

STATE OF MISSOURI  
**DEPARTMENT OF NATURAL RESOURCES**

MISSOURI CLEAN WATER COMMISSION



**MISSOURI STATE OPERATING PERMIT**

In compliance with the Missouri Clean Water Law (Chapter 644 RSMo, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92<sup>nd</sup> Congress) as amended,

Permit No.: MO-0092649

Owner: Northeast Public Sewer District  
Address: 1041 Gravois Road, Fenton, MO 63026

Continuing Authority: Same as above  
Address: Same as above

Facility Name: NPSD, Terry Jean Acres WWTF  
Facility Address: 1711 Terry Jean Lane, Fenton, MO 63026

Legal Description: Landgrant 3127, Jefferson County  
UTM Coordinates: X=720366, Y=4260944

Receiving Stream: Sugar Creek (C) (losing)  
First Classified Stream and ID: Sugar Creek (C) (2191) (losing)  
USGS Basin & Sub-watershed No.: (07140102-1003)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

**FACILITY DESCRIPTION**

Outfall #001 – POTW

Septic tanks / recirculating sand filter / chlorination / de-chlorination / sludge is hauled by District to NPSD, Interim Saline Creek WWTP for final disposal.

Design population equivalent is 43.  
Design flow is 4,500 gallons per day.  
Actual flow is 1,830 gallons per day.  
Design sludge production is 0.3 dry tons/year.

Permitted Feature INF – Influent Monitoring Location – Influent manhole.

Legal Description: Landgrant 3127, Jefferson County  
UTM Coordinates: X=720316, Y=4260964

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas.

May 1, 2023  
Effective Date

April 30, 2028  
Expiration Date

\_\_\_\_\_  
John Hoke, Director, Water Protection Program

OUTFALL #001	TABLE A-1. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					
	The permittee is authorized to discharge from outfall number(s) as specified in the application for this permit. In accordance with 10 CSR 20-7.031, the final effluent limitations outlined in <b>Table A-2</b> must be achieved as soon as possible but no later than <b>May 1, 2026</b> . These interim effluent limitations in <b>Table A-1</b> are effective beginning <b>May 1, 2023</b> and remain in effect through <b>April 30, 2026</b> or as soon as possible. Such discharges shall be controlled, limited and monitored by the permittee as specified below:					
EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<b>eDMR Limit Set: Q</b>						
Flow	MGD	*		*	once/quarter***	24 hr. estimate
Biochemical Oxygen Demand <sub>5</sub>	mg/L		15	10	once/quarter***	grab
Total Suspended Solids	mg/L		20	15	once/quarter***	grab
<i>E. coli</i> (Note 1)	#/100mL	126		*	once/quarter***	grab
Ammonia as N	mg/L	*		*	once/quarter***	grab
Total Residual Chlorine (Note 2, Page 4)	µg/L	< 130		< 130	once/quarter***	grab
EFFLUENT PARAMETER(S)	UNITS	MINIMUM		MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH – Units**	SU	6.5		9.0	once/quarter***	grab
EFFLUENT PARAMETER(S)	UNITS	DAILY MINIMUM		MONTHLY AVERAGE MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Dissolved Oxygen (Note 2, Page X)	mg/L	*		*	once/quarter***	grab
EFFLUENT PARAMETER(S)			UNITS	MONTHLY AVERAGE MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Biochemical Oxygen Demand <sub>5</sub> – Percent Removal (Note 3, Page 4)			%	85	once/quarter***	calculated
Total Suspended Solids – Percent Removal (Note 3, Page 4)			%	85	once/quarter***	calculated
MONITORING REPORTS SHALL BE SUBMITTED <b>QUARTERLY</b> ; THE FIRST REPORT IS DUE <b>JULY 28, 2023</b> .						

\* Monitoring requirement only.

\*\* pH is measured in pH units and is not to be averaged.

\*\*\* See table below for quarterly sampling.

Quarterly Minimum Sampling Requirements			
Quarter	Months	Quarterly Effluent Parameters	Report is Due
First	January, February, March	Sample at least once during any month of the quarter	April 28 <sup>th</sup>
Second	April, May, June	Sample at least once during any month of the quarter	July 28 <sup>th</sup>
Third	July, August, September	Sample at least once during any month of the quarter	October 28 <sup>th</sup>
Fourth	October, November, December	Sample at least once during any month of the quarter	January 28 <sup>th</sup>

**Note 1** – Effluent limits of 126 #/100 mL daily maximum and monitoring only for monthly average for *E. coli* are applicable year round due to losing stream designation. No more than 10% of samples over the course of a calendar year shall exceed the 126 #/100 mL daily maximum.

EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<b>eDMR Limit Set: Q</b>						
Flow	MGD	*		*	once/quarter***	24 hr. estimate
Biochemical Oxygen Demand <sub>5</sub>	mg/L		15	10	once/quarter***	grab
Total Suspended Solids	mg/L		20	15	once/quarter***	grab
<i>E. coli</i> (Note 1, Page 2)	#/100mL	126		*	once/quarter***	grab
Ammonia as N (Jan 1 – Mar 31)	mg/L	12.1		3.1	once/quarter***	grab
Ammonia as N (Apr 1 – Jun 30)	mg/L	12.1		2.0	once/quarter***	grab
Ammonia as N (Jul 1 – Sep 30)	mg/L	12.1		1.5	once/quarter***	grab
Ammonia as N (Oct 1 – Dec 31)	mg/L	12.1		2.9	once/quarter***	grab
Total Residual Chlorine (Note 2, Page 4)	µg/L	< 130		< 130	once/quarter***	grab
EFFLUENT PARAMETER(S)	UNITS	MINIMUM		MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH – Units**	SU	6.5		9.0	once/quarter	grab
EFFLUENT PARAMETER(S)	UNITS	DAILY MINIMUM		MONTHLY AVERAGE MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Dissolved Oxygen (Note 2, Page 4)	mg/L	*		*	once/quarter	grab
EFFLUENT PARAMETER(S)			UNITS	MONTHLY AVERAGE MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Biochemical Oxygen Demand <sub>5</sub> – Percent Removal (Note 3, Page 4)			%	85	once/quarter	calculated
Total Suspended Solids – Percent Removal (Note 3, Page 4)			%	85	once/quarter	calculated
MONITORING REPORTS SHALL BE SUBMITTED <b>QUARTERLY</b> ; THE FIRST REPORT IS DUE <u>JULY 28, 2026</u> .						

\* Monitoring requirement only.

\*\* pH is measured in pH units and is not to be averaged.

\*\*\* See table below for quarterly sampling.

Quarterly Minimum Sampling Requirements			
Quarter	Months	Quarterly Effluent Parameters	Report is Due
First	January, February, March	Sample at least once during any month of the quarter	April 28 <sup>th</sup>
Second	April, May, June	Sample at least once during any month of the quarter	July 28 <sup>th</sup>
Third	July, August, September	Sample at least once during any month of the quarter	October 28 <sup>th</sup>
Fourth	October, November, December	Sample at least once during any month of the quarter	January 28 <sup>th</sup>

**Note 2** – This permit contains a Total Residual Chlorine (TRC) limit.

- (a) The Water Quality Based Effluent Limit for Total Residual Chlorine was calculated to be **18 µg/L** (daily maximum limit) and **9 µg/L** (monthly average limit). These limits are below the minimum quantification level (ML) of the most common and practical EPA approved CLTRC methods. The Department has determined the current acceptable ML for total residual chlorine to be 130 µg/L when using the DPD Colorimetric Method #4500 – CL G. from Standard Methods for the Examination of Waters and Wastewater. The permittee will conduct analyses in accordance with this method, or equivalent, and report actual analytical values. The minimum quantification level does not authorize the discharge of chlorine in excess of the effluent limits stated in the permit. Measured values greater than or equal to the minimum quantification level of 130 µg/L will be considered violations of the permit and values less than the minimum quantification level of 130 µg/L will be considered to be in compliance with the permit limitation.
- (b) Disinfection is required year-round.
- (c) Do not chemically de-chlorinate **if it is not needed to meet the limits in your permit.**
- (d) If no chlorine was used in a given sampling period, an actual analysis for TRC and Dissolved Oxygen (DO) is not necessary. Simply report as “AG – Conditional Monitoring Not Required This Period” for TRC and DO in the eDMR system.

**Note 3** – Influent sampling for BOD<sub>5</sub> and TSS is not required when the facility does not discharge effluent during the reporting period. Samples are to be collected prior to any treatment process. Calculate Percent Removal by using the following formula: [(Average Influent – Average Effluent) / Average Influent] x 100% = Percent Removal. Influent and effluent samples are to be taken during the same month. The Average Influent and Average Effluent values are to be calculated by adding the respective values together and dividing by the number of samples taken during the month. Influent samples are to be collected as a grab sample.

PERMITTED FEATURE <u>INF</u>	TABLE B-1. INFLUENT MONITORING REQUIREMENTS						
	PARAMETER(S)	UNITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
The monitoring requirements in <b>Table B-1</b> shall become effective on <b>May 1, 2023</b> and remain in effect until expiration of the permit. The influent wastewater shall be monitored by the permittee as specified below:							
<b>eDMR Limit Set: IQ</b>							
Biochemical Oxygen Demand <sub>5</sub> ( <b>Note 3</b> )	mg/L				*	once/quarter**	grab
Total Suspended Solids ( <b>Note 3</b> )	mg/L				*	once/quarter**	grab
MONITORING REPORTS SHALL BE SUBMITTED <b>QUARTERLY</b> ; THE FIRST REPORT IS DUE <b>JULY 28, 2023</b> .							

\* Monitoring requirement only.

\*\* See table below for quarterly sampling requirements.

Quarterly Minimum Sampling Requirements			
Quarter	Months	Quarterly Influent Parameters	Report is Due
First	January, February, March	Sample at least once during any month of the quarter	April 28 <sup>th</sup>
Second	April, May, June	Sample at least once during any month of the quarter	July 28 <sup>th</sup>
Third	July, August, September	Sample at least once during any month of the quarter	October 28 <sup>th</sup>
Fourth	October, November, December	Sample at least once during any month of the quarter	January 28 <sup>th</sup>

### **C. SCHEDULE OF COMPLIANCE**

The facility shall attain compliance with final effluent limitations as soon as possible but in no case later than **three (3) years** of the effective date of this permit.

1. Within six months of the effective date of this permit, the permittee shall report progress made in attaining compliance with the final effluent limits for ammonia.
2. The permittee shall submit interim progress reports detailing progress made in attaining compliance with the final effluent limits every 12 months from the effective date of this permit.
3. Within three (3) years of the effective date of this permit, the permittee shall attain compliance with the final effluent limits for ammonia.

Please submit progress reports to the Missouri Department of Natural Resources via the Electronic Discharge Monitoring Report (eDMR) Submission System.

### **D. STANDARD CONDITIONS**

In addition to specified conditions stated herein, this permit is subject to the attached Parts I, II, & III standard conditions dated August 1, 2014, May 1, 2013, and August 1, 2019, and hereby incorporated as though fully set forth herein. Annual reports required per Standard Conditions Part III Section K shall be submitted online to the Department via the Department's eDMR system as an attachment. This supersedes Standard Conditions Part III Section K #4. EPA reports shall continue to be submitted online via the Central Data Exchange system.

### **E. SPECIAL CONDITIONS**

1. Electronic Discharge Monitoring Report (eDMR) Submission System. Per 40 CFR Part 127 National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, reporting of effluent monitoring data and any report required by the permit (unless specifically directed otherwise by the permit) shall be submitted by the permittee via an electronic system to ensure timely, complete, accurate, and nationally consistent set of data about the NPDES program. All reports uploaded into the system shall be reasonably named so they are easily identifiable, such as "WET Test Chronic Outfall 002 Jan 2023," or "Outfall 004 Daily Data Mar 2025."
  - (a) eDMR Registration Requirements. The permittee must register with the Department's eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before the first report is due. Registration and other information regarding MoGEM can be found at <https://dnr.mo.gov/data-e-services/missouri-gateway-environmental-management-mogem>. Information about the eDMR system can be found at <https://dnr.mo.gov/water/business-industry-other-entities/reporting/electronic-discharge-monitoring-reporting-system-edmr>. The first user shall register as an Organization Official and the association to the facility must be approved by the Department. Regarding Standard Conditions Part I, Section B, #7, the eDMR system is currently the only Department approved reporting method for this permit unless a waiver is granted by the Department. See paragraph (c) below.
  - (b) Electronic Submissions. To access the eDMR system, use the following link in your web browser: <https://apps5.mo.gov/mogems/welcome.action>. If you experience difficulties with using the eDMR system you may contact [edmr@dnr.mo.gov](mailto:edmr@dnr.mo.gov) or call 855-789-3889 or 573-526-2082 for assistance.
  - (c) Waivers from Electronic Reporting. The permittee must electronically submit compliance monitoring data and reports unless a waiver is granted by the Department in compliance with 40 CFR Part 127. The permittee may obtain an electronic reporting waiver by first submitting an eDMR Waiver Request Form: <https://dnr.mo.gov/document-search/electronic-discharge-monitoring-report-waiver-request-form-mo-780-2692>. The Department will either approve or deny this electronic reporting waiver request within 120 calendar days.
2. The full implementation of this operating permit, which includes implementation of any applicable schedules of compliance, shall constitute compliance with all applicable federal and state statutes and regulations in accordance with §644.051.16, RSMo, and the Clean Water Act (CWA) section 402(k); however, this permit may be reopened and modified, or alternatively revoked and reissued:
  - (a) To comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the CWA, if the effluent standard or limitation so issued or approved:
    - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
    - (2) controls any pollutant not limited in the permit.
  - (b) To incorporate an approved pretreatment program or modification thereto pursuant to 40 CFR 403.8(c) or 40 CFR 403.18(e), respectively.

3. All outfalls must be clearly marked in the field.
4. Report as no-discharge when a discharge does not occur during the report period.
5. Reporting of Non-Detects:
  - (a) An analysis conducted by the permittee or their contracted laboratory shall be conducted in such a way that the precision and accuracy of the analyzed result can be enumerated.
  - (b) See sufficiently sensitive test method requirements in Standard Conditions Part I, Section A, No. 4 regarding proper testing and method minimum levels used for sample analysis.
  - (c) The permittee shall not report a sample result as “Non-Detect” without also reporting the method minimum level of the test. Reporting as “Non Detect” without also including the method minimum level, will be considered failure to report, which is a violation of this permit.
  - (d) The permittee shall provide the “Non-Detect” sample result using the less than symbol and the method minimum level (e.g., <50 µg/L, if the method minimum level for the parameter is 50 µg/L).
  - (e) Where the permit contains a Department determined Minimum Quantification Level (ML) and the permittee is granted authority in the permit to report zero in lieu of the < ML for a specified parameter (conventional, priority pollutants, metals, etc.), then zero (0) is to be reported for that parameter.
  - (f) For the daily maximum, the facility shall report the highest value. If the highest value was a non-detect, use the less than “<” symbol and the laboratory’s highest method minimum level.
  - (g) For reporting an average based on all non-detected values, remove the “<” sign from the values, average the values, and then add the “<” symbol back to the resulting average.
  - (h) For reporting an average based on a mix of detected and non-detected values (not including *E. coli*), assign a value of “0” for all non-detects for that reporting period and report the average of all the results.
  - (i) When *E. coli* is not detected above the method minimum level, the permittee must report the data qualifier signifying less than detection limit for that parameter (e.g., <1 #/100mL, if the method minimum level is 1 #/100mL). For reporting a geometric mean based on a mix of detected and non-detected values, use one-half of the detection limit (instead of zero) for non-detects when calculating geometric means.
  - (j) See the Fact Sheet Appendix - Non-Detect Example Calculations for further guidance.
6. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).
7. Bypasses are not authorized at this facility unless they meet the criteria in 40 CFR 122.41(m). If a bypass occurs, the permittee shall report in accordance to 40 CFR 122.41(m)(3), and with Standard Condition Part I, Section B, subsection 2. Bypasses are to be reported to the St. Louis Regional Office during normal business hours or by using the online Sanitary Sewer Overflow/Facility Bypass Application located at: <https://dnr.mo.gov/data-e-services/missouri-gateway-environmental-management-mogem> or the Environmental Emergency Response spill-line at 573-634-2436 outside of normal business hours. Once an electronic reporting system compliant with 40 CFR Part 127, the National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, is available all bypasses must be reported electronically via the new system. Blending, which is the practice of combining a partially-treated wastewater process stream with a fully-treated wastewater process stream prior to discharge, is not considered a form of bypass. If the permittee wishes to utilize blending, the permittee shall file an application to modify this permit to facilitate the inclusion of appropriate monitoring conditions.
8. The facility must be sufficiently secured to restrict entry by children, livestock and unauthorized persons as well as to protect the facility from vandalism.
9. An Operation and Maintenance (O & M) manual shall be maintained by the permittee and made available to the operator. The O & M manual shall include key operating procedures and a brief summary of the operation of the facility.
10. An all-weather access road to the treatment facility shall be maintained.
11. The outfall sewer shall be protected and maintained against the effects of floodwater, ice, or other hazards as to reasonably ensure its structural stability, freedom from stoppage, and that a sample of the effluent can be obtained at a point after the final treatment process and before the discharge mixes with the receiving waters.
12. The media in the filter beds shall be properly maintained to prevent surface pooling, vegetative growth, and accumulation of leaf litter.

**F. NOTICE OF RIGHT TO APPEAL**

If you were adversely affected by this decision, you may be entitled to pursue an appeal before the administrative hearing commission (AHC) pursuant to Sections 621.250 and 644.051.6 RSMo. To appeal, you must file a petition with the AHC within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Any appeal should be directed to:

Administrative Hearing Commission  
U.S. Post Office Building, Third Floor  
131 West High Street, P.O. Box 1557  
Jefferson City, MO 65102-1557  
Phone: 573-751-2422  
Fax: 573-751-5018  
Website: <https://ahc.mo.gov>

**MISSOURI DEPARTMENT OF NATURAL RESOURCES  
FACT SHEET  
FOR THE PURPOSE OF RENEWAL  
OF  
MO-0092649  
NPSD, TERRY JEAN ACRES WWTF**

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollutant Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of stormwater from certain point sources. All such discharges are unlawful without a permit (Section 301 of the "Clean Water Act"). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (MSOPs) are issued by the Director of the Missouri Department of Natural Resources (Department) under an approved program, operating in accordance with federal and state laws (Federal "Clean Water Act" and "Missouri Clean Water Law" Section 644 as amended). MSOPs are issued for a period of five (5) years unless otherwise specified.

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)(A)2.], a Factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (operating permit) listed below.

A Factsheet is not an enforceable part of an operating permit.

**Part I – Facility Information**

Application Date: 06/08/2022  
Expiration Date: 12/31/2022

Facility Type and Description: POTW - Septic tanks / recirculating sand filter / chlorination / de-chlorination / sludge is hauled by District to NPSD, Interim Saline Creek WWTP for final disposal.

**OUTFALL(S) TABLE:**

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE
#001	0.007	Secondary	Domestic

**Comments:**

Changes in this permit for Outfall #001 include the revision of Ammonia as N from monitoring to limits, which resulted in a schedule of compliance. Additionally, a stream survey by the Missouri Geological Survey confirmed this facility discharges to a classified losing stream within two miles downstream of the outfall. See Part II of the Fact Sheet for further information regarding the addition, revision, and removal of effluent parameters. Special conditions were updated to include the revision of the Electronic Discharge Monitoring Report (eDMR) Submission System, the revision of reporting Non-Detects, the removal of the requirement to cease discharge and connect to a facility with an area-wide management plan, the removal of the special condition regarding changes to existing pollutants or addition of new pollutants to the treatment facility, however additional pollutant loading must be reviewed under the antidegradation policy, and the removal of special conditions requiring gates and warning signs, but the facility must remain sufficiently secured to restrict access per special condition 8.

**Part II – Effluent Limitations and Monitoring Requirements**

**OUTFALL #001 – MAIN FACILITY OUTFALL**

Effluent limitations derived and established in the below Effluent Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit.

**OUTFALL #001 - RECEIVING STREAM INFORMATION**



**RECEIVING STREAM(S) TABLE:**

WATER-BODY NAME	CLASS	WBID	DESIGNATED USES*	12-DIGIT HUC	DISTANCE TO CLASSIFIED SEGMENT (MI)
Sugar Creek	C	2191	AHP (WWH), IRR, LWP, SCR, WBC-B, HHP	07140102-1117	Directly discharges

\*As per 10 CSR 20-7.031 Missouri Water Quality Standards, the Department defines the Clean Water Commission's water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and 1<sup>st</sup> classified receiving stream's beneficial water uses to be maintained are in the receiving stream table in accordance with [10 CSR 20-7.031(1)(C)].

Uses found in the receiving streams table, above:

10 CSR 20-7.031(1)(C)1.:

**AHP** = Aquatic Habitat Protection - To ensure the protection and propagation of fish, shellfish, and wildlife. AHP is further subcategorized as:

- WWH** = Warm Water Habitat;
- CLH** = Cool Water Habitat;
- CDH** = Cold Water Habitat;
- EAH** = Ephemeral Aquatic Habitat;
- MAH** = Modified Aquatic Habitat;
- LAH** = Limited Aquatic Habitat.

This permit uses Aquatic Life Protection effluent limitations in 10 CSR 20-7.031 Table A for all aquatic habitat designations unless otherwise specified.

10 CSR 20-7.031(1)(C)2.: Recreation in and on the water

**WBC** = Whole Body Contact recreation where the entire body is capable of being submerged. WBC is further subcategorized as:

- WBC-A** = Whole body contact recreation that supports swimming uses and has public access;
- WBC-B** = Whole body contact recreation that supports swimming;

**SCR** = Secondary Contact Recreation (like fishing, wading, and boating).

10 CSR 20-7.031(1)(C)3. to 7.:

- HHP** = Human Health Protection as it relates to the consumption of fish;
- IRR** = Irrigation - Application of water to cropland or directly to cultivated plants that may be used for human or livestock consumption;
- LWP** = Livestock and wildlife protection - Maintenance of conditions in waters to support health in livestock and wildlife;
- DWS** = Drinking water supply;
- IND** = Industrial water supply

10 CSR 20-7.031(1)(C)8-11.: Wetlands (10 CSR 20-7.031 Table A currently does not have corresponding habitat use criteria for these defined uses)

- WSA** = Storm- and flood-water storage and attenuation;
- WHP** = Habitat for resident and migratory wildlife species;
- WRC** = Recreational, cultural, educational, scientific, and natural aesthetic values and uses;
- WHC** = Hydrologic cycle maintenance.

10 CSR 20-7.031(6):

- GRW** = Groundwater

**RECEIVING STREAM(S) LOW-FLOW VALUES:**

RECEIVING STREAM	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
Sugar Creek	0	0	0

**MIXING CONSIDERATIONS**

Mixing Zone: Not Allowed [10 CSR 20-7.031(5)(A)4.B.(I)(a)].

Zone of Initial Dilution: Not Allowed [10 CSR 20-7.031(5)(A)4.B.(I)(b)].

Receiving Water Body's Water Quality

- ✓ This facility does not discharge to a 303(d) listed stream or to a stream with an EPA approved TMDL.
- ✓ The Department's Missouri Geological Survey Division conducted a geohydrologic evaluation of Sugar Creek on December 28, 2022. The evaluation observed the receiving stream from Outfall #002 to two miles downstream. The evaluation concluded the initial 0.6 miles downstream of Outfall #001 are gaining, but from that point continuing downstream.

Sugar Creek is classified as losing. This permit already contains losing stream limits for BOD, TSS, and E. coli, so no effluent limitations are affected by this survey confirmation.”

**CHANGES TO EFFLUENT LIMITATIONS TABLE:**

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type ****
Ammonia as N (Jan – Mar)	mg/L	2, 3	12.1		3.1	*/*	1/quarter	quarterly	G
Ammonia as N (Apr – Jun)	mg/L	2, 3	12.1		2.0	*/*	1/quarter	quarterly	G
Ammonia as N (Jul – Sep)	mg/L	2, 3	12.1		1.5	*/*	1/quarter	quarterly	G
Ammonia as N (Oct – Dec)	mg/L	2, 3	12.1		2.9	*/*	1/quarter	quarterly	G

\* - Monitoring requirement only.

\*\* - #/100mL; the Monthly Average for *E. coli* is a geometric mean.

\*\*\* - Parameter not previously established in previous state operating permit.

