pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0223051**
Facility Type	**Municipal**	APS ID	**990267**
Major / Minor	**Minor**	Authorization ID	**1268068**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Connoquenessing Borough**	Facility Name	**Connoquenessing Borough STP**
Applicant Address	PO Box 471	Facility Address	State Route 68
	Connoquenessing, PA 16027		Connoquenessing, PA 16027
Applicant Contact	Lloyd Leslie, President	Facility Contact	Lloyd Leslie
Applicant Phone	(724) 789-9097	Facility Phone	(724) 789-9097
Client ID	141768	Site ID	531104
Ch 94 Load Status	Not Overloaded	Municipality	Connoquenessing Borough
Connection Status	No Limitations	County	Butler County
Date Application Received	March 22, 2019	EPA Waived?	Yes
Date Application Accepted	April 6, 2019	If No, Reason	-

Purpose of Application: Renewal of an NPDES Permit for an existing discharge of treated sanitary wastewater from a municipal sewer system.

Summary of Review

Act 14 - Proof of Notification was submitted and received.

A Part II Water Quality Management permit is not required at this time, but will be required prior to construction for the increased flow.

The applicant should be able to continue to meet the limits of this permit, which will continue to protect the uses of the receiving stream.

I. OTHER REQUIREMENTS:

- A. Stormwater into Sewers
- B. Right of Way
- C. Solids Handling
- D. Effluent Chlorine Optimization and Minimization
- E. Little or No Assimilative Capacity or Dilution

SPECIAL CONDITIONS:

- II. Water Quality-Based Effluent Limitations
- III. Requirements for Total Residual Chlorine (TRC)
- IV. Solids Management

There are no open violations in efacts associated with the subject Client ID (141768) as of 10/30/2020.

Approve	Deny	Signatures	Date
X		Stephen A. McCauley Stephen A. McCauley, E.I.T. / Environmental Engineering Specialist	10/30/2020
X		Justin C. Dickey Justin C. Dickey, P.E. / Environmental Engineer Manager	October 30, 2020

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.08*
Latitude	40º 48' 40.00"	Longitude	-80º 0' 43.00"
Quad Name	-	Quad Code	-
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to the Connoquenessing Creek (WWF)	Stream Code	N/A
NHD Com ID	126218464	RMI	N/A
Drainage Area	0.2	Yield (cfs/mi^2)	0.047
Q_{7-10} Flow (cfs)	0.0094	Q_{7-10} Basis	calculated
Elevation (ft)	1223	Slope (ft/ft)	0.03882
Watershed No.	20-C	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)	pH (7.4)	5/2002 Connoquenessing Creek Watershed Alliance Growing Greener Watershed Assessment
Temperature (°F)	-	-
Hardness (mg/L)	-	-
Other:	-	-

Nearest Downstream Public Water Supply Intake	Beaver Falls Municipal Authority		
PWS Waters	Beaver River	Flow at Intake (cfs)	561
PWS RMI	3.5	Distance from Outfall (mi)	42.0

* - The renewal application requested limitations for an increased flow of 0.14 MGD for a proposed STP upgrade project. In an email dated October 29, 2020, the increased flow request was withdrawn (see Attachment 8).

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.

Narrative: This Fact Sheet details the determination of draft NPDES permit limits for an existing discharge of 0.08 MGD of treated sewage from a Publicly Owned Treatment Works (POTW) in Connoquenessing Borough, Butler County.

Treatment permitted under WQM Permit 1000407 consists of: A comminutor with bypass bar screen, two 44,830 gallon aeration tanks, two 7,187 gallon settling tanks, aluminum sulfate addition for phosphorus control to a 2,107 gallon mixing/flocculation tank, two 7,187 gallon phosphorus settling tanks, liquid sodium hypochlorite disinfection with a 2,505 gallon contact tank, and a 4,989 gallon tank for post aeration. Sludge handling consists of two 19,327 gallon aerobic digesters and a sludge bagging unit.

Facility Area: See the Topographical Map (Attachment 1) and the Aerial Image (Attachment 2)

1. Streamflow: Buffalo Creek at Freeport, PA (1976-1996) - used for most Connoquenessing Creek discharges:

Drainage Area:	137	sq. mi.	(USGS StreamStats)
Q_{7-10}:	6.37	cfs	(USGS StreamStats)
Yieldrate:	0.047	cfsm	(calculated)

Unnamed Tributary to the Connoquenessing Creek @ Outfall 001:

Drainage Area:	0.2	sq. mi.	(USGS StreamStats)
Yieldrate:	0.047	cfsm	(from Connoquenessing Creek above)
Q_{7-10}:	0.0094	cfs	(calculated)

% of stream allocated: 100% Basis: No nearby discharges

2. Wasteflow:

Permitted discharge: 0.08 MGD = 0.12 cfs

Runoff flow period: 24 hours Basis: Runoff flow for a Municipal STP

There is less than 3 parts stream flow (Q7-10) to 1 part effluent (design flow) for both flows.

