

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, 92nd Congress) as amended,

Permit No.: MO-0114910

Owner: Labadie Creek Watershed Sewer District of Franklin County
Address: P.O. Box 623, Union, MO 63084

Continuing Authority: Same as above
Address: Same as above

Facility Name: Labadie Wastewater Treatment Facility
Facility Address: Labadie Bottom Road, Labadie, MO 63055

Legal Description: Sec. 30, T44N, R2E, Franklin County
UTM Coordinates: X = 687713, Y = 4267166

Receiving Stream: Labadie Creek (P)
First Classified Stream and ID: Labadie Creek (P) (1693)
USGS Basin & Sub-watershed No.: (10300200-0603)

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

The use or operation of this facility shall be by or under the supervision of a Certified “D” Operator.
Aerated three-cell baffled lagoon / sludge retained in lagoon.
Design population equivalent is 740.
Design flow is 74,000 gallons per day.
Actual flow is 17,600 gallons per day.
Design sludge production is 11 dry tons/year.

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.

February 1, 2022
Effective Date

June 30, 2026
Expiration Date


Chris Wieberg, Director, Water Protection Program

OUTFALL #001	TABLE A-1. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					
The permittee is authorized to discharge from outfall number(s) as specified in the application for this permit. The final effluent limitations in Table A-1 shall become effective on February 1, 2022 and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Limit Set: M						
Flow	MGD	*		*	once/month	24 hr. estimate
Biochemical Oxygen Demand ₅	mg/L		45	30	once/month	grab
Total Suspended Solids	mg/L		45	30	once/month	grab
<i>E. coli</i> (Note 1)	#/100mL		1030	206	once/month	grab
Ammonia as N						
(January)		12.4		9.9		
(February)		12.4		9.9		
(March)		10.4		8.7		
(April)		8.6		6.8		
(May)		12.4		6.5		
(June)	mg/L	10.4		4.2	once/month	grab
(July)		8.6		2.9		
(August)		8.6		2.9		
(September)		8.6		3.7		
(October)		8.6		5.6		
(November)		8.6		7.5		
(December)		10.4		8.7		
Oil & Grease	mg/L	15		10	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY ; THE FIRST REPORT IS DUE MARCH 28, 2022 . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
EFFLUENT PARAMETER(S)	UNITS	MINIMUM		MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH – Units**	SU	6.0		9.0	once/month	grab
EFFLUENT PARAMETER(S)			UNITS	MONTHLY AVERAGE MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Biochemical Oxygen Demand ₅ – Percent Removal (Note 2, Page 3)			%	65	once/quarter	calculated
Total Suspended Solids – Percent Removal (Note 2, Page 3)			%	65	once/quarter	calculated
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY ; THE FIRST REPORT IS DUE APRIL 28, 2022 . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

* Monitoring requirement only.

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

*** See table on Page 3 for quarterly sampling.

Note 1 – Effluent limitations and monitoring requirements for *E. coli* are applicable only during the recreational season from April 1 through October 31. The Monthly Average Limit for *E. coli* is expressed as a geometric mean.

PERMITTED FEATURE <u>INF</u>	TABLE B-1. INFLUENT MONITORING REQUIREMENTS					
	PARAMETER(S)	UNITS	MONITORING REQUIREMENTS			
			DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY
Limit Set: IQ						
	Biochemical Oxygen Demand ₅ (Note 2)	mg/L			*	once/quarter
	Total Suspended Solids (Note 2)	mg/L			*	once/quarter
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY ; THE FIRST REPORT IS DUE APRIL 28, 2022 .						

* Monitoring requirement only.

*** See table below for quarterly sampling requirements.

Note 2 – Influent sampling for BOD₅ 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: $[(\text{Average Influent} - \text{Average Effluent}) / \text{Average Influent}] \times 100\% = \text{Percent Removal}$. 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.

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 th
Second	April, May, June	Sample at least once during any month of the quarter	July 28 th
Third	July, August, September	Sample at least once during any month of the quarter	October 28 th
Fourth	October, November, December	Sample at least once during any month of the quarter	January 28 th

C. 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.

D. 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.
 - (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/mogem>. Information about the eDMR system can be found at <https://dnr.mo.gov/env/wpp/edmr.htm>. 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 or call 855-789-3889 or 573-526-2082 for assistance.

D. SPECIAL CONDITIONS (continued)

- (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. Only permittees with an approved waiver request may submit monitoring data and reports on paper to the Department for the period that the approved electronic reporting waiver is effective. The permittee may obtain an electronic reporting waiver by first submitting an eDMR Waiver Request Form: <http://dnr.mo.gov/forms/780-2692-f.pdf>. 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) The permittee shall not report a sample result as "Non-Detect" without also reporting the detection limit of the test. Reporting as "Non Detect" without also including the detection limit will be considered failure to report, which is a violation of this permit.
- (c) The permittee shall provide the "Non-Detect" sample result using the less than sign and the minimum detection limit (e.g. <10).
- (d) Where the permit contains a Minimum 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.
- (e) See Standard Conditions Part I, Section A, #4 regarding proper detection limits used for sample analysis.
- (f) When a parameter is not detected above ML, the permittee must report the data qualifier signifying less than ML for that parameter (e.g., < 50 µg/L, if the ML for the parameter is 50 µg/L). For reporting an average based on a mix of values detected and not detected, assign a value of "0" for all non-detects for that reporting period and report the average of all the results.
6. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).
7. The permittee shall comply with any applicable requirements listed in 10 CSR 20-9, unless the facility has received written notification that the Department has approved a modification to the requirements. The monitoring frequencies contained in this permit shall not be construed by the permittee as a modification of the monitoring frequencies listed in 10 CSR 20-9. To request a modification of the operational control testing requirements listed in 10 CSR 20-9, the permittee shall submit a permit modification application and fee to the Department requesting a deviation from the operational control monitoring requirements. Upon approval of the request, the Department will modify the permit.
8. The permittee shall develop and implement a program for maintenance and repair of its collection system. The permittee may compare collection system performance results and other data with the benchmarks used in the Departments' Capacity, Management, Operation, And Maintenance (CMOM) Model located at <http://dnr.mo.gov/env/wpp/permits/docs/cmom-template.doc>. Additional information regarding the Departments' CMOM Model is available at <http://dnr.mo.gov/pubs/pub2574.htm>.

The permittee shall also submit a report via the Electronic Discharge Monitoring Report (eDMR) Submission System annually, by January 28th, for the previous calendar year. The report shall contain the following information:

- (a) A summary of the efforts to locate and eliminate specific sources of excessive infiltration and inflow into the collection system serving the facility for the previous year.
- (b) A summary of the general maintenance and repairs to the collection system serving the facility for the previous year.

D. SPECIAL CONDITIONS (continued)

- (c) A summary of any planned maintenance and repairs to the collection system serving the facility for the upcoming calendar year. This list shall include locations (GPS, 911 address, manhole number, etc.) and actions to be taken.
9. 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/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.
 10. The facility must be sufficiently secured to restrict entry by children, livestock and unauthorized persons as well as to protect the facility from vandalism.
 11. 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.
 12. An all-weather access road to the treatment facility shall be maintained.
 13. The outfall sewer shall be protected and maintained against the effects of floodwater, ice, or other hazards as to reasonably insure 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.
 14. The lagoon(s) shall be operated and maintained to ensure their structural integrity, which includes maintaining adequate freeboard and keeping the berms free of deep-rooted vegetation, animal dens, or other potential sources of damage.
 15. The facility shall ensure that adequate provisions are provided to prevent or minimize surface water intrusion into the lagoon and to divert stormwater runoff around the lagoons and protect embankments from erosion.

E. 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-0114910
LABADIE WASTEWATER TREATMENT FACILITY**

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: 5/28/21
Expiration Date: 6/30/21

Facility Type and Description: POTW

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE
#001	0.1147	Equivalent to Secondary	Domestic

Comments:

Changes in this permit for Outfall #001 include the addition of percent removal of BOD and TSS in the influent, the revision of Ammonia limitations, and the removal of WET Testing. 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 new Electronic Discharge Monitoring Report (eDMR) Submission System.

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)
Labadie Creek	P	1693	AQL, IRR, LWW, SCR, HPP, WBC-B	10300200-0603	0

*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 1st 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.:

AQL = Protection of aquatic life (Current narrative use(s) are defined to ensure the protection and propagation of fish shellfish and wildlife, which is further subcategorized as: **WWH** = Warm Water Habitat; **CDF** = Cold-water fishery (Current narrative use is cold-water habitat.); **CLF** = Cool-water fishery (Current narrative use is cool-water habitat); **EAH** = Ephemeral Aquatic Habitat; **MAH** = Modified Aquatic Habitat; **LAH** = Limited Aquatic Habitat. This permit uses AQL effluent limitations in 10 CSR 20-7.031 Table A for all 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-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 (formerly HHF) = Human Health Protection as it relates to the consumption of fish;

IRR = Irrigation for use on crops utilized for human or livestock consumption;

LWW = Livestock and wildlife watering (Current narrative use is defined as **LWP** = Livestock and Wildlife Protection);

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
Labadie Creek	0.1	0.1	1.0

* Low flow values obtained from USGS StreamStats. <https://streamstats.usgs.gov/ss/>. See APPENDIX: RECEIVING STREAM LOW-FLOW VALUES.

MIXING CONSIDERATIONS TABLE:

MIXING ZONE (CFS) [10 CSR 20-7.031(5)(A)4.B.(II)(a)]			ZONE OF INITIAL DILUTION (CFS) [10 CSR 20-7.031(5)(A)4.B.(II)(b)]		
1Q10	7Q10	30Q10	1Q10	7Q10	30Q10
0.025	0.025	0.25	0.0025	0.0025	0.025

Receiving Water Body's Water Quality

A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed that shall include the TMDL calculation

- ✓ This facility discharges to a stream with an EPA approved TMDL which eventually flows into the Missouri River (P) (1604). The Missouri River (P) (1604) has a TMDL for 100 miles for Chlordane and PCB's. Section 5.2 of the TMDL states treated domestic discharge is not considered to cause or contribute to the impairment of the waterbodies addressed by the TMDL. Thus, the WLA for domestic facilities remains unchanged. The TMDL does not preclude the establishment of future domestic point sources in the watershed.
- ✓ The Department has not conducted a stream survey for this waterbody. When a stream survey is conducted, more information may be available about the receiving stream.

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									
(January)			12.4		9.9				
(February)			12.4		9.9				
(March)			10.4		8.7	Apr – Sep:			
(April)			8.6		6.8	12.4-3.5			
(May)			12.4		6.5				
(June)	mg/L	2, 3	10.4		4.2		1/month	monthly	G
(July)			8.6		2.9	Oct - Mar:			
(August)			8.6		2.9	12.4-2.5			
(September)			8.6		3.7				
(October)			8.6		5.6				
(November)			8.6		7.5				
(December)			10.4		8.7				

* - Monitoring requirement only.