\*\*\*\* - C = 24-hour composite

G = Grab

T = 24-hr. total

E = 24-hr. estimate

M = Measured/calculated

**Basis for Limitations Codes:**

- |  |                                   |   |
|--|-----------------------------------|---|
| 1. State or Federal Regulation/Law       | 5. Antidegradation Policy         | 9. WET Test Policy                        |
| 2. Water Quality Standard (includes RPA) | 6. Water Quality Model            | 10. Multiple Discharger Variance          |
| 3. Water Quality Based Effluent Limits   | 7. Best Professional Judgment     | 11. Nutrient Criteria Implementation Plan |
| 4. Antidegradation Review                | 8. TMDL or Permit in lieu of TMDL |   |

**OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:**

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification.
- **Biochemical Oxygen Demand (BOD<sub>5</sub>).** Operating permit retains 15 mg/L as a Weekly Average and 10 mg/L as a Monthly Average from the previous permit. Effluent limits were established in accordance with 10 CSR 20-7.015(4) for discharges to Losing Streams.
- **Total Suspended Solids (TSS).** Operating permit retains 20 mg/L as a Weekly Average and 15 mg/L as a Monthly Average from the previous permit. Effluent limits were established in accordance with 10 CSR 20-7.015(4) for discharges to Losing Streams.
- **Escherichia coli (E. coli).** Discharges to losing streams shall not exceed 126 per 100 mL as a Daily Maximum at any time, as per 10 CSR 20-7.031(5)(C). Monitoring only for a monthly average. No more than 10% of samples over the course of the calendar year shall exceed 126 #/100 mL daily maximum as per 10 CSR 20-7.015(9)(B)1.G.
- **Total Ammonia Nitrogen.** Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(5)(B)7.C. & Table B3]. Background total ammonia nitrogen = 0.01 mg/L. No mixing considerations allowed; therefore, WLA = appropriate criterion.

The Department previously followed the 2007 Ammonia Guidance method for derivation of ammonia limits. However, the EPA’s Technical Support Document for Water Quality-based Toxic Controls (TSD) establishes other alternatives to limit derivation. The Department has determined that the approach established in Section 5.4.2 of the TSD, which allows for direct application of both the acute and chronic wasteload allocations (WLA) as permit limits for toxic pollutants, is more appropriate limit derivation approach. Using this method for a discharge to a waterbody where mixing is not allowed, the criterion continuous concentration (CCC) and the criterion maximum concentration (CMC) will equal the chronic and acute WLA respectively. The WLAs are then applied as effluent limits, per Section 5.4.2 of the TSD, where the CMC is the Daily Maximum and the CCC is the Monthly Average. The direct application of both acute and chronic criteria as WLA is also applicable for facilities that discharge into receiving waterbodies with mixing considerations. The CCC and CMC will need to be calculated into WLA with mixing considerations using the mass-balance equation:

$$C_e = \frac{(Q_e + Q_s)C - (Q_s \times C_s)}{Q_e}$$

- Where C = downstream concentration      C<sub>e</sub> = effluent concentration  
 C<sub>s</sub> = upstream concentration              Q<sub>e</sub> = effluent flow  
 Q<sub>s</sub> = upstream flow

In the event that mixing considerations derive an AML less stringent than the MDL, the AML and MDL will be equal and based on the MDL.

Quarter	Temp (°C)*	pH (SU)*	Total Ammonia Nitrogen CCC (mg/L)	Total Ammonia Nitrogen CMC (mg/L)
1 <sup>st</sup>	11.0	7.8	3.1	12.1
2 <sup>nd</sup>	21.2	7.8	2.0	12.1
3 <sup>rd</sup>	26.0	7.8	1.5	12.1
4 <sup>th</sup>	15.5	7.8	2.9	12.1

\* Ecoregion Data (Ozark Highlands)

**1<sup>st</sup> Quarter**

Chronic WLA:

$$C_e = ((0.007 + 0.0)3.1 - (0.0 * 0.01))/0.007 = 3.1 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.007 + 0.0)12.1 - (0.0 * 0.01))/0.007 = 12.1 \text{ mg/L}$$

Chronic WLA = AML = **3.1** mg/L

Acute WLA = MDL = **12.1** mg/L

**3<sup>rd</sup> Quarter**

Chronic WLA:

$$C_e = ((0.007 + 0.0)1.5 - (0.0 * 0.01))/0.007 = 1.5 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.007 + 0.0)12.1 - (0.0 * 0.01))/0.007 = 12.1 \text{ mg/L}$$

Chronic WLA = AML = **1.5** mg/L

Acute WLA = MDL = **12.1** mg/L

**2<sup>nd</sup> Quarter**

Chronic WLA:

$$C_e = ((0.007 + 0.0)2.0 - (0.0 * 0.01))/0.007 = 2.0 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.007 + 0.0)12.1 - (0.0 * 0.01))/0.007 = 12.1 \text{ mg/L}$$

Chronic WLA = AML = **2.0** mg/L

Acute WLA = MDL = **12.1** mg/L

**4<sup>th</sup> Quarter**

Chronic WLA:

$$C_e = ((0.007 + 0.0)2.9 - (0.0 * 0.01))/0.007 = 2.9 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.007 + 0.0)12.1 - (0.0 * 0.01))/0.007 = 12.1 \text{ mg/L}$$

Chronic WLA = AML = **2.9** mg/L

Acute WLA = MDL = **12.1** mg/L

- **Total Residual Chlorine (TRC)**. Warm-water Protection of Aquatic Life CCC = 11 µg/L, CMC = 19 µg/L [10 CSR 20-7.031, Table A]. Background TRC = 0.0 µg/L.

Chronic WLA:  $C_e = ((0.007 + 0.0)11 - (0.0 * 0.0))/0.007 = 11 \text{ µg/L}$

Acute WLA:  $C_e = ((0.007 + 0.0)19 - (0.0 * 0.0))/0.007 = 19 \text{ µg/L}$

$LTA_c = 11 (0.527) = 5.8 \text{ µg/L}$

$LTA_a = 19 (0.321) = 6.1 \text{ µg/L}$

[CV = 0.6, 99<sup>th</sup> Percentile]

[CV = 0.6, 99<sup>th</sup> Percentile]

Use most protective number of  $LTA_c$  or  $LTA_a$ .

MDL = 5.8 (3.11) = **18** µg/L

AML = 5.8 (1.55) = **9** µg/L

[CV = 0.6, 99<sup>th</sup> Percentile]

[CV = 0.6, 95<sup>th</sup> Percentile, n = 4]

The Water Quality Based Effluent Limit for Total Residual Chlorine was calculated to be 18 µg/L (daily maximum limit) and 9 µg/L (monthly average limit). These limits are below the minimum quantification level (ML) of the most common and practical EPA approved CLTRC methods. The Department has determined the current acceptable ML for total residual chlorine to be 130 µg/L when using the DPD Colorimetric Method #4500 – CL G. from Standard Methods for the Examination of Waters and Wastewater. The permittee will conduct analyses in accordance with this method, or equivalent, and report actual analytical values. Measured values greater than or equal to the minimum quantification level of 130 µg/L will be considered violations of the permit and values less than the minimum quantification level of 130 µg/L will be considered to be in compliance with the permit limitation.

- **pH**. 6.5-9.0 SU. pH limitations of 6.0-9.0 SU [10 CSR 20-7.015] are not protective of the in-stream Water Quality Standard, which states that water contaminants shall not cause pH to be outside the range of 6.5-9.0 SU.
- **Dissolved Oxygen**. This facility utilizes dechlorination chemicals in order to reduce the amount of total residual chlorine that is discharged in the effluent. Dechlorination chemicals are known to exhibit an oxygen demand on the effluent and if not properly managed the effects on the effluent DO concentrations can be significant. Therefore reasonable potential to cause or contribute to

an excursion of either the general or specific criteria does not exist based upon the permittee's application for discharge. Monitoring only requirements have been included in this permit in order to determine if a future effluent limitation is necessary to protect water quality.

- **Biochemical Oxygen Demand (BOD<sub>5</sub>) Percent Removal.** In accordance with 40 CFR Part 133, removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to BOD<sub>5</sub> and TSS for Publicly Owned Treatment Works (POTWs)/municipals. This facility is required to meet 85% removal efficiency for BOD<sub>5</sub>.
- **Total Suspended Solids (TSS) Percent Removal.** In accordance with 40 CFR Part 133, removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to BOD<sub>5</sub> and TSS for Publicly Owned Treatment Works (POTWs)/municipals. This facility is required to meet 85% removal efficiency for TSS.

**Sampling Frequency Justification:** The Department has determined that previously established sampling and reporting frequency is sufficient to characterize the facility's effluent and be protective of water quality. Sampling for *E. coli* is set at quarterly per 10 CSR 20-7.015(9)(D)7.C.

**Sampling Type Justification:** As per 10 CSR 20-7.015, BOD<sub>5</sub> and TSS samples collected for media filters may be grab samples. Grab samples must be collected for pH, *E. coli*, TRC, and Dissolved Oxygen in accordance with recommended analytical methods. For further information on sampling and testing methods please review 10 CSR 20-7.015(9)(D) 2.

**OUTFALL #001 – GENERAL CRITERIA CONSIDERATIONS:**

In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into the permit for those pollutants which have been determined to cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality. The rule further states that pollutants which have been determined to cause, have the reasonable potential to cause, or contribute to an excursion above a narrative criterion within an applicable State water quality standard, the permit shall contain a numeric effluent limitation to protect that narrative criterion. In order to comply with this regulation, the permit writer will complete reasonable potential determinations on whether the discharge will violate any of the general criteria listed in 10 CSR 20-7.031(4). These specific requirements are listed below followed by derivation and discussion (the lettering matches that of the rule itself, under 10 CSR 20-7.031(4)). It should also be noted that Section 644.076.1, RSMo as well as Section D – Administrative Requirements of Standard Conditions Part I of this permit states that it shall be unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri that is in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law or any standard, rule or regulation promulgated by the commission.

- (A) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses. The discharge from this facility is made up of treated domestic wastewater. Based upon review of the Report of Compliance Inspection for the inspection conducted on October 10, 2019, no evidence of an excursion of this criterion has been observed by the Department in the past and the facility has not disclosed any other information related to the characteristics of the discharge on their permit application which has the potential to cause or contribute to an excursion of this narrative criterion. Additionally, this facility utilizes secondary treatment technology and is currently in compliance with the secondary treatment technology based effluent limits established in this permit and there has been no indication to the Department that the stream has had issues maintaining beneficial uses as a result of this discharge. Based on the information reviewed during the drafting of this permit, these final effluent limitations appear to have protected against the excursion of this criterion in the past. Therefore, the discharge does not have the reasonable potential to cause or contribute to an excursion of this criterion.
- (B) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses. Please see (A) above as justification is the same.
- (C) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses. Please see (A) above as justification is the same.
- (D) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life. This permit contains final effluent limitations which are protective of both acute and chronic toxicity for various pollutants that are either expected to be discharged by domestic wastewater facilities or that were disclosed by this facility on the application for permit coverage. Based on the information reviewed during the drafting of this permit, it has been determined if the facility meets final effluent limitations established in this permit, there is no reasonable potential for the discharge to cause an excursion of this criterion.
- (E) Waters shall provide for the attainment and maintenance of water quality standards downstream including waters of another state. Please see (D) above as justification is the same.
- (F) There shall be no significant human health hazard from incidental contact with the water. Please see (D) above as justification is the same.
- (G) There shall be no acute toxicity to livestock or wildlife watering. Please see (D) above as justification is the same.
- (H) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community. Please see (A) above as justification is the same.

- (I) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247. The discharge from this facility is made up of treated domestic wastewater. No evidence of an excursion of this criterion has been observed by the Department in the past and the facility has not disclosed any other information related to the characteristics of the discharge on their permit application which has the potential to cause or contribute to an excursion of this narrative criterion. Additionally, any solid wastes received or produced at this facility are wholly contained in appropriate storage facilities, are not discharged, and are disposed of offsite. This discharge is subject to Standard Conditions Part III, which contains requirements for the management and disposal of sludge to prevent its discharge. Therefore, this discharge does not have reasonable potential to cause or contribute to an excursion of this criterion.

### **Part III – Rationale and Derivation of Effluent Limitations & Permit Conditions**

#### **ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:**

As per [10 CSR 20-7.015(4)(A)], discharges to losing streams shall be permitted only after other alternatives including land application, discharges to a gaining stream, and connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.

- ✓ The facility discharges to a Losing Stream as defined by [10 CSR 20-2.010(40)] & [10 CSR 20-7.031(1)(O)], and is an existing facility. The facility underwent an alternative evaluation during the approval of construction which determined alternative options to be unacceptable for environmental and/or economic reasons.

#### **ANTI-BACKSLIDING:**

A provision in the Federal Regulations [CWA §303(d)(4); CWA §402(o); 40 CFR Part 122.44(l)] that requires a reissued permit to be as stringent as the previous permit with some exceptions.

- ✓ Limitations in this operating permit for the reissuance of this permit conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44.
  - Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance.
    - **Total Residual Chlorine (TRC)**. The previous permit included final effluent limitations of 17 µg/L as a daily maximum and 8 µg/L as a monthly average. Effluent limits were recalculated and are consistent with the current Missouri Water Quality Standard for Total Residual Chlorine, resulting in final effluent limitations of 18 µg/L as a daily maximum and 9 µg/L as a monthly average. The newly established limitations are still protective of water quality and this determination will be reassessed at the time of renewal.
  - The Department determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b).
    - The previous permit indicated “There Shall Be No Discharge of Floating Solids or Visible Foam in Other Than Trace Amounts” under each table. The statement was not evaluated against actual site conditions therefore, this general criteria was re-assessed. It was determined that this facility does not discharge solids or foam in amounts which would indicate reasonable potential, therefore the statement was removed. Each general criteria was assessed for this facility.

#### **ANTIDegradation:**

In accordance with Missouri’s Water Quality Standard [10 CSR 20-7.031(3)], for domestic wastewater discharge with new, altered, or expanding discharges, the Department is to document by means of Antidegradation Review that the use of a water body’s available assimilative capacity is justified. In accordance with Missouri’s water quality regulations for antidegradation [10 CSR 20-7.031(3)], degradation may be justified by documenting the socio-economic importance of a discharge after determining the necessity of the discharge. Facilities must submit the antidegradation review request to the Department prior to establishing, altering, or expanding discharges. See <https://dnr.mo.gov/document-search/antidegradation-implementation-procedure>.

- ✓ No degradation was proposed in this permit action and no further review necessary. Facility did not apply for authorization to increase pollutant loading or to add additional pollutants to their discharge.

For stormwater discharges, the stormwater BMP chosen for the facility, through the antidegradation analysis performed by the facility, must be implemented and maintained at the facility. Failure to implement and maintain the chosen BMP alternative is a permit violation; see SWPPP.

- ✓ The facility does not have stormwater discharges or the stormwater outfalls onsite have no industrial exposure.

**AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:**

As per [10 CSR 20-6.010(2)(C)], an applicant may utilize a lower preference continuing authority when a higher level authority is available by submitting information as part of the application to the Department for review and approval, provided it does not conflict with any area-wide management plan approved under section 208 of the Federal Clean Water Act or any other regional sewage service and treatment plan approved for higher preference authority by the Department.

**BIOSOLIDS & SEWAGE SLUDGE:**

Biosolids are solid materials resulting from domestic wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sewage sludge is solids, semi-solids, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works.

- ✓ Permittee is not authorized to land apply biosolids. Sludge is hauled by permittee to another facility owned by this applicant. If removal and disposal (landfill, land apply, haul to another permitted treatment facility, etc.) of sludge/biosolids is needed and that method is not listed in the current permit, the permittee must modify the operating permit to add any biosolids/sludge disposal method to the facility description of the operating permit. For time sensitive situations, the permittee may contact the Department to see about approval for a one-time removal and disposal of sludge/biosolids that are not identified in the facility description of the operating permit.

**COMPLIANCE AND ENFORCEMENT:**

Enforcement is the action taken by the Water Protection Program (WPP) to bring an entity into compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and conditions of an operating permit. The primary purpose of the enforcement activity in the WPP is to resolve violations and return the entity to compliance.

**Facility Performance History:**

- ✓ The facility is not currently under Water Protection Program enforcement action. This facility was last inspected on October 10, 2019. The conditions of the facility at the time of inspection were found to be satisfactory.

**CONTINUING AUTHORITY:**

Each application for an operating permit shall identify the person, as that term is defined in section 644.016(15), RSMo, that is the owner of, operator of, or area-wide management authority for a water contaminant source, point source, wastewater treatment facility, or sewer collection system. This person shall be designated as the continuing authority and shall sign the application. By doing so, the person designated as the continuing authority acknowledges responsibility for compliance with all permit conditions.

10 CSR 20-6.010(2) establishes preferential levels for continuing authorities: Levels 1 through 5 (with Level 1 as the highest level), and generally requires permits to be issued to a higher preference continuing authority if available. A Level 3, 4, or 5 applicant may constitute a continuing authority by showing that Level 1 and Level 2 authorities are not available; do not have jurisdiction; are forbidden by state statute or local ordinance from providing service to the person; or that the Level 3, 4, or 5 applicant has met one of the requirements listed in paragraphs (2)(C)1.-7. of 10 CSR 20-6.010(2). The seven options in paragraphs (2)(C)1.-7. for a lower-level authority to demonstrate that it is the valid continuing authority are:

1. A waiver from the existing higher authority declining the offer to accept management of the additional wastewater or stormwater;
2. A written statement or a demonstration of non-response from the higher authority;
3. A to-scale map showing all parts of the legal boundary of the facility's property are beyond 2000 feet from the collection (sewer) system operated by the higher preference authority;
4. A proposed connection or adoption charge by the higher authority that would equal or exceed what is economically feasible for the applicant, which may be in the range of one hundred twenty percent (120%) of the applicant's cost for constructing or operating a wastewater treatment system;
5. A proposed service fee on the users of the system by the higher authority that is above what is affordable for existing homeowners in that area;
6. Terms for connection or adoption by the higher authority that would require more than two (2) years to achieve full sewer service; or
7. A demonstration that the terms for connection or adoption by the higher authority are not viable or feasible to homeowners in the area.

Permit applicants that are Levels 3, 4, and 5 must, as part of their application, identify their method of compliance with this regulation. The following are the methods to comply.

- No higher level authorities are available to the facility;
- No higher level authorities have jurisdiction;
- Higher level authorities are forbidden by state statute or local ordinance from providing service to the person;
- The existing higher level authority is available to the facility, however the facility has proposed the use of a lower preference continuing authority and has submitted one of the following as part of their application provided it does not conflict with any area-wide management plan approved under section 208 of the Clean Water Act or by the Missouri Clean Water Commission. (See Fact Sheet Appendix - Continuing Authority for more information on these options):
  - A waiver from the existing higher authority;
  - A written statement or a demonstration of non-response from the higher authority;
  - A to-scale map showing all parts of the legal boundary of the facility's property are beyond 2000 feet from the collection (sewer) system operated by the higher preference authority;
  - Documentation that the proposed connection or adoption charge by the higher authority would equal or exceed what is economically feasible for the applicant, which may be in the range of one hundred twenty percent (120%) of the applicant's cost for constructing or operating a wastewater treatment system;
  - Documentation that the proposed service fee on the users of the system by the higher authority is above what is affordable for existing homeowners in that area;
  - Documentation that the terms for connection or adoption by the higher authority would require more than two (2) years to achieve full sewer service;
  - A demonstration that the terms for connection or adoption by the higher authority are not viable or feasible to homeowners in the area;
- ✓ The continuing authority listed on the application is a public sewer district. The continuing authority is a Missouri Clean Water Commission approved Level 2 Authority. Northeast Public Sewer District is the regional management authority within its approved boundary in Jefferson County. Additionally, East-West Gateway has an approved Clean Water Act Section 208 plan in Jefferson County, but has a management agreement with this permittee.

#### **ELECTRONIC DISCHARGE MONITORING REPORT (EDMR) SUBMISSION SYSTEM:**

The U.S. Environmental Protection Agency (EPA) promulgated a final rule on October 22, 2015, to modernize Clean Water Act reporting for municipalities, industries, and other facilities by converting to an electronic data reporting system. This final rule requires regulated entities and state and federal regulators to use information technology to electronically report data required by the National Pollutant Discharge Elimination System (NPDES) permit program instead of filing paper reports. To comply with the federal rule, the Department is requiring all permittees to begin submitting discharge monitoring data and reports online. In an effort to aid facilities in the reporting of applicable information electronically, the Department has created several new forms including operational control monitoring forms and an I&I location and reduction form. These forms are optional and can be provided upon request to the Department.

Per 40 CFR 127.15 and 127.24, permitted facilities may request a temporary waiver for up to 5 years or a permanent waiver from electronic reporting from the Department. To obtain an electronic reporting waiver, a permittee must first submit an eDMR Waiver Request Form: <https://dnr.mo.gov/document-search/electronic-discharge-monitoring-report-waiver-request-form-mo-780-2692>. Each facility must make a request. If a single entity owns or operates more than one facility, then the entity must submit a separate request for each facility based on its specific circumstances. An approved waiver is non-transferable.

The Department must review and notify the facility within 120 calendar days of receipt if the waiver request has been approved or rejected [40 CFR 124.27(a)]. During the Department review period as well as after a waiver is granted, the facility must continue submitting a hard-copy of any reports required by their permit. The Department will enter data submitted in hard-copy from those facilities allowed to do so and electronically submit the data to the EPA on behalf of the facility.

- ✓ The permittee/facility is currently using the eDMR data reporting system.

#### **NUMERIC LAKE NUTRIENT CRITERIA:**

- ✓ This facility does not discharge into a lake watershed where numeric lake nutrient criteria are applicable.

#### **OPERATOR CERTIFICATION REQUIREMENTS:**

As per [10 CSR 20-6.010(8) Terms and Conditions of a Permit], the permittee shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions and regulations.

Operators at regulated wastewater treatment facilities shall be certified in accordance with [10 CSR 20-9.020(2)] and any other applicable state law or regulation. As per [10 CSR 20-9.020(2)(A)], requirements for operation by certified personnel shall apply to all wastewater treatment systems with population equivalents greater than 200 and are owned or operated by or for municipalities, public sewer districts, counties, public water supply districts, private sewer companies regulated by the Public Service Commission and state or federal agencies.

- ✓ This facility is not required to have a certified operator as it doesn't have a PE greater than 200.

**OPERATIONAL CONTROL TESTING:**

Missouri Clean Water Commission regulation 10 CSR 20-9.010 requires certain publicly owned treatment works and privately owned facilities regulated by the Public Service Commission to conduct internal operational control monitoring to further ensure proper operation of the facility and to be a safeguard or early warning for potential plant upsets that could affect effluent quality. This requirement is only applicable if the publicly owned treatment works and privately owned facilities regulated by the Public Service Commission has a calculated Population Equivalent greater than two hundred (200).

10 CSR 20-9.010(3) allows the Department to modify the monitoring frequency required in the rule based upon the Department's judgement of monitoring needs for process control at the specified facility.

- ✓ As per [10 CSR 20-9.010(4)], the facility is not required to conduct operational monitoring.

**PRETREATMENT PROGRAM:**

The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a Publicly Owned Treatment Works [40 CFR Part 403.3(q)].

Pretreatment programs are required at any POTW (or combination of POTW operated by the same authority) and/or municipality with a total design flow greater than 5.0 MGD and receiving industrial wastes that interfere with or pass through the treatment works or are otherwise subject to the pretreatment standards. Pretreatment programs can also be required at POTWs/municipals with a design flow less than 5.0 MGD if needed to prevent interference with operations or pass through.

- ✓ The permittee, at this time, is not required to have a Pretreatment Program or does not have an approved pretreatment program.

**REASONABLE POTENTIAL (RP):**

Federal regulation [40 CFR Part 122.44(d)(1)(i)] and State Regulation [10 CSR 20-7.015(9)(A)2] requires effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above narrative or numeric water quality standard.

In accordance with [40 CFR Part 122.44(d)(1)(iii)] if the permit writer determines that any given pollutant has the reasonable potential to cause, or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for that pollutant.

A reasonable potential analysis (RPA) is a numeric RP decision calculated using effluent data provided by the facility for parameters that have a numeric Water Quality Standard (WQS).

Reasonable potential determinations (RPD) are based on physical conditions of the site as provided in Sections 3.1.2, 3.1.3, and 3.2 of the TSD using best professional judgement. An RPD consists of evaluating visual observations for compliance with narrative criteria, non-numeric information, or small amounts of numerical data (such as 3 data points supplied in the application). Narrative criteria with RP typically translate to a numeric WQS, so a parameter's establishment being based on narrative criteria does not necessarily make the decision an RPD vs RP—how the data is collected does, however. When insufficient data is received to make a determination on RP based on numeric effluent data, the RPD decisions are based on best professional judgment considering the sources of influent wastewater, type of treatment, and historical overall management of the site.

- ✓ An RPA was conducted on appropriate parameters. Please see **APPENDIX – RPA RESULTS.**

**REMOVAL EFFICIENCY:**

Removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD<sub>5</sub>) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals.

- ✓ Secondary Treatment is 85% removal [40 CFR Part 133.102(a)(3) & (b)(3)].



**SANITARY SEWER OVERFLOWS (SSO) AND INFLOW AND INFILTRATION (I&I):**

Sanitary Sewer Overflows (SSOs) are defined as untreated sewage releases and are considered bypassing under state regulation [10 CSR 20-2.010(12)] and should not be confused with the federal definition of bypass. SSOs result from a variety of causes including blockages, line breaks, and sewer defects that can either allow wastewater to backup within the collection system during dry weather conditions or allow excess stormwater and groundwater to enter and overload the collection system during wet weather conditions. SSOs can also result from lapses in sewer system operation and maintenance, inadequate sewer design and construction, power failures, and vandalism. SSOs include overflows out of manholes, cleanouts, broken pipes, and other into waters of the state and onto city streets, sidewalks, and other terrestrial locations.

