

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

## NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application No. PA0101851  
APS ID 1132524  
Authorization ID 1518501

### Applicant and Facility Information

Applicant Name	<u>Sisters of Humility of Mary Inc.</u>	Facility Name	<u>Villa Maria Comm Center</u>
Applicant Address	<u>PO Box 906 288 Villa Drive</u> <u>Villa Maria, PA 16155-0906</u>	Facility Address	<u>228 Villa Drive</u> <u>Villa Maria, PA 16155</u>
Applicant Contact	<u>Warren Chapella</u>	Facility Contact	<u>Andrew Meloy</u>
Applicant Phone	<u>(724) 964-8920</u>	Facility Phone	<u>(814) 329-8811</u>
Applicant Email	<u>wchapella@humilityofmary.org</u>	Facility Email	<u>etsllc17@gmail.com</u>
Client ID	<u>24291</u>	Site ID	<u>244023</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Pulaski Township</u>
Connection Status		County	<u>Lawrence</u>
Date Application Received	<u>March 4, 2025</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>March 12, 2025</u>	If No, Reason	
Purpose of Application	<u>Renewal of a NPDES Permit for an Existing Discharge of 0.03 MGD</u>		

### Summary of Review

This is a renewal Sewage Individual NPDES Permit for an Existing Design Flow of 0.03 MGD from a non-municipal minor sewage facility.

Proposed is decreasing the average monthly Ammonia Nitrogen limit from 5.0 mg/L to 2.25 mg/L.

Act 14 – Proof of Notification was submitted and received.

This facility is currently using eDMR system.

SPECIAL CONDITIONS: NONE

The EPA waiver is in effect.

There are NO open violations in WMS for the subject Client ID (24291) as of March 18, 2025.

#### 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		Aeshah Shameseldin Aeshah Shameseldin / Project Manager	March 18, 2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	April 18, 2025

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	.03
Latitude	41° 4' 30.00"	Longitude	-80° 30' 22.00"
Quad Name	Campbell	Quad Code	41080A5
Wastewater Description:		Sewage Effluent	
Receiving Waters	Unnamed Tributary to Coffee Run (WWF)	Stream Code	35470
NHD Com ID	125562122	RMI	0.50
Drainage Area	0.35 (Dry), 2.38 (Perennial)	Yield (cfs/mi²)	0.001 (Dry), 0.01 (Perennial)
Q <sub>7-10</sub> Flow (cfs)	0.0238	Q <sub>7-10</sub> Basis	Calculated
Elevation (ft)	1074	Slope (ft/ft)	---
Watershed No.	20-B	Chapter 93 Class.	WWF
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)	7.0	Default	
Temperature (°F)	77	Default	
Hardness (mg/L)	100	Default	
Other:			
Nearest Downstream Public Water Supply Intake	Beaver Falls Municipal Authority - Eastvale		
PWS Waters	Beaver River	Flow at Intake (cfs)	---
PWS RMI	5.4	Distance from Outfall (mi)	---

Changes Since Last Permit Issuance: None.

Other Comments: None.

Treatment Facility Summary				
<b>Treatment Facility Name:</b> Villa Maria Comm Center				
<b>WQM Permit No.</b>	<b>Issuance Date</b>			
3799404	October 19, 1999			
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary With Ammonia Reduction	Activated Sludge	Ultraviolet	0.02
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.03	70	Not Overloaded	Aerobic Digestion	Landfill

Changes Since Last Permit Issuance: None.

Other Comments: Treatment facilities permitted under WQM Permit # 3799404 consist of: Comminution with by-pass bar screen, aerated flow equalization, extended aeration with clarification, surface sand filtration, UV disinfection and aerobic sludge digestion. Air supply is two rotary blowers.