**** - G = Grab

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

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

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 (BOD₅).** Operating permit retains 45 mg/L as a Weekly Average and 30 mg/L as a Monthly Average from the previous permit. Effluent limits were established in accordance with 10 CSR 20-7.015(8) for discharges to All Other Waters.
- **Total Suspended Solids (TSS).** Operating permit retains 45 mg/L as a Weekly Average and 30 mg/L as a Monthly Average from the previous permit. Effluent limits were established in accordance with 10 CSR 20-7.015(8) for discharges to All Other Waters.
- ***Escherichia coli (E. coli)*.** Monthly average of 206 per 100 mL as a geometric mean and Weekly Average of 1,030 per 100 mL as a geometric mean during the recreational season (April 1 – October 31), for discharges within two miles upstream of segments or lakes with Whole Body Contact Recreation (B) designated use of the receiving stream, as per 10 CSR 20-7.015(9)(B). An effluent limit for both monthly average and weekly average is required by 40 CFR 122.45(d). 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. For example: Five *E. coli* samples were collected with results of 1, 4, 6, 10, and 5 (#/100mL). Geometric Mean = 5th root of (1)(4)(6)(10)(5) = 5th root of 1,200 = 4.1 #/100mL.
- **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.

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 Ce = effluent concentration
Cs = upstream concentration Qe = effluent flow
Qs = 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.

Month	Temp (°C)*	pH (SU)*	Total Ammonia Nitrogen CCC (mg/L)	Total Ammonia Nitrogen CMC (mg/L)
January	2.8	7.8	3.1	12.1
February	4.4	7.8	3.1	12.1
March	9.4	7.9	2.7	10.1
April	16.1	8.0	2.1	8.4
May	21.0	7.8	2.1	12.1
June	26.0	7.9	1.3	10.1
July	29.4	8.0	0.9	8.4
August	29.3	8.0	0.9	8.4
September	25.6	8.0	1.2	8.4
October	19.0	8.0	1.8	8.4
November	12.0	8.0	2.4	8.4
December	6.9	7.9	2.7	10.1

* Ecoregion data (Interior River Valleys and Hills)

January

Chronic WLA:

$$C_e = ((0.1147 + 0.25)3.1 - (0.25 * 0.01))/0.1147 = 9.9 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.1147 + 0.0025)12.1 - (0.0025 * 0.01))/0.1147 = 12.4 \text{ mg/L}$$

Chronic WLA = AML = **9.9** mg/L

Acute WLA = MDL = **12.4** mg/L

March

Chronic WLA:

$$C_e = ((0.1147 + 0.25)2.7 - (0.025 * 0.01))/0.1147 = 8.7 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.1147 + 0.0025)10.1 - (0.0025 * 0.01))/0.1147 = 10.4 \text{ mg/L}$$

Chronic WLA = AML = **8.7** mg/L

Acute WLA = MDL = **10.4** mg/L

May

Chronic WLA:

$$C_e = ((0.1147 + 0.25)2.1 - (0.25 * 0.01))/0.1147 = 6.5 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.1147 + 0.0025)12.1 - (0.0025 * 0.01))/0.1147 = 12.4 \text{ mg/L}$$

Chronic WLA = AML = **6.5** mg/L

Acute WLA = MDL = **12.4** mg/L

February

Chronic WLA:

$$C_e = ((0.1147 + 0.25)3.1 - (0.25 * 0.01))/0.1147 = 9.9 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.1147 + 0.0025)12.1 - (0.0025 * 0.01))/0.1147 = 12.4 \text{ mg/L}$$

Chronic WLA = AML = **9.9** mg/L

Acute WLA = MDL = **12.4** mg/L

April

Chronic WLA:

$$C_e = ((0.1147 + 0.25)2.1 - (0.25 * 0.01))/0.1147 = 6.8 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.1147 + 0.0025)8.6 - (0.0025 * 0.01))/0.1147 = 8.6 \text{ mg/L}$$

Chronic WLA = AML = **6.8** mg/L

Acute WLA = MDL = **8.6** mg/L

June

Chronic WLA:

$$C_e = ((0.1147 + 0.25)1.3 - (0.0 * 0.01))/0.1147 = 4.2 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.1147 + 0.0025)10.1 - (0.0025 * 0.01))/0.1147 = 10.4 \text{ mg/L}$$

Chronic WLA = AML = **4.2** mg/L

Acute WLA = MDL = **10.4** mg/L

July

Chronic WLA:

$$C_e = ((0.1147 + 0.25)0.9 - (0.25 * 0.01))/0.1147 = 2.9 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.1147 + 0.0025)8.4 - (0.0025 * 0.01))/0.1147 = 8.6 \text{ mg/L}$$

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

Acute WLA = MDL = **8.6** mg/L

September

Chronic WLA:

$$C_e = ((0.1147 + 0.25)1.2 - (0.25 * 0.01))/0.1147 = 3.7 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.1147 + 0.0025)8.4 - (0.0025 * 0.01))/0.1147 = 8.6 \text{ mg/L}$$

Chronic WLA = AML = **3.7** mg/L

Acute WLA = MDL = **8.6** mg/L

November

Chronic WLA:

$$C_e = ((0.1147 + 0.25)2.4 - (0.25 * 0.01))/0.1147 = 7.5 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.1147 + 0.0025)8.4 - (0.0025 * 0.01))/0.1147 = 8.6 \text{ mg/L}$$

Chronic WLA = AML = **7.5** mg/L

Acute WLA = MDL = **8.6** mg/L

August

Chronic WLA:

$$C_e = ((0.1147 + 0.25)0.9 - (0.25 * 0.01))/0.1147 = 2.9 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.1147 + 0.0025)8.4 - (0.0025 * 0.01))/0.1147 = 8.6 \text{ mg/L}$$

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

Acute WLA = MDL = **8.6** mg/L

October

Chronic WLA:

$$C_e = ((0.1147 + 0.25)1.8 - (0.25 * 0.01))/0.1147 = 5.6 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.1147 + 0.0025)8.4 - (0.0025 * 0.01))/0.1147 = 8.6 \text{ mg/L}$$

Chronic WLA = AML = **5.6** mg/L

Acute WLA = MDL = **8.6** mg/L

December

Chronic WLA:

$$C_e = ((0.1147 + 0.25)2.7 - (0.25 * 0.01))/0.1147 = 8.7 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.1147 + 0.0025)10.1 - (0.0025 * 0.01))/0.1147 = 10.4 \text{ mg/L}$$

Chronic WLA = AML = **8.7** mg/L

Acute WLA = MDL = **10.4** mg/L

- **Oil & Grease.** Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.
- **pH.** 6.0-9.0 SU. pH limitations [10 CSR 20-7.015] are protective of the water quality standard [10 CSR 20-7.03(5)(E)], due to the buffering capacity of the mixing zone.
- **Biochemical Oxygen Demand (BOD₅) 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 BOD₅ and TSS for Publicly Owned Treatment Works (POTWs)/municipals. This facility is required to meet 65% removal efficiency for BOD₅.

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 monthly per 10 CSR 20-7.015(9)(D)7.C.

Sampling Type Justification: As per 10 CSR 20-7.015, BOD₅ and TSS collected for lagoons may be grab samples. Grab samples must be collected for pH, *E. coli*, and Oil & Grease in accordance with recommended analytical methods. For further information on sampling and testing methods please review 10 CSR 20-7.015(9)(D) 2.

PERMITTED FEATURE INF – INFLUENT MONITORING

The monitoring requirements established in the below Monitoring Requirements 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 the monitoring requirements listed in this table.

CHANGES TO INFLUENT MONITORING:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type ****
BOD ₅	mg/L	1			*	***	1/quarter	quarterly	G
TSS	mg/L	1			*	***	1/quarter	quarterly	G

* - Monitoring requirement only.

**** - G = Grab

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

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 | |

Influent Parameters

- **Biochemical Oxygen Demand (BOD₅) and Total Suspended Solids (TSS)**. An influent sample is required to determine the removal efficiency. 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 BOD₅ and TSS for Publicly Owned Treatment Works (POTWs)/municipals.

Sampling Frequency Justification: The sampling and reporting frequencies for influent BOD₅ and TSS have been established to match the required sampling frequency of these parameters in the effluent.

Sampling Type Justification: Sample types for influent parameters were established to match the required sampling type of these parameters in the effluent. Samples should be analyzed as soon as possible after collection and/or properly preserved according to method requirements.

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 15, 2020, 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 equivalent to secondary treatment technology and is currently in compliance with equivalent to secondary treatment technology based effluent limits established in 40 CFR 133 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 does not discharge to a Losing Stream as defined by [10 CSR 20-2.010(40)] & [10 CSR 20-7.031(1)(O)], or is an existing facility.

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.
 - **Ammonia as N.** Effluent limitations were re-calculated for Ammonia. 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. The newly established limitations are still protective of water quality.

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 <http://dnr.mo.gov/env/wpp/permits/antideg-implementation.htm>

- ✓ No degradation proposed 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/biosolids are stored in the lagoon. The permittee must receive approval for any treatment, removal, and disposal of sludge or biosolids that 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 currently under enforcement action. This facility was referred to Compliance and Enforcement Section on October 31, 2011. The enforcement action is due to failure to comply with permit conditions, failure to meet permit limits, failure to renew permit, operated with an expired permit, failure to upgrade facilities.

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 found on the Department's website at the following locations:

Operational Monitoring Lagoon: <http://dnr.mo.gov/forms/780-2801-f.pdf>

Operational Monitoring Mechanical: <http://dnr.mo.gov/forms/780-2800-f.pdf>

I&I Report: <http://dnr.mo.gov/forms/780-2690-f.pdf>

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: <http://dnr.mo.gov/forms/780-2692-f.pdf>. 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 required to have a certified operator as it has a population equivalent greater than 200 and is owned or operated by or for a municipality, public sewer district, county, public water supply district, private sewer company regulated by the PSC, state or federal agency.

This facility currently requires a chief operator with a (D) Certification Level. Please see **Appendix - Classification Worksheet**. Modifications made to the wastewater treatment facility may cause the classification to be modified.

Operator's Name: Dave Axton
Certification Number: 4133
Certification Level: WW-A

The listing of the operator above only signifies that staff drafting this operating permit have reviewed appropriate Department records and determined that the name listed on the operating permit application has the correct and applicable Certification Level.

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 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 required to conduct operational monitoring. These operational monitoring reports are to be submitted to the Department along with the MSOP discharge monitoring reports.
- ✓ The facility is a lagoon that is designed to discharge and is required to conduct operational control monitoring as follows:

Operational Monitoring Parameter	Frequency
Precipitation	Twice/Week
Flow – Influent or Effluent	Twice/Week
pH – Primary Cell	Twice/Week
Dissolved Oxygen – Primary Cell	Twice/Week

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.