In accordance with the SOP, since this application is for an existing discharge, and since the treatment requirements in document number 391-2000-014, titled, "Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers", dated April 12, 2008 may not be achievable, the treatment requirements will not be applied with this Draft NPDES Permit.

3. Parameters:

The following parameters were evaluated: pH, Total Suspended Solids, Fecal Coliform, Phosphorus, NH_3-N, $CBOD_5$, Dissolved Oxygen, and Total Residual Chlorine. NH_3-N, $CBOD_5$, and Dissolved Oxygen were evaluated using WQM 7.0 at the discharge point.

a. pH

Between 6.0 and 9.0 at all times

Basis: Application of Chapter 93.7 technology-based limits.

b. Total Suspended Solids

Limits will remain as 30 mg/l as a monthly average and 60 mg/l as an instantaneous maximum.

Basis: Application of Chapter 92a47 technology-based limits

c. Fecal Coliform

05/01 - 09/30:	200/100ml	(monthly average geometric mean)
	1,000/100ml	(instantaneous maximum)

10/01 - 04/30: 2,000/100ml (monthly average geometric mean)
10,000/100ml (instantaneous maximum)

Basis: Application of Chapter 92a47 technology-based limits.

d. Phosphorus

☒ Limit necessary due to:

☐ Discharge to lake, pond, or impoundment
☒ Discharge to stream

Basis: The previous 2.0 mg/l limit based on Chapter 96.5 due to the discharge flowing to the Connoquenessing Creek, which is impaired for nutrients, will be retained.

☐ Limit not necessary

Basis: N/A

e. Total Nitrogen

The previous monitoring for Total Nitrogen will remain in accordance with the SOP, based on Chapter 92a.61.

f. Ammonia-Nitrogen (NH_3-N)

Median discharge pH to be used: 6.6 Standard Units (S.U.)

Basis: eDMR data

Discharge temperature: 25°C (default value used in the absence of data)

Median stream pH to be used: 7.4 Standard Units (S.U.)

Basis: 5/2002 Connoquenessing Creek Watershed Alliance Growing Greener Watershed Assessment

Stream Temperature: 25˚C (default value used for WWF modeling)

Background NH_3-N concentration: 0.0 mg/l

Basis: Default value.

Calculated NH_3-N Summer limits: 1.8 mg/l (monthly average)
3.6 mg/l (instantaneous maximum)

Calculated NH_3-N Winter limits: 5.4 mg/l (monthly average)
10.8 mg/l (instantaneous maximum)

Result: WQ modeling resulted in the summer water quality-based limits above for the existing flow of 0.08 MGD (see Attachment 4). The winter limits are calculated as three times the summer limits. The calculated limits are slightly more restrictive than in the previous permit, but based on eDMR data, the new calculated limits are attainable so they will be set without a compliance schedule.

g. $CBOD_5$

Median discharge pH to be used: 6.6 Standard Units (S.U.)

Basis: eDMR data

Discharge temperature: 25°C (default value used in the absence of data)

Median stream pH to be used: 7.4 Standard Units (S.U.)

Basis: 5/2002 Connoquenessing Creek Watershed Alliance Growing Greener Watershed Assessment

Stream Temperature: 25˚C (default value used for WWF modeling)

Background $CBOD_5$ concentration: 2.0 mg/l

Basis: Default value

$CBOD_5$ Summer limits: 25.0 mg/l (monthly average)
50.0 mg/l (instantaneous maximum)

$CBOD_5$ Winter limits: 25.0 mg/l (monthly average)
50.0 mg/l (instantaneous maximum)

Result: WQ modeling resulted in the calculated summer limits above (see Attachment 4), which are the same as the previous NPDES Permit. The winter limits are calculated as three times the summer limits, but since the technology-based limits are more protective, they will be used.

h. Dissolved Oxygen (DO)

- ☐ 4.0 mg/l - minimum desired in effluent to protect all aquatic life
- ☒ 5.0 mg/l - desired in effluent for CWF, WWF, or TSF
- ☐ 6.0 mg/l - minimum required due to discharge falling under guidance document 391-2000-014
- ☐ 8.0 mg/l - required due to discharge going to a naturally reproducing salmonid stream

