

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 as amended, hereinafter, the Law) and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.: MO-GD00000

Owner:
Address:

Continuing Authority:
Address:

Facility Name:
Facility Address:

Legal Description:
UTM Coordinates:

Receiving Stream:
First Classified Stream and ID:
USGS Basin and Sub-watershed No.:

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

FACILITY DESCRIPTION

All Outfalls

- Non-Publicly Owned Treatment Works discharging \leq 50,000 gallons per day of domestic wastewater. See applicability section for further details.
- The use or operation of this facility shall be in accordance with Operator Certification requirements [10 CSR 20-9].
- Sludge is to be disposed of using approved methods in Standard Conditions Part III (attached).

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. This permit may be appealed in accordance with RSMo § 621.250, 640.013, and 644.051.6; 10 CSR 20-1.020 and 20-6.020.

July 1, 2019

Effective Date

Edward B. Galbraith, Director, Division of Environmental Quality

June 30, 2024

Expiration Date

Chris Wieberg, Director, Water Protection Program

APPLICABILITY

1. This Missouri State Operating Permit (permit) authorizes the operation of and discharge from Non-Publicly Owned Treatment Works (Non-POTW) with no industrial contributions.
2. The following facilities are excluded from this permit:
 - (a) Publicly Owned Treatment Works (POTW): state, municipal, federal, etc., as defined by 10 CSR 20-2.010(65);
 - (b) Facilities discharging domestic wastewater with industrial wastewater contribution;
 - (c) Non-POTWs with design flows of $\leq 50,000$ gpd which land apply wastewater (requires MO-G823 or site-specific permit);
 - (d) Facilities discharging greater than 50,000 gallons per day (gpd) of domestic wastewater;
 - (e) Facilities employing direct reuse of treated wastewater;
 - (f) Facilities that discharge to a Class L2 or L3 lake and have completed a Water Quality and Antidegradation Review that assigned more stringent limits than those in Table E-1 and E-2; and
 - (g) Facilities that discharge to a river or stream and have completed a Water Quality and Antidegradation Review that assigned more stringent limits than those in Table F.
3. This permit authorizes sludge handling via any of the methods contained in the attached Standard Conditions Part III, for which the facility has received previous approval from the Missouri Department of Natural Resources (Department). If a facility would like approval for another method of sludge disposal not previously approved, the facility shall submit a plan to the appropriate Department regional office. The plan must demonstrate compliance with the requirements of Standard Conditions Part III. A map of the Department regional offices along with contact information is located on the Department's website at www.dnr.mo.gov/regions/regions.htm.
4. This permit does not authorize discharges:
 - (a) To a metropolitan no-discharge stream;
 - (b) To systems which irrigate or inject wastewater directly to a subsurface water;
 - (c) Within the watershed of an Outstanding National Resource Water¹, which includes the Ozark National Scenic Riverways and the Wild and Scenic Rivers System [10 CSR 20-7.015(6)];
 - (d) Within 1,000 feet upstream of waters that have been identified as an Outstanding State Resource Water¹;
 - (e) Of domestic wastewater into the watersheds above lakes and reservoirs designated as L1 in 10 CSR 20-7.031, which are primarily used as drinking water supplies, per 10 CSR 20-7.015(3)(C); or
 - (f) Directly to a designated cold water habitat¹.

¹ Identified or described in 10 CSR 20, Chapter 7. These regulations are available at many libraries and online at www.sos.mo.gov/adrules/csr/current/10csr/10csr.asp, or may be purchased from the Department by calling the Department's Water Protection Program.
5. The Department may require any permittee (facility) authorized by a general permit to apply for a site-specific permit [10 CSR 20-6.010(13)(C)]. Cases where a site-specific permit may be required include, but are not limited to, the following:
 - (a) The discharge(s) is a significant contributor of pollution which impairs the beneficial uses of the receiving stream;
 - (b) The discharger is not in compliance with the conditions of the general permit;
 - (c) The receiving stream crosses into another state where the waterbody is protected; or
 - (d) A Total Maximum Daily Load (TMDL) containing requirements applicable to the discharge(s) is approved.
6. Facilities that are located within the watershed of a 303(d) listed impaired water or a watershed with an approved TMDL will need to be evaluated on a case-by-case basis for inclusion under this permit. Missouri's 303(d) listed impaired waters or waters with approved TMDLs can be found at www.dnr.mo.gov/env/wpp/waterquality/index.html. Facilities that are found to be discharging the listed pollutant(s) of concern for any impaired water may be required to obtain a site-specific permit.
7. If a facility covered under a current general permit desires to apply for a site-specific permit, the facility may do so by contacting the Department for application requirements and procedures.
8. Facilities covered under a current site-specific permit who desire to apply for inclusion under this general permit may contact the Department for application requirements and procedures.

FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**Table A Applicability:**

Facilities with design flow $\leq 1,500$ gpd or actual flow that does not exceed 1,500 gpd and discharges to a Class P stream with a stream flow to design flow ratio of 10:1 or greater.

ALL OUTFALLS	TABLE A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					
	The facility is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited, and monitored by the facility as specified below:					
EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY AVERAGE	WEEKLY AVERAGE	MONTHLY AVERAGE	SAMPLING FREQUENCY	SAMPLE TYPE
Limit Set: DF						
Flow	gpd	*			daily	calculated***
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY . THE FIRST REPORT IS DUE MONTH 28, 20XX . IT IS A VIOLATION OF THIS PERMIT TO FAIL TO SAMPLE.						
EFFLUENT PARAMETER(S)	UNITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	SAMPLING FREQUENCY	SAMPLE TYPE
		Limit Set: A				
Biochemical Oxygen Demand ₅	mg/L		45	30	once/quarter [†]	grab
Total Suspended Solids	mg/L		45	30	once/quarter [†]	grab
Ammonia as N	mg/L	*		*	once/quarter [†]	grab
Total Residual Chlorine (Note 4, Page 12)	µg/L	17 (< 130)		8 (< 130)	once/quarter [†]	grab
<i>E. coli</i> (Limit Set WA or WB)						
WBC-A (Note 1, Page 12)	#/100 mL	630		126	once/quarter [†]	grab
OR						
WBC-B (Note 2, Page 12)	#/100 mL	1,030		206	once/quarter [†]	grab
EFFLUENT PARAMETER(S)	UNITS	MINIMUM		MAXIMUM	SAMPLING FREQUENCY	SAMPLE TYPE
		Limit Set: A				
pH – Units**	SU	6.0		9.0	once/quarter [†]	grab
EFFLUENT PARAMETER(S)	UNITS	DAILY MINIMUM	WEEKLY AVERAGE MINIMUM	MONTHLY AVERAGE MINIMUM	SAMPLING FREQUENCY	SAMPLE TYPE
		Limit Set: A				
Dissolved Oxygen (Note 4, Page 12)	mg/L	*		*	once/quarter [†]	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY . THE FIRST REPORT IS DUE MONTH 28, 20XX . IT IS A VIOLATION OF THIS PERMIT TO FAIL TO SAMPLE. 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.

*** Flow monitoring is required to ensure mixing assumptions related to ammonia are being met. The facility must submit daily average flow values based off water use records. This can be accomplished by obtaining monthly water usage readings from residential water meter(s) or a single water meter installed on the source water supply (well) prior to distribution and dividing by the number of days in the month.

† Quarterly sampling is required. If a discharge occurs during the reporting period, samples shall be collected and tested for the parameters listed in Table A. Report as “No Discharge” when a discharge does not occur during the reporting period. If the facility serves part-time or seasonal establishment/residence(s), then sampling shall occur while the treatment facility is operating and after a discharge begins. If multiple samples are collected and analyzed during the sampling period, the multiple samples are not to be averaged at intervals exceeding one calendar month. See Table G on Page 12 for the quarterly sampling schedule.

FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)**Table B Applicability:**

Facilities with design flow $\leq 1,500$ gpd or actual flow that does not exceed 1,500 gpd and discharge to a Class L2 or L3 lake or reservoir.

ALL OUTFALLS	TABLE B-1. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					
	The facility is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited, and monitored by the facility as specified below:					
EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY AVERAGE	WEEKLY AVERAGE	MONTHLY AVERAGE	SAMPLING FREQUENCY	SAMPLE TYPE
Limit Set: DF						
Flow	gpd	*			daily	calculated***
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY . THE FIRST REPORT IS DUE MONTH 28, 20XX . IT IS A VIOLATION OF THIS PERMIT TO FAIL TO SAMPLE.						
EFFLUENT PARAMETER(S)	UNITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	SAMPLING FREQUENCY	SAMPLE TYPE
		Limit Set: B				
Biochemical Oxygen Demand ₅	mg/L		30	20	once/quarter [†]	grab
Total Suspended Solids	mg/L		30	20	once/quarter [†]	grab
Ammonia as N	mg/L	*		*	once/quarter [†]	grab
Total Residual Chlorine (Note 4, Page 12)	µg/L	19 (< 130)		9 (< 130)	once/quarter [†]	grab
<i>E. coli</i> (Limit Set WA or WB)						
WBC-A (Note 1, Page 12)	#/100 mL	630		126	once/quarter [†]	grab
OR						
WBC-B (Note 2, Page 12)	#/100 mL	1,030		206	once/quarter [†]	grab
EFFLUENT PARAMETER(S)	UNITS	MINIMUM		MAXIMUM	SAMPLING FREQUENCY	SAMPLE TYPE
pH – Units**	SU	6.0		9.0	once/quarter [†]	grab
EFFLUENT PARAMETER(S)	UNITS	DAILY MINIMUM		MONTHLY AVERAGE MINIMUM	SAMPLING FREQUENCY	SAMPLE TYPE
Dissolved Oxygen (Note 4, Page 12)	mg/L	*		*	once/quarter [†]	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY . THE FIRST REPORT IS DUE MONTH 28, 20XX . IT IS A VIOLATION OF THIS PERMIT TO FAIL TO SAMPLE. 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.