Several special conditions pertaining to the permittee's pretreatment program may be included in the permit, and are as follows:

- Implementation and enforcement of the program,
- Annual pretreatment report submittal,
- Submittal of list of industrial users,
- Technical evaluation of need to establish local limitations, and
- Submittal of the results of the evaluation

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

REASONABLE POTENTIAL ANALYSIS (RPA):

Federal regulation [40 CFR Part 122.44(d)(1)(i)] 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.

✓ 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 (BOD₅) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals.

✓ Equivalent to Secondary Treatment is 65% removal [40 CFR Part 133.105(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. The permit also contains requirements for permittees to develop and implement a program for maintenance and repair of the collection system. The permit requires that the permittee submit an annual report to the Department for the previous

calendar year that contains a summary of efforts taken by the permittee to locate and eliminate sources of excess I & I, a summary of general maintenance and repairs to the collection system, and a summary of any planned maintenance and repairs to the collection system for the upcoming calendar year.

- ✓ At this time, the Department recommends the US EPA's Guide for Evaluating Capacity, Management, Operation and Maintenance (CMOM) Programs at Sanitary Sewer Collection Systems (Document # EPA 305-B-05-002) or the Departments' CMOM Model located at <http://dnr.mo.gov/env/wpp/permits/docs/cmom-template.doc>. For additional information regarding the Departments' CMOM Model, see the CMOM Plan Model Guidance document at <http://dnr.mo.gov/pubs/pub2574.htm>. The CMOM identifies some of the criteria used to evaluate a collection system's management, operation, and maintenance and was intended for use by the EPA, state, regulated community, and/or third party entities. The CMOM is applicable to small, medium, and large systems; both public and privately owned; and both regional and satellite collection systems. The CMOM does not substitute for the Clean Water Act, the Missouri Clean Water Law, and both federal and state regulations, as it is not a regulation.

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 SOC's, and attain a greater level of consistency, on April 9, 2015 the Department issued an updated policy on development of SOC's. 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.

- ✓ This permit does not contain an SOC.

SEWER EXTENSION AUTHORITY SUPERVISED PROGRAM:

In accordance with [10 CSR 20-6.010(6)(A)], the Department may grant approval of a permittee's Sewer Extension Authority Supervised Program. These approved permittees regulate and approve construction of sanitary sewers and pump stations, which are tributary to this wastewater treatment facility. The permittee shall act as the continuing authority for the operation, maintenance, and modernization of the constructed collection system. See <http://dnr.mo.gov/env/wpp/permits/sewer-extension.htm>.

- ✓ The permittee does not have a Department approved Sewer Extension Authority Supervised Program.

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_e = effluent concentration
Cs = upstream concentration Q_e = effluent flow
Q_s = 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 BOD₅ 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 NH₃)
- ☒ 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. Due to the fact that the facility has passed previous Acute WET tests and has shown consistent compliance with final effluent limits, it has been determined by the permit writer that the discharge has no reasonable potential to exceed whole effluent toxicity; therefore, the requirements to conduct an Acute WET test have been removed. This permit still includes final effluent limitations for toxic pollutants and remains protective of water quality.

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 Department is not required to determine Cost Analysis for Compliance because the permit contains no new conditions or requirements that convey a new cost to the facility.

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.

PERMIT SYNCHRONIZATION:

The Department of Natural Resources is currently undergoing a synchronization process for operating permits. Permits are normally issued on a five-year term, but to achieve synchronization many permits will need to be issued for less than the full five years allowed by regulation. The intent is that all permits within a watershed will move through the Watershed Based Management (WBM) cycle together will all expire in the same fiscal year. This will allow further streamlining by placing multiple permits within a smaller geographic area on public notice simultaneously, thereby reducing repeated administrative efforts. This will also allow the Department to explore a watershed based permitting effort at some point in the future. Renewal applications must continue to be submitted within 180 days of expiration, however, in instances where effluent data from the previous renewal is less than 4 years old, that data may be re-submitted to meet the requirements of the renewal application. If the permit provides a schedule of compliance for meeting new water quality based effluent limits beyond the expiration date of the permit, the time remaining in the schedule of compliance will be allotted in the renewed permit. With permit synchronization, this permit will expire in the 2nd Quarter of calendar year 2021.

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 September 24, 2021 to October 25, 2021. No comments were received.

DATE OF FACT SHEET: AUGUST 3, 2021

COMPLETED BY:

MYRANDA ALFORD, ENVIRONMENTAL SPECIALIST
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION - DOMESTIC WASTEWATER UNIT
(573) 526-4029
Myranda.Alford@dnr.mo.gov

Appendices

APPENDIX - CLASSIFICATION WORKSHEET:

Item	Points Possible	Points Assigned
Maximum Population Equivalent (P.E.) served , peak day	1 pt./10,000 PE or major fraction thereof. (Max 10 pts.)	
Design Flow (avg. day) or peak month's flow (avg. day) whichever is larger	1 pt. / MGD or major fraction thereof. (Max 10 pts.)	
Effluent Discharge		
Missouri or Mississippi River	0	
All other stream discharges except to losing streams and stream reaches supporting whole body contact recreation	1	
Discharge to lake or reservoir outside of designated whole body contact recreational area	2	
Discharge to losing stream, or stream, lake or reservoir area supporting whole body contact recreation	3	3
Direct reuse or recycle of effluent	6	
Land Application/Irrigation		
Drip Irrigation	3	
Land application/irrigation	5	
Overland flow	4	
Variation in Raw Wastes (highest level only)		
Variations do not exceed those normally or typically expected	0	0
Reoccurring deviations or excessive variations of 100 to 200 percent in strength and/or flow	2	
Reoccurring deviations or excessive variations of more than 200 percent in strength and/or flow	4	
Department-approved pretreatment program	6	
Preliminary Treatment		
STEP systems (operated by the permittee)	3	
Screening and/or comminution	3	
Grit removal	3	
Plant pumping of main flow	3	
Flow equalization	5	
Primary Treatment		
Primary clarifiers	5	
Chemical addition (except chlorine, enzymes)	4	
Secondary Treatment		
Trickling filter and other fixed film media with or without secondary clarifiers	10	
Activated sludge (including aeration, oxidation ditches, sequencing batch reactors, membrane bioreactors, and contact stabilization)	15	
Stabilization ponds without aeration	5	
Aerated lagoon	8	8
Advanced Lagoon Treatment – Aerobic cells, anaerobic cells, covers, or fixed film	10	
Biological, physical, or chemical	12	
Carbon regeneration	4	
Total from page ONE (1)	----	11

APPENDIX - CLASSIFICATION WORKSHEET (CONTINUED):

ITEM	POINTS POSSIBLE	POINTS ASSIGNED
Solids Handling		
Sludge Holding	5	
Anaerobic digestion	10	
Aerobic digestion	6	
Evaporative sludge drying	2	
Mechanical dewatering	8	
Solids reduction (incineration, wet oxidation)	12	
Land application	6	
Disinfection		
Chlorination or comparable	5	
On-site generation of disinfectant (except UV light)	5	
Dechlorination	2	
UV light	4	
Required Laboratory Control Performed by Plant Personnel (highest level only)		
Lab work done outside the plant	0	0
Push – button or visual methods for simple test such as pH, settleable solids	3	
Additional procedures such as DO, COD, BOD, titrations, solids, volatile content	5	
More advanced determinations, such as BOD seeding procedures, fecal coliform, nutrients, total oils, phenols, etc.	7	
Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph	10	
Total from page TWO (2)	----	0
Total from page ONE (1)	---	11
Grand Total	---	11

- ☐ - A: 71 points and greater
☐ - B: 51 points – 70 points
☐ - C: 26 points – 50 points
☒ - D: 0 points – 25 points

APPENDIX – RPA RESULTS:

Parameter	CMC*	RWC Acute*	CCC*	RWC Chronic*	n**	Range max/min	CV***	MF	RP Yes/No
Ammonia as N – January (mg/L)	12.1	64.40	3.1	20.70128873	4.00	14/10.6	0.60	4.7	YES
Ammonia as N – February (mg/L)	12.1	130.22	3.1	41.8539564	4.00	28.31/5.11	0.60	4.7	YES
Ammonia as N – March (mg/L)	10.1	131.55	2.7	42.28262682	4.00	28.6/12.3	0.60	4.7	YES
Ammonia as N – April (mg/L)	8.4	69.00	2.1	22.17946257	4.00	15/0.05	0.60	4.7	YES
Ammonia as N – May (mg/L)	12.1	71.25	2.1	22.90282424	3.00	13/0.37	0.60	5.6	YES
Ammonia as N – June (mg/L)	10.1	76.82	1.3	24.6923581	4.00	16.7/0.06	0.60	4.7	YES
Ammonia as N – July (mg/L)	8.4	63.02	0.9	20.25783658	4.00	13.7/0.43	0.60	4.7	YES
Ammonia as N – August (mg/L)	8.4	77.28	0.9	24.84017549	4.00	16.8/0.96	0.60	4.7	YES
Ammonia as N – September (mg/L)	8.4	72.68	1.2	23.36200165	4.00	15.8/0.87	0.60	4.7	YES
Ammonia as N – October (mg/L)	8.4	105.79	1.8	34.0048533	4.00	23/0.16	0.60	4.7	YES
Ammonia as N – November (mg/L)	8.4	89.70	2.4	28.83124486	4.00	19.5/0.67	0.60	4.7	YES
Ammonia as N – December (mg/L)	10.1	124.19	2.7	39.91754867	4.00	27/5.4	0.60	4.7	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-- RECEIVING STREAM LOW-FLOW VALUES:

