pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0027375**
Facility Type	**Municipal**	APS ID	**1002905**
Major / Minor	**Major**	Authorization ID	**1290508**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

1.0 Applicant and Facility Information

Applicant Name	**City of DuBois**	Facility Name	**City of DuBois Wastewater Treatment Plant**
Applicant Address	16 W Scribner Avenue PO Box 408	Facility Address	96 Guy Avenue
	DuBois, PA 15801-2210		DuBois, PA 15801
Applicant Contact	John Suplizio	Facility Contact	Scott Farrell
Applicant Phone	(814) 371-2002	Facility Phone	(814) 371-4508
Client ID	75158	Site ID	258005
Ch 94 Load Status	Not Overloaded	Municipality	City of DuBois
Connection Status	No Limitations	County	Clearfield
Date Application Received	September 30, 2019	EPA Waived?	No
Date Application Accepted	October 15, 2019	If No, Reason	Major Facility
Purpose of Application	Renewal of an existing NPDES permit for the discharge of treated sewage.		

2.0 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		Derek S. Garner Derek S. Garner / Project Manager	4/16/2020
X		Nicholas W. Hartranft Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	4/16/2020

3.0 Treatment Facility Summary

The City of DuBois Wastewater Treatment Plant is a trickling filter treatment plant with an average design flow and hydraulic design capacity of 4.4 MGD and an organic design capacity of 6,014 lbs/day. The treatment plant receives flows from the City of DuBois (54%), Sandy Township (36.2%), and Falls Creek Borough (9.8%). All sewers are 100% separated.

Treatment at the facility is as follows:

- One (1) equalization tank (optional)
- One (1) bar screen
- One (1) grit removal system
- Four (4) primary sedimentation tanks, operated in parallel
- Two (2) trickling filters
- Two (2) final sedimentation tanks, operated in parallel
- One (1) chlorine contact tank
    - Chlorine gas used for disinfection. Sodium bisulfite is used for dichlorination.
- Two (2) anaerobic digesters
    - 95% of sludge is dewatered using a centrifuge, remaining 5% is dewatered using drying beds.

After existing the chlorine contact tank, the treated effluent is discharged via Outfall 001 to Sandy Lick Creek.

In the previous year the facility produced 360.84 dry tons of sewage sludge. Dried sludge is hauled to a landfill.

The application indicates that within the next five years the City of DuBois has proposed to demolish the existing wastewater treatment plant and construct a reconfigured headworks system, three sequencing batch reactors ("SBRs"), a post-SBR equalization system, an ultraviolet disinfection system, aerobic digestion tanks, and a solids handling/dewatering system.

The City of DuBois currently maintains and operates an EPA-approved pretreatment program. The treatment plant receives flows from the following significant industrial users:

Table 3-1. Significant Industrial User Information

Significant Industrial User	Wastewater Flows (GPD)				
	Process	**NCCW**	**Sanitary**	**Other**	**Total**
White Wave Foods, Inc.	130,000	0	1,232	0	131,232
Beaver Meadow Creamery	5,400	300	0	200	5,900
Paris Cleaners, Inc.	325,000	0	10,725	9,100	344,825
Xylem, Inc.	1,600	0	6,500	50	8,150
Xylem, Inc.	65	0	750	0	815
TOTAL	*462065*	*300*	*19207*	*9350*	*490922*

See Attachment A for the Facility and Outfall Location Map.

