

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

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0034720
 APS ID 1071296
 Authorization ID 1410273

Applicant and Facility Information

Applicant Name	<u>Meadville DJVNW LLC</u>	Facility Name	<u>Lakeview Manor MHP</u>
Applicant Address	<u>8865 Norwin Avenue Suite 27 Pmb 319</u> <u>North Huntingdon, PA 15642-2769</u>	Facility Address	<u>8775 Hemlock Street</u> <u>Meadville, PA 16335</u>
Applicant Contact	<u>Dwight Ballestrasse, member</u>	Facility Contact	<u></u>
Applicant Phone	<u>(206) 498-8269</u>	Facility Phone	<u></u>
Applicant E Mail	<u>dballestrasse@gmail.com</u>	Facility E Mail	<u></u>
Client ID	<u>372316</u>	Site ID	<u>243951</u>
Municipality	<u>Union Township</u>	County	<u>Crawford</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Connection Status	<u>No Limitations</u>
Date Application Received	<u>October 10, 2019</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>December 4, 2019</u>	If No, Reason	<u></u>
Purpose of Application	<u>NPDES renewal</u>		

Summary of Review

No violations listed under the applicant.

The previous permittee's effluent violations precluded permit renewal. Operation has improved with the new permittee with a few minor effluent violations remaining.

The facility is a two-cell facultative lagoon with cell bottom sludge storage and treatment. The facility should have a sludge monitoring and removal plan (as specified in the NPDES conditions).

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		<i>William H. Mentzer</i> William H. Mentzer, P.E. Environmental Engineering Specialist	November 16, 2022
X		Vacant Environmental Engineer Manager	Okay to Draft JCD 12/2/2022

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	<u>001</u>	Design Flow (MGD)	<u>.016</u>
Latitude DP	<u>41° 35' 25.08</u>	Longitude DP	<u>-80° 10' 53.31"</u>
Latitude NHD	<u>41° 35' 26.28"</u>	Longitude NHD	<u>-80° 10' 53.40"</u>
Quad Name	<u>Geneva</u>	Quad Code	<u>0604</u>
Wastewater Description: <u>Treated mobile home park domestic wastes</u>			
Receiving Waters	<u>Unnamed Tributary of French Creek</u>	Stream Code	<u>52412</u>
NHD Com ID	<u>127349106</u>	RMI	<u>2.38</u>
Drainage Area	<u>2.98</u>	Yield (cfs/mi ²)	<u>0.13</u>
Q ₇₋₁₀ Flow (cfs)	<u>0.37</u>	Q ₇₋₁₀ Basis	<u>Patchel Run near Franklin</u>
Elevation (ft)	<u>1099.21</u>	Slope (ft/ft)	<u>0.00445</u>
Watershed No.	<u>16-D</u>	Chapter 93 Class.	<u>WWF</u>
Existing Use	<u>statewide</u>	Existing Use Qualifier	<u>none</u>
Exceptions to Use	<u>none</u>	Exceptions to Criteria	<u>none</u>
Comments	<u>NHD location is upstream at the tributary 64665 confluence.</u>		
Assessment Status	<u>Attaining Use(s)</u>		
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	<u>Allegheny River</u>	Flow at Intake (cfs)	<u>1250 as a minimum release</u>
PWS RMI	<u>90.57</u>	Distance from Outfall (mi)	<u>63.57</u>

Changes Since Last Permit Issuance: none
Other Comments: none

Treatment Facility Summary				
Treatment Facility Name: Lakeview Manor MHP				
WQM Permit No.	Issuance Date			
2070404	1970			
2070404 T1	31 January 1974			
2070404 T2	1 November 2000			
2070404 A1	24 April 2003			
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Aerated Lagoon	Chlorine With Dechlorination	0.016
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.016	27.4	Not Overloaded	Aerobic Digestion	

Changes Since Last Permit Issuance: none Except new owners

Other Comments:

Two cell lagoon with disinfection designed by Howard Warnick. The application is dated May 11, 1970 and includes an May 11, 1970 abandonment letter by Wesley G. Reitze.

The first transfer was from Wesley G. Reitze to Paul E. Seely. The transfer may have included un-documented aerator installation.

The original design basis: 53 mobile homes at 3 people/home for a maximum 0.053-MGD at 100-gpcd. The organic load is based on 0.17-ppcd, 280-mg/l and 27.4-PPD. The inorganic load is based on 0.12-ppcd, 200-mg/L, and 19.3-PPD. Design alkalinity is 240 mg/L. Design ammonia is 23-mg/L. Design phosphate is 20-mg/L. Design effluent DO is 7-mg/L (from facultative cell #2)

	length	width	detention	Depth Maximum	Depth Mean	Depth Minimum	capacity original	capacity rebuilt
	feet	feet	days	feet	feet	feet	gallons	gallons
Cell 1	356	129	38.7	5	3.5	2	623 600	997 00
Cell 2	114	89	20.4	5	3.5	2	322 000	382 711

The original disinfection was sodium hypochlorite with a 235-gallon contact tank. Amendment 1 changed disinfection to calcium hypochlorite.