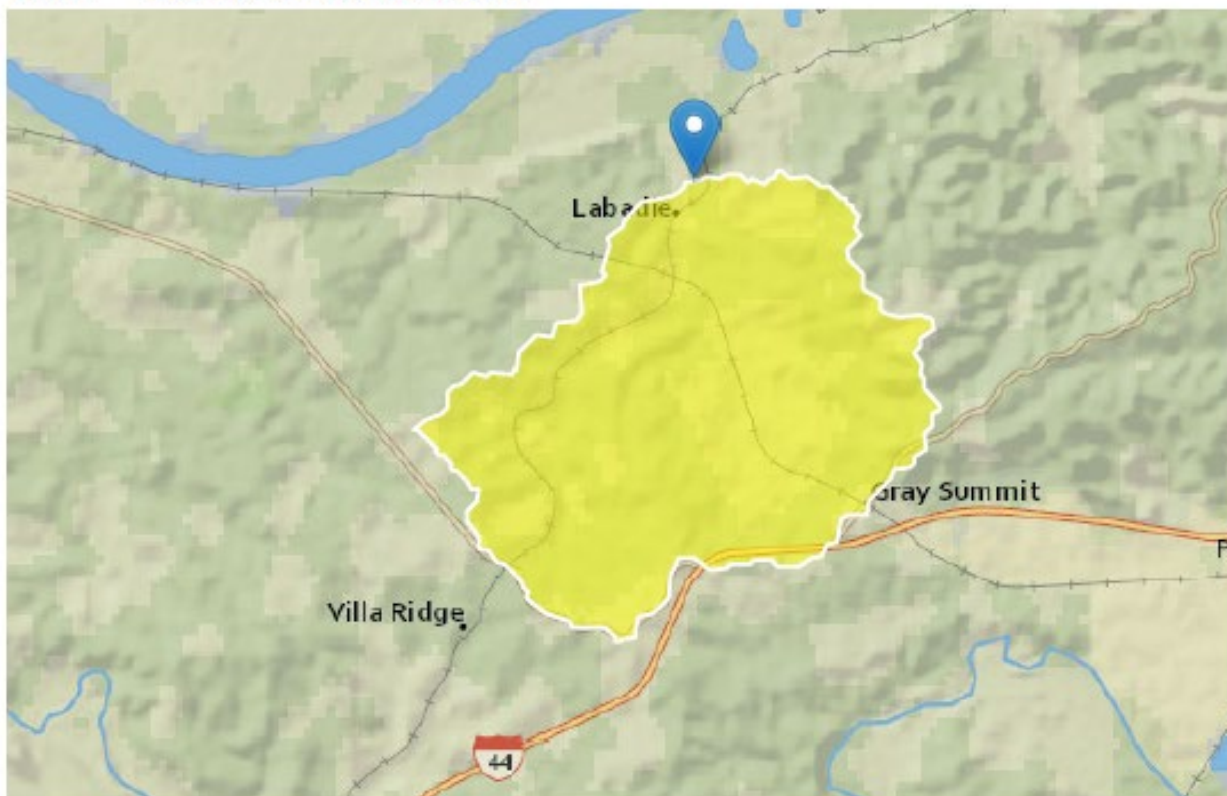
StreamStats Report

Region ID: MO

Workspace ID: M020210804123929810000

Clicked Point (Latitude, Longitude): 38.53332, -90.84683

Time: 2021-08-04 07:39:48 -0500



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	12.9	square miles
LFPLENGTH	Length of longest flow path	6.44	miles
STREAM_VARG	Streamflow variability index as defined in WRIR 02-4068, computed from regional grid	0.63	dimensionless

Low-Flow Statistics Parameters [LowFlow Region 1 SIR 2013 5090]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	12.9	square miles	0.34	4320
LFPLENGTH	LFP length	6.44	miles	1.28	268
STREAM_VARG	Streamflow Variability Index from Grid	0.63	dimensionless	0.376	1.03

Low-Flow Statistics Flow Report [LowFlow Region 1 SIR 2013 5090]

Statistic	Value	Unit
1 Day 10 Year Low Flow	0.0155	ft ³ /s
2 Day 10 Year Low Flow	0.0168	ft ³ /s
3 Day 10 Year Low Flow	0.0187	ft ³ /s
7 Day 10 Year Low Flow	0.021	ft ³ /s
10 Day 10 Year Low Flow	0.0261	ft ³ /s
30 Day 10 Year Low Flow	0.0769	ft ³ /s
60 Day 10 Year Low Flow	0.139	ft ³ /s

Low-Flow Statistics Citations

Southard, R.E., 2013, Computed statistics at streamgages, and methods for estimating low-flow frequency statistics and development of regional regression equations for estimating low-flow frequency statistics at ungaged locations in Missouri: U.S. Geological Survey Scientific Investigations Report 2013-5090, 28 p. (<http://pubs.usgs.gov/sir/2013/5090/>)

APPENDIX – ANTIDEGRADATION ANALYSIS:**FACILITY INFORMATION**FACILITY NAME: Labadie WWTF NPDES #: MO-0114910

FACILITY TYPE/DESCRIPTION: Labadie Wastewater Treatment Facility (WWTF) is currently constructed as an aerated three-cell baffled lagoon. The expanded Labadie WWTF will accept wastewater flows from the original Labadie WWTF (MO-0114910), Gray Summit WWTF (MO-0098981) and Beauty View WWTF (MO-0109177). The Design Flow for Labadie WWTF will be 0.1324 MGD for the new Labadie Wastewater Treatment Facility WWTF. No increase in overall design flow will occur from combining Gray Summit WWTF and Beauty View Estates WWTF to Labadie WWTF.

COUNTY: Franklin UTM COORDINATES: X = 687730 / Y = 4267150
 12- DIGIT HUC: 10300200-0603 LEGAL DESCRIPTION: SW ¼, SW ¼, NE ¼, Sec 30, T44N, R2E
 EDU*: Ozark/Moreau/Loutre ECOREGION: Interior River Valleys and Hills

* - Ecological Drainage Unit

WATER QUALITY INFORMATION

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(3)] and federal antidegradation policy at Title 40 Code of Federal Regulation (CFR) Section 131.12 (a), the Missouri Department of Natural Resources (MDNR) developed a statewide antidegradation policy and corresponding procedures to implement the policy. A proposed discharge to a water body will be required to undergo a level of Antidegradation Review which documents that the use of a water body's available assimilative capacity is justified. Effective August 30, 2008, and revised May 2, 2012, a facility is required to use *Missouri's Antidegradation Implementation Procedure (AIP)* for new and expanded wastewater discharges.

WATER QUALITY HISTORY: Labadie WWTF has effluent limit value exceedances in Ammonia as N, BOD₅, E. coli, TSS within the past 5 years.
 Gray Summit WWTF has effluent limit value exceedances in BOD₅, TSS, pH, Ammonia as N, Oil and Grease within the past 5 years.
 Beauty View Acres WWTF has effluent limit value exceedances in Ammonia as N within the past 5 years.

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	RECEIVING WATERBODY	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	0.20522	Secondary	Labadie Creek	0.0

RECEIVING WATERBODY INFORMATION

WATERBODY NAME	CLASS	WBID	LOW-FLOW VALUES (CFS)			DESIGNATED USES**
			1Q10	7Q10	30Q10	
Labadie Creek	P	1693	0.1	0.1	1.0	AQL, WBC-B, SCR, HHP, IRR

** Protection of Warm Water Aquatic Life and Human Health-Fish Consumption (AQL), Cool Water Fishery (CLF), Cold Water Fishery (CDF), Drinking Water Supply (DWS), Industrial (IND), Irrigation (IRR), Livestock & Wildlife Watering (LWW), Secondary Contact Recreation (SCR), Whole Body Contact Recreation (WBC).

COMMENTS: No Geohydrological Evaluation was submitted with the request.**WATER QUALITY REVIEW INFORMATION**

The regionalization proposal will combine both Gray Summit WWTF and Beauty View Acres WWTF into the existing Labadie WWTF. Flows from Gray Summit WWTF will be diverted from a Tributary to Labadie Creek

to the Labadie WWTF. Gray Summit WWTF receives primarily domestic wastewater and is located about 3 miles upstream of Labadie WWTF. Flows from Beauty View Acres WWTF will be diverted from a Tributary to Labadie Creek to the Labadie WWTF. Beauty View Acres is about 2.3 miles upstream of Labadie WWTF and receives domestic wastewater flows. While this WQR discusses the combination of Beauty View Acres and Gray Summit, other potential WWTF to include with regionalization are available near the Labadie Creek Tributaries including Pine Lake Estates WWTP, Maple Hill Utilities, and Diamond Inn Motel and Restaurant. Nestle Purina Pet Event Center, a land application system, is also available for regionalization; however, converting the land application system to a discharging system will require an Antidegradation Review due to the increased discharging design flow.

The Department encourages the evaluation and implementation of regionalization and consolidation alternatives. This regionalization and consolidation proposal for the Labadie Creek area is a viable option to improve the water quality of Labadie Creek. Due to the proximity of the individual WWTF to Labadie WWTF, this is an ideal scenario for regionalization as long as Labadie WWTF is upgraded to achieve future effluent limits.

The current proposed consolidation will not require an antidegradation review according to *Missouri Antidegradation Rule and Implementation Procedure*. No new pollutants of concern or expansion of stream loadings are proposed. No change in overall design flow is proposed.

GENERAL ASSUMPTIONS OF THE WATER QUALITY REVIEW SHEET

1. A Water Quality and Antidegradation Review (WQAR) assumes that [10 CSR 20-6.010(2), Continuing Authorities and 10 CSR 20-6.010(4)(A)5.B., consideration for no discharge] has been or will be addressed in a Missouri State Operating Permit or Construction Permit Application.
2. A WQRS does not indicate approval or disapproval of alternative analysis as per [10 CSR 20-7.015(4) Losing Streams], and/or any section of the effluent regulations.
3. Changes to Federal and State Regulations made after the drafting of this WQRS may alter Water Quality Based Effluent Limits (WQBEL).
4. Effluent limitations derived from Federal or Missouri State Regulations (FSR) may be WQBEL or Effluent Limit Guidelines (ELG).
5. WQBEL supersede ELG only when they are more stringent. Mass limits derived from technology based limits are still appropriate.
6. A WQRS does not allow discharges to waters of the state, and shall not be construed as a National Pollution Discharge Elimination System or Missouri State Operating Permit to discharge or a permit to construct, modify, or upgrade.
7. Limitations and other requirements in a WQRS may change as Water Quality Standards, Methodology, and Implementation procedures change.
8. Nothing in this WQRS removes any obligations to comply with county or other local ordinances or restrictions.

MIXING CONSIDERATIONS

Mixing Zone (MZ): One-quarter (1/4) of the stream volume of flow; length one-quarter (1/4) mile. [10 CSR 20-7.031(5)(A)4.B.(II)(a)].

Zone of Initial Dilution (ZID): One-tenth (0.1) of the mixing zone volume of flow, not to exceed 10 times the effluent design flow. [10 CSR 20-7.031(5)(A)4.B.(II)(b)].