*** Flow monitoring is required to ensure mixing assumptions related to ammonia are being met. The facility must submit daily average flow values based off water use records. This can be accomplished by obtaining monthly water usage readings from residential water meter(s) or a single water meter installed on the source water supply (well) prior to distribution and dividing by the number of days in the month.

† Quarterly sampling is required. If a discharge occurs during the reporting period, samples shall be collected and tested for the parameters listed in Table B. Report as “No Discharge” when a discharge does not occur during the reporting period. If the facility serves part-time or seasonal establishment/residence(s), then sampling shall occur while the treatment facility is operating and after a discharge begins. If multiple samples are collected and analyzed during the sampling period, the multiple samples are not to be averaged at intervals exceeding one calendar month. See Table G on Page 12 for the quarterly sampling schedule.

FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)**Table B-2 Applicability:**

Facilities that qualify for Table B Applicability and discharge within the White River Basin Watershed (USGS basin numbered 11010001, 11010002, and 11010003).

ALL OUTFALLS	TABLE B-2. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					
	The facility is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited, and monitored by the facility as specified below:					
ADDITIONAL EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	SAMPLING FREQUENCY	SAMPLE TYPE
Limit Set: PL						
Total Phosphorus [†]	mg/L	*		0.5	once/quarter [†]	grab
Aluminum, Total Recoverable (Note 5, Page 12)	µg/L	750.0		373.8	once/quarter [†]	grab
Iron, Total Recoverable (Note 5, Page 12)	µg/L	1642.7		818.8	once/quarter [†]	grab
Limit Set: PM						
Total Phosphorus [§]	mg/L	*		*	once/quarter [†]	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY . THE FIRST REPORT IS DUE <u>MONTH 28, 20XX</u> . IT IS A VIOLATION OF THIS PERMIT TO FAIL TO SAMPLE.						

* Monitoring requirement only.

† Quarterly sampling is required. If a discharge occurs during the reporting period, samples shall be collected and tested for the parameters listed in Table B-2. Report as “No Discharge” when a discharge does not occur during the reporting period. If the facility serves part-time or seasonal establishment/residence(s), then sampling shall occur while the treatment facility is operating and after a discharge begins. If multiple samples are collected and analyzed during the sampling period, the multiple samples are not to be averaged at intervals exceeding one calendar month. See Table G on Page 12 for the quarterly sampling schedule.

‡ A Phosphorus monthly average limit of 0.5 mg/L is required for the following:

- Facilities discharging to Lake Taneycomo (HUC 11010003) and its tributaries between Table Rock Dam and Power Site Dam permitted on or after May 9, 1994; or
- Facilities discharging to the Table Rock Lake (HUC 11010001 and 11010002) permitted on or after November 30, 1999.

§ Phosphorus monitoring is required for the following:

- Facilities discharging to the White River Basin (HUC 11010001, 11010002, and 11010003); or
- Facilities discharging to Lake Taneycomo (HUC 11010003) and its tributaries between Table Rock Dam and Power Site Dam permitted prior to May 9, 1994 with a design flow of less than 22,500 gpd; or
- Facilities discharging to the Table Rock Lake (HUC 11010001 and 11010002) permitted prior to November 30, 1999 with a design flow of less than 22,500 gpd.

FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)**Table C Applicability:**

- (a) Facilities with design flow 1,501 gpd – 50,000 gpd that discharge to unclassified, Class C, or Class P streams;
OR
(b) Facilities with actual flow \leq 1,500 gpd that do not qualify for Table A that discharge to unclassified, Class C, or Class P streams.

ALL OUTFALLS	TABLE C. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					
	The facility is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited, and monitored by the facility as specified below:					
EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	SAMPLING FREQUENCY	SAMPLE TYPE
Limit Set: C						
Flow	gpd	*		*	once/quarter [†]	24 hr. estimate
Biochemical Oxygen Demand ₅	mg/L		45	30	once/quarter [†]	grab
Total Suspended Solids	mg/L		45	30	once/quarter [†]	grab
Ammonia as N (April 1 – Sept 30) (Oct 1 – March 31)	mg/L	3.6 7.5		1.4 2.9	once/quarter [†]	grab
Total Residual Chlorine (Note 4, Page 12)	µg/L	17 (< 130)		8 (< 130)	once/quarter [†]	grab
<i>E. coli</i> (Limit Set WA or WB) WBC-A (Note 1, Page 12) OR WBC-B (Note 2, Page 12)	#/100 mL	630		126	once/quarter [†]	grab
	#/100 mL	1,030		206	once/quarter [†]	grab
EFFLUENT PARAMETER(S)	UNITS	MINIMUM		MAXIMUM	SAMPLING FREQUENCY	SAMPLE TYPE
pH – Units**	SU	6.5		9.0	once/quarter [†]	grab
EFFLUENT PARAMETER(S)	UNITS	DAILY MINIMUM	WEEKLY AVERAGE MINIMUM	MONTHLY AVERAGE MINIMUM	SAMPLING FREQUENCY	SAMPLE TYPE
Dissolved Oxygen (Note 4, Page 12)	mg/L	*		*	once/quarter [†]	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY . THE FIRST REPORT IS DUE MONTH 28, 20XX . IT IS A VIOLATION OF THIS PERMIT TO FAIL TO SAMPLE. 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.

† Quarterly sampling is required. If a discharge occurs during the reporting period, samples shall be collected and tested for the parameters listed in Table C. Report as “No Discharge” when a discharge does not occur during the reporting period. If the facility serves part-time or seasonal establishment/residence(s), then sampling shall occur while the treatment facility is operating and after a discharge begins. If multiple samples are collected and analyzed during the sampling period, the multiple samples are not to be averaged at intervals exceeding one calendar month. See Table G on Page 12 for the quarterly sampling schedule.

FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)**Table D Applicability:**

- (a) Facilities with design flow 1,501 gpd – 50,000 gpd that discharge to a Class L2 or L3 lake or reservoir;
OR
(b) Facilities with actual flow \leq 1,500 gpd that do not qualify for Table B that discharge to a Class L2 or L3 lake or reservoir.

ALL OUTFALLS	TABLE D-1. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					
	The facility is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited, and monitored by the facility as specified below:					
EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	SAMPLING FREQUENCY	SAMPLE TYPE
Limit Set: D						
Flow	gpd	*		*	once/quarter [†]	24 hr. estimate
Biochemical Oxygen Demand ₅	mg/L		30	20	once/quarter [†]	grab
Total Suspended Solids	mg/L		30	20	once/quarter [†]	grab
Ammonia as N	mg/L	12.1		4.6	once/quarter [†]	grab
Total Residual Chlorine (Note 4, Page 12)	µg/L	19 ($<$ 130)		9 ($<$ 130)	once/quarter [†]	grab
<i>E. coli</i> (Limit Set WA or WB)						
WBC-A (Note 1, Page 12)	#/100 mL	630		126	once/quarter [†]	grab
OR						
WBC-B (Note 2, Page 12)	#/100 mL	1,030		206	once/quarter [†]	grab
EFFLUENT PARAMETER(S)	UNITS	MINIMUM		MAXIMUM	SAMPLING FREQUENCY	SAMPLE TYPE
pH – Units**	SU	6.0		9.0	once/quarter [†]	grab
EFFLUENT PARAMETER(S)	UNITS	DAILY MINIMUM	WEEKLY AVERAGE MINIMUM	MONTHLY AVERAGE MINIMUM	SAMPLING FREQUENCY	SAMPLE TYPE
Dissolved Oxygen (Note 4, Page 12)	mg/L	*		*	once/quarter [†]	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY . THE FIRST REPORT IS DUE MONTH 28, 20XX . IT IS A VIOLATION OF THIS PERMIT TO FAIL TO SAMPLE. 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.

† Quarterly sampling is required. If a discharge occurs during the reporting period, samples shall be collected and tested for the parameters listed in Table D. Report as “No Discharge” when a discharge does not occur during the reporting period. If the facility serves part-time or seasonal establishment/residence(s), then sampling shall occur while the treatment facility is operating and after a discharge begins. If multiple samples are collected and analyzed during the sampling period, the multiple samples are not to be averaged at intervals exceeding one calendar month. See Table G on Page 12 for the quarterly sampling schedule.

FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)**Table D-2. Applicability:**

Facilities that qualify for Table D-1 Applicability and discharge within the White River Basin Watershed (USGS basin numbered 11010001, 11010002, and 11010003).

ALL OUTFALLS	TABLE D-2. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS						
	The facility is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited, and monitored by the facility as specified below:						
	ADDITIONAL EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
DAILY AVERAGE			WEEKLY AVERAGE	MONTHLY AVERAGE	SAMPLING FREQUENCY	SAMPLE TYPE	
Limit Set: PL							
Total Phosphorus [†]	mg/L	*		0.5	once/quarter [†]	grab	
Aluminum, Total Recoverable (Note 5, Page 12)	µg/L	750.0		373.8	once/quarter [†]	grab	
Iron, Total Recoverable (Note 5, Page 12)	µg/L	1642.7		818.8	once/quarter [†]	grab	
Limit Set: PM							
Total Phosphorus [§]	mg/L	*		*	once/quarter [†]	grab	
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY . THE FIRST REPORT IS DUE <u>MONTH 28, 20XX</u> . IT IS A VIOLATION OF THIS PERMIT TO FAIL TO SAMPLE.							

* Monitoring requirement only.

† Quarterly sampling is required. If a discharge occurs during the reporting period, samples shall be collected and tested for the parameters listed in Table D-2. Report as "No Discharge" when a discharge does not occur during the reporting period. If the facility serves part-time or seasonal establishment/residence(s), then sampling shall occur while the treatment facility is operating and after a discharge begins. If multiple samples are collected and analyzed during the sampling period, the multiple samples are not to be averaged at intervals exceeding one calendar month. See Table G on Page 12 for the quarterly sampling schedule.

‡ A Phosphorus limit of 0.5 mg/L is required for the following:

- Facilities discharging to Lake Taneycomo (HUC 11010003) and its tributaries between Table Rock Dam and Power Site Dam permitted on or after May 9, 1994; or
- Facilities discharging to the Table Rock Lake (HUC 11010001 and 11010002) permitted on or after November 30, 1999.