Compliance History

DMR Data for Outfall 001 (from February 1, 2024 to January 31, 2025)

Parameter	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24
Flow (MGD) Average Monthly	0.021	0.021	0.027	0.053	0.013	0.018	0.014	0.016	0.016	0.023	0.019	0.02
Flow (MGD) Daily Maximum	0.03	0.03	0.065	0.074	0.018	0.050	0.032	0.031	0.027	0.049	0.049	0.034
pH (S.U.) Instantaneous Minimum	7.3	7.07	6.71	7.11	6.9	6.43	6.61	6.53	6.63	6.85	6.72	6.49
pH (S.U.) Instantaneous Maximum	7.89	7.54	7.37	7.39	7.41	7.34	7.16	7.32	7.33	7.38	8.42	7.39
DO (mg/L) Daily Minimum	6.27	7.28	9.83	1.23	7.81	6.28	7.65	6.37	6.21	6.22	7.12	9.12
CBOD5 (mg/L) Average Monthly	< 4.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 5.0	< 5.0	< 5.0	< 4.0	< 4.0
TSS (mg/L) Average Monthly	< 5.0	< 5.0	< 5.0	< 6.0	< 5.0	< 5.0	< 6.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Fecal Coliform (No./100 ml) Geometric Mean	FF	< 1	< 1.0	18	< 7	< 1	< 1.0	9	21	2	< 1.0	< 1.0
UV Intensity (µw/cm²) Average Monthly	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
Total Nitrogen (mg/L) Average Monthly	< 10	8.022	12.61	< 9.46	< 22.37	< 13	< 22	30.411	20.87	10	< 15.32	< 12
Ammonia (mg/L) Average Monthly	< 0.35	0.50	< 0.3	< 0.3	< 0.3	< 0.3	< 0.2	< 0.3	< 0.3	1.0	< 0.5	< 0.3
Total Phosphorus (mg/L) Average Monthly	0.249	0.435	0.642	0.572	0.519	0.362	1.407	0.228	0.295	0.309	0.263	0.204

**Compliance History**

**Effluent Violations for Outfall 001, from: March 1, 2024, To: January 31, 2025**

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
DO	10/31/24	Daily Min	1.23	mg/L	5.0	mg/L

Summary of Inspections: An inspection of the facility was conducted on February 21, 2020. The inspection report did not cite any violations.

Other Comments: The following non compliances were noted during the inspection:

- 1- 25 Pa. Code 92a.41(a)(10): Failure to maintain proper sample temperature. Composite sample is not iced during collection.
- 2- 25 Pa. Code 92a.41(a)(10): Failure to use an NIST thermometer. Thermometer present but not NIST traceable.

**Development of Effluent Limitations**

<b>Outfall No.</b>	001	<b>Design Flow (MGD)</b>	.03
<b>Latitude</b>	41° 4' 30.00"	<b>Longitude</b>	-80° 30' 22.00"
<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)
E. Coli	Report (No./100 ml)	IMAX	-	§ 92a.61

Comments: Monitoring for E. Coli is placed in the permit in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits."

**Water Quality-Based Limitations**

CBOD<sub>5</sub>, Ammonia, and DO are evaluated using WQM 7.0 (Attachment 1 and 2).

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

Parameter	Limit (mg/l)	SBC	Model
Dissolved Oxygen	4.0	Daily Min.	WQM 7.0
CBOD <sub>5</sub>	25	Average Monthly	WQM 7.0
	50	IMAX	
Ammonia Nitrogen (May 1 – Oct 31)	2.25	Average Monthly	WQM 7.0
	4.5	IMAX	

Comments: The WQM modeling has determined a more stringent average monthly Ammonia Nitrogen limit under perennial conditions. As part of this renewal, new monitoring requirements are being proposed. A review of the Discharge Monitoring Reports for the previous four years indicates that the Ammonia Nitrogen sampling results have consistently been below the newly proposed limits. As a result, an effective period will not be established in this renewal.

**Best Professional Judgment (BPJ) Limitations**

Comments: Monitoring for total nitrogen, total phosphorus and raw sewage influent monitoring for CBOD<sub>5</sub> and TSS are placed in the permit in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits."