	Flow (cfs)	MZ (cfs)	ZID (cfs)
7Q10	0.1	0.025	0.0025
1Q10	0.1	0.025	0.0025
30Q10	1.0	0.25	N/A

$$AEC\% = \left(\frac{100}{DilutionRatio + 1} \right)$$

PERMIT LIMITS AND INFORMATIONWASTELOAD ALLOCATION
STUDY CONDUCTED (Y OR N):

N

USE ATTAINABILITY
ANALYSIS CONDUCTED (Y OR N):

N

WHOLE BODY CONTACT
USE RETAINED (Y OR N):

Y

OUTFALL #001

WET TEST (Y OR N):

Y

FREQUENCY:

ONCE/PERMIT CYCLE

AEC:

6.25

METHOD:

MULTIPLE

TABLE 1: EFFLUENT LIMITATIONS FOR THE NEW LABADIE WWTF

PARAMETER	UNITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	BASIS FOR LIMIT (NOTE 2)	MONITORING FREQUENCY
FLOW	MGD	*		*	FSR	ONCE/MONTH
BIOCHEMICAL OXYGEN DEMAND ₅ ***	MG/L		45	30	FSR	ONCE/MONTH
TOTAL SUSPENDED SOLIDS	MG/L		45	30	FSR	ONCE/MONTH
OIL & GREASE	MG/L	15		10	FSR	ONCE/MONTH
AMMONIA AS N - JANUARY	MG/L	12.3		6.9	WQBEL	ONCE/MONTH
AMMONIA AS N - FEBRUARY	MG/L	12.3		6.9	WQBEL	ONCE/MONTH
AMMONIA AS N - MARCH	MG/L	10.3		6.0	WQBEL	ONCE/MONTH
AMMONIA AS N - APRIL	MG/L	8.5		4.7	WQBEL	ONCE/MONTH
AMMONIA AS N - MAY	MG/L	12.3		4.6	WQBEL	ONCE/MONTH
AMMONIA AS N - JUNE	MG/L	10.3		2.9	WQBEL	ONCE/MONTH
AMMONIA AS N - JULY	MG/L	8.5		2.0	WQBEL	ONCE/MONTH
AMMONIA AS N - AUGUST	MG/L	8.5		2.1	WQBEL	ONCE/MONTH
AMMONIA AS N - SEPTEMBER	MG/L	8.5		2.6	WQBEL	ONCE/MONTH
AMMONIA AS N - OCTOBER	MG/L	8.5		3.9	WQBEL	ONCE/MONTH
AMMONIA AS N - NOVEMBER	MG/L	8.5		5.2	WQBEL	ONCE/MONTH
AMMONIA AS N - DECEMBER	MG/L	10.3		6.0	WQBEL	ONCE/MONTH
<i>ESCHERICHIA COLIFORM (E. COLI)</i>	NOTE 1		1,030**	206**	WQBEL	ONCE/MONTH
TOTAL NITROGEN	MG/L	*		*	FSR	ONCE/QUARTER
TOTAL PHOSPHORUS	MG/L	*		*	FSR	ONCE/QUARTER
NITRATE AND NITRITE	MG/L	*		*	FSR	ONCE/QUARTER
ACUTE WHOLE EFFLUENT TOXICITY	TU _A	*			FSR	ONCE/PERMIT CYCLE
PARAMETER	UNIT	MINIMUM		MAXIMUM	BASIS FOR LIMIT (NOTE 2)	MONITORING FREQUENCY
pH***	SU	6.0		9.0	FSR	ONCE/MONTH
PARAMETER			UNITS	MONTHLY AVERAGE MINIMUM	BASIS FOR LIMIT (NOTE 2)	MONITORING FREQUENCY
BIOCHEMICAL OXYGEN DEMAND ₅ - PERCENT REMOVAL (NOTE 3)			%	65	FSR	ONCE/QUARTER
TOTAL SUSPENDED SOLIDS - PERCENT REMOVAL (NOTE 3)			%	65	FSR	ONCE/QUARTER

* Monitoring requirements only.

** The Monthly Average for *E. coli* shall be reported as a Geometric Mean.

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

NOTE 1 - COLONIES/100 mL

NOTE 2 - WQBEL - WATER QUALITY BASED EFFLUENT LIMITATION; NDEL - NON DEGRADING EFFLUENT LIMITATION; FSR - FEDERAL/STATE REGULATION; AND N/A - NOT APPLICABLE. ALSO, PLEASE SEE THE **GENERAL ASSUMPTIONS OF THE WQRS #4 & #5**.

NOTE 3 - INFLUENT SAMPLES ARE TO BE COLLECTED PRIOR TO ANY TREATMENT PROCESS. PERCENT REMOVAL IS CALCULATED BY THE FOLLOWING FORMULA: [(INFLUENT-EFFLUENT)/INFLUENT] X 100% = PERCENT REMOVAL. THE MONTHLY AVERAGE

MINIMUM PERCENT REMOVAL IS TO BE REPORTED AS THE AVERAGE OF ALL DAILY CALCULATED REMOVAL EFFICIENCIES.
INFLUENT SAMPLES ARE TO BE COLLECTED AS A GRAB SAMPLE.

RECEIVING WATER MONITORING REQUIREMENTS

No receiving water monitoring requirements recommended at this time.

DERIVATION AND DISCUSSION OF LIMITS

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

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

Where C = downstream concentration
C_s = upstream concentration
Q_s = upstream flow
C_e = effluent concentration
Q_e = effluent 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).

Outfall #001 – Main Facility Outfall

- **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 (BOD₅)**. BOD₅ technology based effluent limitations of 45 mg/L average weekly and 30 mg/L monthly average are retained per 10 CSR 20-7.015(8)(A)1.

BOD₅ non degrading effluent limits of 36 mg/L monthly average and 53 mg/L average weekly are less stringent than the technology based secondary effluent limitations. Table 2 outlines the non-degrading effluent limitations. The monthly average load is reduced by 0.6808 lb/day, and the weekly average is reduced by 0.908 lb/day.

Table 2: Non Degrading 5 Day Biochemical Oxygen Demand Effluent Limitations

PARAMETER	LIMIT (MG/L)	CURRENT FACILITY	DESIGN FLOW (MGD)	CURRENT EFFLUENT LIMIT (MG/L)	CURRENT LOAD (LB/DAY)
BOD ₅	Monthly Average	Beauty View	0.026	45	9.7578
BOD ₅	Weekly Average	Beauty View	0.026	65	14.095
BOD ₅	Monthly Average	Gray Summit	0.0324	45	12.160
BOD ₅	Weekly Average	Gray Summit	0.0324	65	17.564
BOD ₅	Monthly Average	Labadie – Current	0.074	30	18.515
BOD ₅	Weekly Average	Labadie – Current	0.074	45	27.772
PARAMETER	LIMIT (MG/L)	NEW FACILITY	DESIGN FLOW (MGD)	NEW EFFLUENT LIMIT (MG/L)	NEW LOAD (LB/DAY)
BOD ₅	Monthly Average	Labadie – New	0.1324	36	39.752
BOD ₅	Weekly Average	Labadie – New	0.1324	53	58.523

$$8.34 \text{ lbs/MG})/(\text{mg/L}) \times \text{MGD} \times \text{mg/L} = \text{Load (lb/day)}$$

- **Total Suspended Solids (TSS).** The technology based secondary effluent limitations of 45 mg/L average weekly and 30 mg/L monthly average are retained and are more stringent than the proposed non degrading TSS effluent limitations. 10 CSR 20-7.015(8)(A)1.

TSS non degrading effluent limitations of 76 mg/L average weekly and 50 mg/L monthly average are less stringent than the technology based secondary effluent limitations. Table 3 outlines the current and new effluent limitations as a result of non degrading calculations. The monthly average load is reduced by 0.1 lb/day, and the weekly average is reduced by 0.13 lb/day.

Table 3: Non Degrading Total Suspended Solids Effluent Limitations

PARAMETER	LIMIT (MG/L)	CURRENT FACILITY	DESIGN FLOW (MGD)	CURRENT EFFLUENT LIMIT (MG/L)	CURRENT LOAD (LB/DAY)
TSS	Monthly Average	Beauty View	0.026	70	15.179
TSS	Weekly Average	Beauty View	0.026	110	23.852
TSS	Monthly Average	Gray Summit	0.0324	80	21.617
TSS	Weekly Average	Gray Summit	0.0324	120	32.426
TSS	Monthly Average	Labadie – Current	0.074	30	18.515
TSS	Weekly Average	Labadie – Current	0.074	45	27.772
PARAMETER	LIMIT (MG/L)	NEW FACILITY	DESIGN FLOW (MGD)	NEW EFFLUENT LIMIT (MG/L)	NEW LOAD (LB/DAY)
TSS	Monthly Average	Labadie – New	0.1324	50	55.211
TSS	Weekly Average	Labadie – New	0.1324	76	83.920

$$8.34 \text{ lbs/MG})/(\text{mg/L}) \times \text{MGD} \times \text{mg/L} = \text{Load (lb/day)}$$

- **Dissolved Oxygen.** The applicant did not submit a dissolved oxygen (DO) model for the proposed modification of Labadie WWTF. Dissolved oxygen effluent limits or monitoring may be applied depending on the treatment technologies utilized and the results of reasonable potential analysis.
- **Total Ammonia Nitrogen.** The water quality based effluent limits (WQBEL) presented in Table 5 will be implemented depending on the results of reasonable potential analysis. Non-degrading Effluent Limitations (NDEL) are presented in Table 6 and 7. Comparing the WQBEL and NDEL for each month, the more stringent effluent limitations vary between the WQBEL and NDEL. In this case, the WQBEL are considered

functionally equivalent to the NDEL, and WQBEL will be utilized in future operating permits for clarity and simplicity.

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.

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

Cs = upstream concentration

Qs = upstream flow

Ce = effluent concentration

Qe = effluent 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.

Table 4: Surface Water Data for Interior River Valleys and Hills Ecoregion

Month	Temp (°C)*	pH (SU)*	Total Ammonia Nitrogen CCC (mg/L)	Total Ammonia Nitrogen CMC (mg/L)
January	2.8	7.8	3.1	12.1
February	4.4	7.8	3.1	12.1
March	9.4	7.9	3.1	12.1
April	16.1	8.0	3.1	12.1
May	21.0	7.8	2.3	12.1
June	26.0	7.9	1.8	12.1
July	29.4	8.0	1.5	12.1
August	29.3	8.0	1.6	12.1
September	25.6	8.0	1.9	12.1
October	19.0	8.0	2.8	12.1
November	12.0	8.0	3.1	12.1
December	6.9	7.9	3.1	12.1

* Ecoregion data (Interior River Valleys and Hills)