§ Phosphorus monitoring is required for the following:

- Facilities discharging to the White River Basin (hydrologic units 11010001, 11010002, and 11010003); or
- Facilities discharging to Lake Taneycomo (HUC 11010003) and its tributaries between Table Rock Dam and Power Site Dam permitted prior to May 9, 1994 with a design flow of less than 22,500 gpd; or
- Facilities discharging to the Table Rock Lake (HUC 11010001 and 11010002) permitted prior to November 30, 1999 with a design flow of less than 22,500 gpd.

FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)**Table E-1 Applicability:**

- (a) Facilities with design flow \leq 50,000 gpd that discharge to a losing stream;
OR
(b) Facilities that have applied for and were approved to use the Department's Alternatives Analysis and discharge to a Class L2 or L3 lake or reservoir.

ALL OUTFALLS	TABLE E-1. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					
	The facility is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited, and monitored by the facility as specified below:					
EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	SAMPLING FREQUENCY	SAMPLE TYPE
Limit Set: E						
Flow	gpd	*		*	once/quarter [†]	24 hr. estimate
Biochemical Oxygen Demand ₅	mg/L		15	10	once/quarter [†]	grab
Total Suspended Solids	mg/L		20	15	once/quarter [†]	grab
Ammonia as N (April 1 – Sept 30) (Oct 1 – March 31)	mg/L	3.6 7.5		1.4 2.9	once/quarter [†]	grab
Total Residual Chlorine (Note 4, Page 12)	µg/L	17 (< 130)		8 (< 130)	once/quarter [†]	grab
<i>E. coli</i> (Limit Set L or WA) Losing Streams (Note 3, Page 12) OR Alternatives Analysis (Note 1, Page 12)	#/100 mL	126		*	once/quarter [†]	grab
	#/100 mL	630		126	once/quarter [†]	grab
EFFLUENT PARAMETER(S)	UNITS	MINIMUM		MAXIMUM	SAMPLING FREQUENCY	SAMPLE TYPE
pH – Units**	SU	6.5		9.0	once/quarter [†]	grab
EFFLUENT PARAMETER(S)	UNITS	DAILY MINIMUM	WEEKLY AVERAGE MINIMUM	MONTHLY AVERAGE MINIMUM	SAMPLING FREQUENCY	SAMPLE TYPE
Dissolved Oxygen (Note 4, Page 12)	mg/L	*		*	once/quarter [†]	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY . THE FIRST REPORT IS DUE MONTH 28, 20XX . IT IS A VIOLATION OF THIS PERMIT TO FAIL TO SAMPLE. 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.

† Quarterly sampling is required. If a discharge occurs during the reporting period, samples shall be collected and tested for the parameters listed in Table E-1. Report as “No Discharge” when a discharge does not occur during the reporting period. If the facility serves part-time or seasonal establishment/residence(s), then sampling shall occur while the treatment facility is operating and after a discharge begins. If multiple samples are collected and analyzed during the sampling period, the multiple samples are not to be averaged at intervals exceeding one calendar month. See Table H on Page 12 for the quarterly sampling schedule.

FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)**Table E-2. Applicability:**

Facilities that qualify for Table E-1 Applicability item b OR Table F Applicability and discharge to a lake or a watershed of a lake that is a water of the state and has an area of least ten acres during normal pool conditions.

ALL OUTFALLS	TABLE E-2. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS						
	The facility is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited, and monitored by the facility as specified below:						
	ADDITIONAL EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
DAILY AVERAGE			WEEKLY AVERAGE	MONTHLY AVERAGE	SAMPLING FREQUENCY	SAMPLE TYPE	
Limit Set: PL							
Total Phosphorus [†]	mg/L	*		0.5	once/quarter [†]	grab	
Aluminum, Total Recoverable (Note 5, Page 12)	µg/L	750.0		373.8	once/quarter [†]	grab	
Iron, Total Recoverable (Note 5, Page 12)	µg/L	1642.7		818.8	once/quarter [†]	grab	
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY . THE FIRST REPORT IS DUE <u>MONTH 28, 20XX</u> . IT IS A VIOLATION OF THIS PERMIT TO FAIL TO SAMPLE.							

* Monitoring requirement only.

† Quarterly sampling is required. If a discharge occurs during the reporting period, samples shall be collected and tested for the parameters listed in Table E-2. Report as “No Discharge” when a discharge does not occur during the reporting period. If the facility serves part-time or seasonal establishment/residence(s), then sampling shall occur while the treatment facility is operating and after a discharge begins. If multiple samples are collected and analyzed during the sampling period, the multiple samples are not to be averaged at intervals exceeding one calendar month. See Table G on Page 12 for the quarterly sampling schedule.

FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)**Table F Applicability:**

Facilities with design flow $\leq 50,000$ gpd that have applied for and were approved to use the Department's Alternatives Analysis and discharge to unclassified, Class C, or Class P streams.

ALL OUTFALLS	TABLE F. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					
	The facility is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited, and monitored by the facility as specified below:					
EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	SAMPLING FREQUENCY	SAMPLE TYPE
Limit Set: F						
Flow	gpd	*		*	once/quarter [†]	24 hr. estimate
Biochemical Oxygen Demand ₅	mg/L		15	10	once/quarter [†]	grab
Total Suspended Solids	mg/L		15	10	once/quarter [†]	grab
Ammonia as N (April 1 – Sept 30) (Oct 1 – March 31)	mg/L	1.7 5.6		0.6 2.1	once/quarter [†]	grab
Total Residual Chlorine (Note 4, Page 12)	µg/L	17 (< 130)		8 (< 130)	once/quarter [†]	grab
<i>E. coli</i> (Limit Set L or WA) Losing Stream (Note 3, Page 12) OR Alternatives Analysis (Note 1, Page 12)	#/100 mL #/100 mL	126 630		* 126	once/quarter [†] once/quarter [†]	grab grab
EFFLUENT PARAMETER(S)	UNITS	MINIMUM		MAXIMUM	SAMPLING FREQUENCY	SAMPLE TYPE
pH – Units**	SU	6.5		9.0	once/quarter [†]	grab
EFFLUENT PARAMETER(S)	UNITS	DAILY MINIMUM		MONTHLY AVERAGE MINIMUM	SAMPLING FREQUENCY	SAMPLE TYPE
Dissolved Oxygen (Note 4, Page 12)	mg/L	*		*	once/quarter [†]	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY . THE FIRST REPORT IS DUE <u>MONTH 28, 20XX</u> . IT IS A VIOLATION OF THIS PERMIT TO FAIL TO SAMPLE. 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.

† Quarterly sampling is required. If a discharge occurs during the reporting period, samples shall be collected and tested for the parameters listed in Table F. Report as “No Discharge” when a discharge does not occur during the reporting period. If the facility serves part-time or seasonal establishment/residence(s), then sampling shall occur while the treatment facility is operating and after a discharge begins. If multiple samples are collected and analyzed during the sampling period, the multiple samples are not to be averaged at intervals exceeding one calendar month. See Table G or H on Page 12 for the quarterly sampling schedule.

FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

Table G: Minimum Sampling Requirements (Discharge to Class C, P, and U streams; L2 and L3 lakes and reservoirs)				
Quarter	Months	<i>E. coli</i>, Total Residual Chlorine, and Dissolved Oxygen	All Other Parameters	Report Due
First	January, February, March	Not required to sample	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	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	Sample at least once during any month of the quarter	October 28 th
Fourth	October, November, December	Sample once during October; no sample required in either November or December	Sample at least once during any month of the quarter	January 28 th

Table H: Minimum Sampling Requirements (Discharge to Losing Streams)			
Quarter	Months	Effluent Parameters	Report 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

Note 1 – Facilities discharging within two miles of waters designated as Whole Body Contact – A (WBC-A) shall be limited to 630 #/100 mg/L as a daily maximum and 126 #/100 mg/L as a monthly average [10 CSR 20-7.031(5)(C)]. 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. Facilities undergoing the Department’s Alternatives Analysis (Table E or F) shall meet the requirements for WBC-A for all discharges except for those to losing streams (See Note 3). **Limit Set Designator: WA.**

Note 2 – Facilities discharging within two miles of waters designated as Whole Body Contact – B (WBC-B) shall be limited to 1,030 #/100 mg/L as a daily maximum and 206 #/100 mg/L as a monthly average [10 CSR 20-7.031(5)(C)]. 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. **Limit Set Designator: WB.**

Note 3 – Effluent limits of 126 #/100 mL daily maximum and monitoring only for monthly average for *E. coli* are applicable year round due to losing stream designation. No more than 10% of samples over the course of a calendar year shall exceed the 126 #/100 mL daily maximum. **Limit Set Designator: L.**

Note 4 – Disinfection

- (a) Facilities using UV disinfection are not required to sample for Total Residual Chlorine (TRC) or Dissolved Oxygen (DO). Simply report as “AG – Conditional Monitoring Not Required This Period” for TRC and DO in the eDMR system.
- (b) Total Residual Chlorine (TRC) and Dissolved Oxygen (DO).
 - (1) The calculated effluent limits for TRC are below the Minimum Quantification Level (ML) of the most common and practical U.S. Environmental Protection Agency (EPA) approved CLTRC methods. The Department has determined the current acceptable ML for TRC to be 130 µg/L when using the DPD Colorimetric Method #4500 – CL G, from Standard Methods for the Examination of Waters and Wastewater. The facility will conduct analyses in accordance with this method, or equivalent, and report actual analytical values. Measured values greater than or equal to the ML of 130 µg/L will be considered violations of the permit and values less than the ML of 130 µg/L will be considered to be in compliance with the permit limitation. The ML does not authorize the discharge of chlorine in excess of the effluent limits stated in the permit.
 - (2) Do not chlorinate or chemically dechlorinate if it is not needed to meet the limits in your permit. Facilities required to comply with Table A, B, C, and D are not required to disinfect for *E. coli* during non-recreational months; do not chlorinate during non-recreational months.
 - (3) If no chlorine was used in a given sampling period, an actual analysis for TRC and DO is not necessary. Simply report as “AG – Conditional Monitoring Not Required This Period” for TRC and DO in the eDMR system.