4.0 Discharge, Receiving Waters and Water Supply Information

4.1 Outfall 001

Outfall 001 discharges directly to Sandy Lick Creek following disinfection/dechlorination:

Table 4-1. Outfall 001 Information

Outfall No.	001	Design Flow (MGD)	4.4
Latitude	41º 7' 46.76"	Longitude	-78º 46' 40.44"
Quad Name	Falls Creek	Quad Code	0915
Wastewater Description:	Sewage Effluent		
Receiving Waters	Sandy Lick Creek (TSF)	Stream Code	48527
NHD Com ID	123859400	RMI	30.1
Drainage Area	56.7	Yield (cfs/mi^2)	0.082
Q_{7-10} Flow (cfs)	4.66 (1)	Q_{7-10} Basis	Streamgage No. 03032500
Elevation (ft)	1398	Slope (ft/ft)	n/a
Watershed No.	17-C	Chapter 93 Class.	TSF
Existing Use	n/a	Existing Use Qualifier	n/a
Exceptions to Use	n/a	Exceptions to Criteria	n/a
Assessment Status	Impaired		
Cause(s) of Impairment	Metals		
Source(s) of Impairment	Abandoned Mine Drainage		
TMDL Status	Final, 06/09/2009	Name	Redbank Creek TMDL

(1) The Q7-10 has been adjusted from 3.70 cfs to 4.66 cfs; attributed to the use of a newer downstream gage data.

4.2 Outfall 002

Outfall 002 is located along the southern edge of the property. It discharges uncontaminated stormwater.

Table 4-2. Outfall 002 Information

Outfall No.	002	Design Flow (MGD)	4.4
Latitude	41° 7’ 48.00”	Longitude	78° 46’ 39.00”
Quad Name	Falls Creek	Quad Code	0915
Wastewater Description:	Stormwater		
Receiving Waters	Sandy Lick Creek	Stream Code	48527
NHD Com ID	123859400	RMI	30.1
Drainage Area	n/a	Yield (cfs/mi^2)	n/a
Q_{7-10} Flow (cfs)	n/a	Q_{7-10} Basis	n/a
Elevation (ft)	n/a	Slope (ft/ft)	n/a
Watershed No.	17-C	Chapter 93 Class.	TSF
Existing Use	n/a	Existing Use Qualifier	n/a
Exceptions to Use	n/a	Exceptions to Criteria	n/a
Assessment Status	Impaired		
Cause(s) of Impairment	Metals		
Source(s) of Impairment	Abandoned Mine Drainage		
TMDL Status	Final, 06/09/2009	Name	Redbank Creek TMDL

4.3 Sandy Lick Creek

Outfall 001 discharges directly to Sandy Lick Creek. Sandy Lick Creek is currently impaired for metals and low pH caused by abandoned mine drainage and is included in the Redbank Creek TMDL, finalized June 9, 2009. The TMDL's impact in the development of effluent limits is discussed in Section 6.1.2.

The Q7-10 of Sandy Lick Creek at the point of the discharge was calculated using thirty years of the most recent flow data, from 1989 to 2019, at USGS Streamgage No. 03032500 - Redbank Creek at St. Charles, PA. The streamgage Q7-10 was developed using DFLOW to achieve a flow of 43.4 cfs. Based on the gage's drainage area of 528 mi^2 a low-flow yield of 0.082 cfs/mi^2 was developed. The low-flow yield was applied to the drainage area at Outfall 001 to calculate the site-specific Q7-10.

See Attachment B for the Q7-10 calculations and supporting documentation.

4.4 Downstream Public Water Supply Intake

The nearest downstream water supply intake is the Hawthorne Area Water Authority, approximately 58 river miles downstream on Redbank Creek at river mile index 27.8. The discharge is not expected to impact the water supply.

5.0 Compliance History

5.1 Violations

The following effluent violations occurred during the existing permit term:

Table 5-1. Effluent Violations

Monitoring Period Begin Date	Monitoring Period End Date	Non-Compliance Category	Parameter	Sample Value	Violations Condition	Permit Value	Units	SBC
5/1/2015	5/31/2015	Concentration 3 Effluent Violation	Ammonia-Nitrogen	3.579	>	3.5	mg/L	Weekly Average
6/1/2015	6/30/2015	Concentration 2 Effluent Violation	Fecal Coliform	308	>	200	CFU/100 ml	Geometric Mean
6/1/2015	6/30/2015	Concentration 3 Effluent Violation	Fecal Coliform	2419.6	>	1000	CFU/100 ml	Instantaneous Maximum
6/1/2015	6/30/2015	Concentration 2 Effluent Violation	Fecal Coliform	308	>	200	CFU/100 ml	Geometric Mean
6/1/2015	6/30/2015	Concentration 3 Effluent Violation	Fecal Coliform	2419.6	>	1000	CFU/100 ml	Instantaneous Maximum
7/1/2015	7/31/2015	Concentration 2 Effluent Violation	Fecal Coliform	1394	>	200	CFU/100 ml	Geometric Mean
7/1/2015	7/31/2015	Concentration 3 Effluent Violation	Fecal Coliform	2419.6	>	1000	CFU/100 ml	Instantaneous Maximum
9/1/2015	9/30/2015	Concentration 3 Effluent Violation	Fecal Coliform	1300	>	1000	CFU/100 ml	Instantaneous Maximum
10/1/2015	12/31/2015	Concentration 3 Effluent Violation	Toxicity, Chronic - Ceriodaphnia Reproduction	3.03	>	1.5	TUc	Daily Maximum
7/1/2016	7/31/2016	Concentration 3 Effluent Violation	Fecal Coliform	1036	>	1000	CFU/100 ml	Instantaneous Maximum
10/1/2016	12/31/2016	Concentration 3 Effluent Violation	Toxicity, Chronic - Ceriodaphnia Reproduction	3.03	>	1.5	TUc	Daily Maximum
2/1/2017	2/28/2017	Load 2 Effluent Violation	Total Suspended Solids	2385	>	1650	lbs/day	Weekly Average
4/1/2017	6/30/2017	Concentration 3 Effluent Violation	Toxicity, Chronic - Ceriodaphnia Reproduction	3.03	>	1.5	TUc	Daily Maximum
7/1/2017	7/31/2017	Concentration 3 Effluent Violation	Fecal Coliform	2420	>	1000	CFU/100 ml	Instantaneous Maximum
9/1/2017	9/30/2017	Concentration 3 Effluent Violation	CBOD5	23	>	22	mg/L	Weekly Average
5/1/2018	5/31/2018	Concentration 2 Effluent Violation	Copper, Total	14.6	>	14.43	ug/L	Average Monthly

Table 5-1, Continued. Effluent Violations

Monitoring Period Begin Date	Monitoring Period End Date	Non-Compliance Category	Parameter	Sample Value	Violations Condition	Permit Value	Units	SBC
8/1/2018	8/31/2018	Concentration 2 Effluent Violation	Fecal Coliform	226	>	200	CFU/100 ml	Geometric Mean
8/1/2018	8/31/2018	Concentration 3 Effluent Violation	Fecal Coliform	2420	>	1000	CFU/100 ml	Instantaneous Maximum
9/1/2018	9/30/2018	Concentration 3 Effluent Violation	Fecal Coliform	1203	>	1000	CFU/100 ml	Instantaneous Maximum
7/1/2019	7/31/2019	Concentration 3 Effluent Violation	Fecal Coliform	2420	>	1000	CFU/100 ml	Instantaneous Maximum
8/1/2019	8/31/2019	Concentration 3 Effluent Violation	Fecal Coliform	1011	>	1000	CFU/100 ml	Instantaneous Maximum
9/1/2019	9/30/2019	Concentration 3 Effluent Violation	Fecal Coliform	1733	>	1000	CFU/100 ml	Instantaneous Maximum
10/1/2019	10/31/2019	Concentration 2 Effluent Violation	Copper, Total	14.5	>	14.43	ug/L	Average Monthly

The above Table 5-1 indicates the facility has chronic issues meeting fecal coliform limits, which can most likely be attributed to the water quality-based effluent limit for total residual chlorine. As discussed above, the facility plans to construct a new treatment facility within the next five years which includes ultraviolet disinfection. Switching to ultraviolet disinfection would most likely allow the facility to more consistently meet the fecal coliform effluent limits.