January

Chronic WLA:

$$C_e = ((0.20522 + 0.25)3.1 - (0.25 * 0.01))/0.20522$$

$$= 6.9 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.20522 + 0.0025)12.1 - (0.0025 * 0.01))/0.0025$$

$$= 12.3 \text{ mg/L}$$

Chronic WLA = AML = **6.9** mg/L

Acute WLA = MDL = **12.3** mg/L

March

Chronic WLA:

$$C_e = ((0.20522 + 0.25)2.7 - (0.25 * 0.01))/0.20522$$

$$= 6.0 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.20522 + 0.0025)10.1 - (0.0025 * 0.01))/0.0025$$

$$= 10.3 \text{ mg/L}$$

Chronic WLA = AML = **6.0** mg/L

Acute WLA = MDL = **10.3** mg/L

May

Chronic WLA:

$$C_e = ((0.20522 + 0.25)2.1 - (0.25 * 0.01))/0.20522$$

$$= 4.6 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.20522 + 0.0025)10.1 - (0.0025 * 0.01))/0.0025$$

$$= 12.3 \text{ mg/L}$$

Chronic WLA = AML = **4.6** mg/L

Acute WLA = MDL = **12.3** mg/L

July

Chronic WLA:

$$C_e = ((0.20522 + 0.25)0.9 - (0.25 * 0.01))/0.20522$$

$$= 2.0 \text{ mg/L}$$

February

Chronic WLA:

$$C_e = ((0.20522 + 0.25)3.1 - (0.25 * 0.01))/0.20522$$

$$= 6.9 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.20522 + 0.0025)12.1 - (0.0025 * 0.01))/0.0025$$

$$= 12.3 \text{ mg/L}$$

Chronic WLA = AML = **6.9** mg/L

Acute WLA = MDL = **12.3** mg/L

April

Chronic WLA:

$$C_e = ((0.20522 + 0.25)2.1 - (0.25 * 0.01))/0.20522$$

$$= 4.7 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.20522 + 0.0025)8.4 - (0.0025 * 0.01))/0.0025$$

$$= 8.5 \text{ mg/L}$$

Chronic WLA = AML = **4.7** mg/L

Acute WLA = MDL = **8.5** mg/L

June

Chronic WLA:

$$C_e = ((0.20522 + 0.25)1.3 - (0.25 * 0.01))/0.20522$$

$$= 2.9 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.20522 + 0.0025)10.1 - (0.0025 * 0.01))/0.0025$$

$$= 10.3 \text{ mg/L}$$

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

Acute WLA = MDL = **10.3** mg/L

August

Chronic WLA:

$$C_e = ((0.20522 + 0.25)0.9 - (0.25 * 0.01))/0.20522$$

$$= 2.1 \text{ mg/L}$$

Acute WLA:
 $C_e = ((0.20522 + 0.0025)8.4 - (0.0025 * 0.01))/0.0025$
 = 8.5 mg/L

Chronic WLA = AML = **2.0** mg/L
 Acute WLA = MDL = **8.5** mg/L

September

Chronic WLA:
 $C_e = ((0.20522 + 0.25)1.2 - (0.25 * 0.01))/0.20522$
 = 2.6 mg/L

Acute WLA:
 $C_e = ((0.20522 + 0.0025)8.4 - (0.0025 * 0.01))/0.0025$
 = 8.5 mg/L

Chronic WLA = AML = **2.6** mg/L
 Acute WLA = MDL = **8.5** mg/L

November

Chronic WLA:
 $C_e = ((0.20522 + 0.25)2.4 - (0.25 * 0.01))/0.20522$
 = 5.2 mg/L

Acute WLA:
 $C_e = ((0.20522 + 0.0025)8.4 - (0.0025 * 0.01))/0.0025$
 = 8.5 mg/L

Chronic WLA = AML = **5.2** mg/L
 Acute WLA = MDL = **8.5** mg/L

Acute WLA:
 $C_e = ((0.20522 + 0.0025)8.4 - (0.0025 * 0.01))/0.0025$
 = 8.5 mg/L

Chronic WLA = AML = **2.1** mg/L
 Acute WLA = MDL = **8.5** mg/L

October

Chronic WLA:
 $C_e = ((0.20522 + 0.25)1.8 - (0.25 * 0.01))/0.20522$
 = 3.9 mg/L

Acute WLA:
 $C_e = ((0.20522 + 0.0025)8.4 - (0.0025 * 0.01))/0.0025$
 = 8.5 mg/L

Chronic WLA = AML = **3.9** mg/L
 Acute WLA = MDL = **8.5** mg/L

December

Chronic WLA:
 $C_e = ((0.20522 + 0.25)2.7 - (0.25 * 0.01))/0.20522$
 = 6.0 mg/L

Acute WLA:
 $C_e = ((0.20522 + 0.0025)10.1 - (0.0025 * 0.01))/0.0025$
 = 10.3 mg/L

Chronic WLA = AML = **6.0** mg/L
 Acute WLA = MDL = **10.3** mg/L

Table 5: Monthly Water Quality Based Effluent Limits for Total Ammonia Nitrogen

PARAMETER	MONTH	DAILY MAXIMUM EFFLUENT LIMIT (MG/L)	MONTHLY AVERAGE EFFLUENT LIMIT (MG/L)
Ammonia	January	12.3	6.9
Ammonia	February	12.3	6.9
Ammonia	March	10.3	6.0
Ammonia	April	8.5	4.7
Ammonia	May	12.3	4.6
Ammonia	June	10.3	2.9
Ammonia	July	8.5	2.0
Ammonia	August	8.5	2.1
Ammonia	September	8.5	2.6
Ammonia	October	8.5	3.9
Ammonia	November	8.5	5.2
Ammonia	December	10.3	6.0

Table 6: Non Degrading Total Ammonia Nitrogen (Summer) Effluent Limitations and Loading Maintenance

PARAMETER	SUMMER LIMIT (MG/L)	CURRENT FACILITY	DESIGN FLOW (MGD)	CURRENT EFFLUENT LIMIT (MG/L)	CURRENT LOAD (LB/DAY)
Ammonia	Monthly Average	Beauty View	0.026	3.2	0.69389
Ammonia	Daily Maximum	Beauty View	0.026	12.9	2.7972
Ammonia	Monthly Average	Gray Summit	0.0324	1.4	0.37830
Ammonia	Daily Maximum	Gray Summit	0.0324	3.3	0.89171
Ammonia	Monthly Average	Labadie – Current	0.074	3.5	2.1601
Ammonia	Daily Maximum	Labadie – Current	0.074	12.4	7.6528
PARAMETER	SUMMER LIMIT (MG/L)	NEW FACILITY	DESIGN FLOW (MGD)	NEW EFFLUENT LIMIT (MG/L)	NEW LOAD (LB/DAY)
Ammonia	Monthly Average	Labadie – New	0.1324	2.9	3.2022
Ammonia	Daily Maximum	Labadie – New	0.1324	10.2	11.263

$$8.34 \text{ (lbs/MG)/(mg/L) } \times \text{MGD} \times \text{mg/L} = \text{Load (lb/day)}$$

Table 7: Non Degrading Total Ammonia Nitrogen (Winter) Effluent Limitations and Loading Maintenance

PARAMETER	WINTER LIMIT (MG/L)	CURRENT FACILITY	DESIGN FLOW (MGD)	CURRENT EFFLUENT LIMIT (MG/L)	CURRENT LOAD (LB/DAY)
Ammonia	Monthly Average	Beauty View	0.026	3.4	0.73726
Ammonia	Daily Maximum	Beauty View	0.026	12.9	2.7972
Ammonia	Monthly Average	Gray Summit	0.0324	3.0	0.81064
Ammonia	Daily Maximum	Gray Summit	0.0324	5.9	1.5943
Ammonia	Monthly Average	Labadie – Current	0.074	2.5	1.5429
Ammonia	Daily Maximum	Labadie – Current	0.074	12.4	7.6528
PARAMETER	WINTER LIMIT (MG/L)	NEW FACILITY	DESIGN FLOW (MGD)	NEW EFFLUENT LIMIT (MG/L)	NEW LOAD (LB/DAY)
Ammonia	Monthly Average	Labadie – New	0.1324	2.8	3.0918
Ammonia	Daily Maximum	Labadie – New	0.1324	10.9	12.036

$$8.34 \text{ (lbs/MG)/(mg/L) } \times \text{MGD} \times \text{mg/L} = \text{Load (lb/day)}$$

- **Escherichia coli (E. coli)**. Monthly average of 206 per 100 mL as a geometric mean and Weekly Average of 1,030 during the recreational season (April 1 – October 31), to protect Whole Body Contact Recreation (B) designated use of the receiving stream, as per 10 CSR 20-7.015(9)(B)1.D. An effluent limit for both monthly average and weekly average is required by 40 CFR 122.45(d).

Rule for monitoring requirements is 10 CSR 20-7.015 (9)(D)7.A.

For facilities greater than 100,000 gpd: At a minimum, weekly monitoring is required during the recreational season (April 1 – October 31), with compliance to be determined by calculating the geometric mean of all samples collected during the reporting period (samples collected during the calendar week for the weekly average, and samples collected during the calendar month for the monthly average). The weekly average requirement is consistent with EPA federal regulation 40 CFR 122.45(d). Please see **GENERAL ASSUMPTIONS OF THE WQAR #7**.

- **Total Phosphorus**. Per 10 CSR 20-7.015(9)(D)8. Statewide Monitoring for Nutrients, point sources that have the design capability of greater than 100,000 gpd that typically discharge nitrogen and phosphorus shall collect and analyze influent and effluent samples for total phosphorus, ammonia, total kjeldahl nitrogen, and nitrate plus nitrite utilizing methods outlined in 10 CSR 20-7.015(9)(D)2.

Quarterly Monitoring for facilities with design capacities greater than 100,000 gpd and less than 1,000,000 gpd for a period up to 5 years. The department may require additional monitoring to ascertain a discharge's nutrient contribution and the efficacy of the treatment technology as it pertains to nutrient removal.

- **Total Kjeldahl Nitrogen.** Per 10 CSR 20-7.015(9)(D)8. Statewide Monitoring for Nutrients, point sources that have the design capability of greater than 100,000 gpd that typically discharge nitrogen and phosphorus shall collect and analyze influent and effluent samples for total phosphorus, ammonia, total kjeldahl nitrogen, and nitrate plus nitrite utilizing methods outlined in 10 CSR 20-7.015(9)(D)2.

Quarterly Monitoring for facilities with design capacities greater than 100,000 gpd and less than 1,000,000 gpd for a period up to 5 years. The department may require additional monitoring to ascertain a discharge's nutrient contribution and the efficacy of the treatment technology as it pertains to nutrient removal.

- **Nitrate Plus Nitrite.** Per 10 CSR 20-7.015(9)(D)8. Statewide Monitoring for Nutrients, point sources that have the design capability of greater than 100,000 gpd that typically discharge nitrogen and phosphorus shall collect and analyze influent and effluent samples for total phosphorus, ammonia, total kjeldahl nitrogen, and nitrate plus nitrite utilizing methods outlined in 10 CSR 20-7.015(9)(D)2.

Quarterly Monitoring for facilities with design capacities greater than 100,000 gpd and less than 1,000,000 gpd for a period up to 5 years. The department may require additional monitoring to ascertain a discharge's nutrient contribution and the efficacy of the treatment technology as it pertains to nutrient removal.

- **Oil & Grease.** Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.
- **pH.** 6.0 - 9.0 SU. Technology based limits [10 CSR 20-7.015] are protective of the water quality standard [10 CSR 20-7.031(5)(E)], due to the buffering capacity of the mixing zone.
- **Biochemical Oxygen Demand (BOD₅) Percent Removal.** In accordance with 40 CFR Part 133.102(a)(3) & (b)(3), 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 (BOD₅) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals. This facility is required to meet 65% removal efficiency for BOD₅.
- **Total Suspended Solids (TSS) Percent Removal.** In accordance with 40 CFR Part 133.105(a)(3) and (b)(3), 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 (BOD₅) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals. This facility is required to meet 65% removal efficiency for TSS.
- **Acute Whole Effluent Toxicity.** Monitoring requirement only. Monitoring is required to determine if reasonable potential exists for this facility's discharge to exceed water quality standards.