Note 5 – If no Aluminum and/or Iron were used in a given sampling period, an actual analysis is not necessary. Simply report as “AG – Conditional Monitoring Not Required This Period” for Aluminum and/or Iron in the eDMR system.

STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Standard Conditions Parts I and III dated August 1, 2014, and March 1, 2015, and hereby incorporated as though fully set forth herein.

REQUIREMENTS

1. Electronic Discharge Monitoring Report (eDMR) Submission System.

- (a) Discharge Monitoring Reporting Requirements. The permittee must electronically submit compliance monitoring data via the eDMR system. In regards to Standard Conditions Part I, Section B, #7, the eDMR system is currently the only Department approved reporting method for this permit.
- (b) Programmatic Reporting Requirements. The following reports (if required by this permit) must be electronically submitted as an attachment to the eDMR system until such a time the current or a new system is available to allow direct input of the data:
 - (1) Sludge/Biosolids Annual Reports; and
 - (2) Any additional report required by the permit excluding bypass reporting.After such a system has been made available by the Department, required data shall be directly input into the system by the next report due date.
- (c) Other actions. The following shall be submitted electronically after such a system has been made available by the Department:
 - (1) General Permit Applications;
 - (2) Notices of Termination (NOTs); and
 - (3) Bypass reporting, See Special Condition #8 for 24-hr. bypass reporting requirements.
- (d) Electronic Submissions. To access the eDMR system, use the following link in your web browser: <https://edmr.dnr.mo.gov/edmr/E2/Shared/Pages/Main/Login.aspx>. 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.
- (e) Waivers from Electronic Reporting. The permittee must electronically submit compliance monitoring data and reports unless a waiver is granted by the Department in compliance with 40 CFR Part 127. The permittee may obtain an electronic reporting waiver by first submitting an eDMR Waiver Request Form: <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. 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.

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.

3. Reporting of Non-Detects:

- (a) An analysis conducted by the permittee or their contracted laboratory shall be conducted in such a way 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 by including the laboratory results report with the submission. 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 report the “Non-Detect” 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 reported value is below the ML, the permittee is to report “< ML” for the parameter.
- (e) See Standard Conditions Part I, Section A, #4 regarding proper detection limits used for sample analysis.
- (f) When calculating monthly averages, one-half of the minimum detection limit (MDL) should be used instead of a zero. Where all data are below the MDL, the “<MDL” shall be reported as indicated in item (C).

4. All outfalls must be clearly marked in the field.

5. Permittee will cease discharge by connection to a facility with an area-wide management plan per 10 CSR 20-6.010(2)(B) within the timeframe allotted by the continuing authority with its notice of its availability. The permittee shall obtain department approval for closure according to section 10 CSR 20-6.010(12) or alternate use of these facilities.

REQUIREMENTS (continued)

6. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (Section 644.055, RSMo). The fees can be found at 10 CSR 20-6.011.
7. Wastewater treatment systems owned or operated by a private sewer company regulated by the Public Service Commission with a population equivalent greater than 200 shall comply with any applicable requirements listed in 10 CSR 20-9.010(5). Operational monitoring reports must be submitted via eDMR along with discharge monitoring reports. The monitoring frequencies contained in this permit shall not be construed by the facility as a modification of the monitoring frequencies listed in 10 CSR 20-9. If a modification of the monitoring frequencies listed in 10 CSR 20-9 is needed, the facility shall submit a written request to the Water Protection Program, Water Pollution Control Branch, Operating Permits Section, for review.
8. Bypasses are not authorized at this facility and are subject to 40 CFR 122.41(m). If a bypass occurs, the facility shall report in accordance to 40 CFR 122.41(m)(3)(i), and with Standard Conditions Part I, Section B, subsection 2.b. Bypasses are to be reported to the appropriate Department regional office or by using the online Sanitary Sewer Overflow/Facility Bypass Application located at: <http://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.
9. The facility must be sufficiently secured by a fence to restrict entry by children, livestock, and unauthorized persons as well as to protect the facility from vandalism.
10. At least one gate shall be provided to access the treatment facility and provide for maintenance and mowing. The gate shall remain locked except when opened by the facility to perform operational monitoring, sampling, maintenance, mowing, or for inspections by the Department.
11. An all-weather access road shall be provided to the treatment facility.
12. The discharge from the treatment facility shall be conveyed to the receiving stream via a closed pipe or a paved or rip-rapped open channel. Sheet or meandering drainage is not acceptable. The outfall shall be protected against the effects of floodwater, ice, or other hazards as to reasonably insure its structural stability and freedom from stoppage. The outfall shall be maintained so 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.
13. Sludge treatment, storage, and disposal practices shall be conducted in accordance with Standard Conditions Part III. If a facility would like approval for another method of sludge disposal not previously approved, the facility shall submit a plan in writing to the Department. Upon approval of the modification, the facility may be changed from a general permit to site-specific.

PERMIT TRANSFER

This permit may be transferred to a new owner by submitting an “Application for Transfer of Operating Permit” (<https://dnr.mo.gov/forms/780-1517-f.pdf>) signed by the seller and buyer of the facility along with the appropriate modification fee.

PERMIT TERMINATION

Prior to termination, a closure plan shall be submitted to the Department and must be approved prior to initiating closure activities (<https://dnr.mo.gov/forms/780-2512-f.pdf>). Closure activities outline in the approved closure plan must be completed prior to permit termination. Sludge removal during closure must be in accordance with Standard Conditions Part III.

Following proper closure of the facility, the permit must be terminated by submitting a “Request for Termination of Operating Permit” form to the Department (<https://dnr.mo.gov/forms/780-2814-f.pdf>).

PERMIT RENEWAL

Unless this permit is terminated, the facility shall submit a Form B – Application for Operating Permit for Domestic Waste (< 100,000 gallons per day) for the renewal of this permit (<https://dnr.mo.gov/forms/780-1512-f.pdf>) no later than thirty (30) days prior to the permit’s expiration date. Failure to apply for renewal may result in termination of this permit and enforcement action to compel compliance with this condition and the Missouri Clean Water Law.

DUTY OF COMPLIANCE

The facility shall comply with all conditions of this permit. Any noncompliance with this permit constitutes a violation of Chapter 644, Missouri Clean Water Law, 10 CSR 20-6, and 10 CSR 20-7. Noncompliance may result in enforcement action, termination of this permit, or denial of the facility’s request for renewal.

Missouri Department of Natural Resources

Fact Sheet

MO-GD00000

The Federal Water Pollution Control Act [Clean Water Act (CWA)] Section 402 of Public Law 92-500 (as amended) established the National Pollution 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 CWA). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (permit) are issued by the Missouri Department of Natural Resources (Department) under an approved program, operated in accordance with federal and state laws (Federal CWA and Missouri Clean Water Law Section 644 as amended). Permits are issued for a period of five (5) years unless otherwise specified.

Per 40 CFR 124.56, 40 CFR 124.8, and 10 CSR 20-6.020(1)(A)2., a Fact Sheet 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 permit. A Fact Sheet is not an enforceable part of an MSOP.

This Fact Sheet is for a:

Master General Permit

Part I – Facility Information

Facility Type: Non-Publicly Owned Treatment Works (Non-POTW) – Domestic Wastewater Only
Facility Description: Non-POTW with a design flow of $\leq 50,000$ gallons per day (gpd) that is capable of complying with the effluent limits contained herein.

CLARIFICATION:

Cold Water Habitats – The final effluent limitations for Ammonia in this permit were not calculated using acute ammonia criteria for direct discharges to cold water habitats [10 CSR 20-7.031 Table B1]. At this time the Department believes there is an insufficient number of dischargers to cold water habitats to warrant the addition of a separate, more stringent limit set to this operating permit. As a result, this permit does not authorize direct discharges to a designated cold water habitat (See Applicability 4f).

Class P, C, and U streams – Table A in the final effluent limitations and monitoring requirements section applies to Class P streams only. It does not apply to Class C or unclassified streams. Stream class definitions can be found at 10 CSR 20-7.031(1)(F). Class C streams may cease flow in dry periods and unclassified streams, which lack designate uses, are even less likely to flow. Table A requires that the discharge must be to a stream with a stream flow to design flow ratio of 10:1 or greater. The default assumption is that unclassified and C classified streams do not continually meet this standard, thus they are excluded in Table A.

Part II – Operator Certification Requirements

Per 10 CSR 9.020, requirements for operation by certified personnel shall apply to all wastewater treatment systems serving population equivalents greater than two hundred and owned or operated by private sewer companies regulated by the Public Service Commission. Minimum certification requirements can be found at 10 CSR 9.020.

Per 10 CSR 20-6.010(8), facilities shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions and regulations. Operators or supervisors of operations 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.

Part III – Operational Monitoring

Per 10 CSR 9.010, operational monitoring requirements shall apply to all wastewater treatment systems owned or operated by private sewer companies regulated by the Public Service Commission, servicing population equivalents greater than two hundred. Minimum monitoring requirement can be found at 10 CSR 9.010.

Part IV – Receiving Stream Information

CATEGORIES OF WATERS OF THE STATE:

Per Missouri Effluent Regulations (10 CSR 20-7.015), the waters of the state are divided into seven (7) categories. Each category lists effluent limitations for specific parameters, which are presented in each outfall's Effluent Limitation Table and further discussed in the Derivation & Discussion of Effluent Limitations section. This permit applies to facilities discharging to the following water body categories:

- Missouri or Mississippi River [10 CSR 20-7.015(2)]
- Lakes or Reservoirs [10 CSR 20-7.015(3)]
- Losing Streams [10 CSR 20-7.015(4)]
- Metropolitan No-Discharge Streams [10 CSR 20-7.015(5)]
- Special Streams [10 CSR 20-7.015(6)]
- Subsurface Waters [10 CSR 20-7.015(7)]
- All Other Waters [10 CSR 20-7.015(8)]

Part V – 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 Section 303(d)(4); CWA Section 402(c); 40 CFR Part 122.44(I)] requires a reissued permit to be as stringent as the previous permit with some exceptions.