The calculated average monthly Dissolved Oxygen limit using WQM 7.0 is 4.0 mg/L, however, the limits established in previous permits are attainable and will be retained.

**Anti-Backsliding:** N/A

**Proposed Effluent Limitations and Monitoring Requirements**

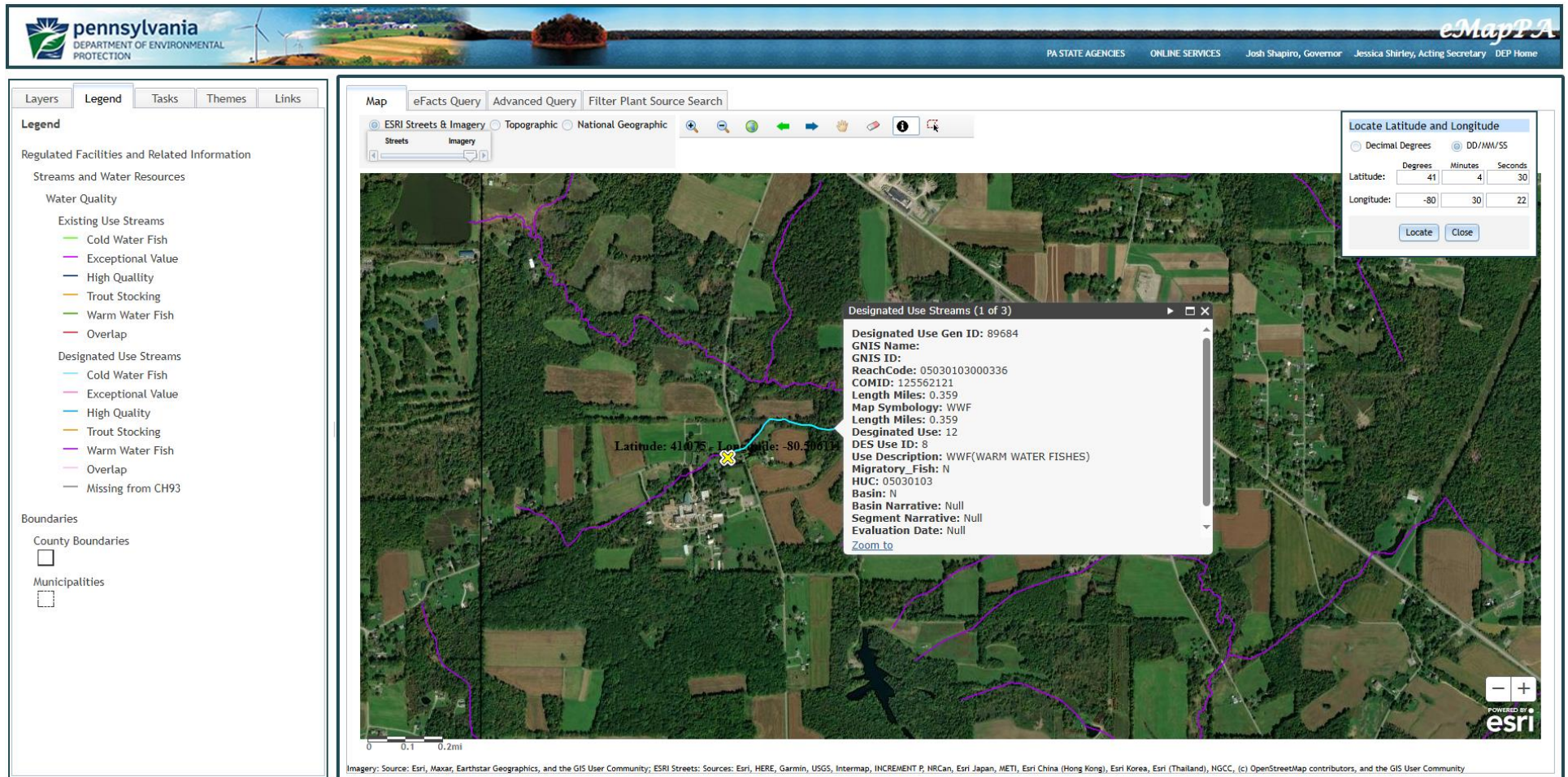
The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). 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) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	1/day	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30.0	XXX	60	2/month	8-Hr Composite
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
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
UV Intensity (µw/cm²)	XXX	XXX	XXX	Report	XXX	XXX	1/day	Measured
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	6.75	XXX	13.5	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	XXX	XXX	XXX	2.25	XXX	4.5	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite

Compliance Sampling Location: Outfall 001, after disinfection.

Outfall Location - eMap with Aerial Imagery





Dry Reach - Drainage Area Location – StreamStats with Aerial Imagery

StreamStats Report

Region ID: PA

Workspace ID: PA20250312152319535000

Clicked Point (Latitude, Longitude): 41.07511, -80.50621

Time: 2025-03-12 11:23:44 -0400



Collapse All

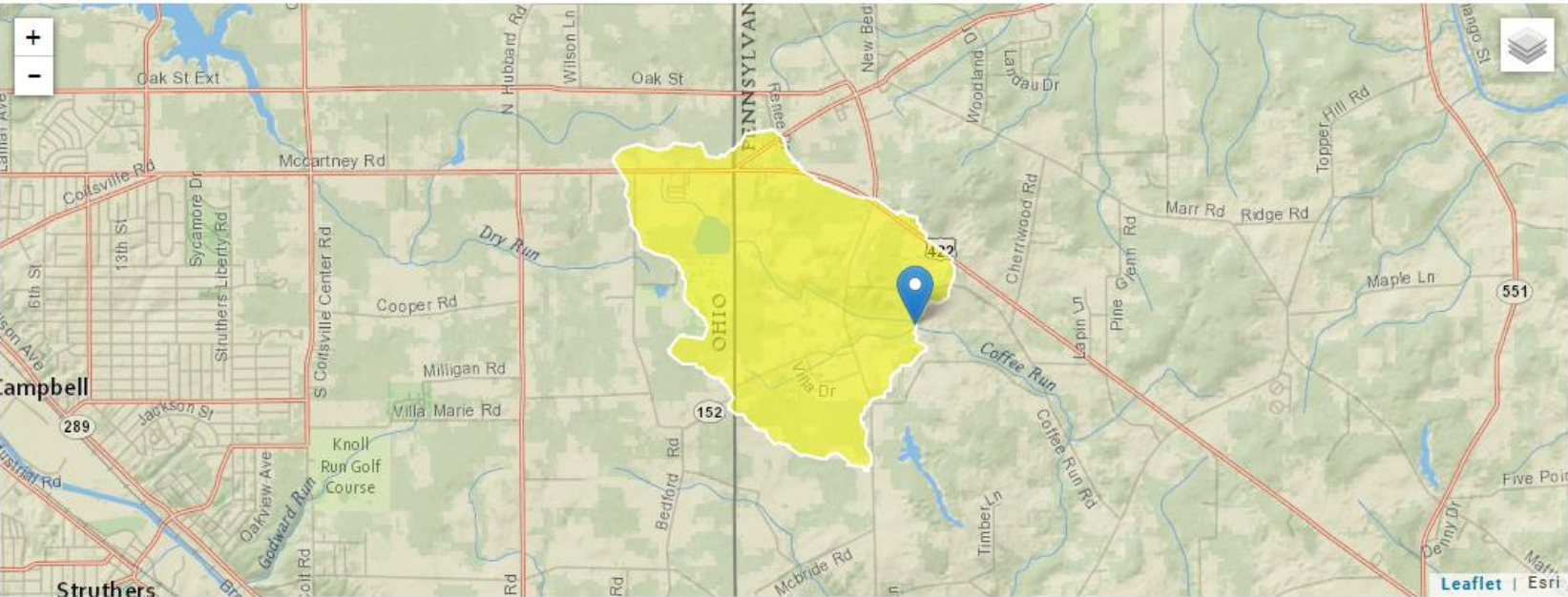
> Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.35	square miles