Inflow and Infiltration (I&I) is defined as unwanted intrusion of stormwater or groundwater into a collection system. This can occur from points of direct connection such as sump pumps, roof drain downspouts, foundation drains, and storm drain cross-connections or through cracks, holes, joint failures, faulty line connections, damaged manholes, and other openings in the collection system itself. I&I results from a variety of causes including line breaks, improperly sealed connections, cracks caused by soil erosion/settling, penetration of vegetative roots, and other sewer defects. In addition, excess stormwater and groundwater entering the collection system from line breaks and sewer defects have the potential to negatively impact the treatment facility.

Missouri RSMo §644.026.1.(13) mandates that the Department issue permits for discharges of water contaminants into the waters of this state, and also for the operation of sewer systems. Such permit conditions shall ensure compliance with all requirements as established by sections 644.006 to 644.141. Standard Conditions Part I, referenced in the permit, contains provisions requiring proper operation and maintenance of all facilities and systems of treatment and control. Missouri RSMo §644.026.1.(15) instructs the Department to require proper maintenance and operation of treatment facilities and sewer systems and proper disposal of residual waste from all such facilities. To ensure that public health and the environment are protected, any noncompliance which may endanger public health or the environment must be reported to the Department within 24 hours of the time the permittee becomes aware of the noncompliance. Standard Conditions Part I, referenced in the permit, contains the reporting requirements for the permittee when bypasses and upsets occur.

- ✓ This facility is not required to develop or implement a program for maintenance and repair of the collection system; however, it is a violation of Missouri State Environmental Laws and Regulations to allow untreated wastewater to discharge to waters of the state.

**SCHEDULE OF COMPLIANCE (SOC):**

Per 644.051.4 RSMo, a permit may be issued with a Schedule of Compliance (SOC) to provide time for a facility to come into compliance with new state or federal effluent regulations, water quality standards, or other requirements. Such a schedule is not allowed if the facility is already in compliance with the new requirement, or if prohibited by other statute or regulation. A SOC includes an enforceable sequence of interim requirements (actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit. *See also* Section 502(17) of the Clean Water Act, and 40 CFR §122.2. For new effluent limitations, the permit may include interim monitoring for the specific parameter to demonstrate the facility is not already in compliance with the new requirement. Per 40 CFR § 122.47(a)(1), 10 CSR 20-7.031(11), and 10 CSR 20-7.015(9), compliance must occur as soon as possible. If the permit provides a schedule for meeting new water quality based effluent limits, a SOC must include an enforceable, final effluent limitation in the permit even if the SOC extends beyond the life of the permit.

A SOC is not allowed:

- For effluent limitations based on technology-based standards established in accordance with federal requirements, if the deadline for compliance established in federal regulations has passed. 40 CFR § 125.3.
- For a newly constructed facility in most cases. Newly constructed facilities must meet applicable effluent limitations when discharge begins, because the facility has installed the appropriate control technology as specified in a permit or antidegradation review. A SOC is allowed for a new water quality based effluent limit that was not included in a previously public noticed permit or antidegradation review, which may occur if a regulation changes during construction.
- To develop a TMDL, UAA, or other study that may result in site-specific criteria or alternative effluent limits. A facility is not prohibited from conducting these activities, but a SOC may not be granted for conducting these activities.

In order to provide guidance to Permit Writers in developing SOCs, and attain a greater level of consistency, on April 9, 2015 the Department issued an updated policy on development of SOCs. This policy provides guidance to Permit Writers on the standard time frames for schedules for common activities, and guidance on factors that may modify the length of the schedule such as a Cost Analysis for Compliance.

- ✓ The time given for effluent limitations of this permit listed under Interim Effluent Limitation and Final Effluent Limitations were established in accordance with [10 CSR 20-7.031(11)]. The facility has been given a schedule of compliance to meet final effluent limits for ammonia. Example - The three (3) year schedule of compliance allowed for this facility should provide adequate time to evaluate operations, obtain an engineering report, hold a bond election, obtain a construction permit and implement upgrades required to meet effluent limits.

The following suggested milestones can be used by the permittee as a timeline toward compliance with new permit requirements. Once the permit holder's engineer has completed facility design with actual costs associated with permit compliance, it may be necessary for the permit holder to request additional time within the schedule of compliance. The Department is committed to review all requests for additional time in the schedule of compliance where adequate justification is provided.

**Suggested Milestones during the 3 Year Schedule of Compliance**

Year	Milestone(s)
1	Hire engineer and evaluate rate structure and treatment plant; apply for State Revolving Fund loans and/or grants and submit facility plan
2	Apply for construction permit and close on loan, if applicable
3	Complete construction

**VARIANCE:**

As per the Missouri Clean Water Law § 644.061.4, variances shall be granted for such period of time and under such terms and conditions as shall be specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law §§644.006 to 644.141 or any standard, rule or regulation promulgated pursuant to Missouri Clean Water Law §§644.006 to 644.141.

- ✓ This operating permit is not drafted under premises of a petition for variance.

**WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:**

As per [10 CSR 20-2.010(86)], the amount of pollutant each discharger is allowed by the Department to release into a given stream after the Department has determined total amount of pollutant that may be discharged into that stream without endangering its water quality.

- ✓ Wasteload allocations were calculated where applicable using water quality criteria or water quality model results and the dilution equation below:

$$C_e = \frac{(Q_e + Q_s)C - (Q_s \times C_s)}{(Q_e)} \quad (\text{EPA/505/2-90-001, Section 4.5.5})$$

Where C = downstream concentration      C<sub>e</sub> = effluent concentration  
 C<sub>s</sub> = upstream concentration            Q<sub>e</sub> = effluent flow  
 Q<sub>s</sub> = upstream flow

Chronic wasteload allocations were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration) and stream volume of flow at the edge of the mixing zone (MZ). Acute wasteload allocations were determined using applicable water quality criteria (CMC: criteria maximum concentration) and stream volume of flow at the edge of the zone of initial dilution (ZID).

Water quality based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA's "Technical Support Document For Water Quality-based Toxics Control" (EPA/505/2-90-001).

**Number of Samples "n":**

Additionally, in accordance with the TSD for water quality-based permitting, effluent quality is determined by the underlying distribution of daily values, which is determined by the Long Term Average (LTA) associated with a particular Wasteload Allocation (WLA) and by the Coefficient of Variation (CV) of the effluent concentrations. Increasing or decreasing the monitoring frequency does not affect this underlying distribution or treatment performance, which should be, at a minimum, be targeted to comply with the values dictated by the WLA. Therefore, it is recommended that the actual planned frequency of monitoring normally be used to determine the value of "n" for calculating the AML. However, in situations where monitoring frequency is once per month or less, a higher value for "n" must be assumed for AML derivation purposes. Thus, the statistical procedure being employed using an assumed number of samples is "n = 4" at a minimum. For Total Ammonia as Nitrogen, "n = 30" is used.

**WLA MODELING:**

There are two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs). If TBELs do not provide adequate protection for the receiving waters, then WQBEL must be used.

- ✓ A WLA study was either not submitted or determined not applicable by Department staff.

#### **WHOLE EFFLUENT TOXICITY (WET) TEST:**

A WET test is a quantifiable method of determining if a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with or through synergistic responses when mixed with receiving stream water.

Under the federal Clean Water Act (CWA) §101(a)(3), requiring WET testing is reasonably appropriate for site-specific Missouri State Operating Permits for discharges to waters of the state issued under the National Pollutant Discharge Elimination System (NPDES). WET testing is also required by 40 CFR 122.44(d)(1). WET testing ensures that the provisions in the 10 CSR 20-6.010(8)(A) and the Water Quality Standards 10 CSR 20-7.031(4)(D),(F),(G),(J)2.A & B are being met. Under [10 CSR 20-6.010(8)(B)], the Department may require other terms and conditions that it deems necessary to assure compliance with the Clean Water Act and related regulations of the Missouri Clean Water Commission. In addition the following MCWL apply: §§644.051.3 requires the Department to set permit conditions that comply with the MCWL and CWA; 644.051.4 specifically references toxicity as an item we must consider in writing permits (along with water quality-based effluent limits, pretreatment, etc...); and 644.051.5 is the basic authority to require testing conditions. WET test will be required by facilities meeting the following criteria:

- Facility is a designated Major.
- Facility continuously or routinely exceeds its design flow.
- Facility that exceeds its design population equivalent (PE) for BOD<sub>5</sub> whether or not its design flow is being exceeded.
- Facility (whether primarily domestic or industrial) that alters its production process throughout the year.
- Facility handles large quantities of toxic substances, or substances that are toxic in large amounts.
- Facility has Water Quality-based Effluent Limitations for toxic substances (other than NH<sub>3</sub>)
- Facility is a municipality with a Design Flow ≥ 22,500 gpd.
- Other – please justify.

- ✓ At this time, the permittee is not required to conduct WET test for this facility.

#### **40 CFR 122.41(M) - BYPASSES:**

The federal Clean Water Act (CWA), Section 402 prohibits wastewater dischargers from “bypassing” untreated or partially treated sewage (wastewater) beyond the headworks. A bypass is defined as an intentional diversion of waste streams from any portion of a treatment facility, [40 CFR 122.41(m)(1)(i)]. Additionally, Missouri regulation 10 CSR 20-7.015(9)(G) states a bypass means the intentional diversion of waste streams from any portion of a treatment facility, except in the case of blending, to waters of the state. Only under exceptional and specified limitations do the federal regulations allow for a facility to bypass some or all of the flow from its treatment process. Bypasses are prohibited by the CWA unless a permittee can meet all of the criteria listed in 40 CFR 122.41(m)(4)(i)(A), (B), & (C). Any bypasses from this facility are subject to the reporting required in 40 CFR 122.41(l)(6) and per Missouri’s Standard Conditions I, Section B, part 2.b. Additionally, Anticipated Bypasses include bypasses from peak flow basins or similar devices designed for peak wet weather flows.

- ✓ This facility does not anticipate bypassing.

### **Part IV – Cost Analysis for Compliance**

Pursuant to Section 644.145, RSMo, when issuing permits under this chapter that incorporate a new requirement for discharges from publicly owned combined or separate sanitary or storm sewer systems or publicly owned treatment works, or when enforcing provisions of this chapter or the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq., pertaining to any portion of a publicly owned combined or separate sanitary or storm sewer system or [publicly owned] treatment works, the Department of Natural Resources shall make a “finding of affordability” on the costs to be incurred and the impact of any rate changes on ratepayers upon which to base such permits and decisions, to the extent allowable under this chapter and the Federal Water Pollution Control Act. This process is completed through a cost analysis for compliance. Permits that do not include new requirements may be deemed affordable.

- ✓ The Department is required to determine “findings of affordability” because the permit applies to a combined or separate sanitary sewer system for a publicly-owned treatment works.

**Cost Analysis for Compliance** - The Department has made a reasonable search for empirical data indicating the permit is affordable. The search consisted of a review of Department records that might contain economic data on the community, a review of information provided by the applicant as part of the application, and public comments received in response to public notices of this draft permit. If the empirical cost data was used by the permit writer, this data may consist of median household income, any other ongoing projects that the Department has knowledge, and other demographic financial information that the community provided as contemplated by Section 644. 145.3.

The following table summarizes the results of the cost analysis. See **Appendix – Cost Analysis for Compliance** for detailed information.

**Summary Table. Cost Analysis for Compliance Summary for the Northeast Public Sewer District**

Annual Median Household Income (MHI) for Jefferson County	Estimated Monthly User Rate	User Rate as a Percent of MHI	Schedule of Compliance Length
\$70,782	Because this facility is owned by a sewer district, the Department cannot calculate a user cost or the user cost as a percentage of MHI.		3 years
Pollution Control Option Selected for Analysis: Land application system			
Estimated Present Worth: \$349,699 - \$355,316			

**Part V – Administrative Requirements**

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit. The proposed determinations are tentative pending public comment.

**WATER QUALITY STANDARD REVISION:**

In accordance with section 644.058, RSMo, the Department is required to utilize an evaluation of the environmental and economic impacts of modifications to water quality standards of twenty-five percent or more when making individual site-specific permit decisions.

- ✓ This operating permit does not contain requirements for a water quality standard that has changed twenty-five percent or more since the previous operating permit.

**PUBLIC NOTICE:**

The Department shall give public notice that a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in and water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and permittee must be notified of the denial in writing. The Department must issue public notice of a pending operating permit or of a new or reissued statewide general permit. The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit. For persons wanting to submit comments regarding this proposed operating permit, then please refer to the Public Notice page located at the front of this draft operating permit. The Public Notice page gives direction on how and where to submit appropriate comments.

- ✓ The Public Notice period for this operating permit was from February 24, 2023 to March 27, 2023. No responses received.

**DATE OF FACT SHEET:** JANUARY 17, 2023

**COMPLETED BY:**

**TERESA BULLOCK, ENVIRONMENTAL SCIENTIST  
MISSOURI DEPARTMENT OF NATURAL RESOURCES  
WATER PROTECTION PROGRAM  
ON BEHALF OF OPERATING PERMITS SECTION - DOMESTIC WASTEWATER UNIT  
(573) 522-0095  
teresa.bullock@dnr.mo.gov**

## Appendices

### APPENDIX – RPA RESULTS:

Parameter	CMC*	RWC Acute*	CCC*	RWC Chronic*	n**	Range max/min	CV***	MF	RP Yes/No
Ammonia as N – Summer (mg/L)	12.1	43.80	1.5	43.80	10	14.6/0.015	2.25	3.00	YES
Ammonia as N – Winter (mg/L)	12.1	17.76	2.9	17.76	10	5.92/0.14	1.12	3.00	YES

N/A – Not Applicable

\* - Units are (µg/L) unless otherwise noted.

\*\* - If the number of samples is 10 or greater, then the CV value must be used in the WQBEL for the applicable constituent. If the number of samples is < 10, then the default CV value must be used in the WQBEL for the applicable constituent.

\*\*\* - Coefficient of Variation (CV) is calculated by dividing the Standard Deviation of the sample set by the Mean of the same sample set.

RWC – Receiving Water Concentration. It is the concentration of a toxicant or the parameter toxicity in the receiving water after mixing (if applicable).

n – Is the number of samples.

MF – Multiplying Factor. 99% Confidence Level and 99% Probability Basis.

RP – Reasonable Potential. It is where an effluent is projected or calculated to cause an excursion above a water quality standard based on a number of factors including, as a minimum, the four factors listed in 40 CFR 122.44(d)(1)(ii).

Reasonable Potential Analysis is conducted as per (TSD, EPA/505/2-90-001, Section 3.3.2). A more detailed version including calculations of this RPA is available upon request.

### APPENDIX – Non-Detect Example Calculations:

**Example:** Permittee has four samples for Pollutant X which has a method minimum level of 5 mg/L and is to report a Daily Maximum and Monthly Average.

Week 1 = 11.4 mg/L  
Week 2 = Non-Detect or <5.0 mg/L  
Week 3 = 7.1 mg/L  
Week 4 = Non-Detect or <5.0 mg/L

For this example, use subpart (h) - For reporting an average based on a mix of detected and non-detected values (not including *E. coli*), assign a value of “0” for all non-detects for that reporting period and report the average of all the results.

$$11.4 + 0 + 7.1 + 0 = 18.5 \div 4 \text{ (number of samples)} = 4.63 \text{ mg/L.}$$

The Permittee reports a Monthly Average of 4.63 mg/L and a Daily maximum of 11.4 mg/L (Note the < symbol was dropped in the answers).

**Example:** Permittee has five samples for Pollutant Y that has a method minimum level of 9 µg/L and is to report a Daily Maximum and Monthly Average.

Day 1 = Non-Detect or <9.0 µg/L  
Day 2 = Non-Detect or <9.0 µg/L  
Day 3 = Non-Detect or <9.0 µg/L  
Day 4 = Non-Detect or <9.0 µg/L  
Day 5 = Non-Detect or <9.0 µg/L

For this example, use subpart (g) - For reporting an average based on all non-detected values, remove the “<” sign from the values, average the values, and then add the “<” symbol back to the resulting average.

$$(9 + 9 + 9 + 9 + 9) \div 5 \text{ (number of samples)} = <9 \text{ µg/L.}$$

The Permittee reports a Monthly Average of <9.0 µg/L (retain the ‘less than’ symbol) and a Daily Maximum of <9.0 µg/L.

**Example:** Permittee has four samples for Pollutant Z where the first two tests were conducted using a method with a method minimum level of 4 µg/L and the remaining two tests were conducted using a different method that has a method minimum level of <6 µg/L and is to report a Monthly Average and a Weekly Average.

Week 1 = Non-Detect or <4.0 µg/L  
Week 2 = Non-Detect or <4.0 µg/L  
Week 3 = Non-Detect or <6.0 µg/L  
Week 4 = Non-Detect or <6.0 µg/L

For this example, use subpart (g) - For reporting an average based on all non-detected values, remove the “<” sign from the values, average the values, and then add the “<” symbol back to the resulting average.

$$(4 + 4 + 6 + 6) \div 4 \text{ (number of samples)} = <5 \text{ µg/L. (Monthly)}$$

The facility reports a Monthly Average of <5.0 µg/L and a Weekly Average of <6.0 µg/L.

**APPENDIX – Non-Detect Example Calculations (Continued):**

**Example:** Permittee has five samples for Pollutant Z where the first two tests were conducted using a method with a method minimum level of 4 µg/L and the remaining three tests were conducted using a different method that has a method minimum level of <6 µg/L and is to report a Monthly Average and a Weekly Average.

Week 1 = Non-Detect or <4.0 µg/L  
 Week 2 = Non-Detect or <4.0 µg/L  
 Week 2 = Non-Detect or <6.0 µg/L  
 Week 3 = Non-Detect or <6.0 µg/L  
 Week 4 = Non-Detect or <6.0 µg/L

For this example, use subpart (g) - For reporting an average based on all non-detected values, remove the “<” sign from the values, average the values, and then add the “<” symbol back to the resulting average.

$$(4 + 4 + 6 + 6 + 6) \div 5 \text{ (number of samples)} = <5.2 \text{ } \mu\text{g/L. (Monthly)}$$

$$(4 + 6) \div 2 \text{ (number of samples)} = <5 \text{ } \mu\text{g/L. (Week 2)}$$

The facility reports a Monthly Average of <5.2 µg/L and a Weekly Average of <6.0 µg/L (report highest Weekly Average value)

**Example:** Permittee has four samples for Pollutant Z where the tests were conducted using a method with a method minimum level of 10 µg/L and is to report a Monthly Average and Daily Maximum. The permit lists that Pollutant Z has a Department determined Minimum Quantification Level (ML) of 130 µg/L.

Week 1 = 12 µg/L  
 Week 2 = 52 µg/L  
 Week 3 = Non-Detect or <10 µg/L  
 Week 4 = 133 µg/L

For this example, use subpart (h) - For reporting an average based on a mix of detected and non-detected values (not including *E. coli*), assign a value of “0” for all non-detects for that reporting period and report the average of all the results.

$$\text{For this example, } (12 + 52 + 0 + 133) \div 4 \text{ (number of samples)} = 197 \div 4 = 49.3 \text{ } \mu\text{g/L.}$$

The facility reports a Monthly Average of 49.3 µg/L and a Daily Maximum of 133 µg/L.

**Example:** Permittee has five samples for *E. coli* which has a method minimum level of 1 #/100mL and is to report a Weekly Average (seven (7) day geometric mean) and a Monthly Average (thirty (30) day geometric mean).

Week 1 = 102 #/100mL  
 Week 2 (Monday) = 400 #/100mL  
 Week 2 (Friday) = Non-Detect or <1 #/100mL  
 Week 3 = 15 #/100mL  
 Week 4 = Non-Detect or <1 #/100mL

For this example, use subpart (i) - When *E. coli* is not detected above the method minimum level, the permittee must report the data qualifier signifying less than detection limit for that parameter (e.g., <1 #/100mL, if the method minimum level is 1 #/100mL). For reporting a geometric mean based on a mix of detected and non-detected values, use one-half of the detection limit (instead of zero) for non-detects when calculating geometric means. The Geometric Mean is calculated by multiplying all of the data points and then taking the nth root of this product, where n = # of samples collected.

$$\text{The Monthly Average (30 day Geometric Mean)} = 5\text{th root of } (102)(400)(0.5)(15)(0.5) = 5\text{th root of } 153,000 = 10.9 \text{ \#/100mL.}$$

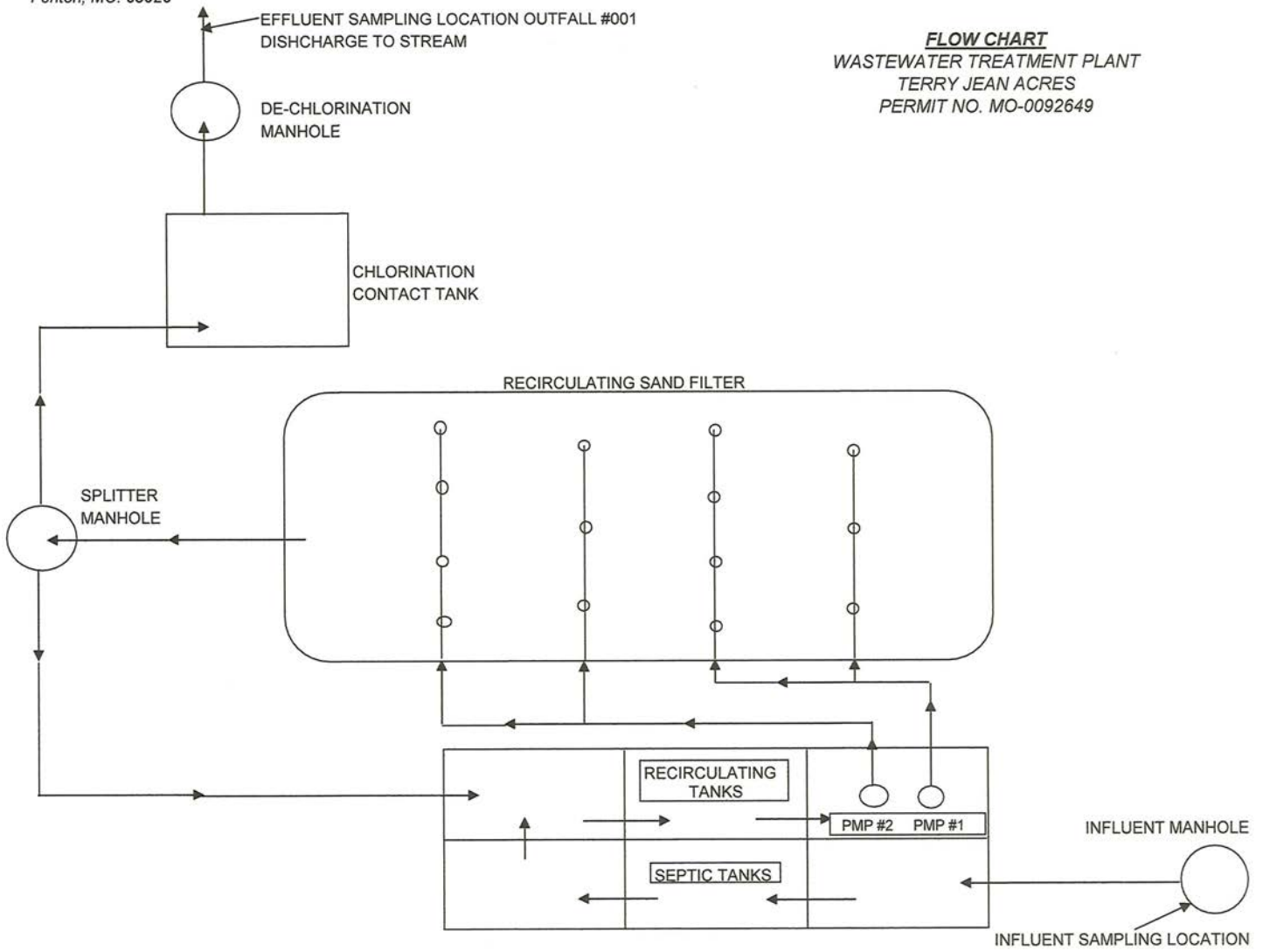
$$\text{The 7 day Geometric Mean} = 2\text{nd root of } (400)(0.5) = 2\text{nd root of } 200 = 14.1 \text{ \#/100mL. (Week 2)}$$

The Permittee reports a Monthly Average (30 day Geometric Mean) of 10.9 #/100mL and a Weekly Average (7 day geometric mean) of 102 #/100mL (report highest Weekly Average value)

APPENDIX – ALTERNATIVE: FACILITY LAYOUT

NORTHEAST PUBLIC SEWER DISTRICT  
1041 Gravois Road  
Fenton, MO. 63026

**FLOW CHART**  
WASTEWATER TREATMENT PLANT  
TERRY JEAN ACRES  
PERMIT NO. MO-0092649





**APPENDIX – COST ANALYSIS FOR COMPLIANCE (CAF/COM):**

**Missouri Department of Natural Resources  
Water Protection Program  
Cost Analysis for Compliance  
(In accordance with RSMo 644.145)**

**NPSD, Terry Jean Acres WWTF, Permit Renewal  
Northeast Public Sewer District  
Missouri State Operating Permit #MO-0092649**

Section 644.145 RSMo requires the Department of Natural Resources (Department) to make a “finding of affordability” when “issuing permits under” or “enforcing provisions of” state or federal clean water laws “pertaining to any portion of a combined or separate sanitary sewer system for publicly-owned treatment works.” This cost analysis does not dictate that the permittee will upgrade their facility, or how the permittee will comply with new permit requirements. The results of this analysis are used to determine an adequate compliance schedule for the permit that may mitigate the financial burden of new permit requirements.