There are no open violations associated with the permittee.

5.2 Inspection Reports

The facility was last inspected by DEP on September 4, 2019. The inspection report indicates that all required treatment units were operational at the time of the inspection and no issues were noted in Sandy Lick Creek at Outfall 001.

6.0 Development of Effluent Limitations

6.1 Outfall 001

Outfall No.	001	**Design Flow (MGD)**	4.4
Latitude	41º 7' 45.00"	**Longitude**	-78º 46' 41.00"
Wastewater Description:	Sewage effluent		

6.1.1 Technology-Based Limitations ("TBELs")

The City of DuBois Wastewater Treatment Plant is subject to minimum secondary treatment standards established at 40 CFR § 133.102 and 25 Pa. Code § 92a.47. The treatment standards, dependent on the water quality analysis and BPJ where applicable, are as follows:

Table 6-1. Secondary Treatment Standards

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)

6.1.2 Water Quality-Based Limitations ("WQBELs")

Modeling

The applicability of WQBELs was evaluated using DEP's WQM 7.0 v1.0b and PENTOXSD v2.0d. WQM 7.0 is a multiple source discharge model that is used to determine NPDES effluent limits for ammonia-nitrogen, CBOD5, and dissolved oxygen, if applicable. PENTOXSD is a single discharge model that is used to determine NPDES effluent limits for toxics, if applicable.

See Attachment C for model input/output data and supporting documentation.

Reaches were created in WQM 7.0 along Sandy Lick Creek starting at Outfall 001 until a recovery in dissolved oxygen was observed.

Table 6-2. WQM 7.0 Output

Parameter	Effluent Limit (mg/l)		
	Average Monthly	Daily Maximum	Minimum
CBOD5	7	-	-
Ammonia-nitrogen	2.1	4.2	-
Dissolved Oxygen	-	-	6.5

The existing limits were used for input concentrations. The model output indicates that slightly more stringent limits CBOD5 and ammonia-nitrogen are necessary. The existing dissolved oxygen limit is appropriate.

For PENTOXSD the input concentrations were taken from three sources: 1) if the permit contained reporting requirements for the parameter, then those concentrations were entered into the TOXCON spreadsheet to convert the concentrations into an average monthly limit and calculate the daily coefficient of variation, and 2) if the permit contained

effluent limits for the parameter, then the limit was used, and 3) if the permit did not contain reporting requirements or effluent limits than the maximum discharge concentrations identified in sampling completed for the renewal application were used. The calculated average monthly concentrations, existing effluent limits, and maximum discharge concentrations were then entered as inputs into the Toxics Screening Analysis ("TSA") spreadsheet. The TSA spreadsheet compares the input data to the most stringent criterion and recommends if the parameter is a candidate for modeling or not. If it is a candidate for modeling it was input into the PENTOXSD model.

The model results were then entered back into the spreadsheet, where a recommendation is made to establish a limit, to establish monitoring a requirement, or to take no action.

Table 6-3. PENTOXSD Output

Parameter	Input (µg/l)	Governing Criterion	Maximum Daily Limit (µg/l)	WQBEL	WQBEL Criterion	Action?
Aluminum	2238.073	AFC	3732.593	2238.073	AFC	Limit
Bis(2-Ethylhexyl) Phthalate	6.218	CRL	9.701	6.218	CRL	Limit
Chloride (PWS)	171000	INPUT	266787.5	n/a	n/a	None (1)
Chloroform	10.9	INPUT	17.006	29.536	CRL	Monitor
Copper	13.278	AFC	20.716	13.278	AFC	Limit
Cyanide, Free	8.752	CFC	13.654	8.752	CFC	Limit
Dichlorobromomethane	2.85	CRL	4.446	2.85	CRL	Limit
Isophorone	31.5	INPUT	49.145	58.907	THH	Limit
Lead	5	INPUT	7.801	6.036	CFC	Limit
Mercury	0.084	THH	0.131	0.084	THH	Limit
Phenolics (PWS)	23	INPUT	35.884	n/a	n/a	None (1)
Total Dissolved Solids (PWS)	428000	INPUT	667748.8	n/a	n/a	None (1)
Zinc	113.016	AFC	176.324	113.016	AFC	Limit