- Applicable: Limitations in this operating permit for the reissuance conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44.

- The Department determined technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b).

- **Ammonia (Lakes)**. Facilities directly discharging to a classified lake or to a tributary to a classified lake may be given mixing considerations, which may result in less stringent limits when the facility is transferred from a site-specific to general permit. Default mixing zones are calculated in accordance with 10 CSR 20-7.031(5)(A)4. This permit is still protective of water quality.
- **General Criteria**. The previous permit contained a special condition which described a specific set of prohibitions related to general criteria found in 10 CSR 20-7.031(4). In order to comply with 40 CFR 122.44(d)(1), the permit writer has conducted reasonable potential determinations for each general criterion and established numeric effluent limitations where reasonable potential exists. While the removal of the previous permit special condition creates the appearance of backsliding, since this permit establishes numeric limitations where reasonable potential to cause or contribute to an excursion of the general criteria exists the permit maintains sufficient effluent limitations and monitoring requirements in order to protect water quality, this permit is equally protective as compared to the previous permit. Therefore, given this new information, and the fact that the previous permit special condition was not consistent with 40 CFR 122.44(d)(1), an error occurred in the establishment of the general criteria as a special condition of the previous permit. Please see Part VI – Effluent Limits Determination for more information regarding the reasonable potential determinations for each general criterion related to this facility.
- **E.coli**. The previous permit has final effluent limits for *E. coli* of 126 per 100mL for daily maximum and 126 per 100mL for monthly average. Discharges to losing streams shall not exceed 126 per 100 mL as a Daily Maximum at any time, as per 10 CSR 20-7.031(5)(C). Monitoring only for a monthly average. No more than 10% of samples over the course of the calendar year shall exceed 126 #/100 mL daily maximum as per 10 CSR 20-7.015(9)(B)1.G. Therefore, this permit includes final effluent limitations of 126 #/100 mL as a daily maximum and monitoring only requirements as a monthly average. The permit is still protective of water quality.

ANTIDegradation:

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(3)], the Department is to document by means of Antidegradation Review that the use of a water body's available assimilative capacity is justified. Degradation is justified by documenting the socio-economic importance of a discharging activity after determining the necessity of the discharge. Facilities that were constructed or expanded prior to August 30, 2008 are not subject to the requirements of Missouri's Antidegradation Implementation Procedure because these procedures were not promulgated and effective prior to that date.

- **Table A, B, C, D, and E-a.** 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.

OR

- **Table E-b and Table F.** This permit contains new and/or expanded discharge.

AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:

As per [10 CSR 20-6.010(2)(B)], ...An applicant may utilize a lower preference continuing authority by submitting, as part of the application, a statement waiving preferential status from each existing higher preference authority, providing the waiver 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.

- With prior approval from the Department, facilities are authorized to land apply biosolids or utilize other methods of sludge disposal contained in Standard Conditions Part III.

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 for optional use and can be 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>. A request must be made for each facility. If more than one facility is owned or operated by a single entity, 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 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.

OR

- This facility discharges into a lake watershed where numeric lake nutrient criteria are applicable. However, regulations established in 10 CSR 20-7.015 as well as the department's lake nutrient criteria implementation plan do not require nutrient monitoring for facilities with design flows less than or equal to 0.1MGD. Should the lake within this watershed be identified as impaired due to nutrient loading, the department will conduct watershed modeling to determine if this facility has reasonable potential to cause or contribute to the impairment. Consequently, monitoring or effluent limitations may be established at a later date based on the modeling results. For more information, please see the department's Nutrient Criteria Implementation Plan at: <https://dnr.mo.gov/env/wpp/rules/documents/nutrient-implementation-plan-final-072618.pdf>

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 not conducted for this facility. Ammonia is a constituent of domestic wastewater. A reasonable potential to violate water quality standards is assumed. A default Coefficient of Variation of 0.6 was utilized per the Technical Support Documents for Water Quality-Based Toxics Control. Please see Derivation and Discussion of Limits.

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.

- Influent monitoring is not being required to determine percent removal.

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

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

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

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

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

SCHEDULE OF COMPLIANCE (SOC):

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

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.

WATER QUALITY STANDARDS:

Per [10 CSR 20-7.031(4)], General Criteria shall be applicable to all waters of the state at all times including mixing zones. Additionally, [40 CFR 122.44(d)(1)] directs the Department to establish in each NPDES permit to include conditions to achieve water quality established under Section 303 of the Clean Water Act, including State narrative criteria for water quality.

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)7. 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)(A)4], 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.

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

40 CFR 122.41(M) - BYPASSES:

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

- This facility does not anticipate bypassing.

303(d) LIST & TOTAL MAXIMUM DAILY LOAD (TMDL):

Section 303(d) of the federal Clean Water Act requires that each state identify waters that are not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock and wildlife. The 303(d) list helps state and federal agencies keep track of waters that are impaired but not addressed by normal water pollution control programs.

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 permit does not apply within a watershed for which an approved TMDL includes WLA for oxygen demand, nitrogen, phosphorus, ammonia, or unknown impairment. These pollutants are discharged by domestic wastewater treatment facilities and therefore it may be necessary to apply a lower WLA than appears in this permit to any new or existing discharge in order to protect water quality. Facilities located within a watershed for which an approved TMDL includes a WLA for pollutants other than those listed above will be considered for this permit on a case-by-case basis.

Part VI – Effluent Limits Determination (All Outfalls)

Facilities covered under this permit are only required to meet the limits that apply to the appropriate type of receiving water body.

EFFLUENT LIMITATIONS FOR TABLE A RIVERS AND STREAMS:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Sampling Frequency	Reporting Frequency	Sample Type ^o
Biochemical Oxygen Demand ₅	mg/L	1		45	30	1/quarter	quarterly	G
Total Suspended Solids	mg/L	1		45	30	1/quarter	quarterly	G
Ammonia as N	mg/L	2, 3	*		*	1/quarter	quarterly	G
<i>Escherichia coli</i> **	#/100mL	1, 3	630		126	1/quarter	quarterly	G
pH	SU	1	6.0-9.0			1/quarter	quarterly	G
Total Residual Chlorine	µg/L	1, 3	<130		<130	1/quarter	quarterly	G
PARAMETER	Unit	Basis for Limits	Daily Average			Sampling Frequency	Reporting Frequency	Sample Type ^o
Flow	gpd	1	*			1/day	monthly	M
PARAMETER	Unit	Basis for Limits	Daily Minimum		Monthly Average Minimum	Sampling Frequency	Reporting Frequency	Sample Type ^o
Dissolved Oxygen***	mg/L	3, 6	*		*	1/quarter	quarterly	G

EFFLUENT LIMITATIONS FOR TABLE B AND TABLE B-2 LAKES AND RESERVOIRS:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Sampling Frequency	Reporting Frequency	Sample Type ^o
Biochemical Oxygen Demands	mg/L	1		30	20	1/quarter	quarterly	G
Total Suspended Solids	mg/L	1		30	20	1/quarter	quarterly	G
Ammonia as N	mg/L	2, 3	*		*	1/quarter	quarterly	G
<i>Escherichia coli</i> **	#/100mL	1, 3	630		126	1/quarter	quarterly	G
pH	SU	1	6.0-9.0			1/quarter	quarterly	G
Total Residual Chlorine	µg/L	1, 3	<130		<130	1/quarter	quarterly	G
Total Phosphorus [†]	mg/L	1	*		*	1/quarter	quarterly	G
Total Phosphorus [‡]	mg/L	1	*		0.5	1/quarter	quarterly	G
Total Recoverable Aluminum [‡]	µg/L	3	750.0		373.8	1/quarter	quarterly	G
Total Recoverable Iron [‡]	µg/L	3	1642.7		818.8	1/quarter	quarterly	G
PARAMETER	Unit	Basis for Limits	Daily Average			Sampling Frequency	Reporting Frequency	Sample Type ^o
Flow	gpd	1	*			1/day	monthly	M
PARAMETER	Unit	Basis for Limits	Daily Minimum		Monthly Average Minimum	Sampling Frequency	Reporting Frequency	Sample Type ^o
Dissolved Oxygen***	mg/L	3, 6	*		*	1/quarter	quarterly	G

EFFLUENT LIMITATIONS FOR TABLE C RIVERS AND STREAMS:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Sampling Frequency	Reporting Frequency	Sample Type ^o
Flow	gpd	1	*		*	1/quarter	quarterly	E
Biochemical Oxygen Demands	mg/L	1		45	30	1/quarter	quarterly	G
Total Suspended Solids	mg/L	1		45	30	1/quarter	quarterly	G
Ammonia as N (Apr 1 – Sep 30)	mg/L	2, 3	3.6		1.4	1/quarter	quarterly	G
Ammonia as N (Oct 1 – Mar 31)	mg/L	2, 3	7.5		2.9	1/quarter	quarterly	G
<i>Escherichia coli</i> **	#/100mL	1, 3	630		126	1/quarter	quarterly	G
<i>Escherichia coli</i> **	#/100mL	1, 3	1,030		206	1/quarter	quarterly	G
pH	SU	1	6.5-9.0			1/quarter	quarterly	G
Total Residual Chlorine	µg/L	1, 3	<130		<130	1/quarter	quarterly	G
PARAMETER	Unit	Basis for Limits	Daily Minimum		Monthly Average Minimum	Sampling Frequency	Reporting Frequency	Sample Type ^o
Dissolved Oxygen***	mg/L	3, 6	*		*	1/quarter	quarterly	G