Discussion: The Dissolved Oxygen minimum of 5.0 mg/l will be retained with this renewal. The technology-based minimum of 5.0 mg/l is recommended by the WQ Model (see Attachment 4) and the SOP based on Chapter 93.7, under the authority of Chapter 92a.61. The measurement frequency was changed from 1/week to 1/day as recommended in the SOP, based on Table 6-3 in the "Technical Guidance for the Development and Specification of Effluent Limitations" (362-0400-001).

i. Total Residual Chlorine (TRC)

- ☐ No limit necessary
- ☒ TRC limits: 0.020 mg/l (monthly average)
  0.065 mg/l (instantaneous maximum)

Basis: The TRC limits above are technology-based using the TRC_Calc Spreadsheet (see Attachment 3). The measurement frequency was changed from 1/week to 1/day as recommended in the SOP, based on Table 6-3 in the "Technical Guidance for the Development and Specification of Effluent Limitations" (362-0400-001). The calculated limits are much more restrictive than previous TRC Limits of 0.23 mg/l monthly average and 0.53 mg/l instantaneous maximum so a schedule will be added to provide time for the new limits to be attained.

j. Influent Total Suspended Solids and BOD_5

Monitoring for these two parameters will be retained as recommended in the SOP for POTWs, and as authorized under Chapter 92a.61.

k. Anti-Backsliding

Since all the permit limits in this renewal are the same or more restrictive than the previous NPDES Permit, anti-backsliding is not applicable.

4. Reasonable Potential Analysis:

A Reasonable Potential Analysis was performed in accordance with State practices for Outfall 001 by first using the Toxics Screening Analysis Spreadsheet (see Attachment 5) to determine which parameters should be modeled using the PentoxSD program (see Attachment 6). The following parameters were modeled for Outfall 001:

TDS, Chloride, Sulfate, Total Copper, Total Lead, and Total Zinc.

Median stream pH to be used:	7.4	Standard Units (S.U.)
Stream hardness to be used:	100	mg/l
	Basis:	5/2002 Connoquenessing Creek Watershed Alliance Growing Greener Watershed Assessment (pH) and default values (hardness)
Median discharge pH to be used:	6.6	Standard Units (S.U.)
Discharge hardness to be used:	100	mg/l
	Basis:	eDMR data (pH) and default values (hardness)

Result: Based on the Toxics Screening Analysis Spreadsheet (see Attachment 5), and the Pentox program (see Attachment 6), new limits are recommended for Total Copper, Total Lead, and Total Zinc with this renewal permit.

Per the SOP, a survey letter was mailed on January 24, 2020 to provide the Permittee a chance to collect additional samples at the target QL. A response was received on February 12, 2020 (See Attachment 7). The survey was completed, but no additional sampling was performed. Without the sampling, the calculated WQBELs for Total Copper, Total Lead, and Total Zinc will be added with this renewal, along with a schedule to provide time for the limits to be attained.

5. Reasonable Potential for Downstream Public Water Supply (PWS):

Based on the Toxics Screening Analysis Spreadsheet (see Attachment 6), Total Dissolved Solids, Chlorides, Bromide, and Sulfates were recommended to be monitored. Since Pentox does not calculate WQBELs for PWS-related parameters, mass-balance calculations were performed (see below).

Bromide has been linked to the formation of disinfection byproducts at increased levels in public water systems. Where the concentration of Bromide in a discharge exceeds 1 mg/L, and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for bromide. Based on the eDMR data of 0.1 mg/l for Bromide, and the discharge being less than 0.1 MGD, monitoring will not be added to this renewal permit.

Nearest Downstream potable water supply (PWS): Beaver Falls Municipal Authority
Distance downstream from the point of discharge: 42.0 miles (approximate)

PWS Evaluation:

Stream flow (sf) at the potable water supply intake = 561 cfs
Waste flow (wf) from the STP = 0.08 MGD = 0.12 cfs
Total flow = 561.12 cfs
Background Concentrations: No data available

Mass balance for TDS at the potable water supply intake:

(sf @ PWS)(bkrd. conc.) + (wf)(x) = (tot. flow)(criteria)
(561 cfs)(0 mg/l) + (0.12 cfs)(x) = (561.12 cfs)(500 mg/l)

x = 2,338,000 mg/l (renewal application maximum was 391 mg/l - ok)

Mass balance for Chlorides at the potable water supply intake:

(sf @ PWS)(bkrd. conc.) + (wf)(x) = (tot. flow)(criteria)

(561 cfs)(0 mg/l) + (0.12 cfs)(x) = (561.12 cfs)(250 mg/l)

x = 1,169,000 mg/l (renewal application maximum was 83.6 mg/l - ok)

Mass balance for Sulfates at the potable water supply intake:

(sf @ PWS)(bkrd. conc.) + (wf)(x) = (tot. flow)(criteria)

(561 cfs)(0 mg/l) + (0.12 cfs)(x) = (561.12 cfs)(250 mg/l)

x = 1,169,000 mg/l (renewal application maximum was 95.2 mg/l - ok)

6. Flow Information:

The Connoquenessing Borough STP receives 100% of its flow from the Connoquenessing Borough sewers.