	Year	Month	INFLUENT						EFFLUENT			
			Flow MGD	BOD5 PPD	Min mg/L	Mean mg/L	Max mg/L	#	Min mg/L	Mean mg/L	Max mg/L	3
Annual Average			0.016									
Highest Monthly Average	2019	June	0.209									
pH (su)								5		8.8		
CBOD5									10.3	25.1	24	
TSS									19.2	53.0	24	
Fecal Coliform (#/100ml)									466.2	2400	24	
TRC									0.3	1,17	520	

The 0.209-MGD June 2019 maximum monthly average is greater than the self-monitoring report 0.044-MGD June 2019 monthly average. The monthly maximum flows are not reported. Low pH and high fecal coliforms reported.

Compliance History

DMR Data for Outfall 001 (from October 1, 2021 to September 30, 2022)

Parameter	SEP-22	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21
Flow (MGD) Average Monthly	0.004	0.0032	0.0015	0.003438	0.0197	0.0017	0.02	0.04	0.003	0.013	0.011	0.014
pH (S.U.) Minimum	7.5	7.4	7.5	7.4	7.4	7.4	7	7.2	6.7	7.6	7	6.3
pH (S.U.) Maximum	7.6	7.6	7.6	7.6	7.8	7.6	8	7.6	7.6	8.2	8	6.8
DO (mg/L) Minimum	4.0	4.64	4.8	3.7	4.0	4.1	6.1	4.2	4.5	7.1	7.3	5.6
TRC (mg/L) Average Monthly	0.04	0.043	0.1	0.09	0.55	0.92	0.4	0.2	0.49	0.3	0.2	0.2
TRC (mg/L) Instant Maximum	0.09	0.08	0.1	0.25	1.2	1.2	0.8	0.55	2.2	0.3	0.3	0.3
CBOD5 (mg/L) Average Monthly	< 4.0	< 4.0	7.25	< 4.0	< 4.0	9	5.1	8	13.9	5.5	< 4.5	5.25
TSS (mg/L) Average Monthly	8.5	5.5	< 6.4	9.25	< 5.5	15	10	15	20.25	15	21.25	12.25
Fecal Coliform (#/100 ml) Geometric Mean	< 9.8	< 1	< 1	< 1	< 1	< 1	< 1	523	31	> 2420	< 1	430
Total Nitrogen (mg/L) Average Monthly	< 5.89	68.28	8.1	8.85	9.48	< 4.495	2.875	< 12.5	< 12.9	10.9	18.92	14.4
Ammonia (mg/L) Average Monthly	1.625	1.26	2.3	3.57	3.075							7.1
TI Phosphorus (mg/L) Average Monthly	0.71	0.525	0.58	1.066	0.82	0.286	0.254	1.1	1.04	1.14	1.28	1.13

Annual and summer median pH is 7.6 SU

Compliance History

Effluent Violations for Outfall 001, from: November 1, 2021 To: September 30, 2022

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
TRC	04/30/22	Avg Mo	0.92	mg/L	.5	mg/L
TRC	05/31/22	Avg Mo	0.55	mg/L	.5	mg/L
TRC	01/31/22	IMAX	2.2	mg/L	1.2	mg/L
Fecal Coliform	12/31/21	Geo Mean	> 2420	CFU/100 ml	2000	CFU/100 ml

Development of Effluent Limitations

Outfall No. 001 Design Flow (MGD) .016
 Latitude 41° 35' 25.08" Longitude -80° 10' 53.31"
 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)
DO	4.0	Daily Minimum		BPJ
E Coli	report			BPJ

Comments: E Coli is a new parameter

Water Quality-Based Limitations

A Sewerage Program based “Reasonable Potential Analysis” determined the following parameters were candidates for limitations or monitoring: CBOD₅, TSS, Ammonia-Nitrogen, Nitrogen, Phosphorus, Fecal Coliform, E Coli, Total Residual Chlorine, and pH.

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

Parameter		Limit (mg/l)			SBC	Model		
Name	Period	Minimum	Average	Maximum		Minimum	Average	Maximum
CBOD ₅			25.0	50.0			25.0	50.0
TSS			30.0	60.0			30.0	60.0
Ammonia	Summer		7.5	15.0			9.61	19.22
	Winter		22.5	45.0			28.83	57.66
TRC			0.5	1.6			0.5	1,635
DO		4.0				4.0		

Comments: TRC is from the TRC Spreadsheet while CBOD₅, ammonia and DO are from DOSAG mdelling.