EFFLUENT LIMITATIONS FOR TABLE D AND TABLE D-2 LAKES AND RESERVOIRS:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Sampling Frequency	Reporting Frequency	Sample Type ^o
Flow	gpd	1	*		*	1/quarter	quarterly	E
Biochemical Oxygen Demands	mg/L	1		45	30	1/quarter	quarterly	G
Total Suspended Solids	mg/L	1		45	30	1/quarter	quarterly	G
Ammonia as N	mg/L	2, 3	12.1		4.6	1/quarter	quarterly	G
<i>Escherichia coli</i> **	#/100mL	1, 3	630		126	1/quarter	quarterly	G
<i>Escherichia coli</i> **	#/100mL	1, 3	1,030		206	1/quarter	quarterly	G
pH	SU	1	6.5-9.0			1/quarter	quarterly	G
Total Residual Chlorine	µg/L	1, 3	<130		<130	1/quarter	quarterly	G
Total Phosphorus [†]	mg/L	1	*		*	1/quarter	quarterly	G
Total Phosphorus [‡]	mg/L	1	*		0.5	1/quarter	quarterly	G
Total Recoverable Aluminum [‡]	µg/L	3	750.0		373.8	1/quarter	quarterly	G
Total Recoverable Iron [‡]	µg/L	3	1642.7		818.8	1/quarter	quarterly	G
PARAMETER	Unit	Basis for Limits	Daily Minimum		Monthly Average Minimum	Sampling Frequency	Reporting Frequency	Sample Type ^o
Dissolved Oxygen***	mg/L	3, 6	*		*	1/quarter	quarterly	G

EFFLUENT LIMITATIONS FOR TABLE E-1 AND E-2 LOSING STREAMS OR DEPARTMENT'S ALTERNATIVES ANALYSIS FOR LAKE DISCHARGES:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Sampling Frequency	Reporting Frequency	Sample Type ^o
Flow	gpd	1	*		*	1/quarter	quarterly	E
Biochemical Oxygen Demands	mg/L	1		15	10	1/quarter	quarterly	G
Total Suspended Solids	mg/L	1		20	15	1/quarter	quarterly	G
Ammonia as N (Apr 1 – Sep 30)	mg/L	2, 3	3.6		1.4	1/quarter	quarterly	G
Ammonia as N (Oct 1 – Mar 31)	mg/L	2, 3	7.5		2.9	1/quarter	quarterly	G
<i>Escherichia coli</i> ** (losing)	#/100mL	1, 3	126		*	1/quarter	quarterly	G
<i>Escherichia coli</i> ** (Alternatives Analysis)	#/100mL	1, 3	630		126	1/quarter	quarterly	G
pH	SU	1	6.5-9.0			1/quarter	quarterly	G
Total Residual Chlorine	µg/L	1, 3	<130		<130	1/quarter	quarterly	G
Total Phosphorus [‡]	mg/L	1	*		0.5	1/quarter	quarterly	G
Total Recoverable Aluminum [‡]	µg/L	3	750.0		373.8	1/quarter	quarterly	G
Total Recoverable Iron [‡]	µg/L	3	1642.7		818.8	1/quarter	quarterly	G
PARAMETER	Unit	Basis for Limits	Daily Minimum		Monthly Average Minimum	Sampling Frequency	Reporting Frequency	Sample Type ^o
Dissolved Oxygen***	mg/L	3, 6	*		*	1/quarter	quarterly	G

EFFLUENT LIMITATIONS FOR TABLE F DEPARTMENT'S ALTERNATIVES ANALYSIS FOR STREAM DISCHARGES:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Sampling Frequency	Reporting Frequency	Sample Type [◇]
Flow	gpd	1	*		*	1/quarter	quarterly	E
Biochemical Oxygen Demands	mg/L	4		15	10	1/quarter	quarterly	G
Total Suspended Solids	mg/L	4		15	10	1/quarter	quarterly	G
Ammonia as N (Apr 1 – Sep 30)	mg/L	4	1.7		0.6	1/quarter	quarterly	G
Ammonia as N (Oct 1 – Mar 31)	mg/L	4	5.6		2.1	1/quarter	quarterly	G
<i>Escherichia coli</i> (WBC)	#/100mL	1, 3	630		126	1/quarter	quarterly	G
<i>Escherichia coli</i> (Losing Stream)**	#/100mL	1, 3	126		*	1/quarter	quarterly	G
pH	SU	1	6.5-9.0			1/quarter	quarterly	G
Total Residual Chlorine	µg/L	1, 3	<130		<130	1/quarter	quarterly	G
PARAMETER	Unit	Basis for Limits	Daily Minimum		Monthly Average Minimum	Sampling Frequency	Reporting Frequency	Sample Type [◇]
Dissolved Oxygen***	mg/L	6	*		*	1/quarter	quarterly	G

- * Monitoring requirement only.
- ** # of colony forming units/100 mL; *E. coli* shall not exceed 126 colonies per 100 mL in more than 10% of samples for losing streams.
- *** For Dissolved Oxygen the Daily Maximum is a Daily Minimum and the Monthly Average is a Monthly Average Minimum.
- † Phosphorous Monitoring
- ‡ Phosphorous limit + metals
- ◇ G = Grab
M = Calculated
E = 24-hr estimate

Basis for Limitations Codes:

1. State or Federal Regulation/Law
2. Water Quality Standards
3. Water Quality Based Effluent Limits
4. Antidegradation Review
5. Antidegradation Policy
6. Best Professional Judgement

DERIVATION AND DISCUSSION OF LIMITS (ALL OUTFALLS):

- **Flow:** In accordance with [40 CFR Part 122.44(i)(1)(ii)], the volume of effluent discharged from each outfall is to be monitored to assure compliance with permitted effluent limitations. If the facility is unable to obtain effluent flow, then it is the responsibility of the facility to inform the Department, which may require the submittal of a permit modification.
- **Biochemical Oxygen Demand (BOD₅).**
 - **Tables A, B, C, D, and E-a.** Effluent limits for each type of receiving water body were set according to 10 CSR 20-7.015(2)-(8).
 - OR
 - **Table E-b and F.** BOD₅ limits of 10 mg/L monthly average and 15 mg/L average weekly were determined by the Department to be achievable and protective of beneficial uses and existing water quality.
- **Total Suspended Solids (TSS).**
 - **Tables A, B, C, D, and E-a.** Effluent limits for each type of receiving water body were set according to 10 CSR 20-7.015(2)-(8).
 - OR
 - **Table E-b.** TSS limits of 15 mg/L monthly average and 20 mg/L average weekly were determined by the Department to be achievable based and protective of beneficial uses and existing water quality for discharges to lakes.
 - OR
 - **Table F.** TSS limits of 10 mg/L monthly average and 15 mg/L average weekly were determined by the Department to be achievable based and protective of beneficial uses and existing water quality. According to EPA, because TSS and BOD are closely correlated, we apply the same limits for TSS as BOD.

• **Ammonia as N.**

- **Tables A and B (Facilities <1,500 gpd).** It is the permit writer's best professional judgment that facilities qualifying for the limits in Tables A and B do not have reasonable potential to exceed water quality standards for ammonia. These facilities cannot discharge in excess of 1,500 gpd and the receiving water body must provide mixing that allows for a 10:1 dilution of the discharge. Under these conditions there is no reasonable potential to exceed acute or chronic ammonia criteria in-stream. Ammonia monitoring is required to verify that the facility is not contributing to water quality exceedances.

OR

- **Table D (Discharges to Lakes).** Early Life Stages Present Total Ammonia Nitrogen criteria applies a default of pH 7.8 SU [10 CSR 20-7.031(5)(B)(7)(C) and 10 CSR 20-7.031(5) Table B3]. Because of mixing allowable in lakes, the acute ammonia criteria drive the WLA for ammonia. The WLA calculation below assumes a maximum flow of 50,000 gpd or 0.08cfs.

Season	Temp (°C)	pH (SU)	Total Ammonia Nitrogen CCC (mg/L)	Total Ammonia Nitrogen CMC (mg/L)
Summer	26	7.8	1.5	12.1
Winter	6	7.8	3.1	12.1

Acute WLA: $C_e = ((0.08 + 0.0)12.1 - (0.0 * 0.01))/0.08 = 12.1 \text{ mg/L}$

$LTA_a = 12.1 \text{ mg/L} (0.321) = 3.89 \text{ mg/L}$ [CV =0.6, 99th Percentile]

Maximum Daily Limit (MDL) = 3.89 mg/L (3.11) = **12.1 mg/L** [CV =0.6, 99th Percentile]

Average Monthly Limit (AML) = 3.89 mg/L (1.19) = **4.6 mg/L** [CV =0.6, 95th Percentile, n =30]

OR

- **Tables C and E-a (Discharges to Rivers and Streams).** Early Life Stages Present Total Ammonia Nitrogen criteria applies a default of pH 7.8 SU [10 CSR 20-7.031(5)(B)(7)(C) and 10 CSR 20-7.031 Table B3]. No mixing considerations allowed; therefore, WLA = appropriate criterion. The WLA calculation below assumes a maximum flow of 50,000 gpd or 0.08 cubic feet second (cfs).

Season	Temp (°C)	pH (SU)	Total Ammonia Nitrogen CCC (mg/L)	Total Ammonia Nitrogen CMC (mg/L)
Summer	26	7.8	1.5	12.1
Winter	6	7.8	3.1	12.1

Summer: April 1 – September 30

Chronic WLA: $C_e = ((0.08 + 0.0)1.5 - (0.0 * 0.01))/0.08 = 1.5 \text{ mg/L}$

Acute WLA: $C_e = ((0.08 + 0.0)12.1 - (0.0 * 0.01))/0.08 = 12.1 \text{ mg/L}$

$LTA_c = 1.5 \text{ mg/L} (0.780) = 1.17 \text{ mg/L}$ [CV =0.6, 99th Percentile, 30 day avg.]

$LTA_a = 12.1 \text{ mg/L} (0.321) = 3.89 \text{ mg/L}$ [CV =0.6, 99th Percentile]

Use most protective number of LTA_c or LTA_a .