**New Permit Requirements**

The permit requires compliance with new effluent limitations for ammonia, which may require the design, construction, and operation of a different treatment technology. The cost assumptions in this analysis anticipate complete replacement of the existing treatment facility. For this analysis, the Department has selected the mechanical treatment technology that could be the most practical solution to meet the new requirements for the community as well as cost estimates to convert the facility into a no-discharge land application system.

**Flow and Connections**

The size of the facility evaluated for upgrades was chosen based on the permitted design flow. If significant population growth is expected in the community, or if a significant portion of the flow is due to inflow and infiltration, then the flows and resulting estimated costs used in a facility plan prepared by a consulting engineer may differ. The number of connections was reported by the permittee on the Financial Questionnaire.

<b>Flow Evaluated: 4,000 gallons per day</b>	
<b>Connection Type</b>	<b>Number</b>
Residential	10
Commercial	0
Industrial	0
<b>Facility Total</b>	<b>10</b>
<b>Sewer District Total</b>	<b>13,142</b>

**Data Collection for this Analysis**

This cost analysis is based on data available to the Department as provided by the permittee and data obtained from readily available sources. For the most accurate analysis, it is essential that the permittee provides the Department with current information about the District’s financial and socioeconomic situation. The financial questionnaire available to permittees on the Department’s website (<https://dnr.mo.gov/document-search/financial-questionnaire-mo-780-2511>) is a required attachment to the permit renewal application. If the financial questionnaire is not submitted with the renewal application, the Department sends a request to complete the form with the welcome correspondence. If certain data was not provided by the permittee to the Department and the data is not obtainable through readily available sources, this analysis will state that the information is “unknown”.

The Department estimates the cost for reconstruction of a treatment plant using a software program from Hydromantis<sup>1</sup> titled CapdetWorks. CapdetWorks is a preliminary design and costing software program for wastewater treatment plants utilizing national indices, such as the Marshall and Swift Index and Engineering News Records Cost Index, to price the development of capital, operating, maintenance, material, and energy costs for various treatment technologies. The program works from national indices; therefore, estimated costs will vary from actual costs, as each community is unique in its budget commitments and treatment design. Because the methods used to derive the analysis estimate costs that tend to be greater than actual costs associated with an upgrade, it reflects a conservative estimate anticipated for a community. The overestimation of costs is due to the fact that it is unknown by the Department what existing equipment and structures will be reused in the upgraded facility before an engineer completes a facility design. For questions associated with CapdetWorks, please contact the Department’s Engineering Section at (573) 751-6621.

**Eight Criteria of 644.145 RSMo**

The Department must consider the eight (8) criteria presented in subsection 644.145 RSMo to evaluate the cost associated with new permit requirements.

**(1) A community’s financial capability and ability to raise or secure necessary funding;**

<b>Criterion 1 Table. Current Financial Information for the Northeast Public Sewer District</b>	
Current Monthly User Rates per 5,000 gallons*	\$47.58
Municipal Bond Rating (if applicable)	A+
Bonding Capacity**	\$8,145,135
Median Household Income (MHI) <sup>2</sup>	\$70,782
Current Annual Operating Costs (excludes depreciation)	\$4,565,425
Current Outstanding Debt for the Sewer District	\$15,273,000
Amount within the Current User Rate Used toward Payments on Outstanding Debt Related to the Current Wastewater Infrastructure	\$13.53

\* User Rates were reported by the permittee on the Financial Questionnaire.

\*\* General Obligation Bond capacity allowed by constitution: Cities = up to 20% of taxable tangible property; Sewer districts or villages = up to 5% of taxable tangible property

**(2) Affordability of pollution control options for the individuals or households at or below the median household income level of the community;**

This facility operates as part of a sewer district. A sewer district provides public utilities to residents of that district; therefore, it may structure rates in ways that fund: (1) the facility in which the user is connected to and (2) all facilities contained in the sewer district. As a result, without detailed information about the sewer district’s rate structure, the Department is unable to determine how the costs associated with the operation, maintenance, sampling, and compliance of permit requirements are divided amongst all users within the sewer district. Therefore, the Department cannot determine the future rates for the members of the sewer district based on the estimated costs to upgrade the NPSD, Terry Jean Acres WWTF. Also, because the service jurisdiction of the geographical area of which the sewer district serves can vary, the correct MHI of users within this sewer district’s service area cannot be determined using the data from the U.S. Census Bureau. This is because the MHI of a sewer district’s service area is not based on data from a single city, village, or town.

The cost estimates located within this document are for the construction of a brand new treatment facility or system that is the most practical to facilitate compliance with new permit requirements.

**Cost Estimate Assumptions:**

- Total Present Worth includes a five percent interest rate to construct and perform annual operation and maintenance of the new treatment plant over the term of the loan, which is 20 years for the mechanical plant option and 30 years for the land application option.
- Capital Cost includes design, construction, inspection, and contingency costs from CapdetWorks.
- Operation and maintenance (O&M) includes operations, maintenance, materials, chemical, and electrical costs for the facility on an annual basis. It includes items that are expected to be replaced during operations, such as pumps and is estimated between 15% and 45% of the user rate.

**Mechanical Plant Pollution Control Option Cost Estimates:**

For the mechanical plant option, the Department has estimated costs for a package plant. Treatment technologies were selected that meet the following monthly average effluent limits:

- Total Ammonia Nitrogen of 0.6 mg/L
- Biochemical Oxygen Demand (BOD<sub>5</sub>) of 10 mg/L
- Total Suspended Solids (TSS) of 15 mg/L

Sludge handling and sludge treatment are included in the capital, operations, maintenance, and present worth cost estimations.

Criterion 2A Table. Estimated Costs for Mechanical Plant Pollution Control Option		
(1)	Estimated Total Present Worth	\$1,751,281
	Estimated Capital Cost	\$500,000
	Estimated Annual Cost of Operation and Maintenance	\$100,406
(2)	Total Monthly User Cost	*
	Total Monthly User Cost as a Percent of Median Household Income <sup>3</sup>	*

\*Because this facility is owned by a sewer district, the Department cannot calculate a user cost or the user cost as a percentage of MHI. This cost analysis will be completed without the estimated monthly user cost as a percent of median household income.

**Land Application Pollution Control Option Cost Estimates:**

Costs are estimated for the land application option as a range. The cost estimate on the low end of the range assumes that the community will not have to construct or purchase additional land for a new storage basin. The cost estimate on the high end of the range assumes the purchase of additional land and the construction of a new storage basin. Four regions divided by highways have been established to estimate the minimum storage time required and the amount of land necessary for land application within Missouri. The cost of land has been estimated based on county averages. The regions are north of Highway 36, between Highways 36 and 50, between Highways 50 and 60, and south of Highway 60. For communities that are divided by highways, the region selected is where the majority of the county resides. More or less land may be required than what was estimated based on site-specific considerations such as streams, sinkholes, severe slopes, or roads. A no-discharge facility, of which land application is the most common form, is required to be demonstrated as infeasible before a discharging system may be constructed per 10 CSR 20-6.010(4)(A)5.B. Where land is available, land application should be considered as a pollution control option because of the lower cost associated with construction and O&M over a longer term. Also, a no-discharge system ensures lessened regulatory impact as a result of changes made to water quality standards.

Criterion 2B Table. Estimated Costs for Land Application Pollution Control Option		
(1)	Land Required	5.4 acres to 6.8 acres
	Estimated Total Present Worth	\$349,699 - \$355,316
	Estimated Capital Cost	\$96,054 - \$100,794
	Estimated Annual Cost of Operation and Maintenance	\$16,500 - \$16,557
(2)	Total Monthly User Cost	*
	Total Monthly User Cost as a Percent of Median Household Income <sup>4</sup>	*

\*Because this facility is owned by a sewer district, the Department cannot calculate a user cost or the user cost as a percentage of MHI. This cost analysis will be completed without the estimated monthly user cost as a percent of median household income.

**(3) An evaluation of the overall costs and environmental benefits of the control technologies;**

An investment in wastewater treatment will provide several social, environmental, and economic benefits. Improved wastewater provides benefits such as avoided health costs due to water-related illness, enhanced environmental ecosystem quality, and improved natural resources. The preservation of natural resources has been proven to increase the economic value and sustainability of the surrounding communities. Maintaining Missouri’s water quality standards fulfills the goal of restoring and maintaining the chemical, physical, and biological integrity of the receiving stream; and, where attainable, it achieves a level of water quality that provides for the protection and propagation of fish, shellfish, wildlife, and recreation in and on the water.

**Total Ammonia Nitrogen Treatment**

Ammonia can be toxic to aquatic life. Fish may suffer a loss of equilibrium, hyperexcitability, increased respiratory activity and oxygen uptake, and increased heart rate. At extreme ammonia levels, fish may experience convulsions, coma, and death. Native fish and other native aquatic life are extremely important to Missouri’s ecosystem. They contribute essential nutrients to the streams, rivers, lakes, pond other waters in which they inhabit. Freshwater ecosystems are important for human survival, in that it provides a majority of people’s drinking water. Also, a pristine freshwater ecosystem with an abundance of aquatic life can increase the community’s overall income of revenue. Revenue to businesses and sales tax revenue is increased as the natural amenity will attract fisherman and tourism to the area. Fish and other aquatic life also provide a source of low cost sustenance for the people within the surrounding communities. Final water quality-based effluent limits for total ammonia nitrogen is a requirement of this permit. A schedule of compliance is given with the final limits so that the permittee has time to secure funding and update their treatment plant,

if necessary. Further information can be found in the Water Protection Program fact sheet titled “Changes to the Water Quality Standard for Ammonia” at <https://dnr.mo.gov/document-search/ammonia-criteria-new-epa-recommended-criteria-pub2481/pub2481>.

The construction and installation of land application is another option that has been evaluated within this document. The Missouri State Operating Permit for a land application system does not contain discharge effluent limits as there is no potential to cause an excursion of water quality standards. Therefore, a land application system is of value to the permittee when considering costs associated with O&M, and future regulatory changes.

**(4) Inclusion of ongoing costs of operating and maintaining the existing wastewater collection and treatment system, including payments on outstanding debts for wastewater collection and treatment systems when calculating projected rates:**

The Sewer District reported that their outstanding debt for their current wastewater collection and treatment systems is \$15,273,000. The Sewer District reported that each user pays \$47.58 monthly, of which, \$13.53 is used toward payments on the current outstanding debt.

**(5) An inclusion of ways to reduce economic impacts on distressed populations in the community, including but not limited to low and fixed income populations. This requirement includes but is not limited to:**

- (a) Allowing adequate time in implementation schedules to mitigate potential adverse impacts on distressed populations resulting from the costs of the improvements and taking into consideration local community economic considerations.
- (b) Allowing for reasonable accommodations for regulated entities when inflexible standards and fines would impose a disproportionate financial hardship in light of the environmental benefits to be gained.

The following table characterizes the current overall socioeconomic condition of the community as compared to the overall socioeconomic condition of Missouri. The following information was compiled using the latest U.S. Census data.

**Criterion 5 Table. Socioeconomic Data <sup>2-7</sup> for Jefferson County**

No.	Administrative Unit	Jefferson County	Missouri State	United States
1	Population (2020)	224,777	6,124,160	326,569,308
2	Percent Change in Population (2000-2020)	13.5%	9.5%	16.0%
3	2020 Median Household Income (in 2021 Dollars)	\$70,782	\$59,981	\$68,047
4	Percent Change in Median Household Income (2000-2020)	-6.1%	-2.8%	-0.4%
5	Median Age (2020)	39.6	38.7	38.2
6	Change in Median Age in Years (2000-2020)	4.7	2.6	2.9
7	Unemployment Rate (2020)	4.8%	4.5%	5.4%
8	Percent of Population Below Poverty Level (2020)	9.1%	13.0%	12.8%
9	Percent of Household Received Food Stamps (2020)	9.2%	10.5%	11.4%

**(6) An assessment of other community investments and operating costs relating to environmental improvements and public health protection;**

The Northeast Public Sewer District reported other investments relating to environmental improvements include sewer main reconstructions, flood mitigation at Winter Valley PS, easements and construction at Pere Cliff Pump Station and Force Main, CIPP lining, engineering design for Antire Valley Phases 2 & 3 and Harbor View Force Main Relocation.

**(7) An assessment of factors set forth in the United States Environmental Protection Agency's guidance, including but not limited to the "Combined Sewer Overflow Guidance for Financial Capability Assessment and Schedule Development" that may ease the cost burdens of implementing wet weather control plans, including but not limited to small system considerations, the attainability of water quality standards, and the development of wet weather standards;**

The secondary indicators for consideration are not applicable for sewer districts as the indicators are structured for the financial capability of a municipality. The financial impact of the new requirements is determined using all available data for the sewer district.

**(8) An assessment of any other relevant local community economic conditions.**

The Sewer District did not report any other relevant local economic conditions.

**Conclusion and Finding**

As a result of new regulations, the Department is proposing modifications to the current operating permit that may require the permittee to upgrade the facility and construct new control technologies. The Department has considered the eight (8) criteria presented in subsection 644.145 RSMo to evaluate the cost associated with the new permit requirements.

The Department finds that a land application system is the most practical and affordable option for the Northeast Public Sewer District. The construction and operation of a land application system will ensure that the individuals within the community will not be required to make unreasonable sacrifices in their essential lifestyle or spending patterns or undergo hardships in order to make the projected monthly payments for sewer connections. Also, a land application treatment system has the potential to generate agricultural revenues that could offset cost. This can include, but is not limited to, revenue from the sale of a forage or grain crop as well as rent from livestock grazing.

In accordance with 40 CFR 122.47(a)(1) and 10 CSR 20-7.031(11), compliance must occur as soon as possible; therefore, based on this analysis, the permit holder has received a **three (3)** year schedule of compliance for the design and construction of a land application system. The following suggested milestones can be used by the permittee as a timeline toward compliance with new permit requirements. Once the permit holder's engineer has completed facility design with actual costs associated with permit compliance, it may be necessary for the permit holder to request additional time within the schedule of compliance. The Department is committed to review all requests for additional time in the schedule of compliance where adequate justification is provided.

**Suggested Milestones during the 5 Year Schedule of Compliance**

Year	Milestone(s)
1	Hire engineer and evaluate rate structure and treatment plant; apply for State Revolving Fund loans and/or grants and submit facility plan
2	Apply for construction permit and close on loan, if applicable
3	Complete construction

The Department is committed to reassessing the cost analysis for compliance at renewal to determine if the initial schedule of compliance will accommodate the socioeconomic data and financial capability of the community at that time. Because each community is unique, the Department wants to make sure that each community has the opportunity to consider all options and tailor solutions to best meet their needs. The Department understands the economic challenges associated with achieving compliance, and is committed to using all available tools to make an accurate and practical finding of affordability for Missouri communities. If the community is interested in the funding options available to them, please contact the Financial Assistance Center for more information <https://dnr.mo.gov/water/business-industry-other-entities/financial-opportunities/financial-assistance-center>.

This determination is based on readily available data and may overestimate the financial impact on the community. The community's facility plan that is submitted as a part of the construction permit process includes a discussion of community details, what the community can afford, existing obligations, future growth potential, an evaluation of options available to the community with cost information, and a discussion on no-discharge alternatives. The cost information provided through the facility plan process, which is developed by the community and their engineer, is more comprehensive of the community's individual factors in relation to selected treatment technology and costing information.

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These Standard Conditions incorporate permit conditions as required by 40 CFR 122.41 or other applicable state statutes or regulations. These minimum conditions apply unless superseded by requirements specified in the permit.

## Part I – General Conditions

### Section A – Sampling, Monitoring, and Recording

1. **Sampling Requirements.**
  - a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
  - b. All samples shall be taken at the outfall(s) or Missouri Department of Natural Resources (Department) approved sampling location(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.
2. **Monitoring Requirements.**
  - a. Records of monitoring information shall include:
    - i. The date, exact place, and time of sampling or measurements;
    - ii. The individual(s) who performed the sampling or measurements;
    - iii. The date(s) analyses were performed;
    - iv. The individual(s) who performed the analyses;
    - v. The analytical techniques or methods used; and
    - vi. The results of such analyses.
  - b. If the permittee monitors any pollutant more frequently than required by the permit at the location specified in the permit using test procedures approved under 40 CFR Part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring shall be included in the calculation and reported to the Department with the discharge monitoring report data (DMR) submitted to the Department pursuant to Section B, paragraph 7.
3. **Sample and Monitoring Calculations.** Calculations for all sample and monitoring results which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in the permit.
4. **Test Procedures.** The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 unless alternates are approved by the Department. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure that the selected methods are able to quantify the presence of pollutants in a given discharge at concentrations that are low enough to determine compliance with Water Quality Standards in 10 CSR 20-7.031 or effluent limitations unless provisions in the permit allow for other alternatives. A method is “sufficiently sensitive” when; 1) the method minimum level is at or below the level of the applicable water quality criterion for the pollutant or, 2) the method minimum level is above the applicable water quality criterion, but the amount of pollutant in a facility’s discharge is high enough that the method detects and quantifies the level of pollutant in the discharge, or 3) the method has the lowest minimum level of the analytical methods approved under 10 CSR 20-7.015. These methods are also required for parameters that are listed as monitoring only, as the data collected may be used to determine if limitations need to be established. A permittee is responsible for working with their contractors to ensure that the analysis performed is sufficiently sensitive.
5. **Record Retention.** Except for records of monitoring information required by the permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five (5) years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

6. **Illegal Activities.**
  - a. The Federal Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under the permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than two (2) years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four (4) years, or both.
  - b. The Missouri Clean Water Law provides that any person or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than six (6) months, or by both. Second and successive convictions for violation under this paragraph by any person shall be punished by a fine of not more than \$50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.

### Section B – Reporting Requirements

1. **Planned Changes.**
  - a. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility when:
    - i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
    - ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42;
    - iii. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;
  - iv. Any facility expansions, production increases, or process modifications which will result in a new or substantially different discharge or sludge characteristics must be reported to the Department 60 days before the facility or process modification begins. Notification may be accomplished by application for a new permit. If the discharge does not violate effluent limitations specified in the permit, the facility is to submit a notice to the Department of the changed discharge at least 30 days before such changes. The Department may require a construction permit and/or permit modification as a result of the proposed changes at the facility.
2. **Non-compliance Reporting.**
  - a. The permittee shall report any noncompliance which may endanger health or the environment. Relevant information shall be provided orally or via the current electronic method approved by the Department, within 24 hours from the time the permittee becomes aware of the circumstances, and shall be reported to the appropriate Regional Office during normal business hours or the Environmental Emergency Response hotline at 573-634-2436 outside of normal business hours. A written submission shall also be provided within five (5) business days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.



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- b. The following shall be included as information which must be reported within 24 hours under this paragraph.
    - i. Any unanticipated bypass which exceeds any effluent limitation in the permit.
    - ii. Any upset which exceeds any effluent limitation in the permit.
    - iii. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit required to be reported within 24 hours.
  - c. The Department may waive the written report on a case-by-case basis for reports under paragraph 2. b. of this section if the oral report has been received within 24 hours.
3. **Anticipated Noncompliance.** The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The notice shall be submitted to the Department 60 days prior to such changes or activity.
  4. **Compliance Schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date. The report shall provide an explanation for the instance of noncompliance and a proposed schedule or anticipated date, for achieving compliance with the compliance schedule requirement.
  5. **Other Noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs 2, 3, and 6 of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph 2. a. of this section.
  6. **Other Information.** Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.
  7. **Discharge Monitoring Reports.**
    - a. Monitoring results shall be reported at the intervals specified in the permit.
    - b. Monitoring results must be reported to the Department via the current method approved by the Department, unless the permittee has been granted a waiver from using the method. If the permittee has been granted a waiver, the permittee must use forms provided by the Department.
    - c. Monitoring results shall be reported to the Department no later than the 28<sup>th</sup> day of the month following the end of the reporting period.
- b. Notice.
    - i. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.
    - ii. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Section B – Reporting Requirements, paragraph 5 (24-hour notice).
  - c. Prohibition of bypass.
    - i. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:
      1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
      2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
      3. The permittee submitted notices as required under paragraph 2. b. of this section.
    - ii. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three (3) conditions listed above in paragraph 2. c. i. of this section.
3. **Upset Requirements.**
    - a. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph 3. b. of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
    - b. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
      - i. An upset occurred and that the permittee can identify the cause(s) of the upset;
      - ii. The permitted facility was at the time being properly operated; and
      - iii. The permittee submitted notice of the upset as required in Section B – Reporting Requirements, paragraph 2. b. ii. (24-hour notice).
      - iv. The permittee complied with any remedial measures required under Section D – Administrative Requirements, paragraph 4.
    - c. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

## Section C – Bypass/Upset Requirements

1. **Definitions.**
  - a. *Bypass*: the intentional diversion of waste streams from any portion of a treatment facility, except in the case of blending.
  - b. *Severe Property Damage*: substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
  - c. *Upset*: an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
2. **Bypass Requirements.**
  - a. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2. b. and 2. c. of this section.

## Section D – Administrative Requirements

1. **Duty to Comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Missouri Clean Water Law and Federal Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.
  - a. The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
  - b. The Federal Clean Water Act provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The Federal Clean Water Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement





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- imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.
- c. Any person may be assessed an administrative penalty by the EPA Director for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000.
- d. It is unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law, or any standard, rule or regulation promulgated by the commission. In the event the commission or the director determines that any provision of sections 644.006 to 644.141 of the Missouri Clean Water Law or standard, rules, limitations or regulations promulgated pursuant thereto, or permits issued by, or any final abatement order, other order, or determination made by the commission or the director, or any filing requirement pursuant to sections 644.006 to 644.141 of the Missouri Clean Water Law or any other provision which this state is required to enforce pursuant to any federal water pollution control act, is being, was, or is in imminent danger of being violated, the commission or director may cause to have instituted a civil action in any court of competent jurisdiction for the injunctive relief to prevent any such violation or further violation or for the assessment of a penalty not to exceed \$10,000 per day for each day, or part thereof, the violation occurred and continues to occur, or both, as the court deems proper. Any person who willfully or negligently commits any violation in this paragraph shall, upon conviction, be punished by a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both. Second and successive convictions for violation of the same provision of this paragraph by any person shall be punished by a fine of not more than \$50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.
2. **Duty to Reapply.**
- a. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.
- b. A permittee with a currently effective site-specific permit shall submit an application for renewal at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Department. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)
- c. A permittees with currently effective general permit shall submit an application for renewal at least 30 days before the existing permit expires, unless the permittee has been notified by the Department that an earlier application must be made. The Department may grant permission for a later submission date. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)
3. **Need to Halt or Reduce Activity Not a Defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
4. **Duty to Mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
5. **Proper Operation and Maintenance.** The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
6. **Permit Actions.**
- a. Subject to compliance with statutory requirements of the Law and Regulations and applicable Court Order, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:
- i. Violations of any terms or conditions of this permit or the law;
- ii. Having obtained this permit by misrepresentation or failure to disclose fully any relevant facts;
- iii. A change in any circumstances or conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
- iv. Any reason set forth in the Law or Regulations.
- b. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.
7. **Permit Transfer.**
- a. Subject to 10 CSR 20-6.010, an operating permit may be transferred upon submission to the Department of an application to transfer signed by the existing owner and the new owner, unless prohibited by the terms of the permit. Until such time the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.
- b. The Department may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Missouri Clean Water Law or the Federal Clean Water Act.
- c. The Department, within 30 days of receipt of the application, shall notify the new permittee of its intent to revoke or reissue or transfer the permit.
8. **Toxic Pollutants.** The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the Federal Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
9. **Property Rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.



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MISSOURI CLEAN WATER COMMISSION  
REVISED  
AUGUST 1, 2014

10. **Duty to Provide Information.** The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.
11. **Inspection and Entry.** The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the Department), upon presentation of credentials and other documents as may be required by law, to:
  - a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
  - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
  - c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
  - d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Federal Clean Water Act or Missouri Clean Water Law, any substances or parameters at any location.
12. **Closure of Treatment Facilities.**
  - a. Persons who cease operation or plan to cease operation of waste, wastewater, and sludge handling and treatment facilities shall close the facilities in accordance with a closure plan approved by the Department.
  - b. Operating Permits under 10 CSR 20-6.010 or under 10 CSR 20-6.015 are required until all waste, wastewater, and sludges have been disposed of in accordance with the closure plan approved by the Department and any disturbed areas have been properly stabilized. Disturbed areas will be considered stabilized when perennial vegetation, pavement, or structures using permanent materials cover all areas that have been disturbed. Vegetative cover, if used, shall be at least 70% plant density over 100% of the disturbed area.
13. **Signatory Requirement.**
  - a. All permit applications, reports required by the permit, or information requested by the Department shall be signed and certified. (See 40 CFR 122.22 and 10 CSR 20-6.010)
  - b. The Federal Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six (6) months per violation, or by both.
  - c. The Missouri Clean Water Law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan, or other document filed or required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than ten thousand dollars, or by imprisonment for not more than six months, or by both.
14. **Severability.** The provisions of the permit are severable, and if any provision of the permit, or the application of any provision of the permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of the permit, shall not be affected thereby.