Perennial Reach - Drainage Area Location – StreamStats with Aerial Imagery

StreamStats Report

Region ID:PA  
Workspace ID:PA20250312152600042000  
Clicked Point (Latitude, Longitude):41.07709, -80.49815  
Time:2025-03-12 11:26:21 -0400



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> Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	2.38	square miles



A two-step model was used. The first step was for a dry stream evaluation. The DO simulation end-of-reach data was then used to evaluate the second step perennial stream reach. The second step evaluated perennial stream conditions. For modeling purposes, the outfall location was assigned an RMI value of 5.69, although the actual value on the dry stream (stream code 35470) is 0.5.



**Attachment 1**

**Dry Reach Modeling**

**WQM 7.0 Effluent Limits**

<u>SWP Basin</u>		<u>Stream Code</u>	<u>Stream Name</u>				
20B		35470	Trib 35470 to Coffee Run				
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)
5.690	Villa Maria Com	PA0101851	0.030	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4

### 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	2		

### WQM 7.0 D.O.Simulation

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>		
20B	35470	Trib 35470 to Coffee Run		
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>	<u>Analysis pH</u>	
5.690	0.030	20.000	7.000	
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>	<u>Reach Velocity (fps)</u>	
2.934	0.313	9.359	0.051	
<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>	
24.81	1.500	24.81	0.700	
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>	<u>Reach DO Goal (mg/L)</u>	
4.026	25.214	Owens	2	
<u>Reach Travel Time (days)</u>	<u>Subreach Results</u>			
0.601	TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
	0.060	22.67	23.79	4.00
	0.120	20.72	22.81	4.24
	0.180	18.93	21.87	4.51
	0.240	17.30	20.97	4.78
	0.300	15.81	20.11	5.04
	0.361	14.45	19.28	5.27
	0.421	13.20	18.48	5.49
	0.481	12.06	17.72	5.70
	0.541	11.02	16.99	5.90
	0.601	10.07	16.29	6.08



### 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
20B	35470	Trib 35470 to Coffee Run	5.690	1074.00	0.35	0.00000	0.00	<input checked="" type="checkbox"/>

#### Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	pH	Stream Temp (°C)	pH
Q7-10	0.001	0.00	0.00	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
Villa Maria Com	PA0101851	0.0300	0.0000	0.0000	0.000	20.00	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	0.00	0.00	1.50
Dissolved Oxygen	4.00	7.54	0.00	0.00
NH3-N	25.00	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
20B	35470	Trib 35470 to Coffee Run	5.190	1045.00	2.38	0.00000	0.00	<input checked="" type="checkbox"/>

#### Stream Data

Design Cond.	LFY (cfs)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	pH	Stream Temp (°C)	pH
Q7-10	0.001	0.00	0.00	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



### WQM 7.0 Wasteload Allocations

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>
20B	35470	Trib 35470 to Coffee Run

#### Dissolved Oxygen Allocations

RMI	Discharge Name	<u>CBOD5</u>		<u>NH3-N</u>		<u>Dissolved Oxygen</u>		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
	5.69 Villa Maria Com	25	25	25	25	4	4	0	0

### WQM 7.0 Hydrodynamic Outputs

<u>SWP Basin</u>		<u>Stream Code</u>		<u>Stream Name</u>								
20B		35470		Trib 35470 to Coffee Run								
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)	
<b>Q7-10 Flow</b>												
5.690	0.00	0.00	0.00	.0464	0.01098	.313	2.93	9.36	0.05	0.601	20.00	7.00
<b>Q1-10 Flow</b>												
5.690	0.00	0.00	0.00	.0464	0.01098	NA	NA	NA	0.00	0.000	0.00	0.00
<b>Q30-10 Flow</b>												
5.690	0.00	0.00	0.00	.0464	0.01098	NA	NA	NA	0.00	0.000	0.00	0.00

## Attachment 2

### Perennial Reach Modeling

For CBOD5 and DO, the resulting limits are the same as the inputs from the Dry Stream model therefore secondary limits are sufficient.