MDL = 1.17 mg/L (3.11) = **3.6 mg/L** [CV =0.6, 99th Percentile]

AML = 1.17 mg/L (1.19) = **1.4 mg/L** [CV =0.6, 95th Percentile, n =30]

Winter: October 1 – March 31

Chronic WLA: $C_e = ((0.08 + 0.0)3.1 - (0.0 * 0.01))/0.08 = 3.1 \text{ mg/L}$

Acute WLA: $C_e = ((0.08 + 0.0)12.1 - (0.0 * 0.01))/0.08 = 12.1 \text{ mg/L}$

$LTA_c = 3.1 \text{ mg/L} (0.780) = 2.42 \text{ mg/L}$ [CV =0.6, 99th Percentile, 30 day avg.]

$LTA_a = 12.1 \text{ mg/L} (0.321) = 3.89 \text{ mg/L}$ [CV =0.6, 99th Percentile]

Use most protective number of LTA_c or LTA_a .

MDL = 2.42 mg/L (3.11) = **7.5 mg/L** [CV =0.6, 99th Percentile]

AML = 2.42 mg/L (1.19) = **2.9 mg/L** [CV =0.6, 95th Percentile, n =30]

• **Ammonia as N (continued).**

OR

- **Table E-b (Department’s Alternatives Analysis for Lakes).** The Department has determined that the alternatives analysis-based technology limits for lake discharging facilities of 3.7 mg/L summer daily maximum, 1.4 mg/L summer monthly average and 7.5 mg/L winter daily max, 2.9 mg/L winter monthly average are achievable by some treatment technologies. Because these proposed limits are more protective than the water quality-based limits calculated below for a lake with mixing where acute criteria would be applicable for determining the baseline limits, the alternatives analysis limits were used.

Water Quality-Based Effluent Limits (WQBEL):

Early Life Stages Present Total Ammonia Nitrogen criteria apply

[10 CSR 20-7.031(5)(B)7.C. & Table B1]. Background total ammonia nitrogen = 0.01 mg/L

Season	Temp (°C)	pH (SU)	Total Ammonia Nitrogen CCC (mg N/L)	Total Ammonia Nitrogen CMC (mg N/L)
Summer	26	7.8	1.5	12.1
Winter	6	7.8	3.1	12.1

$$C_e = (((Q_e + Q_s) * C) - (Q_s * C_s)) / Q_e$$

Acute WLA: $C_e = ((Q_e + 0)12.1 - (0 * 0.01)) / Q_e = 12.1 \text{ mg/L}$

LTA_a = 12.1 mg/L (0.321) = **3.88 mg/L** [CV = 0.6, 99th Percentile]

MDL = 3.88 mg/L (3.11) = 12.1 mg/L [CV = 0.6, 99th Percentile]

AML = 3.88 mg/L (1.19) = 4.6 mg/L [CV = 0.6, 95th Percentile, n = 30]

	Maximum Daily Limit (mg/l)		Average Monthly Limit (mg/l)	
	Summer	Winter	Summer	Winter
WQBEL	12.1	12.1	4.6	4.6
Alternatives Analysis Limits	3.6	7.5	1.4	2.9

OR

- **Table F (Department’s Alternatives Analysis for Rivers and Streams).** The Department has determined that the alternatives analysis-based technology limits of 0.6 mg/L monthly average and 1.7 mg/L daily maximum in summer, and 2.1 mg/L monthly average and 5.6 mg/L daily maximum in winter are achievable by some treatment technologies. Because these limits are more protective than the water quality-based limits calculated below for a stream with no mixing, the technology-based limits were used.

In choosing to use the Department’s alternatives analysis, the facility is electing to build a treatment plant that provides a high level of treatment that meets potential future limits based on the 2013 EPA Ammonia criteria and will potentially reduce the need to upgrade in the near future. If the facility owners do not believe that there is a treatment technology that is both economically efficient and practicable for their facility to meet these limits, a site-specific alternatives analysis may be required.

Water Quality-Based Effluent Limits (WQBEL):

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

Season	Temp (°C)	pH (SU)	Total Ammonia Nitrogen CCC (mg N/L)	Total Ammonia Nitrogen CMC (mg N/L)
Summer	26	7.8	1.5	12.1
Winter	6	7.8	3.1	12.1

• **Ammonia as N (continued).**

– **Table F (Continued)**

Summer: April 1 – September 30

$$C_e = (((Q_e + Q_s) * C) - (Q_s * C_s)) / Q_e$$

Chronic WLA: $C_e = ((Q_e + 0.0)1.5 - (0.0 * 0.01)) / Q_e = 1.5 \text{ mg/L}$

Acute WLA: $C_e = ((Q_e + 0.0)12.1 - (0.0 * 0.01)) / Q_e = 12.1 \text{ mg/L}$

$LTA_c = 1.5 \text{ mg/L} (0.780) = 1.17 \text{ mg/L}$

[CV = 0.6, 99th Percentile, 30 day avg.]

$LTA_a = 12.1 \text{ mg/L} (0.321) = 3.89 \text{ mg/L}$

[CV = 0.6, 99th Percentile]

MDL = 1.17 mg/L (3.11) = **3.6 mg/L**

[CV = 0.6, 99th Percentile]

AML = 1.17 mg/L (1.19) = **1.4 mg/L**

[CV = 0.6, 95th Percentile, n = 30]

Winter: October 1 – March 31

Chronic WLA: $C_e = ((Q_e + 0.0)3.1 - (0.0 * 0.01)) / Q_e = 3.1 \text{ mg/L}$

Acute WLA: $C_e = ((Q_e + 0.0)12.1 - (0.0025 * 0.01)) / Q_e = 12.1 \text{ mg/L}$

$LTA_c = 3.1 \text{ mg/L} (0.780) = 2.42 \text{ mg/L}$

[CV = 0.6, 99th Percentile, 30 day avg.]

$LTA_a = 12.1 \text{ mg/L} (0.321) = 3.89 \text{ mg/L}$

[CV = 0.6, 99th Percentile]

MDL = 2.42 mg/L (3.11) = **7.5 mg/L**

[CV = 0.6, 99th Percentile]

AML = 2.42 mg/L (1.19) = **2.9 mg/L**

[CV = 0.6, 95th Percentile, n = 30]

	Maximum Daily Limit (mg/l)		Average Monthly Limit (mg/l)	
	Summer	Winter	Summer	Winter
WQBEL	3.6	7.5	1.4	2.9
Alternatives Analysis Limits	1.7	5.6	0.6	2.1

• **Escherichia coli (E. coli).**

– **Whole Body Contact – A (Tables A, B, C, and D).** Monthly average of 126 per 100 mL as a geometric mean and Daily Maximum of 630 per 100 mL during the recreational season (April 1 – October 31), to protect Whole Body Contact Recreation (A) designated use of the receiving stream, as per 10 CSR 20-7.031(5)(C). An effluent limit for both monthly average and daily maximum 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.

OR

– **Whole Body Contact – B (Tables A, B, C, and D).** Monthly average of 206 per 100 mL as a geometric mean and Daily Maximum of 1,030 per 100 mL 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 20-7.031(5)(C). An effluent limit for both monthly average and daily maximum 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.

OR

– **Losing Streams (Table E-a).** Discharges to losing streams shall not exceed 126 per 100 mL as a Daily Maximum at any time, as per 10 CSR 20-7.031(5)(C). Monitoring only for a monthly average. No more than 10% of samples over the course of the calendar year shall exceed 126 #/100 mL daily maximum as per 10 CSR 20-7.015(9)(B)1.G.

OR

– **Alternatives Analysis for Discharges to Lakes and Reservoirs or Rivers and Streams (Table E-b and F).** Monthly average of 126 per 100 mL as a geometric mean and Daily Maximum of 630 per 100 mL during the recreational season (April 1 – October 31), to protect Whole Body Contact Recreation (A) designated use of the receiving water body, as per 10 CSR 20-7.031(5)(C).

- **pH.**
 - **Tables A, B, and D.** 6.0-9.0 SU. pH limitations [10 CSR 20-7.015] are protective of the water quality standard [10 CSR 20-7.031(5)(E)], due to the assimilative capacity of the receiving stream.
OR
 - **Tables C and E.** 6.5-9.0 SU. pH limitations of 6.0-9.0 SU [10 CSR 20-7.015] are not protective of the in-stream Water Quality Standard, which states that water contaminants shall not cause pH to be outside the range of 6.5-9.0 SU.
OR
 - **Table F.** 6.5-9.0 SU. No mixing zone is allowed when using the Department's Alternatives Analysis, therefore the water quality standard, which states that water contaminants shall not cause pH to be outside the range of 6.5-9.0 SU, must be met at the outfall.

- **Total Residual Chlorine (TRC).**

- **Tables B and D (Discharges to Lakes):** Warm-water Protection of Aquatic Life CMC (criteria maximum concentration) = 19µg/L, CCC (criteria continuous concentration) = 10 µg/L [10 CSR 20-7.031 Table A]. Background TRC = 0.0µg/L. Because of mixing allowable in lakes, the acute TRC criteria drive the WLA for TRC. The WLA calculation below assumes a maximum flow of 50,000 gpd or 0.08cfs.

Acute WLA: $C_e = ((0.08 + 0.0)19 - (0.0 * 0.0))/0.08 = 19 \mu\text{g/L}$

LTAa = 19 (0.321) = 6.1 µg/L [CV = 0.6, 99th Percentile]

MDL = 6.1 (3.11) = 19 µg/L [CV = 0.6, 99th Percentile]

AML = 6.1 (1.55) = 9 µg/L [CV = 0.6, 95th Percentile, n = 4]

TRC effluent limits of 19 µg/L daily maximum and 9 µg/L monthly average are recommended if chlorine is used as a disinfectant. Standard compliance language for TRC, including the minimum level (ML), is described in the permit.

OR

- **Tables A, C, E, and F (Discharges to Rivers and Streams or Department's Alternatives Analysis for Discharges to Lakes and Reservoirs/Rivers and Streams):** Warm-water Protection of Aquatic Life CMC (criteria maximum concentration) = 19µg/L, CCC (criteria continuous concentration) = 10 µg/L [10 CSR 20-7.031 Table A]. Background TRC = 0.0µg/L.