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REVISED  
MAY 1, 2013

PART II - SPECIAL CONDITIONS – PUBLICLY OWNED  
TREATMENT WORKS  
SECTION A – INDUSTRIAL USERS

**1. Definitions**

Definitions as set forth in the Missouri Clean Water Laws and approved by the Missouri Clean Water Commission shall apply to terms used herein.

Significant Industrial User (SIU). Except as provided in the *General Pretreatment Regulation* 10 CSR 20-6.100, the term Significant Industrial User means:

1. All Industrial Users subject to Categorical Pretreatment Standards; and
2. Any other Industrial User that: discharges an average of 25,000 gallons per day or more of process wastewater to the Publicly-Owned Treatment Works (POTW) (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contributes a process wastestream which makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority on the basis that the Industrial User has a reasonable potential for adversely affecting the POTW's or for violating any Pretreatment Standard or requirement.

Clean Water Act (CWA) is the the federal Clean Water Act of 1972, 33 U.S.C. § 1251 et seq. (2002).

**2. Identification of Industrial Discharges**

Pursuant to 40 CFR 122.44(j)(1), all POTWs shall identify, in terms of character and volume of pollutants, any Significant Industrial Users discharging to the POTW subject to Pretreatment Standards under section 307(b) of the CWA and 40 CFR 403.

**3. Application Information**

Applications for renewal or modification of this permit must contain the information about industrial discharges to the POTW pursuant to 40 CFR 122.21(j)(6)

**4. Notice to the Department**

Pursuant to 40 CFR 122.42(b), all POTWs must provide adequate notice of the following:

1. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA if it were directly discharging these pollutants; and
2. Any substantial change into the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
3. For purposes of this paragraph, adequate notice shall include information on:
  - i. the quality and quantity of effluent introduced into the POTW, and
  - ii. any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

For POTWs without an approved pretreatment program, the notice of industrial discharges which was not included in the permit application shall be made as soon as practicable. For POTWs with an approved pretreatment program, notice is to be included in the annual pretreatment report required in the special conditions of this permit. Notice may be sent to:

Missouri Department of Natural Resources  
Water Protection Program  
Attn: Pretreatment Coordinator  
P.O. Box 176  
Jefferson City, MO 65102

**STANDARD CONDITIONS FOR NPDES PERMITS  
ISSUED BY  
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES  
MISSOURI CLEAN WATER COMMISSION  
August 1, 2019**

**PART III – BIOSOLIDS AND SLUDGE FROM DOMESTIC TREATMENT FACILITIES**

**SECTION A – GENERAL REQUIREMENTS**

1. PART III Standard Conditions pertain to biosolids and sludge requirements under the Missouri Clean Water Law and regulations for domestic and municipal wastewater and also incorporates federal sludge disposal requirements under 40 CFR Part 503 for domestic wastewater. The Environmental Protection Agency (EPA) has principal authority for permitting and enforcement of the federal sludge regulations under 40 CFR Part 503 for domestic biosolids and sludge.
2. PART III Standard Conditions apply only to biosolids and sludge generated at domestic wastewater treatment facilities, including public owned treatment works (POTW) and privately owned facilities.
3. Biosolids and Sludge Use and Disposal Practices:
  - a. The permittee is authorized to operate the biosolids and sludge generating, treatment, storage, use, and disposal facilities listed in the facility description of this permit.
  - b. The permittee shall not exceed the design sludge/biosolids volume listed in the facility description and shall not use biosolids or sludge disposal methods that are not listed in the facility description, without prior approval of the permitting authority.
  - c. For facilities operating under general operating permits that incorporate Standard Conditions PART III, the facility is authorized to operate the biosolids and sludge generating, treatment, storage, use and disposal facilities identified in the original operating permit application, subsequent renewal applications or subsequent written approval by the department.
4. Biosolids or Sludge Received from other Facilities:
  - a. Permittees may accept domestic wastewater biosolids or sludge from other facilities as long as the permittee's design sludge capacity is not exceeded and the treatment facility performance is not impaired.
  - b. The permittee shall obtain a signed statement from the biosolids or sludge generator or hauler that certifies the type and source of the sludge
5. Nothing in this permit precludes the initiation of legal action under local laws, except to the extent local laws are preempted by state law.
6. This permit does not preclude the enforcement of other applicable environmental regulations such as odor emissions under the Missouri Air Pollution Control Law and regulations.
7. This permit may (after due process) be modified, or alternatively revoked and reissued, to comply with any applicable biosolids or sludge disposal standard or limitation issued or approved under Section 405(d) of the Clean Water Act or under Chapter 644 RSMo.
8. In addition to Standard Conditions PART III, the Department may include biosolids and sludge limitations in the special conditions portion or other sections of a site specific permit.
9. Exceptions to Standard Conditions PART III may be authorized on a case-by-case basis by the Department, as follows:
  - a. The Department may modify a site-specific permit following permit notice provisions as applicable under 10 CSR 20-6.020, 40 CFR § 124.10, and 40 CFR § 501.15(a)(2)(ix)(E).
  - b. Exceptions cannot be granted where prohibited by the federal sludge regulations under 40 CFR Part 503.

## **SECTION B – DEFINITIONS**

1. Best Management Practices are practices to prevent or reduce the pollution of waters of the state and include agronomic loading rates (nitrogen based), soil conservation practices, spill prevention and maintenance procedures and other site restrictions.
2. Biosolids means organic fertilizer or soil amendment produced by the treatment of domestic wastewater sludge.
3. Biosolids land application facility is a facility where biosolids are spread onto the land at agronomic rates for production of food, feed or fiber. The facility includes any structures necessary to store the biosolids until soil, weather, and crop conditions are favorable for land application.
4. Class A biosolids means a material that has met the Class A pathogen reduction requirements or equivalent treatment by a Process to Further Reduce Pathogens (PFRP) in accordance with 40 CFR Part 503.
5. Class B biosolids means a material that has met the Class B pathogen reduction requirements or equivalent treatment by a Process to Significantly Reduce Pathogens (PSRP) in accordance with 40 CFR Part 503.
6. Domestic wastewater means wastewater originating from the sanitary conveniences of residences, commercial buildings, factories and institutions; or co-mingled sanitary and industrial wastewater processed by a (POTW) or a privately owned facility.
7. Feed crops are crops produced primarily for consumption by animals.
8. Fiber crops are crops such as flax and cotton.
9. Food crops are crops consumed by humans which include, but is not limited to, fruits, vegetables and tobacco.
10. Industrial wastewater means any wastewater, also known as process wastewater, not defined as domestic wastewater. Per 40 CFR Part 122.2, process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. Land application of industrial wastewater, residuals or sludge is not authorized by Standard Conditions PART III.
11. Mechanical treatment plants are wastewater treatment facilities that use mechanical devices to treat wastewater, including, sand filters, extended aeration, activated sludge, contact stabilization, trickling filters, rotating biological contact systems, and other similar facilities. It does not include wastewater treatment lagoons or constructed wetlands for wastewater treatment.
12. Plant Available Nitrogen (PAN) is nitrogen that will be available to plants during the growing seasons after biosolids application.
13. Public contact site is land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.
14. Sludge is the solid, semisolid, or liquid residue removed during the treatment of wastewater. Sludge includes septage removed from septic tanks or equivalent facilities. Sludge does not include carbon coal byproducts (CCBs), sewage sludge incinerator ash, or grit/screenings generated during preliminary treatment of domestic sewage.
15. Sludge lagoon is part of a mechanical wastewater treatment facility. A sludge lagoon is an earthen or concrete lined basin that receives sludge that has been removed from a wastewater treatment facility. It does not include a wastewater treatment lagoon or sludge treatment units that are not a part of a mechanical wastewater treatment facility.
16. Septage is the sludge pumped from residential septic tanks, cesspools, portable toilets, Type III marine sanitation devices, or similar treatment works such as sludge holding structures from residential wastewater treatment facilities with design populations of less than 150 people. Septage does not include grease removed from grease traps at a restaurant or material removed from septic tanks and other similar treatment works that have received industrial wastewater. The standard for biosolids from septage is different from other sludges. See Section H for more information.

## **SECTION C – MECHANICAL WASTEWATER TREATMENT FACILITIES**

1. Biosolids or sludge shall be routinely removed from wastewater treatment facilities and handled according to the permit facility description and the requirements of Standard Conditions PART III or in accordance with Section A.3.c., above.
2. The permittee shall operate storage and treatment facilities, as defined by Section 644.016(23), RSMo, so that there is no biosolids or sludge discharged to waters of the state. Agricultural storm water discharges are exempt under the provisions of Section 644.059, RSMo.
3. Mechanical treatment plants shall have separate biosolids or sludge storage compartments in accordance with 10 CSR 20, Chapter 8. Failure to remove biosolids or sludge from these storage compartments on the required design schedule is a violation of this permit.

## **SECTION D – BIOSOLIDS OR SLUDGE DISPOSED AT OTHER TREATMENT FACILITY OR BY CONTRACT HAULER**

1. Permittees that use contract haulers, under the authority of their operating permit, to dispose of biosolids or sludge, are responsible for compliance with all the terms of this permit. Contract haulers that assume the responsibility of the final disposal of biosolids or sludge, including biosolids land application, must obtain a Missouri State Operating Permit unless the hauler transports the biosolids or sludge to another permitted treatment facility.
2. Testing of biosolids or sludge, other than total solids content, is not required if biosolids or sludge are hauled to a permitted wastewater treatment facility, unless it is required by the accepting facility.

## **SECTION E – INCINERATION OF SLUDGE**

1. Please be aware that sludge incineration facilities may be subject to the requirements of 40 CFR Part 503 Subpart E, Missouri Air Conservation Commission regulations under 10 CSR 10, and solid waste management regulations under 10 CSR 80, as applicable.
2. Permittee may be authorized under the facility description of this permit to store incineration ash in lagoons or ash ponds. This permit does not authorize the disposal of incineration ash. Incineration ash shall be disposed in accordance with 10 CSR 80; or, if the ash is determined to be hazardous, with 10 CSR 25.
3. In addition to normal sludge monitoring, incineration facilities shall report the following as part of the annual report, mass of sludge incinerated and mass of ash generated. Permittee shall also provide the name of the ash disposal facility and permit number if applicable.

## **SECTION F – SURFACE DISPOSAL SITES AND BIOSOLIDS AND SLUDGE LAGOONS**

1. Please be aware that surface disposal sites of biosolids or sludge from wastewater treatment facilities may be subject to other laws including the requirements in 40 CFR Part 503 Subpart C, Missouri Air Conservation Commission regulations under 10 CSR 10, and solid waste management regulations under 10 CSR 80, as applicable.
2. Biosolids or sludge storage lagoons are temporary facilities and are not required to obtain a permit as a solid waste management facility under 10 CSR 80. In order to maintain biosolids or sludge storage lagoons as storage facilities, accumulated biosolids or sludge must be removed routinely, but not less than once every two years unless an alternate schedule is approved in the permit. The amount of biosolids or sludge removed will be dependent on biosolids or sludge generation and accumulation in the facility. Enough biosolids or sludge must be removed to maintain adequate storage capacity in the facility.
  - a. In order to avoid damage to the lagoon seal during cleaning, the permittee may leave a layer of biosolids or sludge on the bottom of the lagoon, upon prior approval of the Department; or
  - b. Permittee shall close the lagoon in accordance with Section I.

## **SECTION G – LAND APPLICATION OF BIOSOLIDS**

1. The permittee shall not land apply biosolids unless land application is authorized in the facility description, the special conditions of the issued NPDES permit, or in accordance with Section A.3.c., above.
2. This permit only authorizes “Class A” or “Class B” biosolids derived from domestic wastewater to be land applied onto grass land, crop land, timber, or other similar agricultural or silviculture lands at rates suitable for beneficial use as organic fertilizer and soil conditioner.
3. Class A Biosolids Requirements: Biosolids shall meet Class A requirements for application to public contact sites, residential lawns, home gardens or sold and/or given away in a bag or other container.
4. Class B biosolids that are land applied to agricultural and public contact sites shall comply with the following restrictions:
  - a. Food crops that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of biosolids.
  - b. Food crops below the surface of the land shall not be harvested for 20 months after application of biosolids when the biosolids remain on the land surface for four months or longer prior to incorporation into the soil.
  - c. Food crops below the surface of the land shall not be harvested for 38 months after application of biosolids when the biosolids remain on the land surface for less than four months prior to incorporation into the soil.
  - d. Animal grazing shall not be allowed for 30 days after application of biosolids.
  - e. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of biosolids.
  - f. Turf shall not be harvested for one year after application of biosolids if used for lawns or high public contact sites in close proximity to populated areas such as city parks or golf courses.
  - g. After Class B biosolids have been land applied to public contact sites with high potential for public exposure, as defined in 40 CFR § 503.31, such as city parks or golf courses, access must be restricted for 12 months.
  - h. After Class B biosolids have been land applied public contact sites with low potential for public exposure as defined in 40 CFR § 503.31, such as a rural land application or reclamation sites, access must be restricted for 30 days.
5. Pollutant limits
  - a. Biosolids shall be monitored to determine the quality for regulated pollutants listed in Table 1, below. Limits for any pollutants not listed below may be established in the permit.
  - b. The number of samples taken is directly related to the amount of biosolids or sludge produced by the facility (See Section J, below). Samples should be taken only during land application periods. When necessary, it is permissible to mix biosolids with lower concentrations of biosolids as well as other suitable Department approved material to achieve pollutant concentration below those identified in Table 1, below.
  - c. Table 1 gives the ceiling concentration for biosolids. Biosolids which exceed the concentrations in Table 1 may not be land applied.

**TABLE 1**

Biosolids ceiling concentration	
Pollutant	Milligrams per kilogram dry weight
Arsenic	75
Cadmium	85
Copper	4,300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7,500

- d. Table 2 below gives the low metal concentration for biosolids. Because of its higher quality, biosolids with pollutant concentrations below those listed in Table 2 can safely be applied to agricultural land, forest, public contact sites, lawns, home gardens or be given away without further analysis. Biosolids containing metals in concentrations above the low metals concentrations but below the ceiling concentration limits may be land applied but shall not exceed the annual loading rates in Table 3 and the cumulative loading rates in Table 4. The permittee is required to track pollutant loading onto application sites for parameters that have exceeded the low metal concentration limits.

**TABLE 2**

Biosolids Low Metal Concentration	
Pollutant	Milligrams per kilogram dry weight
Arsenic	41
Cadmium	39
Copper	1,500
Lead	300
Mercury	17
Nickel	420
Selenium	100
Zinc	2,800

- e. Annual pollutant loading rate.

**Table 3**

Biosolids Annual Loading Rate	
Pollutant	Kg/ha (lbs./ac) per year
Arsenic	2.0 (1.79)
Cadmium	1.9 (1.70)
Copper	75 (66.94)
Lead	15 (13.39)
Mercury	0.85 (0.76)
Nickel	21 (18.74)
Selenium	5.0 (4.46)
Zinc	140 (124.96)

- f. Cumulative pollutant loading rates.

**Table 4**

Biosolids Cumulative Pollutant Loading Rate	
Pollutant	Kg/ha (lbs./ac)
Arsenic	41 (37)
Cadmium	39 (35)
Copper	1500 (1339)
Lead	300 (268)
Mercury	17 (15)
Nickel	420 (375)
Selenium	100 (89)
Zinc	2800 (2499)

6. Best Management Practices. The permittee shall use the following best management practices during land application activities to prevent the discharge of biosolids to waters of the state.
- Biosolids shall not be applied to the land if it is likely to adversely affect a threatened or endangered species listed under § 4 of the Endangered Species Act or its designated critical habitat.
  - Apply biosolids only at the agronomic rate of nitrogen needed (see 5.c. of this section).
  - The applicator must document the Plant Available Nitrogen (PAN) loadings, available nitrogen in the soil, and crop

nitrogen removal when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kgTN; or 2) When biosolids are land applied at an application rate greater than two dry tons per acre per year.

- i. PAN can be determined as follows:  
(Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization factor<sup>1</sup>).  
<sup>1</sup> Volatilization factor is 0.7 for surface application and 1 for subsurface application. Alternative volatilization factors and mineralization rates can be utilized on a case-by-case basis.
  - ii. Crop nutrient production/removal to be based on crop specific nitrogen needs and realistic yield goals. **NOTE:** There are a number of reference documents on the Missouri Department of Natural Resources website that are informative to implement best management practices in the proper management of biosolids, including crop specific nitrogen needs, realistic yields on a county by county basis and other supporting references.
  - iii. Biosolids that are applied at agronomic rates shall not cause the annual pollutant loading rates identified in Table 3 to be exceeded.
- d. Buffer zones are as follows:
- i. 300 feet of a water supply well, sinkhole, water supply reservoir or water supply intake in a stream;
  - ii. 300 feet of a losing stream, no discharge stream, stream stretches designated for whole body contact recreation, wild and scenic rivers, Ozark National Scenic Riverways or outstanding state resource waters as listed in the Water Quality Standards, 10 CSR 20-7.031;
  - iii. 150 feet of dwellings or public use areas;
  - iv. 100 feet (35 feet if biosolids application is down-gradient or the buffer zone is entirely vegetated) of lake, pond, wetlands or gaining streams (perennial or intermittent);
  - v. 50 feet of a property line. Buffer distances from property lines may be waived with written permission from neighboring property owner.
  - vi. For the application of dry, cake or liquid biosolids that are subsurface injected, buffer zones identified in 5.d.i. through 5.d.iii above, may be reduced to 100 feet. The buffer zone may be reduced to 35 feet if the buffer zone is permanently vegetated. Subsurface injection does not include methods or technology reflective of combination surface/shallow soil incorporation.
- e. Slope limitation for application sites are as follows:
- i. For slopes less than or equal to 6 percent, no rate limitation;
  - ii. Applied to a slope 7 to 12 percent, the applicator may apply biosolids when soil conservation practices are used to meet the minimum erosion levels;
  - iii. Slopes > 12 percent, apply biosolids only when grass is vegetated and maintained with at least 80 percent ground cover at a rate of two dry tons per acre per year or less.
  - iv. Dry, cake or liquid biosolids that are subsurface injected, may be applied on slopes not to exceed 20 percent. Subsurface injection does not include the use of methods or technology reflective of combination surface/shallow soil incorporation.
- f. No biosolids may be land applied in an area that it is reasonably certain that pollutants will be transported into waters of the state.
- g. Biosolids may be land applied to sites with soil that are snow covered, frozen, or saturated with liquid when site restrictions or other controls are provided to prevent pollutants from being discharged to waters of the state during snowmelt or stormwater runoff. During inclement weather or unfavorable soil conditions use the following management practices:
- i. A maximum field slope of 6% and a minimum 300 feet grass buffer between the application site and waters of the state. A 35 feet grass buffer may be utilized for the application of dry, cake or liquid biosolids that are subsurface injected. Subsurface injection does not include the use of methods or technology reflective of combination surface/shallow soil incorporation;
  - ii. A maximum field slope of 2% and 100 feet grass buffer between the application site and waters of the state. A 35 feet grass buffer may be used for the application of dry, cake or liquid biosolids that are subsurface injected. Subsurface injection does not include the use of methods or technology reflective of combination surface/shallow soil incorporation;
  - iii. Other best management practices approved by the Department.



## SECTION H – SEPTAGE

1. Haulers that land apply septage must obtain a state permit. An operating permit is not required for septage haulers who transport septage to another permitted treatment facility for disposal.
2. Do not apply more than 30,000 gallons of septage per acre per year or the volume otherwise stipulated in the operating permit.
3. Septic tanks are designed to retain sludge for one to three years which will allow for a larger reduction in pathogens and vectors, as compared to mechanical treatment facilities.
4. Septage must comply with Class B biosolids regarding pathogen and vector attraction reduction requirements before it may be applied to crops, pastures or timberland. To meet required pathogen and vector reduction requirements, mix 50 pounds of hydrated lime for every 1,000 gallons of septage and maintain a septage pH of at least 12 pH standard units for 30 minutes or more prior to application.
5. Lime is to be added to the pump truck and not directly to the septic tanks, as lime would harm the beneficial bacteria of the septic tank.
6. As residential septage contains relatively low levels of metals, the testing of metals in septage is not required.

## SECTION I – CLOSURE REQUIREMENTS

1. This section applies to all wastewater facilities (mechanical and lagoons) and sludge or biosolids storage and treatment facilities. It does not apply to land application sites.
2. Permittees of a domestic wastewater facility who plan to cease operation must obtain Department approval of a closure plan which addresses proper removal and disposal of all sludges and/or biosolids. Permittee must maintain this permit until the facility is closed in accordance with the approved closure plan per 10 CSR 20 – 6.010 and 10 CSR 20 – 6.015.
3. Biosolids or sludge that are left in place during closure of a lagoon or earthen structure or ash pond shall not exceed the agricultural loading rates as follows:
  - a. Biosolids and sludge shall meet the monitoring and land application limits for agricultural rates as referenced in Section G, above.
  - b. If a wastewater treatment lagoon has been in operation for 15 years or more without sludge removal, the sludge in the lagoon qualifies as a Class B biosolids with respect to pathogens due to anaerobic digestion, and testing for fecal coliform is not required. For other lagoons, testing for fecal coliform is required to show compliance with Class B biosolids limitations. In order to reach Class B biosolids requirements, fecal coliform must be less than 2,000,000 colony forming units or 2,000,000 most probable number. All fecal samples must be presented as geometric mean per gram.
  - c. The allowable nitrogen loading that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. For a grass cover crop, the allowable PAN is 300 pounds/acre. Alternative, site-specific application rates may be included in the closure plan for department consideration.
    - i. PAN can be determined as follows:  
(Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization factor<sup>1</sup>).  
<sup>1</sup> Volatilization factor is 0.7 for surface application and 1 for subsurface application. Alternative volatilization factors and mineralization rates can be utilized on a case-by-case basis
4. Domestic wastewater treatment lagoons with a design treatment capacity less than or equal to 150 persons, are “similar treatment works” under the definition of septage. Therefore the sludge within the lagoons may be treated as septage during closure activities. See Section B, above. Under the septage category, residuals may be left in place as follows:
  - a. Testing for metals or fecal coliform is not required.
  - b. If the wastewater treatment lagoon has been in use for less than 15 years, mix lime with the sludge at a rate of 50 pounds of hydrated lime per 1000 gallons (134 cubic feet) of sludge.
  - c. The amount of sludge that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. 100 dry tons/acre of sludge may be left in the basin without testing for nitrogen. If 100 dry tons/acre or more will be left in the lagoon, test for nitrogen and determine the PAN using the calculation above. Allowable PAN loading is 300 pounds/acre.
5. Biosolids or sludge left within the domestic lagoon shall be mixed with soil on at least a 1 to 1 ratio, and unless otherwise approved, the lagoon berm shall be demolished, and the site shall be graded and contain  $\geq 70\%$  vegetative density over 100% of the site so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion. Alternative biosolids or sludge and soil mixing ratios may be included in the closure plan for department consideration.
6. Lagoon and earthen structure closure activities shall obtain a storm water permit for land disturbance activities that equal or exceed one acre in accordance with 10 CSR 20-6.200.
7. When closing a mechanical wastewater plant, all biosolids or sludge must be cleaned out and disposed of in accordance with the Department approved closure plan before the permit for the facility can be terminated.
  - a. Land must be stabilized which includes any grading, alternate use or fate upon approval by the Department, remediation, or other work that exposes sediment to stormwater per 10 CSR 20-6.200. The site shall be graded and contain  $\geq 70\%$  vegetative density over 100% of the site, so as to avoid ponding of storm water and provide adequate

- surface water drainage without creating erosion.
  - b. Hazardous Waste shall not be land applied or disposed during mechanical plant closures unless in accordance with Missouri Hazardous Waste Management Law and Regulations pursuant to 10 CSR 25.
  - c. After demolition of the mechanical plant, the site must only contain clean fill defined in Section 260.200.1(6) RSMo as uncontaminated soil, rock, sand, gravel, concrete, asphaltic concrete, cinderblocks, brick, minimal amounts of wood and metal, and inert solids as approved by rule or policy of the Department for fill, reclamation, or other beneficial use. Other solid wastes must be removed.
8. If biosolids or sludge from the domestic lagoon or mechanical treatment plant exceeds agricultural rates under Section G and/or I, a landfill permit or solid waste disposal permit must be obtained if the permittee chooses to seek authorization for on-site sludge disposal under the Missouri Solid Waste Management Law and regulations per 10 CSR 80, and the permittee must comply with the surface disposal requirements under 40 CFR Part 503, Subpart C.

**SECTION J – MONITORING FREQUENCY**

1. At a minimum, biosolids or sludge shall be tested for volume and percent total solids on a frequency that will accurately represent sludge quantities produced and disposed. Please see the table below.