(1) These parameters' criteria are applied at public water supply intakes. Since there is no downstream public water supply on Sandy Lick Creek, PENTOXSD does not calculate an effluent limit.

Total Residual Chlorine ("TRC")

Existing TRC limitations were evaluated using the TRC_CALC spreadsheet. The spreadsheet indicates that the existing limits of 0.16 mg/l average monthly and 0.52 mg/l instantaneous maximum are protective of Sandy Lick Creek. The existing limits are partially based on a discharge chlorine demand of 0.22 mg/l that was developed in a 2006 chlorine study. Since the study is now approximately 14 years old and will be nearly 20 years old for the next permit renewal, DEP is requiring that the City of DuBois perform a new study if it wishes to continue the use of site-specific data. DEP is proposing to include the following language in Part C of the permit:

> Optional Total Residual Chlorine ("TRC") Site-Specific Data Collection
>
> In developing the final water quality-based effluent limits for TRC, DEP has used in-stream and discharge chlorine demands of 0.3 mg/l and 0.22 mg/l, respectively, based on a 2006 study completed on behalf of the City of DuBois. To continue use of site-specific data regarding total residual chlorine the permittee must perform a new chlorine demand study. If the permittee elects to reevaluate chlorine demand concentrations, the study shall be performed in accordance with DEP's guidance, "Implementation Guidance Total Residual Chlorine (TRC) Regulation" (DEP ID 391-2000-015), Appendix B, or subsequent guidance published by DEP. If the permittee elects to not reevaluate chlorine demand concentrations, DEP will use assumed in-stream and discharge chlorine demands of 0.3 mg/l and 0 mg/l, respectively.
>
> The final TRC limits were determined under the assumption that there is incomplete mixing between the discharge and the receiving stream in the first 15 minutes of travel time. The calculated acute criterion 15-minute partial mix factor was determined to be 0.586. If the permittee chooses to conduct a site-specific mixing study to establish an alternative 15-minute acute criterion partial mix factor, the permittee shall notify DEP in writing within 60 days of permit issuance and submit the study results within 18 months of permit issuance.

TMDL Considerations

As a result of the Redbank Creek Watershed TMDL, finalized April 2, 2009, the previous permit established quarterly monitoring requirements for abandoned mine drainage-related metals; aluminum, iron, and manganese to determine to what effect, if any, the discharge was contributing to the watershed's impairment. The metals were included in the PENTOXSD model run discussed above. Based on the results, effluent limits for total aluminum are necessary. No limits or monitoring requirements for total iron or total manganese are recommended.

6.1.3 Whole Effluent Toxicity ("WET")

For Outfall 001, Chronic WET Testing was completed quarterly throughout the permit term and a TRE was conducted.

The dilution series used for the tests was: 100%, 83%, 65%, 33%, and 16%. The Target Instream Waste Concentration ("TIWC") to be used for analysis of the results is: 65%.

Summary of Four Most Recent Test Results

Table 6-4. TST Data Analysis

	***Ceriodaphnia* Results (Pass/Fail)**		***Pimephales* Results (Pass/Fail)**	
Test Date	**Survival**	**Reproduction**	**Survival**	**Growth**
Q2 2019	Pass	Pass	Pass	Pass
Q3 2019	Pass	Pass	Pass	Pass
Q4 2019	Pass	Pass	Pass	Pass
Q1 2010	Pass	Pass	Pass	Pass

***** *A "passing" result is that in which the replicate data for the TIWC is not statistically significant from the control condition. This is exhibited when the calculated t value ("T-Test Result") is greater than the critical t value. A "failing" result is exhibited when the calculated t value ("T-Test Result") is less than the critical t value.*

In general, reasonable potential is determined anytime there is at least one test failure in the previous four tests. Table 6-4 indicates that there is reasonable potential.