Chronic WLA: $C_e = ((0.08 + 0.0)10 - (0.0 * 0.0))/0.08 = 10 \mu\text{g/L}$

Acute WLA: $C_e = ((0.08 + 0.0)19 - (0.0 * 0.0))/0.08 = 19 \mu\text{g/L}$

LTAc = 10 (0.527) = 5.8 µg/L [CV = 0.6, 99th Percentile]

LTAa = 19 (0.321) = 6.1 µg/L [CV = 0.6, 99th Percentile]

Use most protective number of LTAc or LTAa.

MDL = 5.8 (3.11) = 17 µg/L [CV = 0.6, 99th Percentile]

AML = 5.8 (1.55) = 8 µg/L [CV = 0.6, 95th Percentile, n = 4]

TRC effluent limits of 17 µg/L daily maximum and 8 µg/L monthly average are recommended if chlorine is used as a disinfectant. Standard compliance language for TRC, including the minimum level (ML), is described in the permit.

- **Dissolved Oxygen:** Applicable for facilities with chlorination and dechlorination disinfection. Monitoring is required to determine if a facility has the potential to deplete oxygen to an extent that can be detrimental to aquatic life in the receiving water body

- **Total Phosphorus.**

- **Tables B-2 and D-2.** Facilities discharging to Lake Taneycomo and its tributaries between Table Rock Dam and Power Site Dam permitted on or after May 9, 1994 OR facilities discharging to the Table Rock Lake Watershed (hydrologic units numbered 11010001 and 11010002) permitted on or after November 30, 1999. Monthly average of 0.5 mg/L, per 10 CSR 20-7.015(3)(E). Daily maximum is monitoring only.

OR

- **Tables B-2 and D-2.** Facilities discharging to the White River basin and outside of the area designated above are required to monitor for phosphorus, per 10 CSR 20-7.015(3)(G).

OR

- **Tables E-2.** Monthly average of 0.5 mg/L and monitoring only for daily maximum were determined by the Department to be achievable and is an appropriate target for the discharge to not cause or contribute to an instream water quality standard excursion or impairment should future modeling by the department occur.

- **Aluminum, Total Recoverable**

- **Tables B-2, D-2, and E-2.** Applicable for facilities with chemical addition to facilitate phosphorus removal. Protection of Aquatic Acute Criteria = 750 µg/L.

Acute WLA: $C_e = ((0.08 + 0.0)750 - (0.0 * 0.0))/0.08 = 750 \text{ µg/L}$

LTA_a: $750 (0.321) = 240.81$ [CV = 0.6, 99th Percentile]

MDL: $240.81 (3.11) = 750.0 \text{ µg/L}$ [CV = 0.6, 99th Percentile]

AML: $240.81 (1.55) = 373.8 \text{ µg/L}$ [CV = 0.6, 95th Percentile, n = 4]

- **Iron, Total Recoverable**

- **Tables B-2, D-2, and E-2.** Applicable for facilities with chemical addition to facilitate phosphorus removal. Protection of Aquatic Life Chronic Criteria = 1,000 µg/L. Mixing considerations were not utilized to ensure protection of instream water quality in all discharges.

Chronic WLA: $C_e = ((0.08 + 0.0)1000 - (0.0 * 0.0))/0.08 = 1000 \text{ µg/L}$

LTA_c: $1000 (0.527) = 527.43$ [CV = 0.6, 99th Percentile]

MDL: $527.43 (3.11) = 1642.7 \text{ µg/L}$ [CV = 0.6, 99th Percentile]

AML: $527.43 (1.55) = 818.8 \text{ µg/L}$ [CV = 0.6, 95th Percentile, n = 4]

Sampling Frequency Justification:

Sampling and Reporting Frequency was retained from previous permit. Sampling for *E. coli* is set at quarterly per 10 CSR 20-7.015(9)(D)7.C.

Sampling Type Justification:

As per 10 CSR 20-7.015, samples collected for mechanical plants shall be a 24 hour modified composite sample. Grab samples, however, must be collected for pH, *E. coli*, TRC, and Dissolved Oxygen in accordance with recommended analytical methods. For further information on sampling and testing methods please review 10 CSR 20-7.015(9)(D)2. As per 10 CSR 20-7.015, samples collected for media filters may be grab samples.

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. This facility utilizes secondary treatment technology and is currently in compliance with the secondary treatment technology based effluent limits established in this permit, and this discharge is subject to Standard Conditions Part III, which contains requirements for the management and disposal of sludge to prevent its discharge. Based on the information reviewed during the drafting of this permit, it has been determined if the facility meets final effluent limitations and complies with the standard and special conditions established in this permit, there is no reasonable potential for the discharge to cause 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. However, acute toxicity criteria may be exceeded by permit in zones of initial dilution, and chronic toxicity criteria may be exceeded by permit in mixing zone. 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 maintain a level of water quality at their confluences to downstream waters that provided for the attainment and maintenance of the water quality standard of those downstream waters, 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 VIII – Finding of Affordability

Pursuant to Section 644.145 RSMo., the Department is required to determine whether a permit or decision is affordable and make a finding of affordability for certain permitting and enforcement decisions. This requirement applies to discharges from combined or separate sanitary sewer systems or POTWs.

- The Department is not required to determine findings of affordability because the facility is not a combined or separate sanitary sewer system or a POTW.

Part VI – Administrative Requirements

On the basis of preliminary staff review and 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 permit. The proposed determinations are tentative pending public comment.

Water quality standard revision:

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

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

PUBLIC NOTICE:

The Department shall give public notice when 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 or because of 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 facility must be notified of the denial in writing.

The Department must give public notice of a pending permit or of a new or reissued Missouri State Operating Permit. The public comment period is a length of time not less than thirty (30) days following the date of the public notice, during which interested persons may submit written comments about the proposed permit.

For persons wanting to submit comments regarding this proposed permit, please refer to the Public Notice page located at the front of this draft permit. The Public Notice page gives direction on how and where to submit appropriate comments.

- The Public Notice period for this permit was from February 22, 2019 to March 25, 2019. This permit was changed after public notice in response to comments received during the public notice period, which are posted below.

Comment #1:

We respectfully request that Standard Condition 7 be updated to allow for the ability of systems to request modifications to the operational monitoring requirements of 10 CSR 20-9 without being changed from a general to site-specific permit.

Missouri American Water Company currently manages 79 NPDES permits. Twenty-one of those permits are MO-GD000 permits. This permit type allows for more efficient and comprehensive management of our systems because these permits expire and renew at the same time and have set limits that allow us to apply our understanding of permit requirements to a significant number of systems without having to familiarize with a greater number of individual permits. Historically, we have worked with MDNR to have modified operational monitoring requirements as allowed under the current MO-GD000 permit. Removal of this opportunity will force us to change many permits to site-specific permits with individual limits, issuance, and expiration dates creating a more complex process for us without providing measurable benefit to our customers or the environment.

Response:

The Department has reevaluated Special Condition #7 and determined that modifications to the operational monitoring requirements in 10 CSR 20-9 may be approved and enforced under the general permit, MOGD – Non-POTW’s Discharging $\leq 50,000$ gpd. Requests for modifications to the monitoring frequencies listed in 10 CSR 20-9 will be considered on a case-by-case basis and must be submitted to and approved by the Water Protection Program Control Branch, Operating Permits Section. Once approved, a facility may continue to be covered under the MOGD permit with the alternative monitoring frequencies.

Comment #2:

1. *Please eliminate item c. on Table F. applicability. This item is covered by qualifying for item a. and is therefore not a relaxation of requirements.*
2. *Reword Table F applicability statement a. to:*
 - a. *Facilities that have applied for and were approved to use the Department’s Alternatives Analysis*
3. *Add applicability statements to Table E. to make these limits also apply to facilities which received an Antidegradation Review and discharge to Lakes or within 0.2 miles of a lake. Suggested language:*
 - a. *Facilities with design flow $\leq 50,000$ gpd that discharge to a losing stream;*
OR
 - b. *Facilities that have applied for and were approved to use the Department’s Alternatives Analysis and discharge to, or within 0.2 miles of, a Class L2 or L3 lake or reservoir;*
OR
 - c. *Facilities that discharge to, or within 0.2 miles of, a Class L2 or L3 lake or reservoir and that have a completed Water Quality and Antidegradation Review that did not assign effluent limits that are more stringent than the effluent limitations listed in Table E and/or assign effluent limits for any parameters not listed in Table E.*
4. *Revise applicability statements for Table F-2 to include antidegradation facilities that qualify for Table E (see comment 3). Suggested language:*
 - a. *Facilities that qualify for Table F Applicability or Table E. applicability item b. or Table E. applicability item c.;*
and
 - b. *Discharge to a lake or watershed of a lake that is a water of the state and has an area of at least ten acres during normal pool conditions.*

The Department’s Alternatives Analysis which is currently on public notice will also be revised to be in line with the above suggested changes.

Response:

The Department reviewed this request and made the following changes:

1. Item c on Table F (Page 10) applicability was removed.
2. Table F (Page 10) Applicability item a was revised.
3. Table E-1 (Page 8) Applicability was revised to the following:
 - a. Facilities with design flow $\leq 50,000$ gpd that discharge to a losing stream;
OR
 - b. Facilities that have applied for and were approved to use the Department's Alternatives Analysis and discharge to a Class L2 or L3 lake or reservoir.
4. In an effort to maintain clarity for the permittee, Table E-2 was added (Page 9) with the following applicability:
 - a. Facilities that qualify for Table E-1 Applicability item b OR Table F Applicability and discharge to a lake or a watershed of a lake that is a water of the state and has an area of least ten acres during normal pool conditions.

Additionally, the MOGD permit applicability (Page 2, item 2) was updated to include the following:

- (a) Facilities that discharge to a Class L2 or L3 lake and have completed a Water Quality and Antidegradation Review that assigned more stringent limits than those in Table E-1 and E-2; and
- (b) Facilities that discharge to a river or stream and have completed a Water Quality and Antidegradation Review that assigned more stringent limits than those in Table F.

All references in the Fact Sheet regarding Tables E and F have been updated to reflect the above revisions.

DATE OF FACT SHEET: JANUARY 22, 2019; **REVISED:** APRIL 1, 2019

COMPLETED BY:

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