**TABLE 5**

Biosolids or Sludge produced and disposed (Dry Tons per Year)	Monitoring Frequency (See Notes 1, and 2)		
	Metals, Pathogens and Vectors, Total Phosphorus, Total Potassium	Nitrogen TKN, Nitrogen PAN <sup>1</sup>	Priority Pollutants <sup>2</sup>
319 or less	1/year	1 per month	1/year
320 to 1650	4/year	1 per month	1/year
1651 to 16,500	6/year	1 per month	1/year
16,501+	12/year	1 per month	1/year

<sup>1</sup>Calculate plant available nitrogen (PAN) when either of the following occurs: 1) when biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.

<sup>2</sup> Priority pollutants (40 CFR 122.21, Appendix D, Tables II and III) are required only for permit holders that must have a pre-treatment program. Monitoring requirements may be modified and incorporated into the operating permit by the Department on a case-by-case basis.

Note 1: Total solids: A grab sample of sludge shall be tested one per day during land application periods for percent total solids. This data shall be used to calculate the dry tons of sludge applied per acre.

Note 2: Table 5 is not applicable for incineration and permit holders that landfill their sludge.

- 2. Permittees that operate wastewater treatment lagoons, peak flow equalization basins, combined sewer overflow basins or biosolids or sludge lagoons that are cleaned out once a year or less, may choose to sample only when the biosolids or sludge is removed or the lagoon is closed. Test one composite sample for each 319 dry tons of biosolids or sludge removed from the lagoon during the reporting year or during lagoon closure. Composite sample must represent various areas at one-foot depth.
- 3. Additional testing may be required in the special conditions or other sections of the permit.
- 4. Biosolids and sludge monitoring shall be conducted in accordance with federal regulation 40 CFR § 503.8, Sampling and analysis.

**SECTION K – RECORD KEEPING AND REPORTING REQUIREMENTS**

- 1. The permittee shall maintain records on file at the facility for at least five years for the items listed in Standard Conditions PART III and any additional items in the Special Conditions section of this permit. This shall include dates when the biosolids or sludge facility is checked for proper operation, records of maintenance and repairs and other relevant information.
- 2. Reporting period
  - a. By February 19<sup>th</sup> of each year, applicable facilities shall submit an annual report for the previous calendar year period for all mechanical wastewater treatment facilities, sludge lagoons, and biosolids or sludge disposal facilities.
  - b. Permittees with wastewater treatment lagoons shall submit the above annual report only when biosolids or sludge are removed from the lagoon during the report period or when the lagoon is closed.
- 3. Report Form. The annual report shall be prepared on report forms provided by the Department or equivalent forms approved by the Department.
- 4. Reports shall be submitted as follows:  
Major facilities, which are those serving 10,000 persons or more or with a design flow equal to or greater than 1 million gallons per day or that are required to have an approved pretreatment program, shall report to both the Department and EPA if the facility land applied, disposed of biosolids by surface disposal, or operated a sewage sludge incinerator. All other facilities shall maintain their biosolids or sludge records and keep them available to Department personnel upon request. State reports shall be submitted to the address listed as follows:

DNR regional or other applicable office listed in the permit (see cover letter of permit)

ATTN: Sludge Coordinator

Reports to EPA must be electronically submitted online via the Central Data Exchange at: <https://cdx.epa.gov/> Additional information is available at: <https://www.epa.gov/biosolids/compliance-and-annual-reporting-guidance-about-clean-water-act-laws>

5. Annual report contents. The annual report shall include the following:
  - a. Biosolids and sludge testing performed. If testing was conducted at a greater frequency than what is required by the permit, all test results must be included in the report.
  - b. Biosolids or sludge quantity shall be reported as dry tons for the quantity produced and/or disposed.
  - c. Gallons and % solids data used to calculate the dry ton amounts.
  - d. Description of any unusual operating conditions.
  - e. Final disposal method, dates, and location, and person responsible for hauling and disposal.
    - i. This must include the name and address for the hauler and sludge facility. If hauled to a municipal wastewater treatment facility, sanitary landfill, or other approved treatment facility, give the name of that facility.
    - ii. Include a description of the type of hauling equipment used and the capacity in tons, gallons, or cubic feet.
  - f. Contract Hauler Activities:

If using a contract hauler, provide a copy of a signed contract from the contractor. Permittee shall require the contractor to supply information required under this permit for which the contractor is responsible. The permittee shall submit a signed statement from the contractor that he has complied with the standards contained in this permit, unless the contract hauler has a separate biosolids or sludge use permit.
  - g. Land Application Sites:
    - i. Report the location of each application site, the annual and cumulative dry tons/acre for each site, and the landowners name and address. The location for each spreading site shall be given as a legal description for nearest ¼, ¼, Section, Township, Range, and county, or UTM coordinates. The facility shall report PAN when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.
    - ii. If the “Low Metals” criteria are exceeded, report the annual and cumulative pollutant loading rates in pounds per acre for each applicable pollutant, and report the percent of cumulative pollutant loading which has been reached at each site.
    - iii. Report the method used for compliance with pathogen and vector attraction requirements.
    - iv. Report soil test results for pH and phosphorus. If no soil was tested during the year, report the last date when tested and the results.



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
WATER PROTECTION PROGRAM

**FORM B: APPLICATION FOR OPERATING PERMIT FOR  
FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND  
HAVE A DESIGN FLOW LESS THAN OR EQUAL TO 100,000  
GALLONS PER DAY**

**FOR AGENCY USE ONLY**

CHECK NUMBER

DATE RECEIVED

PERMIT SUBMITTED

JETPAY CONFIRMATION NUMBER

**READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM**

**1. THIS APPLICATION IS FOR:**

- An operating permit for a new or unpermitted facility. Construction Permit # \_\_\_\_\_  
(Include completed antidegradation review or request for antidegradation review, see instructions)
- A new site-specific operating permit formerly general permit #MOG \_\_\_\_\_
- A site-specific operating permit renewal: Permit #MO- 0092649 Expiration Date 12/31/2022
- A site-specific operating permit modification: Permit #MO- \_\_\_\_\_ Reason: \_\_\_\_\_
- General permit (NON-POTWs) (MOGD --discharging < 50,000 GPD or MOG823 – Land Application of Domestic Wastewater):  
Permit #MO- \_\_\_\_\_ Expiration Date \_\_\_\_\_

1.1 Is the appropriate fee included with the application (see instructions for appropriate fee)?  YES  NO

**2. FACILITY**

NAME NPSD, TERRY JEAN ACRES WASTEWATER TREATMENT FACILITY		TELEPHONE NUMBER WITH AREA CODE (636) 343-5050	
ADDRESS (PHYSICAL) 1711 TERRY JEAN LANE	CITY FENTON	STATE MO	ZIP CODE 63026
2.1 Legal description: Sec. 16 , T43N , R 5E		County JEFFERSON	

2.2 UTM Coordinates Easting (X): 720366 Northing (Y): 4260944  
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

2.3 Name of receiving stream: SUGAR CREEK

2.4 Number of outfalls: 1 Wastewater outfalls: 1 Stormwater outfalls: 0 Instream monitoring sites: 0

**3. OWNER:**

NAME NORTHEAST PUBLIC SEWER DISTRICT		EMAIL ADDRESS joer@northeastsewer.org	TELEPHONE NUMBER WITH AREA CODE (636) 343-5090
ADDRESS 1041 GRAVOIS ROAD	CITY FENTON	STATE MO	ZIP CODE 63026

3.1 Request review of draft permit prior to public notice?  YES  NO

3.2 Are you a publicly owned treatment works?  YES  NO  
If yes, please attach the Financial Questionnaire. See: <https://dnr.mo.gov/forms/780-2511-f.pdf>

3.3 Are you a privately owned treatment works?  YES  NO

3.4 Are you a privately owned treatment facility regulated by the Public Service Commission?  YES  NO

**4. CONTINUING AUTHORITY:**

NAME NORTHEAST PUBLIC SEWER DISTRICT		EMAIL ADDRESS joer@northeastsewer.org	TELEPHONE NUMBER WITH AREA CODE (636) 343-5090
ADDRESS 1041 GRAVOIS ROAD	CITY FENTON	STATE MO	ZIP CODE 63026

If the continuing authority is different than the owner, include a copy of the contract agreement between the two parties and a description of the responsibilities of both parties within the agreement.

**5. OPERATOR**

NAME VARIOUS - SEE ATTACHED SHEET	TITLE SEE ATTACHED SHEET	CERTIFICATE NUMBER SEE ATTACHED SHEET
EMAIL ADDRESS joer@northeastsewer.org	TELEPHONE NUMBER WITH AREA CODE (636) 717-6523 ext. 14	

**6. FACILITY CONTACT**

NAME JOSEPH D. RICHARDSON	TITLE OPERATIONS MANAGER
EMAIL ADDRESS joer@northeastsewer.org	TELEPHONE NUMBER WITH AREA CODE (636) 717-6523 ext. 14

ADDRESS 555 13th STREET	CITY FENTON	STATE MO	ZIP CODE 63026
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MO 780-1512 (03-21)

**RECEIVED**  
**JUN 08 2022**

## 7. DESCRIPTION OF FACILITY

**7.1 Process Flow Diagram or Schematic:** Provide a diagram showing the processes of the treatment plant. Show all of the treatment units, including disinfection (e.g. – chlorination and dechlorination), influents, and outfalls. Specify where samples are taken. Indicate any treatment process changes in the routing of wastewater during dry weather and peak wet weather. Include a brief narrative description of the diagram.

Attach sheets as necessary.

REFER TO ATTACHED SHEETS

**7.2** Attach an aerial photograph or USGS topographic map showing the location of the facility and outfall.

Please see the following website:

<https://modnr.maps.arcgis.com/apps/webappviewer/index.html?id=1d81212e0854478ca0dae87c33c8c5ce>

8. ADDITIONAL FACILITY INFORMATION			
8.1	Number of people presently connected or population equivalent (P.E.)	37	Design P.E. 43
8.2	Connections to the facility: 10 Number of units presently connected: 10 Residential: <u>10</u> Commercial: <u>0</u> Industrial: <u>0</u>		
8.3	Design flow: <u>4,500</u> GPD	Actual flow: <u>Y2021 AVG. 3,150</u> GPD	
8.4	Will discharge be continuous through the year? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Discharge will occur during the following months: <u>ENTIRE YEAR - ALL TWELVE MONTHS</u> How many days of the week will discharge occur? <u>ALL SEVEN DAYS</u>		
8.5	Is industrial wastewater discharged to the facility? If yes, attach a list of the industries that discharge to your facility	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
8.6	Does the facility accept or process leachate from landfills?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
8.7	Is wastewater land applied? If yes, attach Form I.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No See: <a href="https://dnr.mo.gov/forms/780-1686-f.pdf">https://dnr.mo.gov/forms/780-1686-f.pdf</a>	
8.8	Does the facility discharge to a losing stream or sinkhole?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
8.9	Has a wasteload allocation study been completed for this facility?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
9. LABORATORY CONTROL INFORMATION			
LABORATORY WORK CONDUCTED BY PLANT PERSONNEL			
Lab work conducted outside of plant.		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Push-button or visual methods for simple test such as pH, settleable solids.		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Additional procedures such as dissolved oxygen, chemical oxygen demand, biological oxygen demand, titrations, solids, volatile content.		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
More advanced determinations, such as BOD seeding procedures, fecal coliform/ <i>E. coli</i> , nutrients (including Ammonia), Oil & Grease, \ total oils, phenols, etc.		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph.		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
10. COLLECTION SYSTEM			
10.1 Are there any municipal satellite collection systems connected to this facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please list all connected to this facility, contact phone number and length of each collection system			
FACILITY NAME	CONTACT PHONE NUMBER	LENGTH OF SYSTEM (FEET OR MILES)	
10.2 Length of pipe in the sewer collection system? (If available, include totals from satellite collection systems) <u>686.4</u> Feet, or <u>0.13</u> Miles (either unit is appropriate)			
10.3 Does significant infiltration occur in the collection system? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, briefly explain any steps underway or planned to minimize inflow and infiltration:			

**11. BYPASSING**Does any bypassing occur in the collection system or at the treatment facility?  Yes  No

If yes, explain:

**12. SLUDGE HANDLING, USE AND DISPOSAL****12.1** Is the sludge a hazardous waste as defined by 10 CSR 25?  Yes  No**12.2** Sludge production, including sludge received from others: 0.3 Design dry tons/year 1.276 Actual dry tons/year**12.3** Capacity of sludge holding structures:Sludge storage provided: \_\_\_\_\_ cubic feet; \_\_\_\_\_ days of storage; 2.90 average percent solids of sludge; No sludge storage is provided.  Sludge is stored in lagoon.**12.4** Type of Storage:  Holding tank  Building  
 Basin  Lagoon  
 Concrete Pad  Other (Describe) SEPTIC TANKS**12.5** Sludge Treatment: Anaerobic Digester  Lagoon  Composting  
 Storage Tank  Aerobic Digester  Other (Attach description) SEPTIC TANKS  
 Lime Stabilization  Air or Heat Drying**12.6** Sludge Use or Disposal: Land Application  Surface Disposal (Sludge Disposal Lagoon, Sludge held for more than two years)  
 Contract Hauler  Hauled to Another treatment facility  
 Incineration  Sludge Retained in Wastewater treatment lagoon  
 Solid waste landfill**12.7** Person responsible for hauling sludge to disposal facility: By applicant  By others (complete below)

NAME: NORTHEAST PUBLIC SEWER DISTRICT EMAIL ADDRESS: joer@northeastsewer.org

ADDRESS: 1041 GRAVOIS ROAD CITY: FENTON STATE: MO ZIP CODE: 63026

CONTACT PERSON: JOSEPH D. RICHARDSON TELEPHONE NUMBER WITH AREA CODE: (636) 717-6523 ext. 14 PERMIT NO.: MO-

**12.8** Sludge use or disposal facility By applicant  By others (Complete below.)

NAME: NPSD, INTERIM SALINE CREEK REGIONAL WWTF EMAIL ADDRESS: joer@northeastsewer.org

ADDRESS: 555 13th STREET CITY: FENTON STATE: MO ZIP CODE: 63026

CONTACT PERSON: JOSEPH D. RICHARDSON TELEPHONE NUMBER WITH AREA CODE: (636) 717-6523 ext. 14 PERMIT NO.: MO- 0128490

**12.9** Does the sludge or biosolids disposal comply with federal sludge regulations under 40 CFR 503? Yes  No (Explain)

**13. ELECTRONIC DISCHARGE MONITORING REPORT (eDMR) SUBMISSION SYSTEM**

Per 40 CFR Part 127, National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, reporting of effluent limits and monitoring shall be submitted by the permittee via an electronic system to ensure a timely, complete, accurate, and nationally-consistent set of data. One of the following options must be checked in order for this application to be considered complete. Visit <https://dnr.mo.gov/env/wpp/edmr.htm> to for information on the Department's eDMR system and how to register.

- I will register an account online to participate in the Department's eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before any reporting is due, in compliance with the Electronic Reporting Rule.
- I have already registered an account online to participate in the Department's eDMR system through MoGEM.
- I have submitted a written request for a waiver from electronic reporting. See instructions for further information regarding waivers.
- The permit I am applying for does not require the submission of discharge monitoring reports.

**14. JETPAY**

Permit fees may be payed online by credit card or eCheck through a system called JetPay. Use the URL provided to access JetPay and make an online payment.

New Site Specific Permit: <https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/591/>


Construction Permits: <https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/592/>

Modification Fee: <https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/596/>

New General Domestic WW: <https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/772/>

**15. CERTIFICATION**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME (TYPE OR PRINT) JOSEPH D. RICHARDSON	OFFICIAL TITLE OPERATIONS MANAGER	TELEPHONE NUMBER WITH AREA CODE (636) 717-6523 ext. 14
SIGNATURE 		DATE SIGNED 06/01/2022





June 01, 2022

**Missouri Department of Natural Resources**

Water Protection Program

P.O. Box 176

Jefferson City, MO 65102

Attn: NPDES Permits and Engineering Section

Re: *Terry Jean Acres Wastewater Treatment Facility*  
*NPDES Permit No. MO-0092649*  
*Form B: Application for Operating Permit Renewal*  
*Financial Questionnaire*

To Whom It May Concern,

Enclosed herewith please find the following documents in support of the District's renewal application for the Operating Permit for the Terry Jean Acres Wastewater Treatment Facility:

Missouri Department of Natural Resources **Form B – Application for Operating Permit for Facilities That Receive Primarily Domestic Waste and Have a Design Flow Less Than Or Equal to 100,000 Gallons Per Day** with the following attachments and exhibits:

- Financial Questionnaire
- Section 5: Operators Name, Level of Wastewater Certification and Certificate Number
- Section 7.1: Description of Facility and Process Flow Diagram
- Section 7.2: U.S. Geological Survey Topographic Map and Aerial Photo of Treatment Plant Location

Should you have any questions or comments, please advise.

Sincerely,

**Northeast Public Sewer District**

Joseph D. Richardson  
Operations Manager

Pc: Board of Trustees  
Bob Hembrock, Executive Director  
File

Encl.


[www.northeastsewer.org](http://www.northeastsewer.org)



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
 WATER PROTECTION PROGRAM  
**FINANCIAL QUESTIONNAIRE**

<b>NOTE ►</b>	<b>FINANCIAL INFORMATION THAT IS NOT PROVIDED THROUGH THIS FORM WILL BE OBTAINED BY THE DEPARTMENT FROM READILY AVAILABLE SOURCES.</b>	
<b>1. GENERAL INFORMATION</b>		
FACILITY NAME NPSD, TERRY JEAN ACRES WWTF	PERMIT NUMBER #MO- 0092649	
CITY FENTON	COUNTY JEFFERSON	
<b>2. GENERAL FINANCIAL INFORMATION (ALL FACILITIES)</b>		
2.1 Number of connections to the facility: Residential <u>10</u> Commercial <u>0</u> Industrial <u>0</u>		
2.2 Current sewer user rate (Based on a 5,000 gallon per month usage):		\$47.58
2.3 Current annual operating costs for the facility (excludes depreciation):		\$4,565,425 ENTIRE DISTRICT
2.4 Bond rating (if applicable):		A+
2.5 Bonding capacity:		\$8,145,135.50
2.6 Current outstanding debt relating to wastewater collection and treatment:		\$15,273,000.00
2.7 Amount within the current user rate used toward payments on outstanding debt related to the current wastewater infrastructure:		\$13.53
2.8 Attach any relevant financial statements.		
<b>3. FINANCIAL INFORMATION REQUIRED FROM MUNICIPALITIES</b>		
3.1 Municipality's Full Market Property Value:		
3.2 Municipality's Overall Net Debt:		
3.3 Municipality's Property Tax Revenues (levied) [A]:		
3.4 Municipality's Property Tax Revenues (collected) [B]:		
3.5 Municipality's Property Tax Collection Rate ((B)/[A]):		
<b>4. FINANCIAL INFORMATION REQUIRED FROM SEWER DISTRICTS</b>		<b>COMBINED</b>
4.1 Total connections to the sewer district: Residential <u>12,736</u> Commercial <u>406</u> Industrial _____		
4.2 When facilities require upgrades, how are the costs divided? Will the homes connected to the upgraded facility bear the costs? Will the costs be divided across the sewer district?  COST DIVIDED ACROSS DISTRICT		
<b>5. ADDITIONAL CONSIDERATIONS (ALL FACILITIES)</b>		
5.1 Provide a list of major infrastructure or other investments in environmental projects. Include project timing and costs and indicate any possible overlap or complications (attach sheets as necessary):  SEE ATTACHED		
5.2 Provide a list of any other relevant local community economic conditions that may impact the ability to afford new permit requirements (attach sheets as necessary):  INFLATION AND GLOBAL CONFLICTS		

**6. CERTIFICATION**

FINANCIAL CONTACT ROBERT A. HEMBROCK	OFFICIAL TITLE EXECUTIVE DIRECTOR
EMAIL ADDRESS bobh@northeastsewer.org	TELEPHONE NUMBER WITH AREA CODE (636) 343-5090 ext. 226
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	
OWNER OR AUTHORIZED REPRESENTATIVE ROBERT A. HEMBROCK	OFFICIAL TITLE EXECUTIVE DIRECTOR
SIGNATURE 	DATE SIGNED 6-1-22

**INSTRUCTIONS FOR COMPLETING THE FINANCIAL QUESTIONNAIRE**

The Financial Questionnaire is to be completed by municipalities, sewer districts, and water supply districts when filing for renewal of their Missouri State Operating Permit. The Financial Questionnaire is to be submitted as an attachment to *FORM B: APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW LESS THAN OR EQUAL TO 100,000 GALLONS PER DAY* and *FORM B2: APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY*.

1. GENERAL INFORMATION – Provide the name by which the facility is locally known, the Missouri State Operating Permit number, and the city and county where the facility is located.
2. GENERAL FINANCIAL INFORMATION (ALL FACILITIES) – Municipalities, sewer districts, and water supply districts are to complete.
  - 2.1 Self-explanatory.
  - 2.2 Provide the rate that a household would be charged for sewer service if they use 5,000 gallons per month.
  - 2.3 Provide the cost to operate and maintain the wastewater facility annually.
  - 2.4 Bond ratings can be found here: <https://emma.msrb.org/IssuerHomePage/HomepagesForC6?cusip6=795169>.
  - 2.5 General obligation bond capacity allowed by constitution: Cities = up to 20% of taxable tangible property; Sewer districts = up to 5% of taxable tangible property.
  - 2.6 Provide the amount of debt owed on wastewater collection and treatment. Debt information is typically available from your community's annual financial statements
  - 2.7 Provide the amount of a user's monthly sewer bill that is used toward debt owed on wastewater collection and treatment. This may be a percentage or dollar amount.
  - 2.8 Self-explanatory.
3. FINANCIAL INFORMATION REQUIRED FROM MUNICIPALITIES – Municipalities are to complete.
  - 3.1 Full Market Property Value is typically available through your community or state assessor's office.
  - 3.2 Debt information is typically available from your community's annual financial statements.
  - 3.3 Property tax revenues are typically available from your community's annual financial statements. Property tax rates for Missouri communities can be found in the annual auditor's report: <https://app.auditor.mo.gov/AuditReports/AudRpt2.aspx?id=31>.
  - 3.4 Property Taxes Levied = (Real Property Assessed Value) \* (Property Tax Rate). This information is typically available through your community or state assessor's office and your community's annual financial statements. Property tax rates for Missouri communities can be found in the annual auditor's report: <https://app.auditor.mo.gov/AuditReports/AudRpt2.aspx?id=31>.
  - 3.5 Property tax collection rate = (Property Tax Revenues) ÷ (Property Taxes Levied).
4. FINANCIAL INFORMATION REQUIRED FROM SEWER DISTRICTS – Sewer Districts and Water Supply Districts are to complete.
  - 4.1-4.2 Self-explanatory.
5. ADDITIONAL CONSIDERATIONS (ALL FACILITIES) – Municipalities, sewer districts, and water supply districts are to complete.
  - 5.1-5.2 Self-explanatory.
6. CERTIFICATION – Provide the name and contact information for the individual who can respond to financial information requests for your community. This form must be signed by your community's "owner" or "authorized representative". The owner for a municipality is either the principal executive officer or ranking elected official.

If there are any questions concerning this form or your Missouri State Operating Permit, contact the Department of Natural Resources, Water Protection Program, Operating Permits Section at 800-361-4827 or 573-751-6825.

NORTHEAST PUBLIC SEWER DISTRICT  
Fiscal Year 2022 Budget

7235 NPSD CONSTRUCTION

Description	Amount
1 2022 Misc. Sewer Main Reconstructions	1,120,000.00
2 Winter Valley PS Improvements - Flood Mitigation	500,000.00
3 Pere Cliff Pump Station & Force Main (Easements & Construction)	180,000.00
4 CIPP Lining	610,000.00
5 Engineering Design for Antire Valley Phases 2 & 3	573,000.00
6 Harbor View Force Main Relocation	160,000.00
Total	\$ 3,143,000
FY 2022 Budget	\$ 3,143,000

# NORTHEAST PUBLIC SEWER DISTRICT

## Fiscal Year 2022 Budget

### CAPITAL PROJECT NEEDS LIST

	Raw Estimate	Estimate Year	CIP Year
1 Vehicles			SEE FLEET MANAGEMENT PLA
2 Lower Saline Interceptor phase 7 & High Ridge Consolidation Phase 1	1,490,000	2021	2023
3 Antire Valley Phase 1	1,150,000	2021	2024
Easements		2019	2023
4 Antire Valley Phase 2	2,560,000	2021	2024
Easements	68,068	2019	2023
5 Antire Valley Phase 3	3,170,000	2021	2024
Easements		2019	2023
6 CIP 2018-04 Harter Farms Extension	221,996	2018	2027
7 CIP 2018-02 Dutch Mill Farms Seer Extension & PS Decommissioning	250,000	2018	2027
8 CIP 2018-03 Williams Creek Watershed Upgrades - Gravity Sewer	610,000	2021	2028
9 CIP 2018-03 Williams Creek Watershed Upgrades - Pump Station & Force Main	1,070,000	2018	2028
10 Kohnen Pump Station Relocation	*		
11 Saline Creek Farms Pump Station Reconstruction	*		
12 Arkansas Drive Sewer Extension (Arkansas PS Decommissioning)	*		
13 Sue Lynn #4 Pump Station Sewer Extension	*		
14 Sue Lynn #5 Pump Station Sewer Extension	*		
15 Sugar Creek Interceptor Extension Phase 1 (to Terry Jean WWTP)	*		
16 High Ridge Consolidation Phase 2	*		
17 High Ridge Consolidation Phase 3	*		
18 Creekwood #2 Pump Station Sewer Extension & Decommissioning	*		
19 Lonedell Sewer Extension & Pump Station Decommissioning	*		
	10,590,064		

\* These projects are know as needs, but opinions of cost have not been prepared at this time.