### WQM 7.0 Effluent Limits

<u>SWP Basin</u>		<u>Stream Code</u>		<u>Stream Name</u>			
20B		35470		Trib 35470 to Coffee Run			
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)
5.190	Villa Maria Com	PA0101851	0.030	CBOD5	10.07		
				NH3-N	2.25	4.5	
				Dissolved Oxygen			6.08

### WQM 7.0 Modeling Specifications

Parameters	Both	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	5		

## WQM 7.0 D.O.Simulation

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>		
20B	35470	Trib 35470 to Coffee Run		
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>	<u>Analysis pH</u>	
5.190	0.030	25.000	7.000	
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>	<u>Reach Velocity (fps)</u>	
5.381	0.336	15.995	0.039	
<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>	
7.33	0.472	1.52	1.029	
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>	<u>Reach DO Goal (mg/L)</u>	
6.575	20.776	Owens	5	
<u>Reach Travel Time (days)</u>	<u>Subreach Results</u>			
2.190	<u>TravTime (days)</u>	<u>CBOD5 (mg/L)</u>	<u>NH3-N (mg/L)</u>	<u>D.O. (mg/L)</u>
	0.219	6.44	1.21	7.54
	0.438	5.66	0.97	7.54
	0.657	4.97	0.77	7.54
	0.876	4.36	0.62	7.54
	1.095	3.83	0.49	7.54
	1.314	3.36	0.39	7.54
	1.533	2.95	0.31	7.54
	1.752	2.59	0.25	7.54
	1.971	2.28	0.20	7.54
	2.190	2.00	0.16	7.54

### 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
20B	35470	Trib 35470 to Coffee Run	5.190	1045.00	2.38	0.00000	0.00	<input checked="" type="checkbox"/>

#### Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	pH	Stream Temp (°C)	pH
Q7-10	0.010	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	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
Villa Maria Com	PA0101851	0.0300	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	10.07	2.00	0.00	1.50
Dissolved Oxygen	6.08	7.54	0.00	0.00
NH3-N	16.29	0.10	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
20B	35470	Trib 35470 to Coffee Run	3.800	1013.00	3.90	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 Temp	Tributary pH	Stream Temp	Stream pH
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°C)		(°C)	
Q7-10	0.010	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	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

## WQM 7.0 Wasteload Allocations

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>
20B	35470	Trib 35470 to Coffee Run

### NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
5.190	Villa Maria Com	11.07	14.67	11.07	14.67	0	0

### NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
5.190	Villa Maria Com	1.37	2.25	1.37	2.25	1	0

### Dissolved Oxygen Allocations

RMI	Discharge Name	<u>CBOD5</u>		<u>NH3-N</u>		<u>Dissolved Oxygen</u>		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
5.19	Villa Maria Com	10.07	10.07	2.25	2.25	6.08	6.08	0	0



## WQM 7.0 Hydrodynamic Outputs

<u>SWP Basin</u>		<u>Stream Code</u>		<u>Stream Name</u>								
20B		35470		Trib 35470 to Coffee Run								
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)	
<b>Q7-10 Flow</b>												
5.190	0.02	0.00	0.02	.0464	0.00436	.336	5.38	15.99	0.04	2.190	25.00	7.00
<b>Q1-10 Flow</b>												
5.190	0.02	0.00	0.02	.0464	0.00436	NA	NA	NA	0.04	2.356	25.00	7.00
<b>Q30-10 Flow</b>												
5.190	0.03	0.00	0.03	.0464	0.00436	NA	NA	NA	0.04	2.054	25.00	7.00