Acute and/or Chronic Allowable Effluent Concentrations (AECs) for facilities that discharge to Waters of the State lacking designated uses, Class P (with default Mixing Considerations), or Lakes are 100%, 50%, 25%, 12.5%, 6.25%.

WATER QUALITY REVIEW PRELIMINARY DETERMINATION

The Department strongly supports regionalization and consolidation projects for numerous reasons. The proposed combination of Beauty View Acres WWTF and Gray Summit WWTF into Labadie WWTF will result in no degradation of Labadie Creek. The effluent limits were developed in this Water Quality Review to combine current dischargers upstream of Labadie WWTF from Labadie Creek and Labadie Creek tributaries. If Labadie WWTF were to propose accepting additional wastewater flows from existing discharging facilities from Labadie Creek or tributaries to Labadie Creek, a new Water Quality Review will need to be completed.

If future expansion of Labadie WWTF will include converting land application systems to discharging systems, expanding the overall design flow, and/or combining a discharging facility from streams and tributaries other than Labadie Creek and Labadie Creek tributaries, an application for Antidegradation Review will need to be submitted to the Department to evaluate the expanded design flow.

Reviewer: Steve Hamm, PE

Date: 4/1/21

Unit Chief: John Rustige, PE

Monitoring and effluent limits contained within this document have been developed in accordance with EPA guidelines using the best available data and are believed to be consistent with Missouri's Water Quality Standards and Effluent Regulations. If additional water quality data or anecdotal information are available that may affect the recommended monitoring and effluent limits, please forward these data and information to the author.



STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
REVISED
AUGUST 1, 2014

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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ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
REVISED
AUGUST 1, 2014

- 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 28th 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 permittee 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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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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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

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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 factor¹).
¹ 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:
$$(\text{Nitrate} + \text{nitrite nitrogen}) + (\text{organic nitrogen} \times 0.2) + (\text{ammonia nitrogen} \times \text{volatilization factor}^1).$$
¹ 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 ¹	Priority Pollutants ²
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

¹ 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.

² 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

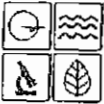
1. The permittee shall maintain records on file at the facility for at least five years for the items listed in Standard Conditions PART III and any additional items in the Special Conditions section of this permit. This shall include dates when the biosolids or sludge facility is checked for proper operation, records of maintenance and repairs and other relevant information.
2. Reporting period
 - a. By February 19th 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

FEE 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- 0114910 Expiration Date 6/30/2021
- ☐ 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
Labadie WWTF

ADDRESS (PHYSICAL)
Labadie Bottom Road

CITY
Labadie

STATE
MO

ZIP CODE
63055

TELEPHONE NUMBER WITH AREA CODE

2.1 Legal description: Sec. 30 , T 44 , R 2E County Franklin

2.2 UTM Coordinates Easting (X): 687713 Northing (Y): 4267166
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

2.3 Name of receiving stream: Labadie Creek

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

3. OWNER:

NAME
The Labadie Creek Watershed Sewer District of Franklin County

ADDRESS
P.O. Box 623

CITY
Union

EMAIL ADDRESS
cunninghamkent@gmail.com

TELEPHONE NUMBER WITH AREA CODE
314-277-5516

STATE
MO

ZIP CODE
63084

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
SAME

ADDRESS

CITY

STATE

ZIP CODE

EMAIL ADDRESS

TELEPHONE NUMBER WITH AREA CODE

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
Dave Axton

TITLE
Operator

CERTIFICATE NUMBER
4133

EMAIL ADDRESS
officesupport@labsheet.com

TELEPHONE NUMBER WITH AREA CODE
636-257-3976

6. FACILITY CONTACT

NAME
Kent Cunningham

TITLE
Chairperson

EMAIL ADDRESS
cunninghamkent@gmail.com

TELEPHONE NUMBER WITH AREA CODE
314-277-5516

ADDRESS
P.O. Box 623

CITY
Union

STATE
MO

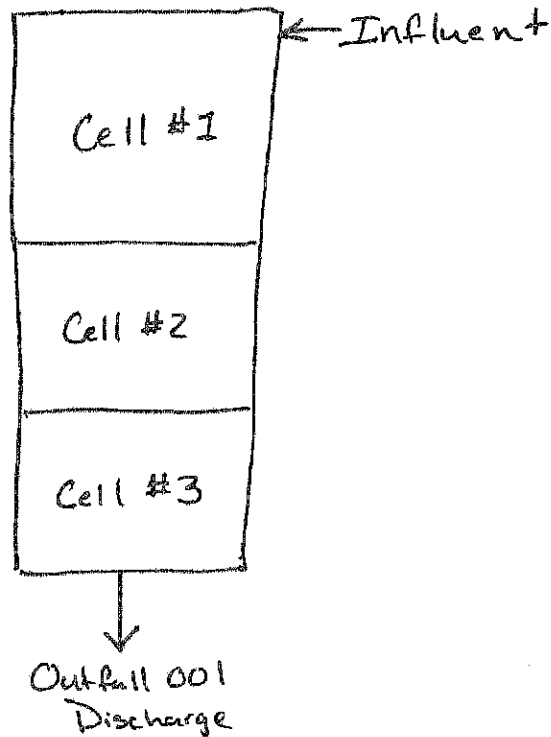
ZIP CODE
63084

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.

The facility is a 3 cell aerated lagoon which currently does not have disinfection.



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

Please see the following website:

<https://media.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.) 200	Design P.E. 740
8.2	Connections to the facility: 94 Number of units presently connected: 94 Residential: 81 Commercial: 13 Industrial: _____	
8.3	Design flow: 74000	Actual flow: 20000
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: _____ How many days of the week will discharge occur? _____	
8.5	Is industrial wastewater discharged to the facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, attach a list of the industries that discharge to your facility	
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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, attach Form I. See: https://dnr.mo.gov/forms/780-1686-f.pdf	
8.8	Does the facility discharge to a losing stream or sinkhole? <input type="checkbox"/> Yes <input checked="" 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No Push-button or visual methods for simple test such as pH, settleable solids. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Additional procedures such as dissolved oxygen, chemical oxygen demand, biological oxygen demand, titrations, solids, volatile content. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No More advanced determinations, such as BOD seeding procedures, fecal coliform/E. coli, nutrients (including Ammonia), Oil & Grease, total oils, phenols, etc. <input type="checkbox"/> Yes <input checked="" 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) _____ Feet, or _____ 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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
If yes, explain:				
12. SLUDGE HANDLING, USE AND DISPOSAL				
12.1 Is the sludge a hazardous waste as defined by 10 CSR 25? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
12.2 Sludge production, including sludge received from others: <u>2.97</u> Design dry tons/year <u>11.0</u> Actual dry tons/year				
12.3 Capacity of sludge holding structures: Sludge storage provided: _____ cubic feet; _____ days of storage; _____ average percent solids of sludge; <input type="checkbox"/> No sludge storage is provided. <input checked="" type="checkbox"/> Sludge is stored in lagoon.				
12.4 Type of Storage: <input type="checkbox"/> Holding tank <input type="checkbox"/> Building <input type="checkbox"/> Basin <input checked="" type="checkbox"/> Lagoon <input type="checkbox"/> Concrete Pad <input type="checkbox"/> Other (Describe) _____				
12.5 Sludge Treatment: <input type="checkbox"/> Anaerobic Digester <input checked="" type="checkbox"/> Lagoon <input type="checkbox"/> Composting <input type="checkbox"/> Storage Tank <input type="checkbox"/> Aerobic Digester <input type="checkbox"/> Other (Attach description) <input type="checkbox"/> Lime Stabilization <input type="checkbox"/> Air or Heat Drying				
12.6 Sludge Use or Disposal: <input type="checkbox"/> Land Application <input type="checkbox"/> Surface Disposal (Sludge Disposal Lagoon, Sludge held for more than two years) <input type="checkbox"/> Contract Hauler <input type="checkbox"/> Hauled to Another treatment facility <input type="checkbox"/> Incineration <input checked="" type="checkbox"/> Sludge Retained in Wastewater treatment lagoon <input type="checkbox"/> Solid waste landfill				
12.7 Person responsible for hauling sludge to disposal facility: <input type="checkbox"/> By applicant <input type="checkbox"/> By others (complete below)				
NAME N/A		EMAIL ADDRESS		
ADDRESS	CITY	STATE	ZIP CODE	
CONTACT PERSON	TELEPHONE NUMBER WITH AREA CODE	PERMIT NO. MO-		
12.8 Sludge use or disposal facility <input type="checkbox"/> By applicant <input type="checkbox"/> By others (Complete below.)				
NAME N/A		EMAIL ADDRESS		
ADDRESS	CITY	STATE	ZIP CODE	
CONTACT PERSON	TELEPHONE NUMBER WITH AREA CODE	PERMIT NO. MO-		
12.9 Does the sludge or biosolids disposal comply with federal sludge regulations under 40 CFR 503? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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 paid 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/>

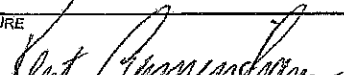
Construction Permits: <https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/592/>

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)	OFFICIAL TITLE	TELEPHONE NUMBER WITH AREA CODE
Kent Cunningham	Chairperson	314-277-5516
SIGNATURE	DATE SIGNED	
	5-28-2021	

MO 789-1512 (03-21)

**INSTRUCTIONS FOR COMPLETING 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
(Facilities over 100,000 gallons per day of domestic waste must use FORM B2)
(Facilities that receive wastes other than domestic contact the department)**

1. Check the appropriate box. **Do not check more than one item.** Operating permit refers to a permit issued by the Department of Natural Resources' Water Protection Program. If an Antidegradation Review has not been conducted, submit the application located at the following link to the Missouri Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, MO 65102: dnr.mo.gov/forms/780-1893-f.pdf.

1.1 **Fees Information:**

DOMESTIC OPERATING PERMIT FEES – PRIVATE

Annual operating permit fees are based on flow.

Annual fee/Design flow	Annual fee/Design flow	Annual fee/Design flow
\$150.....<5,000 gpd	\$1,000.....15,000-24,999 gpd	\$4,000.....100,000-249,999 gpd
\$300.....5,000-9,999 gpd	\$1,500.....25,000-29,999 gpd	\$5,000.....≥250,000 gpd
\$600.....10,000-14,999 gpd	\$3,000.....30,000-99,999 gpd	

New domestic wastewater treatment facilities must submit the annual fee with the original application.

If the application is for a site-specific permit re-issuance, send no fees. You will be invoiced separately by the department on the anniversary date of the original permit. Permit fees must be current for the department to reissue the operating permit. Late fees of 2% per month are charged and added to outstanding annual fees.