Best Professional Judgment (BPJ) Limitations

Comments: Applies to DO only

Anti-Backsliding

ESRI Street and Imagery mapping displayed both lagoon cells and enabled model reconfiguration. E Map and the USGS topographical map shows only the primary cell with tributary 64665 going through the first cell. The ESRI Street and Imagery mapping shows both cells with no possible connection to tributary 64665.

The revised model relaxes the water quality-based limitations for ammonia nitrogen and with compliance established for ammonia limitation relaxation is not recommended. *(Based on the SOP for Establishing Effluent Limits, wintertime monitoring is included in the draft permit. JCD)*

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
16D	52412	Trib 52412 to French Creek	2.380	1096.03	2.98	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	0.097	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
Lakeview MHP	PA0034720	0.0384	0.0384	0.0384	0.000	25.00	7.60

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	4.00	8.24	0.00	0.00
NH3-N	25.00	0.10	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

<u>SWP Basin</u>		<u>Stream Code</u>				<u>Stream Name</u>						
16D		52412				Trib 52412 to French Creek						
RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
2.380	0.29	0.00	0.29	.0594	0.00235	.438	9.26	21.13	0.09	0.567	25.00	7.06
Q1-10 Flow												
2.380	0.19	0.00	0.19	.0594	0.00235	NA	NA	NA	0.07	0.692	25.00	7.09
Q30-10 Flow												
2.380	0.40	0.00	0.40	.0594	0.00235	NA	NA	NA	0.10	0.490	25.00	7.04

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
16D	52412	Trib 52412 to French Creek	1.580	1086.12	346.00	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 Temp	Tributary pH	Stream Temp	Stream pH
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°C)		(°C)	
Q7-10	0.097	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

SWP Basin **Stream Code** **Stream Name**
16D 52412 Trib 52412 to French Creek

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
	2.380 Lakeview MHP	NA	50	10.21	41.87	1	16

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
	2.380 Lakeview MHP	NA	25	1.34	9.61	1	62

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)		
	2.38 Lakeview MHP	25	25	9.61	9.61	4	4	0	0

WQM 7.0 D.O.Simulation

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>		
16D	52412	Trib 52412 to French Creek		
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>	<u>Analysis pH</u>	
2.380	0.038	25.000	7.059	
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>	<u>Reach Velocity (fps)</u>	
9.262	0.438	21.126	0.086	
<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>	
5.90	0.896	1.71	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>	
7.523	21.740	Owens	5	
<u>Reach Travel Time (days)</u>	Subreach Results			
0.567	<u>TravTime (days)</u>	<u>CBOD5 (mg/L)</u>	<u>NH3-N (mg/L)</u>	<u>D.O. (mg/L)</u>
	0.057	5.54	1.62	7.56
	0.113	5.20	1.53	7.61
	0.170	4.87	1.44	7.65
	0.227	4.57	1.36	7.69
	0.284	4.29	1.28	7.73
	0.340	4.02	1.21	7.77
	0.397	3.77	1.14	7.81
	0.454	3.54	1.08	7.84
	0.510	3.32	1.01	7.87
	0.567	3.12	0.96	7.90

WQM 7.0 Effluent Limits

<u>SWP Basin</u>		<u>Stream Code</u>	<u>Stream Name</u>				
16D		52412	Trib 52412 to French 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)
2.380	Lakeview MHP	PA0034720	0.038	CBOD5	25		
				NH3-N	9.61	19.22	
				Dissolved Oxygen			4

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	<input checked="" type="checkbox"/>
WLA Method	Uniform Treatme	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	95.00%	Use Balanced Technology	<input checked="" type="checkbox"/>
D.O. Goal	5		