All the sewers in the Connoquenessing Borough are separate sewer systems.

Attachment List:

Attachment 1 - Topographical Map of the Facility Area

Attachment 2 - Aerial Map of the STP

Attachment 3 - TRC_Calc Spreadsheet

Attachment 4 - WQ Modeling Printout

Attachment 5 - Toxics Screening Analysis Spreadsheet

Attachment 6 - Pentox Modeling Printouts

Attachment 7 - Survey and Response Letters

Attachment 8 - Email Withdrawing 0.14 MGD re-rate request

If viewing this electronically, please refer to the following PDF to view the above Attachments:

Adobe Acrobat Document

Compliance History

DMR Data for Outfall 001 (from September 1, 2019 to August 31, 2020)

Parameter	AUG-20	JUL-20	JUN-20	MAY-20	APR-20	MAR-20	FEB-20	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19
Flow (MGD) Average Monthly	0.020	0.022	0.022	0.033	0.041	0.051	0.047	0.43	0.042	0.035	0.029	0.020
Flow (MGD) Weekly Average	0.021	0.023	0.024	0.045	0.044	0.056	0.061	0.50	0.046	0.041	0.040	0.023
pH (S.U.) Minimum	7.0	6.8	6.5	6.3	6.6	6.8	6.5	6.5	6.4	6.1	6.1	6.3
pH (S.U.) Maximum	7.5	7.1	7.0	6.8	6.9	7.4	6.8	7.1	6.9	6.8	6.4	7.0
DO (mg/L) Minimum	5.1	6.2	6.6	6.2	7.4	6.9	6.9	6.5	7.4	6.3	6.5	7.3
TRC (mg/L) Average Monthly	0.20	0.10	0.05	0.20	0.10	0.12	0.10	0.20	0.20	0.10	0.20	0.19
TRC (mg/L) Instantaneous Maximum	0.35	0.15	0.25	0.40	0.20	0.30	0.20	0.40	0.30	0.20	0.30	0.46
CBOD5 (lbs/day) Average Monthly	0.5	5.7	0.5	0.8	1.0	1.3	1.2	1.1	1.0	0.9	0.7	0.5
CBOD5 (lbs/day) Weekly Average	0.5	5.8	0.6	1.1	1.1	1.4	1.5	1.3	1.2	1.0	1.0	0.6
CBOD5 (mg/L) Average Monthly	3	3	2.5	3.0	3.0	3	3	3	3.0	3.0	3	3.0
CBOD5 (mg/L) Weekly Average	3	3	3.0	3.0	3.0	3	3	3	3.0	3.0	3	3.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	45.0	31.2	61.5	108.4	53.7	75.2	61.5	76.0	62.7	47.0	57.6	31.4
BOD5 (mg/L) Raw Sewage Influent Average Monthly	270	170	335	394	157	165	157	212	179	161	238	188
TSS (lbs/day) Average Monthly	0.9	2.8	0.8	0.9	1.2	1.9	3.3	1.2	2.8	2.7	2.5	1.9
TSS (lbs/day) Raw Sewage Influent Average Monthly	58.0	29.7	64.2	96.3	80.7	83.3	45.0	53.4	39.2	58.7	64.1	27.4
TSS (lbs/day) Weekly Average	1.4	3.6	1.2	1.5	1.4	2.8	7.1	1.4	3.0	5.1	4.0	2.9
TSS (mg/L) Average Monthly	5.5	15	4.5	3.5	3.5	4.5	8.5	3.5	8	9	10.5	11.5

