

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

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0095150
APS ID 982900
Authorization ID 1255310

Applicant and Facility Information

Applicant Name	<u>Elizabeth Estates MHP, LLC</u>	Facility Name	<u>Elizabeth Estates MHP STP</u>
Applicant Address	<u>630 Old Brick Road</u> <u>West Alexander, PA 15376</u>	Facility Address	<u>Sea Breeze Drive</u> <u>Bunola, PA 15020</u>
Applicant Contact	<u>Mr. Joseph Sangimino</u>	Facility Contact	<u>Same as Applicant</u>
Applicant Phone	<u>(724) 799-0993</u>	Facility Phone	<u>Same as Applicant</u>
Client ID	<u>346350</u>	Site ID	<u>243474</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Forward Township</u>
Connection Status	<u>No Limitations</u>	County	<u>Allegheny</u>
Date Application Received	<u>December 13, 2018</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>December 14, 2018</u>	If No, Reason	<u></u>
Purpose of Application	<u>Application for Transfer and Renewal of an Existing NPDES Permit.</u>		

Summary of Review

The applicant has applied for a renewal and transfer of NPDES Permit No. PA0095150, which was previously issued by the Department on May 14, 2014. That permit expired on May 31, 2019. The previous permit was issued to FMJ Enterprises, LLC.



WQM Permit No. 0284407, issued on April 24, 1985, approved construction of an 84,000 gpd capacity sewage treatment plant. That were to be constructed in three separate phases, each phase had design flow 0.028 MGD. The current capacity of the STP remains at 0.028 MGD. The existing treatment process consists of flow equalization, extended aeration, final clarification and chlorination.

The receiving stream, Monongahela River, is classified as a WWF, and is located in State Watershed No. 19-C.

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		 William C. Mitchell, E.I.T. / Environmental Engineering Specialist	March 27, 2020
X		 Donald J. Leone, P.E. / Environmental Engineer Manager	March 27, 2020

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	<u>001</u>	Design Flow (MGD)	<u>.028</u>
Latitude	<u>40° 14' 22.0"</u>	Longitude	<u>-79° 56' 12.00"</u>
Quad Name	<u>Monongahela River</u>	Quad Code	<u>1706</u>
Wastewater Description: <u>Sewage Effluent</u>			
Receiving Waters	<u>Monongahela River (WWF)</u>	Stream Code	<u>37185</u>
NHD Com ID	<u>99408884</u>	RMI	<u>26.4</u>
Drainage Area	<u>5330</u>	Yield (cfs/mi ²)	<u>US Army Corp. Of Engineers, Monongahela River @ Charleroi, & USGS StreamStats</u>
Q ₇₋₁₀ Flow (cfs)	<u>550</u>	Q ₇₋₁₀ Basis	<u>StreamStats</u>
Elevation (ft)	<u>Mean Basin Elevation 1825.8</u>	Slope (ft/ft)	<u>0.0001</u>
Watershed No.	<u>19-C</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>Impaired</u>		
Cause(s) of Impairment	<u>POLYCHLORINATED BIPHENYLS (PCBS)</u>		
Source(s) of Impairment	<u>SOURCE UNKNOWN</u>		
TMDL Status	<u>Final</u>	Name	<u>Monongahela River TMDL</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>PA American Water Company, Aldrich Station</u>		
PWS Waters	<u>Monongahela River</u>	Flow at Intake (cfs)	<u></u>
PWS RMI		Distance from Outfall (mi)	<u></u>

Changes Since Last Permit Issuance: NONE

Other Comments: The discharge is to Monongahela River, which 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.

Treatment Facility Summary				
Treatment Facility Name: Elizabeth Estates MHP				
WQM Permit No.	Issuance Date			
0284407	April 24, 1985			
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Tablet Chlorination	
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.028	46.7	Not Overloaded	Combination	Other WWTP

Changes Since Last Permit Issuance: NONE

Other Comments: Organic Capacity based on following equation: $0.028 \text{ mgd} \times 8.34 \times 200 \text{ mg/l} = 46.7 \text{ lbs/day}$

Compliance History

Operations Compliance Check Summary Report

Facility: Elizabeth_Estates_STP

NPDES Permit No.: PA0095150

Compliance Review Period: 03/27/2015 – 03/27/2020

Open Violations by Client Summary

None.