Evaluation of Test Type, IWC and Dilution Series for Renewed Permit

Acute Partial Mix Factor (PMFa): 0.586 Chronic Partial Mix Factor (PMFc): 1.0

1. Determine IWC – Acute (IWCa):

   $(Q_d \times 1.547) / ((Q_{7\text{-}10} \times PMFa) + (Q_d \times 1.547))$

   [(4.4 MGD x 1.547) / ((4.6 cfs x 0.586) + (4.4 MGD x 1.547))] x 100 = 71.6%

   Is IWCa < 1%? ☐ YES ☒ NO

   Type of Test for Permit Renewal: Chronic

2. Determine Target IWCc

   $(Q_d \times 1.547) / (Q_{7\text{-}10} \times PMFc) + (Q_d \times 1.547)$

   [(4.4 MGD x 1.547) / ((4.6 cfs x 1.0) + (4.4 MGD x 1.547))] x 100 = 59.7%

3. Determine Dilution Series

   Dilution Series = 100%, 80%, 60%, 30%, and 15%.

WET Limits Discussion

Historically, the City of DuBois Wastewater Treatment Plant has experienced toxicity-related issues in the effluent which resulted in WET effluent limits being established in the permit. Through a Toxics Reduction Evaluation, it appears that the City of DuBois has been able to reduce toxicity in the effluent and has not had an endpoint failure in the eight most recent WET tests. At this time, there does not appear to be reasonable potential for toxicity in the effluent and therefore, DEP recommends that the WET limits be removed from the permit. However, since this is a major facility (discharge > 1 MGD), WET testing requirements will remain in the permit in accordance with 40 CFR § 122.21(j)(5)(ii)(A) and (B).

6.1.4 Best Professional Judgment ("BPJ") Limitations

Raw Sewage Influent Monitoring

Influent monitoring for BOD5 and TSS will remain in the permit for 25 Pa. Code Chapter 94 reporting.

Nutrient Monitoring

DEP has proposed to establish monitoring requirements for total nitrogen ("TN") and total phosphorus ("TP"). Monitoring for TN and TP is part of a statewide effort to better characterize sewage discharges.

6.1.5 Anti-Backsliding

DEP has proposed to remove monitoring requirements for total iron and total manganese from the permit based on sample results collected over the previous five years. DEP has also proposed to remove WET effluent limits from the permit based on the most recent two years (8 quarterly samples) of data and the effectiveness of the permittee's TRE. 40 CFR § 122.44(l)(2)(i)(B)(1) allows for less stringent requirements when based on new information that was not available at the time of the previous permit issuance.

6.2 Outfall 002

There are no effluent limits applicable to uncontaminated stormwater associated with sewage treatment plants. The outfalls and sector-specific BMPs will be identified in Part C of the permit.

8.0 Existing Effluent Limitations and Monitoring Requirements

The existing effluent limits and monitoring requirements are as follows:

Outfall 001, Effective Period: April 1, 2018 through Permit Expiration Date

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	6.5	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.16	XXX	0.52	1/day	Grab
CBOD5 May 1 - Oct 31	270	405	XXX	7.4	11.1	14.8	2/week	24-Hr Composite
CBOD5 Nov 1 - Apr 30	810	1,229	XXX	22.2	33.3	44.4	2/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Suspended Solids	1,100	1,650	XXX	30	45	60	2/week	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/week	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/week	Grab
Ammonia-Nitrogen May 1 - Oct 31	80	120	XXX	2.2	3.3	4.4	2/week	24-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	240	360	XXX	6.6	9.9	13.2	2/week	24-Hr Composite
Total Aluminum	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Total Copper (µg/L)	0.52	1.05 Daily Max	XXX	14.43	28.86 Daily Max	36.07	1/week	24-Hr Composite