1A	B	C	D	E	F	G	H	I	J	K	L	M
	Discharger Site	Lakeview MHP							Revised	Thursday, November 17, 2022		
	Municipality	Lakeview MHP STP								Thursday, November 17, 2022		
	County	Union Township										
	NPDES Permit	Crawford										
	0.5	PA0034720										
2	TRC EVALUATION											
3	Input appropriate values in B4:B8 and E4:E7											
4	0.3771	= Q stream (cfs)				0.5	= CV Daily					
5	0.0160	= Q discharge (MGD)				0.5	= CV Hourly					
6	30	= no. samples				1	= AFC_Partial Mix Factor					
7	0.3	= Chlorine Demand of Stream				1	= CFC_Partial Mix Factor					
8	0	= Chlorine Demand of Discharge				15	= AFC_Criteria Compliance Time (min)					
9	0	= BAT/BPJ Value				720	= CFC_Criteria Compliance Time (min)					
		= % Factor of Safety (FOS)					= Decay Coefficient (K)					
10	Source	Reference	AFC Calculations				Reference	CFC Calculations				
11	TRC	1.3.2.iii	WLA_afc = 4.879				1.3.2.iii	WLA_cfc = 4.749				
12	PENTOXSD TRG	5.1a	LTAMULT_afc = 0.373				5.1c	LTAMULT_cfc = 0.581				
13	PENTOXSD TRG	5.1b	LTA_afc = 1.818				5.1d	LTA_cfc = 2.761				
14												
15	Source	Effluent Limit Calculations										
16	PENTOXSD TRG	5.1f	AML_MULT = 1.231									
17	PENTOXSD TRG	5.1g	↓ LIMIT (mg/l) = 0.500				BAT/BPJ					
18			↓ LIMIT (mg/l) = 1.635									
	WLA_afc	$(0.19/e^{-(k \cdot AFC_tc)}) + [(AFC_Yc \cdot Qs \cdot 0.19/Qd) \cdot e^{-(k \cdot AFC_tc)}] \dots$										
	LTAMULT_afc	$\dots + Xd + (AFC_Yc \cdot Qs \cdot Xs/Qd) \cdot (1-FOS/100)$										
	LTA_afc	$EXP((0.5 \cdot LN(cvd^2 + 1)) - 2.326 \cdot LN(cvd^2 + 1)^{0.5})$ wla_afc/LTAMULT_afc										
	WLA_cfc	$(0.11/e^{-(k \cdot CFC_tc)}) + [(CFC_Yc \cdot Qs \cdot 0.11/Qd) \cdot e^{-(k \cdot CFC_tc)}] \dots$										
	LTAMULT_cfc	$\dots + Xd + (CFC_Yc \cdot Qs \cdot Xs/Qd) \cdot (1-FOS/100)$										
	LTA_cfc	$EXP((0.5 \cdot LN(cvd^2/2no_samples + 1)) - 2.326 \cdot LN(cvd^2/2no_samples + 1)^{0.5})$ wla_cfc/LTAMULT_cfc										
	AML_MULT	$EXP(2.326 \cdot LN((cvd^2/2no_samples + 1)^{0.5}) - 0.5 \cdot LN(cvd^2/2no_samples + 1))$										
	AVG MON LIMIT	$MIN(BAT_BPJ, MIN(LTA_afc, LTA_cfc)) \cdot AML_MULT$										
	INST MAX LIMIT	$1.5 \cdot ((av_mon_limit \cdot AML_MULT) / LTA_MULT_afc)$										
	$(0.011/EXP(-k \cdot CFC_tc/1440)) + ((CFC_Yc \cdot Qs \cdot 0.011)/(1.547 \cdot Qd)) \dots$											
	$\dots \cdot EXP(-k \cdot CFC_tc/1440)) + Xd + (CFC_Yc \cdot Qs \cdot Xs/1.547 \cdot Qd) \cdot (1-FOS/100)$											
	Stream	Chlorine Required	=	perennial	Chlorine Demand	+	Chlorine Residual					
	Stream	Reach/Node	1	1								
	Stream	Flow	Conditions	perennial								
	Stream	Code		52412								
	Stream	Function										
	Samples			30								
	reach	outfall	RMI	2.38								
	Reach End		RMI	0								
	reach		feet	12566.4								
	drainage		sq miles	2.98								
	TRC	limitation	average	mg/L	0.150							
			maximum	mg/L	1.635							
	elevation	modelled	feet	1096.03								
	elevation	modelled	feet	1086.12								
	slope	modelled	foot/foot	0.001								
	low flow		cfs/sq mi	0.127								
	discharge		mgd	0.0160								
	Runoff	Period	hours	24.000								
	BAT should suffice											
	stream	flow		cfs	0.37708							
	stream	flow		MGD	0.243715							
	stream	flow	total	MGD	0.259715							
	stream	chlorine	demand	mg/L	0.3							
	discharge	discharge	demand	mg/L								
	stream	Total Stream/Waste	ratio		16.2							
	BAT	TRC	mean	BAT	0.5							
	BAT	TRC	maximum	BAT	1.6							
			Municipality									
	B	C	D	E	F	G	H	I	J	K	L	M

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, 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	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6 Inst Min	XXX	XXX	9	1/day	Grab
Dissolved Oxygen	XXX	XXX	4.0 Daily Min	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1.2	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	25.0	XXX	50	2/month	8-Hr Composite
Total Suspended Solids	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	Report	XXX	XXX	2/month	Grab
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	7.5	XXX	15	2/month	8-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	Report	XXX	XXX	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