NORTHEAST PUBLIC SEWER DISTRICT  
OF JEFFERSON COUNTY  
Fenton, Missouri

For the Year Ended December 31, 2020

ANNUAL FINANCIAL REPORT

**BEUSSINK, HEY, ROE & STRODER, L.L.C.**

*Certified Public Accountants*

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# BEUSSINK, HEY, ROE & STRODER, L.L.C.

## *Certified Public Accountants*

DEBRA BEUSSINK EUDY, CPA

JERRY W. ROE, CPA

JEFFREY C. STRODER, CPA

---

EVERETT E. HEY, CPA  
(1955 - 2014)

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RHEANNA L. GREER, CPA

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### INDEPENDENT AUDITORS' REPORT

To the Board of Trustees  
Northeast Public Sewer District of  
Jefferson County  
Fenton, Missouri

#### Report on the Financial Statements

We have audited the accompanying financial statements of the business-type activities of the Northeast Public Sewer District of Jefferson County, as of and for the year ended December 31, 2020, and the related notes to the financial statements, which comprise the District's basic financial statements as listed in the table of contents.

#### Management's Responsibility for the Financial Statements

Management is responsible for preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

#### Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.



We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the business-type activities of the Northeast Public Sewer District of Jefferson County as of December 31, 2020, and the changes in financial position and cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

### Other Matters

#### Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 5 through 12 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Government Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operation, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

#### Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated June 21, 2021, on our consideration of the Northeast Public Sewer District of Jefferson County's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Northeast Public Sewer District of Jefferson County's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Northeast Public Sewer District of Jefferson County's internal control over financial reporting and compliance.

BEUSSINK, HEY, ROE & STRODER, L.L.C.

*Beussink, Hey, Roe & Stroder, L.L.C.*

Cape Girardeau, Missouri  
June 21, 2021

# BEUSSINK, HEY, ROE & STRODER, L.L.C.

## *Certified Public Accountants*

DEBRA BEUSSINK EUDY, CPA  
JERRY W. ROE, CPA  
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RHEANNA L. GREER, CPA

### INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS

To the Board of Trustees  
Northeast Public Sewer District of  
Jefferson County  
Fenton, Missouri

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the business-type activities of the Northeast Public Sewer District of Jefferson County as of and for the year ended December 31, 2020, and the related notes to the financial statements, which comprise the Northeast Public Sewer District of Jefferson County's basic financial statements, and have issued our report thereon dated June 21, 2021.

#### Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Northeast Public Sewer District of Jefferson County's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Northeast Public Sewer District of Jefferson County's internal control. Accordingly, we do not express an opinion on the effectiveness of the Northeast Public Sewer District of Jefferson County's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A material weakness is a deficiency, or combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A significant deficiency is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

#### Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Northeast Public Sewer District of Jefferson County's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit and, accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

#### Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

BEUSSINK, HEY, ROE & STRODER, L.L.C.

*Beussink, Hey, Roe & Stroder, L.L.C.*

Cape Girardeau, Missouri  
June 21, 2021

REQUIRED SUPPLEMENTAL INFORMATION

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**NORTHEAST PUBLIC SEWER DISTRICT**  
**MANAGEMENT'S DISCUSSION AND ANALYSIS**  
(Unaudited)

The Northeast Public Sewer District is presenting the following discussion and analysis in order to provide an overall review of the District's financial activities for the fiscal year ending December 31, 2020. The readers should consider the information presented with the District's financial statements and footnotes to the basic financial statements to form an understanding of the District's financial position.

FINANCIAL HIGHLIGHTS

- The District continues to work to improve operating efficiencies by a focus on system reliability maintenance and improvements. Future construction planning efforts include gravity system consolidation to eliminate a number of pump stations which will further improve efficiencies and have a positive impact on operating expenses. The Board has decided to apply for a loan through the State Revolving Fund (SRF) program to fund the Antire Valley projects which will eliminate two (2) of the District's three (3) remaining satellite treatment facilities.
- The District's Total Liabilities increased by \$2.52 million, or 17.1 percent. Long-term debt outstanding increased as a result of the Biosolids Project at the Saline Creek WWTF. While the District plans to fund the Antire Valley projects with a SRF loan, this will not result in higher annual debt payment obligations due to the structure of the current debt which will see a reduction over the next two (2) years and a significant reduction in FY 2027.
- The District's Total Operating Expenses in 2020 increased (29.1%) as compared to 2019. This is due to the increased costs of repairs to the system as part of the District's system reliability improvement program. The District's average winter average for sewer billing slightly increased in FY 2021, but is relatively stable.
- The District's Net Position increased by 2.8 percent over 2019 due to increased construction in progress due to the Biosolids project at the Saline Creek WWTF.

OVERVIEW OF THE FINANCIAL STATEMENTS

This annual report consists of three parts, the Management's Discussion and Analysis, the independent auditor's report and the basic financial statements of the District. The financial statements also include footnotes that explain in more detail some of the information in the financial statements.

## REQUIRED FINANCIAL STATEMENTS

The financial statements of the District report information of the District using accounting methods similar to those used by private sector companies. These statements offer short and long-term financial information about its activities.

The *Statement of Net Position (Balance Sheet)* includes all of the District's assets and liabilities and provides information about the nature and amount of investments in resources (assets) and the obligations to District creditors (liabilities). It also provides the basis for evaluating the capital structure of the District and assessing the liquidity and financial flexibility of the District.

All of the current year's revenues and expenses are accounted for in the *Statement of Revenues, Expenses, and Changes in Net Position*. This statement measures the results of the District's operations over the year and can be used to determine whether the District has successfully covered all its costs through its user fees and other charges, its profitability and its credit-worthiness.

The final requirement is the *Statement of Cash Flows*. The primary purpose of this statement is to provide information about the District's cash receipts and payments. The statement reports cash receipts, cash payments, and net changes in cash resulting from operations, investing, and financing activities and provides answers to questions such as: where did cash come from, what was cash used for, and what was the change in the cash balance during the reporting period.

## FINANCIAL ANALYSIS OF THE DISTRICT

The most common financial question posed to the District is "Are we (the District) as a whole better off or worse off as a result of the year's activities?" The *Statement of Net Position* and the *Statement of Revenues, Expenses and Changes in Net Position* report information about the District's activities in a way that will help answer this question. These two statements report the net position of the District and the changes during the year. One can think of the District's net position, the difference between assets and liabilities, as one way to measure financial health or financial position. Over time, increases or decreases in the District's net position is one indicator of whether its financial health is improving or deteriorating. The reader will need to consider other non-financial factors such as changes in economic conditions, population growth, and new or changed government legislation.

## NET POSITION

To begin our analysis, a summary of the District's *Statement of Net Position* is presented in Table A.1. As is apparent from the Table, the Total Net Position increased \$1.11 million to \$40.51 million in 2020, up from \$36.51 million at the end of 2019.

**Table A.1**  
**Condensed Statements of Net Assets (Balance Sheet)**

	<u>FY 2019</u>	<u>FY 2020</u>	<u>Dollar</u> <u>Change</u>	<u>Total</u> <u>Percent</u> <u>Change</u>
Current Assets	7,172,714	6,777,783	(394,931)	(5.5)
Other Assets	<u>1,085,261</u>	<u>1,161,301</u>	<u>76,040</u>	<u>7.0</u>
Total Current & Other Assets	8,257,975	7,939,084	(318,891)	(3.9)
Capital Assets	56,277,238	59,189,502	2,912,264	5.2
Construction in Progress	2,936,332	4,899,857	1,963,525	66.9
Accumulated Depreciation	<u>(13,317,865)</u>	<u>(14,244,708)</u>	<u>(926,843)</u>	<u>7.0</u>
Total Capital Assets	<u>45,895,705</u>	<u>49,844,651</u>	<u>3,948,946</u>	<u>8.6</u>
<b>Total Assets</b>	<b>54,153,680</b>	<b>57,783,735</b>	<b>3,630,055</b>	<b>6.7</b>
Long-Term Debt Outstanding	12,650,007	14,178,123	1,528,116	12.1
Other Liabilities	<u>2,108,274</u>	<u>3,098,815</u>	<u>990,541</u>	<u>46.9</u>
<b>Total Liabilities</b>	<b>14,758,281</b>	<b>17,276,938</b>	<b>2,518,657</b>	<b>17.1</b>
Invested In Capital Assets, Net of Related Debt	32,028,705	34,604,175	2,575,470	8.0
Restricted for Replacements	1,085,261	1,161,301	76,040	7.0
Unrestricted	<u>6,281,433</u>	<u>4,741,321</u>	<u>(1,540,112)</u>	<u>(24.5)</u>
<b>Total Net Position</b>	<b>39,395,399</b>	<b>40,506,797</b>	<b>1,111,398</b>	<b>2.8</b>

In examining Table A.1, much of the Change in Net Position was realized in the category titled *Capital Assets*. This is reflective of the increase in the District's Construction in Progress from the Biosolids project at the Saline Creek Regional WRRF which began in 2020 and will be completed in 2021. This project is being funded partially with a State Revolving Fund (SRF) loan and partially with cash from the District's Capital Improvement Fund. Long-Term Debt Outstanding increased in 2020 due to this SRF loan.

While the *Statement of Net Position (Balance Sheet)* depicts the change in net position, the *Statement of Revenues, Expenses and Changes in Net Position*, provides answers as to the nature and source of these changes. As can be seen in Table A.2, the *Income Before Capital Contributions* of -\$1.91 million is significantly different than last year. This is due to the increased cost for repairs in the collection system as part of the District's system reliability program to reduce Infiltration & Inflow and correct other system defects which affect service

reliability. While the District has been increasing this work in the recent past, the program was far more extensive in 2020. It is anticipated that this level of expense will continue over the next five (5) years. In addition to this additional expense, connection fees were lower, sewer charges were slightly less and late fees were less due to the COVID-19 pandemic than in 2019.

2020's Capital Contributions are an increase over 2019. The District had more in-kind construction of sewer main extensions in 2020 than 2019. The economic effects of COVID19 make it difficult to estimate or predict the amount of in-kind construction for the next few years.

**Table A.2**  
**Condensed Statements of Revenues,**  
**Expenses, and Changes in Net Assets**

	<u>FY 2019</u>	<u>FY 2020</u>	<u>Dollar</u> <u>Change</u>	<u>Total</u> <u>Percent</u> <u>Change</u>
Operating Revenues	7,414,674	7,137,886	(276,788)	(3.7)
Other Revenues	135,497	123,557	(11,940)	(8.8)
Other Expenses	<u>(461,251)</u>	<u>(763,131)</u>	<u>(301,880)</u>	<u>65.4</u>
<b>Total Revenues</b>	<b>7,088,920</b>	<b>6,498,312</b>	<b>(590,608)</b>	<b>(8.3)</b>
Depreciation Expense	1,115,539	1,171,432	55,893	5.0
Operating Expense	<u>3,411,412</u>	<u>4,671,304</u>	<u>1,259,892</u>	<u>36.8</u>
<b>Total Expenses</b>	<b>4,526,951</b>	<b>5,842,736</b>	<b>1,315,785</b>	<b>29.1</b>
Income (Loss) Before Capital Contributions	2,561,966	655,576	(1,906,390)	(74.4)
Capital Contributions (net of related depreciation)	321,440	455,822	134,382	41.8
Capitalized Labor & Material	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
	321,440	455,822	134,382	41.8
Change in Net Assets	2,883,406	1,111,398	(1,772,008)	(61.5)
Beginning Net Assets	36,511,993	39,395,399	2,883,406	7.9
Prior Period Adjustment	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
<b>Ending Net Assets</b>	<b>39,395,399</b>	<b>40,506,797</b>	<b>1,111,398</b>	<b>2.8</b>



## BUDGETARY HIGHLIGHTS

The District adopts an annual Operating Budget before the start of the fiscal year as required by law. The Operating Budget includes proposed expenses and the means of financing them. A 2020 budget comparison and analysis is presented in Table A.3.

**Table A.3**  
**Budget vs. Actual**

	FY 2020 <u>Budget</u>	FY 2020 <u>Actual</u>	<u>Variance</u>
REVENUES			
Operating Revenues	7,012,309	7,137,886	125,577
Non-Operating Revenues	<u>70,949</u>	<u>123,557</u>	<u>52,608</u>
<b>Total Revenues</b>	<b>7,083,258</b>	<b>7,261,443</b>	<b>178,185</b>
EXPENSES			
Employment Costs	1,970,120	1,948,929	(21,191)
Repair & Maintenance	203,920	1,503,729	1,299,809
Operating Supplies	60,730	70,463	9,733
Vehicle Costs	77,800	67,431	(10,369)
Utilities & Trash	254,730	236,136	(18,594)
Administrative Costs	402,380	393,807	(8,573)
Depreciation & Amortization	1,012,080	1,171,432	159,352
Interest Expenses	305,855	264,156	(41,699)
Outside Services	<u>283,330</u>	<u>450,177</u>	<u>166,847</u>
<i>Total Operating Expenses</i>	<i>4,570,945</i>	<i>6,106,260</i>	<i>1,535,315</i>
<i>Total Non-Operating Expenses</i>	<i><u>36,538</u></i>	<i><u>499,607</u></i>	<i><u>463,069</u></i>
<b>Total Expenses</b>	<b>4,607,483</b>	<b>6,605,867</b>	<b>1,998,384</b>
<b>Net Revenue (Expense)</b>	<b>2,475,775</b>	<b>655,576</b>	<b>(1,820,199)</b>

The increase in budgeted operating revenue is reflective of an increase over the budget amount of tap-on fees and sewer charges, as well as late fees which are not budgeted. Non-operating expense was higher than budgeted due to a bond refunding issue in the second half of 2020. It is anticipated that non-operating revenue will decrease in 2021 due to lower interest income from investing the District's reserves. Conservative estimates will predominate into the foreseeable future.

## CAPITAL ASSETS

At the end of 2020, the District had \$49.8 million invested in capital assets, net of depreciation, including wastewater treatment plants, collector sewers and interceptors as shown in Table A.4. This is an increase of \$3.9 million over 2019 due to the biosolids project at the Saline Creek WWTF.

**Table A.4**  
**Capital Assets**

	<u>FY 2019</u>	<u>FY 2020</u>	<u>Variance</u>	<u>Total Percent Change</u>
Land & Land Improvements	1,735,544	1,743,074	7,530	0.4
Structures & Treatment Facilities	49,580,494	52,620,792	3,040,298	6.1
Administrative & Maintenance Building	2,614,200	2,614,200	0	0
Vehicles	1,291,026	1,144,712	(146,314)	(11.3)
Equipment	833,832	844,582	10,750	1.3
Furniture & Fixtures	218,203	218,203	0	0
Leasehold Improvements	<u>3,939</u>	<u>3,939</u>	<u>0</u>	<u>0</u>
	56,277,238	59,189,502	2,912,264	5.2
Less: Accumulated Depreciation	(13,317,865)	(14,244,708)	(926,843)	7.0
Construction in Progress	<u>2,936,332</u>	<u>4,899,857</u>	<u>1,963,525</u>	<u>66.9</u>
<b>Net Capital Assets</b>	<b>45,895,705</b>	<b>49,844,651</b>	<b>3,948,946</b>	<b>8.6</b>

## DEBT ADMINISTRATION

At year-end, the District had \$15.2 million in long-term outstanding debt. More detailed information concerning the District's long-term liabilities is presented in the Notes to Financial Statements section of the audit report.

**Table A.5  
Debt Coverage Ratio**

	<u>FY 2019</u>	<u>FY 2020</u>
REVENUES		
Operating Revenues	7,075,774	6,874,486
Interest & Other Income	131,914	102,350
Tap-On Fees	<u>338,900</u>	<u>263,400</u>
<b>Total Revenues</b>	<b>7,546,588</b>	<b>7,240,236</b>
<b>Total Operating Expenses (less depreciation)</b>	<b><u>3,411,412</u></b>	<b><u>4,671,304</u></b>
<b>Net Earnings</b>	<b><u>4,135,176</u></b>	<b><u>2,568,932</u></b>
<b>Annual Debt Service</b>	<b>1,941,808</b>	<b>2,247,210</b>
<b>Debt Coverage Ratio</b>	<b>2.13</b>	<b>1.14</b>

One area that demonstrates the District's borrowing capacity is seen in its debt coverage ratio. We currently have earnings coverage of 1.14 times debt, above that required by covenant. The major difference from FY 2019, as seen in table A.5 above, is increased operating expenses reflective of more activity in the inspection and repair of the collection system. This resulted in a lower Debt Coverage Ratio.

ECONOMIC FACTORS AND NEXT YEAR'S BUDGET AND RATES

Since the completion of major consolidation efforts in 2015 funded by a \$9.26 million State Revolving Fund (SRF) bond issue, the District has been completing smaller scale system improvements on a pay-as-you-go basis. The District's revenue allows for this improvement program at the current rate structure. A large project (\$6.5 million) at the Saline Creek Regional WRRF was awarded in 2019 and started in 2020. This project is being funded with a \$5 million SRF bond issue and cash from the District's capital improvement account. The District plans to fund improvements in the Antire Valley, including pumping system consolidation and decommissioning of two (2) treatment facilities with an SRF loan. The District does not expect a rate increase in the foreseeable future.

DISTRICT CONTACT INFORMATION

This financial report is designed to provide our customers and creditors with a general overview of the District's finances and to demonstrate the District's accountability for the funds it receives. Anyone having questions regarding this report or desiring additional information may contact Bob Hembrock, P.E., Executive Director of Northeast Public Sewer District, 1041 Gravois Road, Fenton, MO 63026 or by phone at (636) 343-5090 extension 226 or by email at bobh@northeastsewer.org

BASIC FINANCIAL STATEMENTS

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NORTHEAST PUBLIC SEWER DISTRICT OF JEFFERSON COUNTY  
Fenton, Missouri

STATEMENT OF NET POSITION

December 31, 2020

ASSETS

CURRENT ASSETS:

Cash and Cash Equivalents	\$ 4,248,009	
Investments	1,600,000	
Accounts Receivable - Net	906,484	
Prepaid Expenses	23,290	
Total Current Assets		\$ 6,777,783

CAPITAL ASSETS:

Sewer System and Buildings	\$ 55,234,992	
Equipment	844,582	
Vehicles	1,144,712	
Office Furniture and Equipment	218,203	
Leasehold Improvements	3,939	
Accumulated Depreciation	(14,244,708)	
	43,201,720	
Construction Work in Progress	4,899,857	
Land and Land Rights	1,743,074	
Total Capital Assets, Net		49,844,651

OTHER ASSETS:

Restricted Cash and Cash Equivalents	\$ 116,250	
Restricted Investments	1,045,051	
		1,161,301

TOTAL ASSETS \$ 57,783,735

See Accompanying Notes to Basic Financial Statements.

LIABILITIES

CURRENT LIABILITIES:

Accounts Payable	\$ 752,724	
Accrued Wages and Salaries	60,005	
Accrued Payroll Taxes	4,186	
Prepaid Tap-On Fees	376,900	
Bonds Payable	<u>1,905,000</u>	
Total Current Liabilities		\$ 3,098,815

LONG-TERM LIABILITIES:

Bonds Payable	\$ 13,335,476	
Discount on Bonds Payable	<u>842,647</u>	
Total Long-Term Liabilities		<u>14,178,123</u>

TOTAL LIABILITIES

\$ 17,276,938

NET POSITION

Net Investment in Capital Assets	\$ 34,604,175
Restricted for System Replacement	1,161,301
Unrestricted	<u>4,741,321</u>

TOTAL NET POSITION

\$ 40,506,797

See Accompanying Notes to Basic Financial Statements.

NORTHEAST PUBLIC SEWER DISTRICT OF JEFFERSON COUNTY  
Fenton, Missouri

STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

For the Year Ended December 31, 2020

OPERATING REVENUES:

Sewer Charges	\$ 6,786,679	
Tap On Fees	263,400	
Late Fees	84,698	
Miscellaneous Income	3,109	
	<u>3,109</u>	
Total Operating Revenues		\$ 7,137,886

OPERATING EXPENSES:

Salaries	\$ 1,394,324	
Payroll Taxes	105,325	
Employee Benefits	338,813	
Payroll Expenses	4,472	
Pension Contributions	79,999	
Depreciation	1,171,432	
Utilities	232,958	
Legal/Accounting	55,460	
Sludge Disposal	228,919	
Safety Equipment	8,865	
Chemicals	11,990	
Workers' Compensation Insurance	30,468	
Office Expense	64,272	
Telephone	40,945	
Vehicle Expense	67,431	
Equipment Rental	4,654	
Bad Debt Expense	632	
Fees/Assessments/Permits	67,039	
Equipment and Plant Repairs	1,528,306	
Dues and Subscriptions	20,158	
Licenses and Training	2,935	
Travel/Meals	(493)	
Lab Supplies	19,762	
Tools	15,861	
Uniform/Clothing	9,330	
Outside Services	167,579	
Insurance	95,272	
Miscellaneous Expense	76,028	
	<u>76,028</u>	
Total Operating Expenses		<u>5,842,736</u>

OPERATING INCOME, Carried Forward	\$ 1,295,150
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See Accompanying Notes to Basic Financial Statements.

NORTHEAST PUBLIC SEWER DISTRICT OF JEFFERSON COUNTY  
Fenton, Missouri

STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

For the Year Ended December 31, 2020

OPERATING INCOME, Brought Forward		\$	1,295,150
<u>OTHER REVENUES (EXPENSES):</u>			
Interest and Dividend Income	\$	102,350	
Gain on Sale of Assets		21,207	
Interest Expense		(264,156)	
Bond Account Expenses		<u>(498,975)</u>	
Total Other Revenues (Expenses)			<u>(639,574)</u>
INCOME BEFORE CONTRIBUTIONS		\$	655,576
CAPITAL CONTRIBUTIONS			<u>455,822</u>
INCREASE IN NET POSITION		\$	1,111,398
NET POSITION, January 1, 2020			<u>39,395,399</u>
NET POSITION, December 31, 2020		\$	<u>40,506,797</u>

See Accompanying Notes to Basic Financial Statements.



NORTHEAST PUBLIC SEWER DISTRICT OF JEFFERSON COUNTY  
Fenton, Missouri

STATEMENT OF CASH FLOWS

For the Year Ended December 31, 2020

CASH FLOWS FROM OPERATING ACTIVITIES:

Received from Customers	\$ 7,090,115
Paid to Suppliers for Goods and Services	(2,432,740)
Paid to Employees for Services	<u>(1,916,270)</u>

NET CASH PROVIDED (USED) BY OPERATING ACTIVITIES \$ 2,741,105

CASH FLOWS FROM INVESTING ACTIVITIES:

Interest	\$ 102,350
Purchase of Investments	(2,649,007)
Maturity of Investments	4,649,000
Bond Account Expenses	<u>(124,260)</u>

NET CASH PROVIDED (USED) BY INVESTING ACTIVITIES 1,978,083

CASH FLOWS FROM CAPITAL AND RELATED  
FINANCING ACTIVITIES:

Debt Retirement	\$ (12,852,000)
Debt Proceeds	14,225,476
Interest Paid	(348,176)
Proceeds from Disposal of Assets	21,207
Acquisition and Construction of Capital Assets	<u>(4,175,377)</u>

NET CASH PROVIDED (USED) BY FINANCING ACTIVITIES (3,128,870)

NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS \$ 1,590,318

CASH AND CASH EQUIVALENTS, January 1, 2020 2,657,691

CASH AND CASH EQUIVALENTS, December 31, 2020 \$ 4,248,009

See Accompanying Notes to Basic Financial Statements.

RECONCILIATION OF OPERATING INCOME TO NET

CASH FLOWS FROM OPERATING ACTIVITIES:

Operating Income	\$ 1,295,150
Adjustments to Reconcile Net Income to Net	
Cash Provided by Operating Activities:	
Depreciation	1,171,432
Bad Debt Expense	632
(Increase) Decrease in Accounts Receivable	(33,821)
(Increase) Decrease in Prepaid Expenses	27,262
Increase (Decrease) in Accounts Payable	287,737
Increase (Decrease) in Accrued Wages and Salaries	6,617
Increase (Decrease) in Accrued Payroll Taxes	46
Increase (Decrease) in Deferred Income	<u>(13,950)</u>

NET CASH PROVIDED BY OPERATING ACTIVITIES

\$ 2,741,105

NONCASH CAPITAL FINANCING ACTIVITIES:

Capital assets of \$455,822 were acquired through contributions from developers and landowners.

See Accompanying Notes to Basic Financial Statements.