Outfall 001, Continued (from April 1, 2018 through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Total Iron	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Total Manganese	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Chronic Toxicity - Ceriodaphnia Survival (TUc)	XXX	XXX	XXX	XXX	1.5 Daily Max	XXX	See Permit	24-Hr Composite
Chronic Toxicity - Ceriodaphnia Reproduction (TUc)	XXX	XXX	XXX	XXX	1.5 Daily Max	XXX	See Permit	24-Hr Composite
Chronic Toxicity - Pimephales Survival (TUc)	XXX	XXX	XXX	XXX	1.5 Daily Max	XXX	See Permit	24-Hr Composite
Chronic Toxicity - Pimephales Growth (TUc)	XXX	XXX	XXX	XXX	1.5 Daily Max	XXX	See Permit	24-Hr Composite

9.0 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)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	6.5 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.16	XXX	0.52	1/day	Grab
CBOD5 Nov 1 - Apr 30	770	1155 Wkly Avg	XXX	21.0	31.5 Wkly Avg	42	2/week	24-Hr Composite
CBOD5 May 1 - Oct 31	255	385 Wkly Avg	XXX	7.0	10.5 Wkly Avg	14	2/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
TSS	1100	1650 Wkly Avg	XXX	30.0	45.0 Wkly Avg	60	2/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/week	Grab
Total Nitrogen	XXX	Report	XXX	XXX	Report	XXX	1/month	24-Hr Composite
Ammonia Nov 1 - Apr 30	230	340 Wkly Avg	XXX	6.3	9.3 Wkly Avg	12.6	2/week	24-Hr Composite

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	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Ammonia May 1 - Oct 31	75	110 Wkly Avg	XXX	2.1	3.1 Wkly Avg	4.2	2/week	24-Hr Composite
Total Phosphorus	XXX	Report	XXX	XXX	Report	XXX	1/month	24-Hr Composite
Total Aluminum	80	135	XXX	2.23	3.73	5.57	1/week	24-Hr Composite
Total Copper (ug/L)	0.48	0.76	XXX	13.27	20.71	33.17	1/week	24-Hr Composite
Free Cyanide (ug/L)	0.32	0.50	XXX	8.75	13.65	21.87	1/week	24-Hr Composite
Total Lead (ug/L)	0.22	0.28	XXX	6.03	7.80	15.07	1/week	24-Hr Composite
Total Mercury (ug/L)	0.003	0.004	XXX	0.084	0.131	0.21	1/week	24-Hr Composite
Total Zinc	4.03	8.07	XXX	0.11	0.22	0.27	1/week	24-Hr Composite
Dichlorobromo-methane (ug/L)	0.10	0.16	XXX	2.85	4.44	7.12	1/week	24-Hr Composite
Bis(2-Ethyl-hexyl)Phthalate (ug/L)	0.22	0.35	XXX	6.21	9.70	15.52	1/week	24-Hr Composite
Chloroform (ug/L)	XXX	Report	XXX	XXX	Report	XXX	1/month	24-Hr Composite
Isophorone (ug/L)	2.16	4.32	XXX	58.90	117.8	147.25	1/week	24-Hr Composite

Compliance Sampling Location: Outfall 001

Attachment A – Facility and Outfall Location Map

Location Map

Attachment B – Q7-10 Development

DFLOW

Q710 Calcs

Streamstats

Attachment C – Modeling Input/Output

TOXCONC

Toxics Screening Analysis

WQM

WQM

WQM

WQM

WQM

WQM

PENTOXSD

PENTOXSD

PENTOXSD

PENTOXSD

TRC Calc