metals and pH. This sewage discharge is not expected to contribute to the stream impairment for which abandoned mine drainage is source of such impairment. No WLAs have been developed for this sewage discharge and they are not expected to contribute to the stream impairment for these pollutants.

Treatment Facility Summary				
<b>Treatment Facility Name:</b> Franklin Manor STP				
<b>WQM Permit No.</b>	<b>Issuance Date</b>			
6384416	Multiple			
<b>Waste Type</b>	<b>Degree of Treatment</b>	<b>Process Type</b>	<b>Disinfection</b>	<b>Avg Annual Flow (MGD)</b>
Sewage	Tertiary	Extended Aeration	Tablet Chlorinator	0.06
<b>Hydraulic Capacity (MGD)</b>	<b>Organic Capacity (lbs/day)</b>	<b>Load Status</b>	<b>Biosolids Treatment</b>	<b>Biosolids Use/Disposal</b>
0.06	114.0___	Not overloaded	Aerobic Sludge Digester	Liquid Asset Disposal, Permit No. WV0014

Changes Since Last Permit Issuance: NONE

**Compliance History**

Other Comments: An Operations Compliance Check for this facility was requested, and will be included in the Fact Sheet Addendum.

**Development of Effluent Limitations**

<b>Outfall No.</b>	001	<b>Design Flow (MGD)</b>	0.06
<b>Latitude</b>	40° 6' 18.00"	<b>Longitude</b>	-80° 17' 36.00"
<b>Wastewater Description:</b> 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)

**Water Quality-Based Limitations**

The following limitations were determined through water quality modeling:

Parameter	Limit (mg/l)	SBC	Model
CBOD <sub>5</sub>	10	Average Monthly	WQAM 63
Total Residual Chlorine	0.1	Average Monthly	TRC_CALC
Dissolved Oxygen	5.0	Minimum	WQAM 63
Ammonia-Nitrogen May 1 – Oct 31	1.4	Average Monthly	WQAM 63

Comments: The Franklin Manor STP is one of many facilities discharging to either Chartiers Creek or its tributaries. The possible interactions between six sewage treatment plants were considered through the use of WQAM63. The other five STP's include in the evaluation are:

- Joe Walker Elementary School STP (PA0096121)
- Brookhaven MHP STP (PA0093076)
- Ridgecrest MHP STP (PA0042820)
- Airways MHP STP (PA0094102)
- Treehaven MHP STP (PA0095834)

The discharge was previously modeled using WQM6.3 to evaluate CBOD<sub>5</sub>, Ammonia Nitrogen and Dissolved Oxygen parameters and there has been no changes to the discharge or the receiving stream. Therefore, it is not necessary to remodel these parameters using WQM 7.0, and the existing limitations will be re-imposed.

For the modeling results, refer to the Fact Sheet for NPDES Permit No. PA 0096121, McGuffey School District, Joe Walker Elementary School STP, located in South Franklin Township, Washington County.

Per Department Policy, Remodeling Total Residual Chlorine using recommended in-stream and discharge chlorine demand default values of 0.3 mg/l and 0 mg/l is not necessary because the existing TRC limit is at or below 0.1 mg/l. A TRC limit of 0.1 mg/l will again be imposed on this facility.

**Best Professional Judgment (BPJ) Limitations**

Comments: N/A

**Anti-Backsliding**

N/A

**Additional Considerations:**

For pH, Dissolved Oxygen (DO) and Total Residual Chlorine (TRC), a monitoring frequency 1/day has been imposed. In general, less frequent monitoring may be established only when the permittee demonstrates that there will be no discharge on days where monitoring is not required.

Nutrient monitoring is required to establish the nutrient load from the waste water treatment facility and the impacts that load may have on the quality of the receiving stream(s). A 1/year monitor and report requirement for Total N & Total P has been added to the permit as per Chapter 92.a.61.

Monitoring frequency for the proposed effluent limits are based upon Table 6-3, Self-Monitoring Requirements for Sewage Dischargers, from the Departments Technical Guidance for the Development and Specification of Effluent Limitations.

**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) and/or BPJ.

**Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date**

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly		Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	0.06	XXX	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.1	XXX	0.3	1/day	Grab
CBOD5	XXX	XXX	XXX	10	XXX	20	2/month	Grab
Total Suspended Solids	XXX	XXX	XXX	25	XXX	50	2/month	Grab
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/month	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/month	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly		Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	1.4	XXX	2.8	2/month	Grab
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	2.8	XXX	5.6	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab

Compliance Sampling Location: Outfall 001

Copy of TRC\_CALC

TRC EVALUATION

0.0102	= Q stream (cfs)	0.5	= CV Daily
0.08	= Q discharge (MGD)	0.5	= CV Hourly
4	= no. samples	0.995	= AFC_Partial Mix Factor
0.8	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
1.4	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
	= % Factor of Safety (FOS)		=Decay Coefficient (K)
Source	Reference	AFC Calculations	Reference CFC Calculations
TRC	1.3.2.iii	WLA_afc = 0.109	1.3.2.iii WLA_cfc = 0.100
PENTOXSD TRG	5.1a	LTAMULT_afc = 0.373	5.1c LTAMULT_cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc = 0.040	5.1d LTA_cfc = 0.058
Source	Effluent Limit Calculations		
PENTOXSD TRG	5.1f	AML_MULT = 1.720	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.070	AFC
		INST MAX LIMIT (mg/l) = 0.163	
WLA_afc	$(.019/e^{-k \cdot AFC\_tc}) + [(AFC\_Yc \cdot Qs \cdot 0.019 / Qd \cdot e^{-k \cdot AFC\_tc}) \dots + Xd + (AFC\_Yc \cdot Qs \cdot Xs / Qd)] \cdot (1 - FOS / 100)$		
LTAMULT_afc	$EXP((0.5 \cdot LN(cvh^2 + 1)) - 2.326 \cdot LN(cvh^2 + 1)^{0.5})$		
LTA_afc	wla_afc * LTAMULT_afc		
WLA_cfc	$(.011/e^{-k \cdot CFC\_tc}) + [(CFC\_Yc \cdot Qs \cdot 0.011 / Qd \cdot e^{-k \cdot CFC\_tc}) \dots + Xd + (CFC\_Yc \cdot Qs \cdot Xs / Qd)] \cdot (1 - FOS / 100)$		
LTAMULT_cfc	$EXP((0.5 \cdot LN(cvd^2 / no\_samples + 1)) - 2.326 \cdot LN(cvd^2 / no\_samples + 1)^{0.5})$		
LTA_cfc	wla_cfc * LTAMULT_cfc		
AML_MULT	$EXP(2.326 \cdot LN((cvd^2 / no\_samples + 1)^{0.5}) - 0.5 \cdot LN(cvd^2 / no\_samples + 1))$		
AVG MON LIMIT	MIN(BAT_BPJ, MIN(LTA_afc, LTA_cfc) * AML_MULT)		
INST MAX LIMIT	1.5 * ((av_mon_limit / AML_MULT) / LTAMULT_afc)		