Inspection Summary

INSP ID	INSPECTED DATE	INSP TYPE	AGENCY	INSPECTION RESULT DESC	# OF VIOLATIONS
2897933	06/24/2019	Compliance Evaluation	PA Dept of Environmental Protection	No Violations Noted	0
2776558	09/14/2018	Compliance Evaluation	County Health Dept	No Violations Noted	0
2591806	04/19/2017	Compliance Evaluation	County Health Dept	No Violations Noted	0
2505129	07/19/2016	Compliance Evaluation	County Health Dept	No Violations Noted	0
2384728	06/26/2015	Administrative/File Review	PA Dept of Environmental Protection	Violation(s) Noted	1
2376717	04/15/2015	Compliance Evaluation	County Health Dept	Violation(s) Noted	2

Violation Summary

VIOL ID	VIOLATION DATE	VIOLATION TYPE	VIOLATION TYPE DESC	RESOLVED DATE
726951	06/26/2015	92A.41(A)12B	NPDES - Failure to submit monitoring report(s) or properly complete monitoring reports	07/26/2016
724912	04/15/2015	92A.41(A)12B	NPDES - Failure to submit monitoring report(s) or properly complete monitoring reports	
724914	04/15/2015	92A.41(A)5	NPDES - Failure to properly operate and maintain all facilities which are installed or used by the permittee to achieve compliance	

Enforcement Summary

ENF ID	ENF TYPE DESC	EXECUTED DATE	ENF FINALSTATUS	ENF CLOSED DATE
325110	Notice of Violation	06/30/2015	Administrative Close Out	08/19/2019

DMR Violation Summary

Current eDMR user.

Effluent limit violation summary 3/27/2018 – 3/27/2020

MONITORING END DATE	OUTFALL	PARAMETER	SAMPLE VALUE	PERMIT VALUE	UNIT OF MEASURE	STATISTICAL BASE CODE
06/30/2018	001	Fecal Coliform	269	200	CFU/100 ml	Geometric Mean
06/30/2018	001	Fecal Coliform	> 2420	1000	CFU/100 ml	Instantaneous Maximum

Compliance Status:

Facility has no current noncompliance issues.

Completed by: David Roote

Completed date: 3/27/2020

Development of Effluent Limitations

Outfall No.	001	Design Flow (MGD)	.028
Latitude	40° 14' 26.00"	Longitude	-79° 56' 9.00"
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: Due to the large dilution ratio present in the Monongahela River, the above technology-based effluent limitations will be re-imposed.

Water Quality-Based Limitations

N/A

Best Professional Judgment (BPJ) Limitations

Comments: A Dissolved Oxygen minimum limitation of 4.0 mg/L will be imposed based on the standard in 25 PA Code Chapter 93 and best professional judgment.

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.

For existing discharges, a year-round monitoring requirement for ammonia-nitrogen, at a minimum should be established. The monitoring requirements for Ammonia Nitrogen are consistent with CBOD₅, TSS, and Fecal Coliform and Table 6-3 of the Permits Writers Manual.

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)	0.028	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	4.0	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
CBOD5	XXX	XXX	XXX	25	XXX	50	2/month	Grab
Total Suspended Solids	XXX	XXX	XXX	30	XXX	60	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)