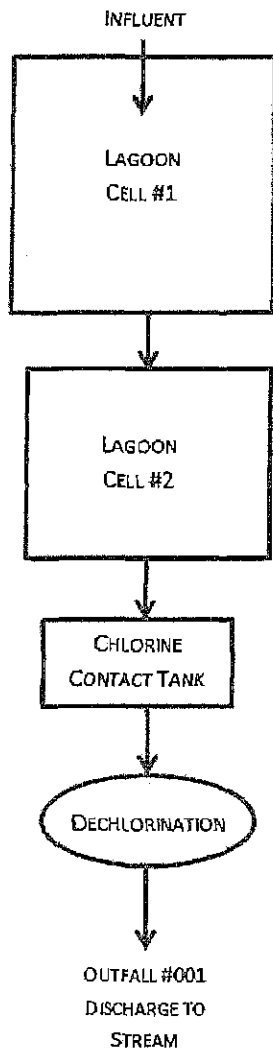
PUBLIC SEWER SYSTEM OPERATING PERMIT FEES (city, public sewer district, public water district, or other publicly owned treatment works that charge a service connection fee). Annual fee is based on number of service connections. Fees listings are found in 10 CSR 20-6.011 which is available at <http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf>. New public sewer system facilities should not submit any fee as the department will invoice the permittee.

OPERATING PERMIT MODIFICATIONS, including transfers, are subject to the following fees:

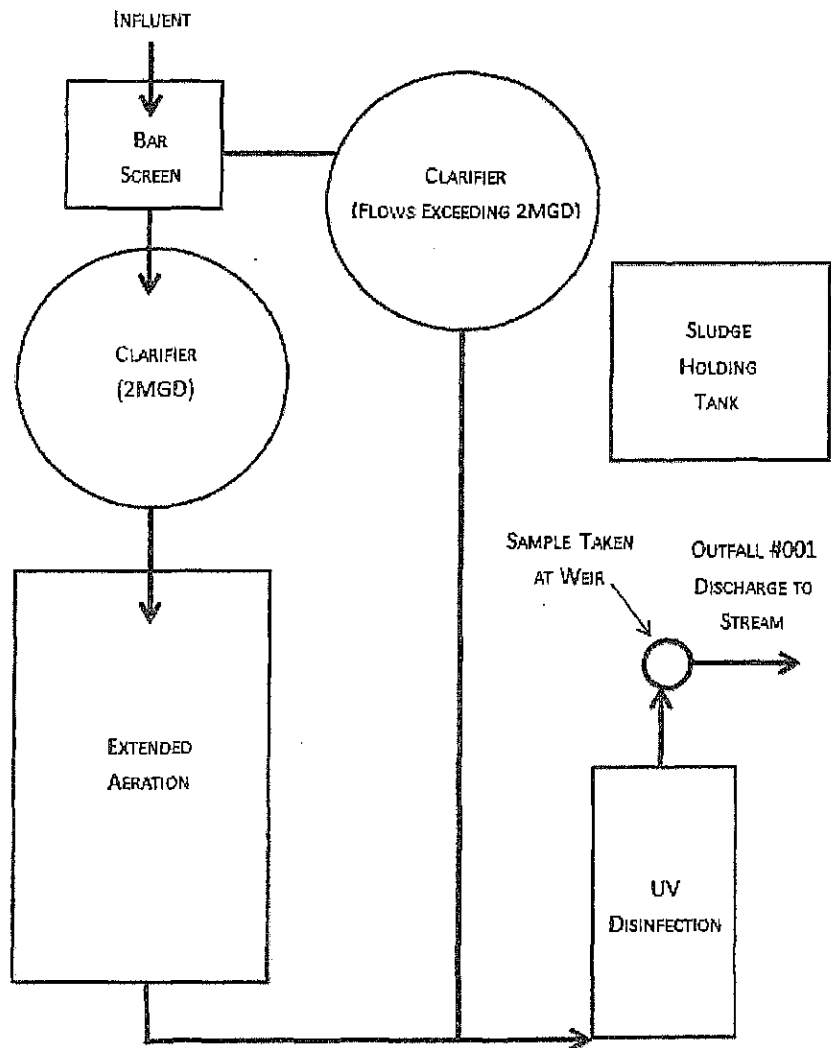
- a. Operating permits that charge a service connection fee - \$200 each.
 - b. All other permits
 - (1) \$100 each for a minor modification (name changes, address changes, other non-substantive changes) or
 - (2) A fee equal to 25% of the facility's annual operating fee for a major modification.
2. Name of Facility – Include the name by which this facility is locally known. Example: Southwest Sewage Treatment Plant, Country Club Mobile Home Park, etc. Provide the street address or location of the facility. If the facility lacks a street name or route number, provide the names of the closest intersection, highway, country road, etc.
- 2.1 Self-explanatory
- 2.2 Global Positioning System, or GPS, is a satellite-based navigation system. The department prefers that a GPS receiver is used at the outfall pipe and the displayed coordinates submitted. If access to a GPS receiver is not available, use a mapping system to approximate the coordinates; the department's mapping system is available at <https://modnr.maps.arcgis.com/apps/webappviewer/index.html?id=1d81212e0854478ca0dae87c33c8c5ce>.
- 2.3-2.4 Self-explanatory
3. Owner – Provide the legal name, mailing address, phone number, and email address of the owner. The owner identified in this section and subsequently reflected on the certificate page of the operating permit, is the owner of the regulated activity/discharge being applied for and is not necessarily the owner of the real property on which the activity or discharge is occurring.
- Prior to submitting a permit to public notice, the Department of Natural Resources shall provide the permit applicant 10 days to review the draft permit for nonsubstantive drafting errors. In the interest of expediting permit issuance, permit applicants may waive the opportunity to review draft permits prior to public notice.
- 3.2-3.4 Self-explanatory. The Financial Questionnaire is available at: <https://dnr.mo.gov/forms/780-2511-f.pdf>
4. Continuing Authority – A continuing authority is a company, business, entity or person(s) that will be operating the facility and/or ensuring compliance with the permit requirements. A continuing authority is not, however, an entity or individual that is contractually hired by the permittee to sample or operate and maintain the system for a defined time period, such as a certified operator or analytical laboratory. To access the regulatory requirement regarding continuing authority, 10 CSR 20-6.010(2), please visit <http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf>. If the continuing authority is not an individual(s), government, or otherwise required to register with the Missouri Secretary of State (SoS), then the business name must be listed exactly as it appears on the SoS's webpage: <https://psd.sos.mo.gov/BusinessEntity/BESearch.aspx?SearchType=0>
5. Operator – Provide the name, certificate number, title, mailing address, primary phone number, and e-mail address of the operator of the facility.
6. Provide the name, title, mailing address, primary phone number, and e-mail address of a person who is thoroughly familiar with the operation of the facility and with the facts reported in this application and who can be contacted by the department.

7.1 Process Flow Diagram Examples

WASTEWATER TREATMENT LAGOON



WASTEWATER TREATMENT FACILITY



7.2 A topographic map is available on the Web at <https://modnr.maps.arcgis.com/apps/webappviewer/index.html?id=1d81212e0854478ca0dae87c33c8c5ce> or from the Department of Natural Resources' Geological Survey Division in Rolla at 573-368-2125.

8.1-8.6 Self-explanatory.

8.7 If wastewater is land applied submit Form 1: www.dnr.mo.gov/forms/780-1686-f.pdf.

8.9-8.9 Self-explanatory

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9. Self-explanatory.
- 10.1 Self-explanatory.
- 10.2 Self-explanatory.
- 10.3 If Inflow and Infiltration (I&I) is a problem at the facility, list possible actions to be taken to repair the collection and treatment facility.
11. Include overflows of combined sewers and lift stations or bypassing of the wastewater treatment facility. Provide a detailed description of the circumstances that sewage bypassing occurs and the frequency of occurrence.
12. A copy of 10 CSR 25 is available on the Web at www.sos.mo.gov/adrules/csr/current/10csr/10csr.asp#10-25.
- 12.1-12.8 Self-explanatory.
- 12.9 Refer to University of Missouri Extension Environmental Quality publications about biosolids (WQ420-WQ426). The documents are available at extension.missouri.edu/main/DisplayCategory.aspx?C=74. In addition, the federal sludge regulations are available through the U.S. Government Printing Office at <https://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=CFR>.
13. Electronic Discharge Monitoring Report (eDMR) Submission System – Visit the eDMR site at <http://dnr.mo.gov/env/wpp/edmr.htm> and click on the "Facility Participation Package" link. The eDMR Permit Holder and Certifier Registration Form and Information about the eDMR system can be found in the Facility Participation Package. Waivers to electronic reporting may be granted by the Department per 40 CFR 127.15 under certain, special circumstances. A written request must be submitted to the Department for approval. Waivers may be granted to facilities owned or operated by:
- a. members of religious communities that choose not to use certain technologies.
 - b. permittees located in areas with limited broadband access. The National Telecommunications and Information Administration (NTIA) in collaboration with the Federal Communications Commission (FCC) have created a broadband internet availability map: <https://broadbandmap.fcc.gov/#/>. Please contact the department if you need assistance.
14. **JETPAY**
Applicants can pay fees online by credit card or eCheck through a system called JetPay.
- a. Per Section 37.001, RSMo, a transaction fee will be included. The transaction fee is paid to the third party vendor JetPay, not the Department of Natural Resources.
 - b. Be sure to select the correct fee type and corresponding URL to ensure your payment is applied appropriately. If you are unsure what type of fee to pay, please contact the Water Protection Program's Budget, Fees, and Grants Management Unit by phone at (573) 522-1485 for assistance.
 - c. Upon successful completion of your payment, JetPay provides a payment confirmation. Submit this form with a copy of the payment confirmation if requesting a new permit or a permit modification. For permit renewals of active permits, the Department will invoice fees annually in a separate request.
 - d. If you are unable to make your payment online, but want to pay with credit card, you may email your name, phone number, and invoice number, if applicable, to sherry.hall@dnr.mo.gov. The Budget, Fees, and Grants Management Unit will contact you to assist with the credit card payment. **Please do not include your credit card information in the email.**
 - e. Applicants can find fee rates in 10 CSR 20-6.011 (<https://dnr.mo.gov/pubs/pub2564.htm>).
15. **CERTIFICATION**
Signature – All applications must be signed as follows and the signatures must be handwritten:
- a. For a corporation, by an officer having responsibility for the overall operation of the regulated facility or activity or for environmental matters.
 - b. For a partnership or sole proprietorship, by a general partner or the proprietor.
 - c. For a municipal, state, federal or other public facility, by either a principal executive officer or by an individual having overall responsibility for environmental matters at the facility.

Submittal of an incomplete application may result in the application being returned.

This completed form and any attachments along with the applicable permit fees, should be submitted to:

cleanwaterpermits@dnr.mo.gov
OR
Department of Natural Resources
Water Protection Program
ATTN: NPDES Permits and Engineering Section
P.O. Box 176
Jefferson City, MO 65102

Map of regional offices with addresses and phone numbers are available on the Web at <http://dnr.mo.gov/regions/>. If there are any questions concerning this form, contact the appropriate regional office or the Department of Natural Resources, Water Protection Program, Operating Permits Section at 800-361-4827 or 573-522-4502.