NORTHEAST PUBLIC SEWER DISTRICT OF JEFFERSON COUNTY  
Fenton, Missouri

NOTES TO BASIC FINANCIAL STATEMENTS

December 31, 2020

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The Northeast Public Sewer District of Jefferson County supplies sewer services to customers in the Jefferson County, Missouri area.

A. The Reporting Entity:

The District's reporting entity includes the District's governing board and the operations of all related organizations for which the District exercises financial oversight. Oversight responsibility is derived from the District's authority and includes, but is not limited to, financial interdependency, selection of governing authority, designation of management, ability to significantly influence operations, and accountability for fiscal matters. Based on the foregoing criteria, no component units have been determined to be a part of the District's reporting entity.

B. Basis of Accounting:

The District's financial statements are reported on the accrual basis of accounting in conformity with generally accepted accounting principles (GAAP) as applied to government units. The financial transactions of the District are accounted for on a flow of economic resources measurement focus. The accounting objectives are a determination of net income, financial position, and changes in cash flows. Accordingly, revenues are recognized in the accounting period in which they become both available and measurable. Expenditures are recognized in the accounting period in which the liability is incurred.

C. Financial Statement Presentation:

The District's financial statements include a statement of net position; a statement of revenues, expenses, and changes in net position; and a statement of cash flows. The District classifies net position into three components: net investment in capital assets, restricted, and unrestricted. These classifications are defined as follows:

*Net investment in capital assets* – This component of net position consists of capital assets, including restricted capital assets, net of accumulated depreciation and reduced by the outstanding balances of any bonds or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. If there are significant unspent related debt proceeds at year-end, the portion of the debt attributable to the unspent proceeds is not included in the calculation of net investment in capital assets. Rather, that portion of the debt is included in the same net assets component as the unspent proceeds.

*Restricted* – This component of net position consists of constraints placed on asset usage through external constraints imposed by creditors (such as through debt covenants), grantors, contributors, or laws or regulations of other governments or constraints imposed by law through constitutional provisions or enabling legislation.

*Unrestricted net assets* – This component of net position consists of assets that do not meet the definition of “restricted” or “net investment in capital assets.”

D. Use of Estimates:

Management uses estimates and assumptions in preparing financial statements in accordance with GAAP. Those estimates and assumptions affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities, and the reported revenues and expenditures. Actual results could vary from the estimates that were assumed in preparing the financial statements.

E. Cash and Cash Equivalents:

For purposes of the statement of cash flows, the District considers all short-term debt securities purchased with an original maturity of three months or less to be cash equivalents. Cash equivalents are stated at cost plus accrued interest, which approximates fair value. The District does not believe it is exposed to any significant credit risk related to cash and cash equivalents.

F. Accounts Receivable:

The District uses the allowance method to account for uncollectible accounts receivable. Accounts receivable are presented net of an allowance for doubtful accounts of \$8,000 at December 31, 2020.

G. Capital Assets:

Property and equipment are recorded at cost. Systems donated to the District are recorded at their estimated cost at the time they are accepted by the District. Depreciation is computed using the straight-line method over the estimated useful lives of the respective assets. Maintenance and repairs are charged to expense as incurred, and major renewals and betterments are capitalized. Depreciation is recorded on a straight-line basis over the useful lives of the assets as follows:

Sewer System and Buildings	10-75 Years
Equipment	5-10 Years
Vehicles	5-10 Years
Office Furniture	5-10 Years
Leasehold Improvements	15 Years

H. Operating Revenues and Expenses:

Operating revenues and expenses result from providing services and producing and delivering services. They also include all revenues and expenses not related to capital and related financing, non-capital financing, or investing activities.

I. Tax Status:

The District is exempt from federal, state, and local income taxes. Therefore, no provision for income taxes is included in the financial statements.

J. Fair Value of Financial Instruments:

The District's financial instruments are cash and cash equivalents, accounts receivable, accounts payable, and long-term debt. The recorded values of cash and cash equivalents, accounts receivable, and accounts payable approximate their fair values based on their short-term nature. The recorded value of long-term debt approximates its fair values, as interest approximates market rates.

K. Vacation and Sick Pay:

The District permits employees to accumulate a limited amount of earned but unused vacation and personal leave. Vacation and personal leave are considered as expenditures in the year paid. Accumulated vacation time is paid if employment is terminated. Although the possibility that all employees will terminate in the coming year is remote, management estimates the potential liability at December 31, 2020 would have been \$55,149.

L. Subsequent Events:

In preparing these financial statements, the District has evaluated events and transactions for potential recognition of disclosure through June 21, 2021, the date the financial statements were available to be issued.

2. CASH AND CASH EQUIVALENTS

The District's cash and cash equivalents are segregated into restricted and non-restricted funds and held by Commerce Bank. The balances of these funds were as follows:

Operating Account (Unrestricted)	<u>\$4,248,009</u>
Bond Account (Restricted)	\$ 81,097
SRF Operation and Maintenance Account (Restricted)	16,178
SRF Replacement Account (Restricted)	<u>18,975</u>
Total Restricted Cash	<u>\$ 116,250</u>
Total Cash and Cash Equivalents	<u>\$4,364,259</u>

The District has classified as restricted certain cash and cash equivalents that are not available for use in its operations. At December 31, 2020, the District had restricted accounts set aside to meet sinking fund requirements of the outstanding bonds discussed in Note 4. At December 31, 2020, the reported amount of the District's deposits was \$4,364,259, and the bank balance was \$4,448,001. The total balance was covered by federal depository insurance or by collateral securities held by the bank's fiscal agent in the District's name.

### 3. INVESTMENTS

Interest rate risk is the risk that changes in market interest rates will adversely affect the fair value of an investment. Generally, the longer the maturity of an investment, the greater the sensitivity of its fair value to changes in market interest rates. The District does not have a formal investment policy that limits investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates. Information about the exposure of the District's debt type investments to this risk, using the segmented time distribution model, is as follows:

Type of Investment	Fair Value	Investment Maturities (in Years)	
		Less Than 1 Year	1 – 5 Years
Certificates of Deposit	\$ 1,600,000	\$ 1,600,000	\$ -0-
Federal National Mortgage Assoc.	<u>1,045,051</u>	<u>1,045,051</u>	<u>-0-</u>
Total	<u>\$ 2,645,051</u>	<u>\$ 2,645,051</u>	<u>\$ -0-</u>

### 4. CAPITAL ASSETS

The following is a summary of property and equipment for the year ended December 31, 2020:

	Balance January 1, 2020	Additions	Deletions	Balance December 31, 2020
Sewer System and Buildings	\$49,580,495	\$3,040,298	\$ -0-	\$ 52,620,793
Administrative Building	2,614,199	-0-	-0-	2,614,199
Equipment	833,832	10,750	-0-	844,582
Vehicles	1,291,026	98,275	(244,589)	1,144,712
Office Furniture and Equipment	218,203	-0-	-0-	218,203
Leasehold Improvements	3,939	-0-	-0-	3,939
Accumulated Depreciation	<u>(13,317,865)</u>	<u>(1,171,432)</u>	<u>244,589</u>	<u>(14,244,708)</u>
Total	\$41,223,829	\$1,977,891	\$ -0-	\$ 43,201,720
Construction Work in Progress	2,936,332	4,437,197	(2,473,672)	4,899,857
Land and Land Rights	<u>1,735,544</u>	<u>7,530</u>	<u>-0-</u>	<u>1,743,074</u>
Net Capital Assets	<u>\$45,895,705</u>	<u>\$6,422,618</u>	<u>\$(2,473,672)</u>	<u>\$ 49,844,651</u>

### 5. LONG-TERM DEBT

#### A. Bond Issue:

The following is a summary of the District's long-term debt transactions for the year ended December 31, 2020:

	Revenue Bonds
Debt Outstanding, January 1, 2020	\$ 13,867,000
Additions	14,225,476
Reductions	<u>(12,852,000)</u>
Debt Outstanding, December 31, 2020	<u>\$ 15,240,476</u>

On April 1, 2007, the District issued Sewerage System Improvement and Refunding Revenue Bonds, Series 2007. Proceeds were used to pay off the remaining balances of the Series 1999 revenue bonds and to provide for additional improvements to the sewerage system. The bonds are special obligations of the District, payable solely from the net income and revenues derived by the District from the operation of its sewerage system after payment of costs of operation and maintenance. On January 23, 2014, the District issued Sewerage System Refunding Revenue Bonds, Series 2014. Proceeds were used to pay off the remaining balances of the Series 2007 revenue bonds. The bonds do not constitute a general obligation of the District. Interest rates vary from 3.00 to 5.00 percent. In October 2020, the District issued sewerage system revenue bonds and the proceeds were used to retire the remaining balance of the Series 2014 revenue bonds.

On June 5, 2012, the District issued Sewerage System Revenue Bonds (State of Missouri-Direct Loan Program), Series 2012. Proceeds were used to provide for extensions and improvements to the District's sewerage system. The bonds are also special obligations of the District, payable solely from the net income and revenues derived by the District from the operation of its sewerage system after payment of costs of operation and maintenance. The bonds do not constitute a general obligation of the District. Interest accrues at 1.42 percent. In October 2020, the District issued sewerage system revenue bonds and the proceeds were used to retire the remaining balance of the Series 2012 revenue bonds.

On January 30, 2020, the District issued Sewerage System Revenue Bonds, Series 2020 in the amount of \$5 million. Proceeds were used to provide for extensions and improvements to the District's sewerage system. The bonds are special obligations of the District, payable solely from the net income and revenues derived by the District from the operation of its sewerage system after payment of costs of operation and maintenance. The bonds do not constitute a general obligation of the District. Interest accrues at 0.92 percent annually, and the bonds mature July 1, 2040.

On October 27, 2020, the District issued Sewerage System Refunding Revenue Bonds, Series 2020A and Series 2020B. Series 2020A was issued for \$4,930,000 and Series 2020B was issued for \$6,115,000. The proceeds from both series were used to pay off the remaining balances of the Series 2014 and Series 2012 revenue bonds described above. The bonds are special obligations of the District, payable solely from the net income and revenues derived by the District from the operation of its sewerage system after payment of costs of operations and maintenance. The bonds do not constitute a general obligation of the District. The interest rate for Series 2020A is 2.00 percent and the bonds mature on January 1, 2025. The interest rates for Series 2020B range from 1.50 to 3.00 percent and the bonds mature on January 1, 2034.

At December 31, 2020, the District's total future debt service requirements are summarized below:

<u>Fiscal Year Ended</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2021	\$ 1,905,000	\$ 342,210	\$ 2,247,210
2022	1,847,000	270,535	2,117,535
2023	1,601,000	236,038	1,837,038
2024	1,509,000	206,503	1,715,503
2025	312,000	178,846	490,846
2026-2030	5,488,000	518,047	6,006,047
2031-2035	2,578,476	115,192	2,693,668
Totals	<u>\$ 15,240,476</u>	<u>\$ 1,867,371</u>	<u>\$17,107,847</u>

The bond covenants require that all monies be segregated and restricted in separate accounts within the revenue fund, in the sequence indicated by the following:

<u>Account</u>	<u>Amount</u>	<u>Nature of Expenditures</u>
Operation and Maintenance Account	Amount sufficient to pay the estimated cost of operating and maintaining the sewerage system for one month.	All disbursements for operations and maintenance of the system.
Bond Account	Amount sufficient to pay the current bond and interest maturities.	Payment of principal and interest on bonds.
Bond Replacement Account	Amount sufficient for the purpose of making replacements and repairs to the system.	To keep the system in good repair or working order and to assure the continued effective and efficient operation of the system.

#### 6. CONSTRUCTION COMMITMENTS

As of December 31, 2020, the District was in various stages of several separate construction projects. At December 31, 2020, the construction contract for manhole rehabilitation had a remaining balance due of \$243,425. The contract for the project at the plant had a remaining balance due of \$2,703,145. Both projects are expected to be paid during the next fiscal year.

#### 7. RISK OF LOSS

The District is exposed to risks of loss through their property ownership, employee injury, and liability of employees' actions. The District purchases commercial insurance policies to overcome these risks. There have been no significant reductions in insurance coverage from the prior year. Insurance settlements have not exceeded insurance coverage in any of the past three years.



The District is insured under a retrospectively-rated policy for workers' compensation coverage. The initial premium may be adjusted based on actual experience. Adjustments in premiums are recorded when paid or received. During the year ended December 31, 2020, there were no significant adjustments in premiums based on actual experience.

#### 8. PENSION PLAN

The District provides pension benefits for all of its employees through two defined contribution plans. In a defined contribution plan, benefits depend solely on amounts contributed to the plan plus investment earnings.

The District's first plan is established in accordance with Internal Revenue Service (IRS) section 457 requirements. Employees are eligible to participate 90 days after employment. Employees are able to contribute either a fixed dollar amount or a percentage up to 15 percent of his/her gross compensation. The District makes no matching payments to this plan. Contributions and interest allocated to the employee's account are fully vested immediately. During the year ended December 31, 2020, employees contributed \$59,815 to this plan.

The District's second plan is established in accordance with Internal Revenue Service (IRS) section 401(a) requirements. Full-time employees are eligible to participate 90 days after employment. Employees are considered full-time if they have 1,000 hours of creditable service per year. Employees do not make contributions to this plan. The District contributes 6 percent of the total compensation of all participants. The District's compensation is allocated to participants based on each participant's compensation in relation to the total of all compensation of all eligible participants. During the year ended December 31, 2020, the District contributed \$76,926 to this plan.



# Northeast Public Sewer District

P. 636 343-5090 · F. 636 343-7904

Section: 5

*Missouri Department of Natural Resources  
Clean Water Commission  
Certificate of Competency engineering*

## WASTEWATER

OPERATOR	TITLE	CERTIFICATE LEVEL	NUMBER	EMAIL	PHONE #
Joseph D. Richardson	Operations Manager	A	4842	<a href="mailto:joer@northeastsewer.org">joer@northeastsewer.org</a>	636-717-6523 x14
Kyle C. Ward	Operations Supervisor / Pretreatment Coordinator	A	12688	<a href="mailto:kylew@northeastsewer.org">kylew@northeastsewer.org</a>	636-717-6523 x15
William J. Paul	Pump Station Crew Leader	C	9299	<a href="mailto:williep@northeastsewer.org">williep@northeastsewer.org</a>	636-343-8838 x257
Charles W. Drinen	Engineering Technician	C	9314	<a href="mailto:chuckd@northeastsewer.org">chuckd@northeastsewer.org</a>	636-343-5090 x229
Kyle J. Daniel	Operator 2	C	15230	<a href="mailto:kyled@northeastsewer.org">kyled@northeastsewer.org</a>	636-717-6523 x12
Kyle C. Allbright	Operator 2	D	16539	<a href="mailto:kylea@northeastsewer.org">kylea@northeastsewer.org</a>	636-717-6523 x13



# Northeast Public Sewer District

636 343-5090 · 636 343-7904

***NPSD, TERRY JEAN ACRES WASTEWATER TREATMENT PLANT  
PERMIT NUMBER MO - 0092649  
Northeast Public Sewer District***

FORM B: APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW LESS THAN OR EQUAL TO 100,000 GALLONS PER DAY

## Section 7.1 Description of Facilities

Influent Manhole – Influent Sampling Location

Septic Tanks

Recirculating Sand Filter – Recirculate approximately 80% to 90% of the flow

Flow Splitter Manhole From Sand Filter

Recirculating Dosing Tank with Two (2) Pumps

Tablet Feeder Chlorination – Chlorine Contact Tank

Tablet Feeder De – Chlorination Manhole

Outfall #001 – Discharge to Stream – Effluent Sampling Location from Outfall Pipe at the Stream

Sludge hauled by District to NPSD, Interim Saline Creek Regional WWTF – (Saline Creek WWTP – MO-0128490) for final disposal.

Final sludge disposal is hauled, and land applied by Oros & Busch Application Technologies, Inc. from NPSD, Interim Saline Creek Regional Wastewater Treatment Plant.

NORTHEAST PUBLIC SEWER DISTRICT  
1041 Gravois Road  
Fenton, MO. 63026

EFFLUENT SAMPLING LOCATION OUTFALL #001  
DISCHARGE TO STREAM

**FLOW CHART**  
WASTEWATER TREATMENT PLANT  
TERRY JEAN ACRES  
PERMIT NO. MO-0092649

DE-CHLORINATION  
MANHOLE

CHLORINATION  
CONTACT TANK

RECIRCULATING SAND FILTER

SPLITTER  
MANHOLE

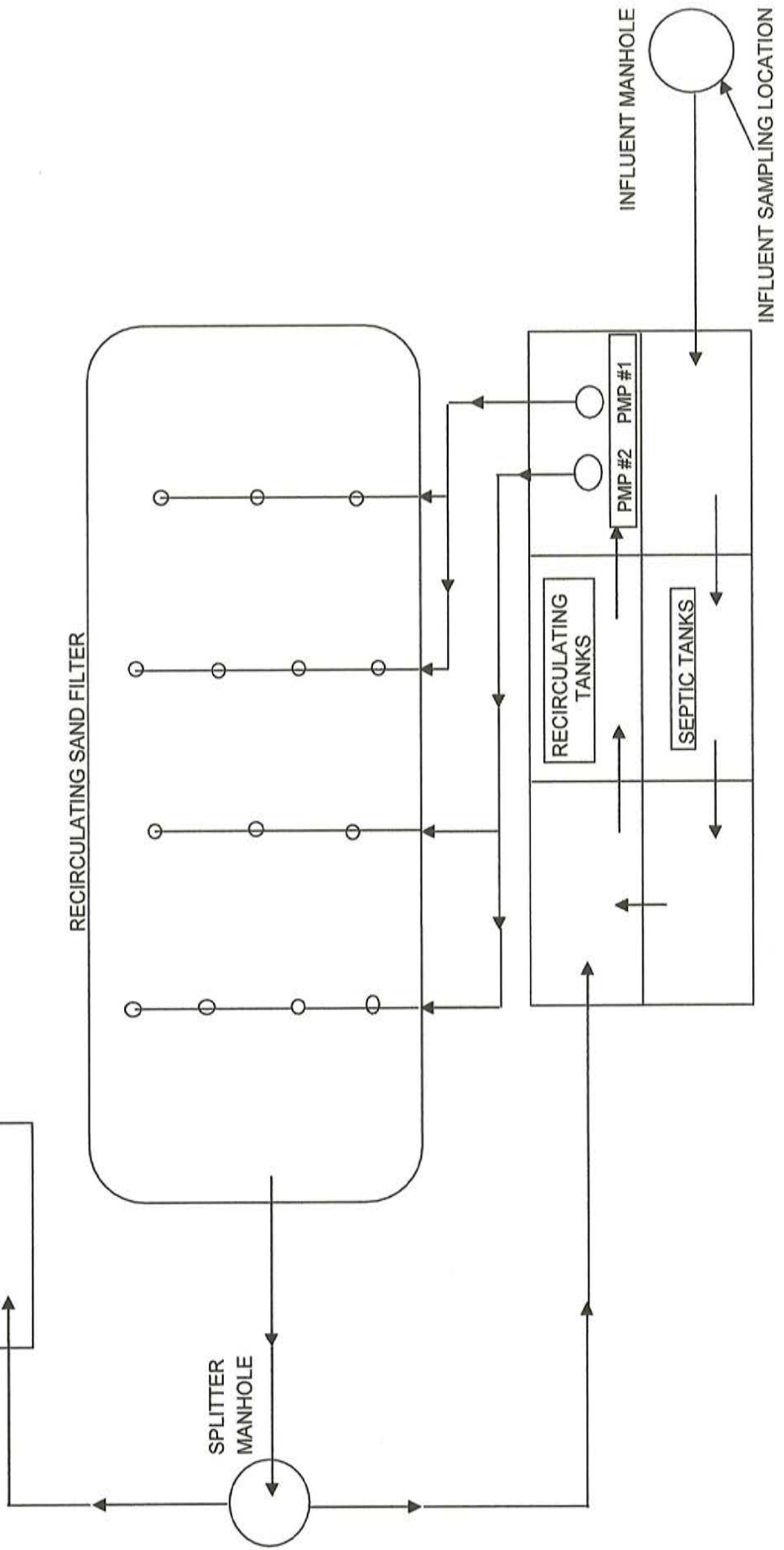
RECIRCULATING  
TANKS

SEPTIC TANKS

PMP #2 PMP #1

INFLUENT MANHOLE

INFLUENT SAMPLING LOCATION



# Northeast Public Sewer District

**NPSD, Terry Jean Acres WWTF  
MO-0092649**

213 128 198  
13 16 61 94 131  
19 55 98 135 202  
58 102 150 206  
153

## Legend

- Air Release Valve
- Force Main Cleanout
- Force Main GP
- Force Main TW
- Lamp Hole
- Manhole
- Manhole Buried
- Lateral Cleanout
- Lift Station Storage Cleanout
- Lift Station
- Lift Station Storage Manhole
- Outfall
- Repair Point
- Lift Station Storage Line
- Gravity Main
- Sewer Lateral
- Force Main
- No
- Yes
- Outfall Line
- Private FM GP
- Private Forcemain Valve
- Private Lamphole
- Private Manhole
- Private Manhole Buried
- Private Gravity Main

## Notes

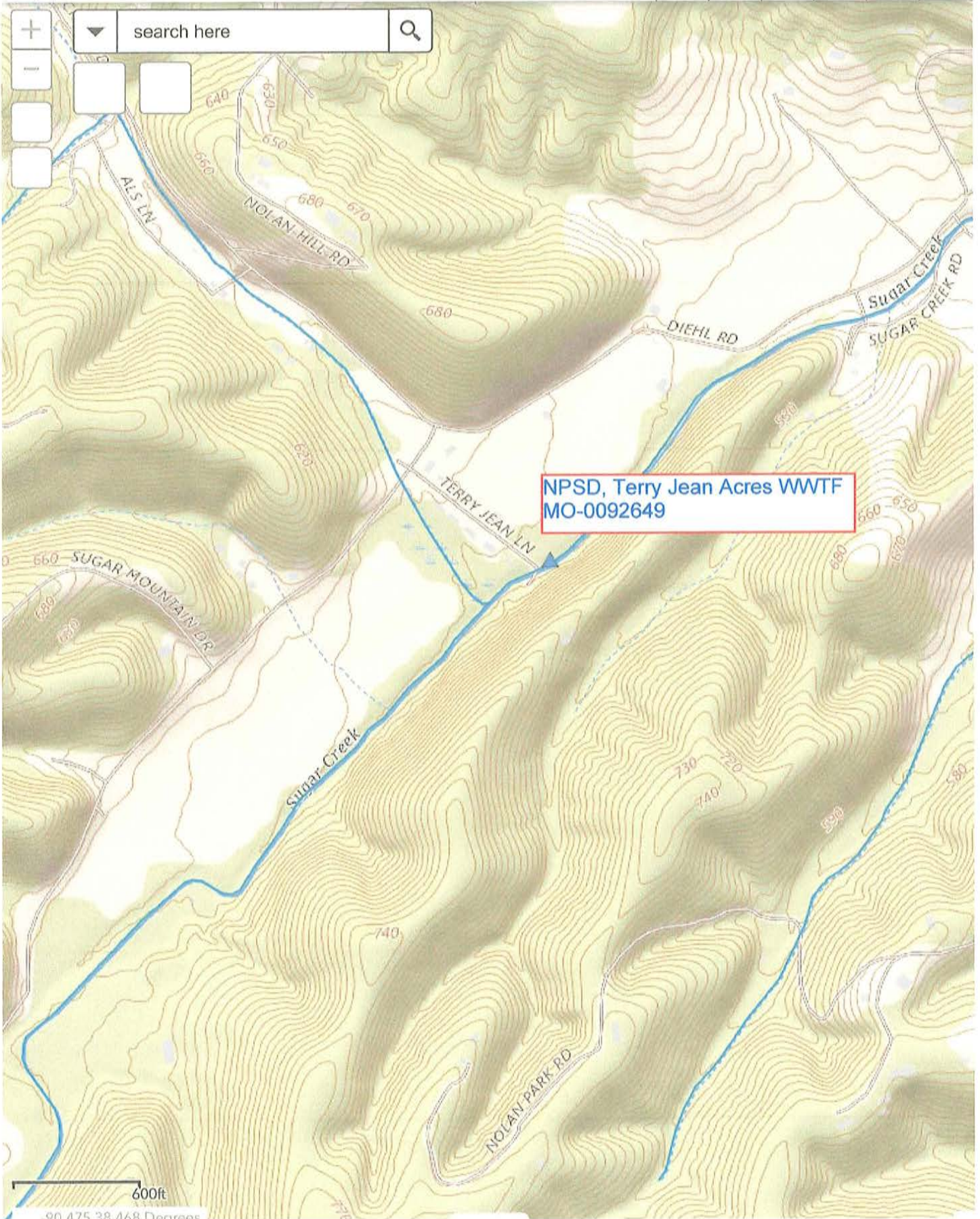
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50.0 0 25.00 50.00 Feet

This Cadastral Map is for informational purposes only. It does not purport to represent a property boundary survey of the parcels shown and shall not be used for conveyances or the establishment of property boundaries.

THIS MAP IS NOT TO BE USED FOR NAVIGATION



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600ft  
-90.475 38.468 Degrees