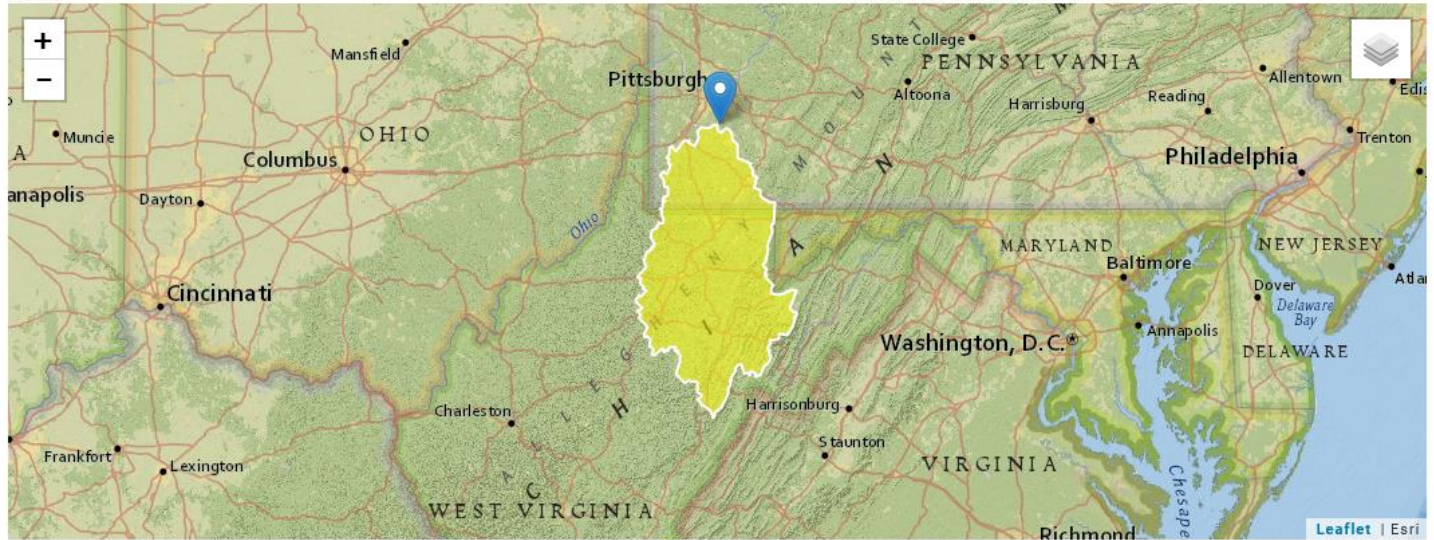
Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly		Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Ammonia-Nitrogen	XXX	XXX	XXX	Report	XXX	Report	2/month	Grab
Total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

Compliance Sampling Location: Outfall 001

StreamStats Report

Region ID:
Workspace ID:
Clicked Point (Latitude, Longitude):
Time:

PA
PA20200326183948288000
40.24186, -79.93724
2020-03-26 14:40:10 -0400



Basin Characteristics			
Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	5330	square miles
ELEV	Mean Basin Elevation	1825.8	feet

Low-Flow Statistics Parameters (100 Percent (5320 square miles) Low Flow Region 4)					
Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	5330	square miles	2.26	1400
ELEV	Mean Basin Elevation	1825.8	feet	1050	2580

Copy of TRC_CALC

TRC EVALUATION

550	= Q stream (cfs)	0.5	= CV Daily
0.028	= Q discharge (MGD)	0.5	= CV Hourly
4	= no. samples	0.995	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= 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 = 4030.233	1.3.2.iii	WLA_cfc = 3948.898
PENTOXSD TRG	5.1a	LTAMULT_afc = 0.373	5.1c	LTAMULT_cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 1501.761	5.1d	LTA_cfc = 2295.704

Source	Effluent Limit Calculations
PENTOXSD TRG	5.1f AML MULT = 1.720
PENTOXSD TRG	5.1g AVG MON LIMIT (mg/l) = 0.500 INST MAX LIMIT (mg/l) = 1.170
	BAT/BPJ

WLA_afc	$(.019/e^{-k \cdot AFC_tc}) + [(AFC_Yc \cdot Qs \cdot .019 / Qd \cdot e^{-k \cdot AFC_tc}) \dots + Xd + (AFC_Yc \cdot Qs \cdot Xs / Qd)] \cdot (1 - FOS / 100)$
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	$(.011/e^{-k \cdot CFC_tc}) + [(CFC_Yc \cdot Qs \cdot .011 / Qd \cdot e^{-k \cdot CFC_tc}) \dots + Xd + (CFC_Yc \cdot Qs \cdot Xs / Qd)] \cdot (1 - FOS / 100)$
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	$1.5 \cdot ((av_mon_limit / AML_MULT) / LTAMULT_afc)$