TSS (mg/L) Raw Sewage Influent Average Monthly	348	162	350	350	236	196	115	149	112	201	265	164
TSS (mg/L) Weekly Average	8.0	19	6.0	4.0	4.0	6.0	14	4	8	15	12	15
Fecal Coliform (CFU/100 ml) Geometric Mean	1	7	142	4	2	180	830	1	22	4	188	102
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	2	48	2420	6	3	2420	2420	1	488	8	194	179
Total Nitrogen (mg/L) Average Monthly	4.1	2.9	5.0	3.69	7.35	7.23	10.1	3.2	18.1	15.4	17.1	8.25
Ammonia (lbs/day) Average Monthly	0.1	0.1	0.3	0.2	0.5	0.4	0.3	0.3	0.1	0.1	0.1	0.1
Ammonia (mg/L) Average Monthly	0.5	0.5	1.9	0.9	1.5	1.0	0.7	0.8	0.4	0.4	0.3	0.50
Total Phosphorus (lbs/day) Average Monthly	0.2	0.3	0.3	0.1	0.2	0.3	0.3	0.2	0.3	0.2	0.6	0.3
Total Phosphorus (mg/L) Average Monthly	1.4	1.9	1.7	0.5	0.5	0.8	0.8	0.7	0.9	0.7	2.5	1.6

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 December 31, 2023.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0 Daily Max	XXX	1/day	Grab
DO	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.23	XXX	0.53	1/day	Grab
CBOD5	29.1	46.7	XXX	25.0	40.0	50	2/month	8-Hr Composite
TSS	35.0	52.5	XXX	30.0	45.0	60	2/month	8-Hr Composite
BOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
TSS Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	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
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	3.6	XXX	XXX	5.4	XXX	10.8	2/month	8-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	1.2	XXX	XXX	1.8	XXX	3.6	2/month	8-Hr Composite
Total Phosphorus	1.3	XXX	XXX	2.0	XXX	4	2/month	8-Hr Composite

Outfall 001, Continued (from Permit Effective Date through December 31, 2023)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Total Copper (ug/L)	Report	Report	XXX	Report	Report	XXX	2/month	8-Hr Composite
Total Lead (ug/L)	Report	Report	XXX	Report	Report	XXX	2/month	8-Hr Composite
Total Zinc (ug/L)	Report	Report	XXX	Report	Report	XXX	2/month	8-Hr Composite

Compliance Sampling Location: at Outfall 001, after disinfection.

Flow is monitor only based on Chapter 92a.61. The limits for pH and Dissolved Oxygen are technology-based on Chapter 93.7. The Total Residual Chlorine (TRC) limits are water quality-based on Chapter 93.7. The limits for $CBOD_5$, Total Suspended Solids, and Fecal Coliforms are technology-based on Chapter 92a.47. Monitoring for influent BOD5 and Total Suspended Solids is based on Chapter 92a.61. The limits for Ammonia-Nitrogen are water quality-based on Chapter 93.7. Monitoring for Total Nitrogen, Total Copper, Total Lead, and Total Zinc is based on Chapter 92a.61. The limits for Total Phosphorus are technology-based on Chapter 96.5.

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: January 1, 2024 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	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0 Daily Max	XXX	1/day	Grab
DO	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.020	XXX	0.065	1/day	Grab
CBOD5	29.1	46.7	XXX	25.0	40.0	50	2/month	8-Hr Composite
TSS	35.0	52.5	XXX	30.0	45.0	60	2/month	8-Hr Composite
BOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
TSS Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	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
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	3.6	XXX	XXX	5.4	XXX	10.8	2/month	8-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	1.2	XXX	XXX	1.8	XXX	3.6	2/month	8-Hr Composite
Total Phosphorus	1.3	XXX	XXX	2.0	XXX	4	2/month	8-Hr Composite

Outfall 001, Continued (from January 1, 2024 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	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Total Copper (ug/L)	0.006	0.012	XXX	9.6	19.3	24.1	2/month	8-Hr Composite
Total Lead (ug/L)	0.002	0.004	XXX	3.4	6.8	8.5	2/month	8-Hr Composite
Total Zinc (ug/L)	0.055	0.110	XXX	82.6	165.2	206.5	2/month	8-Hr Composite

Compliance Sampling Location: at Outfall 001, after disinfection.

Flow is monitor only based on Chapter 92a.61. The limits for pH and Dissolved Oxygen are technology-based on Chapter 93.7. The Total Residual Chlorine (TRC) limits are water quality-based on Chapter 93.7. The limits for $CBOD_5$, Total Suspended Solids, and Fecal Coliforms are technology-based on Chapter 92a.47. Monitoring for influent BOD5 and Total Suspended Solids is based on Chapter 92a.61. The limits for Ammonia-Nitrogen are water quality-based on Chapter 93.7. Monitoring for Total Nitrogen is based on Chapter 92a.61. The limits for Total Phosphorus are technology-based on Chapter 96.5. The limits for Total Copper, Total Lead, and Total Zinc are water quality-based on Chapter 16.