

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

Permit No. MO-0128511

Owner: Central Rivers Wastewater Utility, Inc.
Address: P.O. Box 528, Kearney, MO 64060

Continuing Authority: Same as above
Address: Same as above

Facility Name: Central Rivers Wastewater Utility, Berkshire Glenn Treatment Facility
Facility Address: NE 120th Street, 300 feet west of Hills Road, Kearney, MO 64060

Legal Description: SW ¼, SE ¼, Sec. 17, T52N, R31W, Clay County
UTM Coordinates: X= 378903, Y= 4352174

Receiving Stream: Tributary to Holmes Creek
First Classified Stream and ID: 8-20-13 MUDD V1.0 (C) (3960)
USGS Basin & Sub-watershed No.: (10300101-0407)

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

FACILITY DESCRIPTION

Outfall #001 – Residential Subdivision – SIC #4952

No Certified Operator Required.

STEP system / recirculating sand filter / sludge disposal is by contract hauler.

Design population equivalent is 185.

Design flow is 18,500 gallons per day.

Actual flow is 7,600 gallons per day.

Design sludge production is 2.78 dry tons/year.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 621.250 RSMo, Section 640.013 RSMo and Section 644.051.6 of the Law.

March 1, 2016

Effective Date

September 30, 2018

Expiration Date

Sara Parker Pauley
Sara Parker Pauley, Director, Department of Natural Resources

John Madros
John Madros, Director, Water Protection Program

**OUTFALL
#001**
**TABLE A-1
INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The interim effluent limitations shall become effective on **March 1, 2016**, and remain in effect through **February 28, 2018**. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	MGD	*		*	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
<i>E. coli</i> (Note 1, Page 3)	#/100mL	*		*	once/quarter***	grab
Ammonia as N	mg/L	*		*	once/quarter***	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE JULY 28, 2016. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

EFFLUENT PARAMETER(S)	UNITS	MINIMUM		MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH Units **	SU	6.5		9.0	once/quarter***	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE JULY 28, 2016.

* Monitoring requirement only.

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

*** See table below for quarterly sampling.

Minimum Sampling Requirements				
Quarter	Months	<i>E. coli</i>	All Other Parameters	Report is 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 A-2
FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

**OUTFALL
#001**

The permittee 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 on **March 1, 2018**, and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	MGD	*		*	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
<i>E. coli</i> (Note 1, Page 3)	#/100mL	1030		206	once/quarter***	grab
Ammonia as N (Apr 1 – Sep 30) (Oct 1 – Mar 31)	mg/L	4.1 8.4		1.4 2.8	once/quarter***	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE **JULY 28, 2018**. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

EFFLUENT PARAMETER(S)	UNITS	MINIMUM	MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH – Units **	SU	6.5	9.0	once/quarter***	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE **JULY 28, 2018**.

- * Monitoring requirement only.
- ** pH is measured in pH units and is not to be averaged.
- *** See table below for quarterly sampling.

Minimum Sampling Requirements				
Quarter	Months	<i>E. coli</i>	All Other Parameters	Report is 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

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

B. STANDARD CONDITIONS

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

C. SPECIAL CONDITIONS

1. This permit establishes final ammonia limitations based on Missouri's current Water Quality Standard. On August 22, 2013, the U.S. Environmental Protection Agency (EPA) published a notice in the Federal Register announcing of the final national recommended ambient water quality criteria for protection of aquatic life from the effects of ammonia in freshwater. The EPA's guidance, Final Aquatic Life Ambient Water Quality Criteria for Ammonia – Fresh Water 2013, is not a rule, nor automatically part of a state's water quality standards. States must adopt new ammonia criteria consistent with EPA's published ammonia criteria into their water quality standards that protect the designated uses of the water bodies. The Department of Natural Resources has initiated stakeholder discussions on how to best incorporate these new criteria into the State's rules. A date for when this rule change will occur has not been determined. Also, refer to Section VI of this permit's factsheet for further information including estimated future effluent limits for this facility. It is recommended the permittee view the Department's 2013 EPA criteria Factsheet located at <http://dnr.mo.gov/pubs/pub2481.htm>.
2. This permit may be reopened and modified, or alternatively revoked and reissued, to:
 - (a) 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 Clean Water Act, if the effluent standard or limitation so issued or approved:
 - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) controls any pollutant not limited in the permit.
 - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
 - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.
 - (d) Incorporate the requirement to develop a pretreatment program pursuant to 40 CFR 403.8(a) when the Director of the Water Protection Program determines that a pretreatment program is necessary due to any new introduction of pollutants into the Publicly Owned Treatment Works or any substantial change in the volume or character of pollutants being introduced.The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.
3. All outfalls must be clearly marked in the field.
4. Permittee will cease discharge by connection to a facility with an area-wide management plan per 10 CSR 20-6.010(3)(B) within 90 days of notice of its availability.
5. Water Quality Standards
 - (a) To the extent required by law, discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
 - (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
 - (1) 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;
 - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
 - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
 - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
 - (5) There shall be no significant human health hazard from incidental contact with the water;
 - (6) There shall be no acute toxicity to livestock or wildlife watering;
 - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
 - (8) 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.
6. Report as No Discharge when a discharge does not occur during the report period.
7. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).

C. SPECIAL CONDITIONS (continued)

8. Reporting of Non-Detects:
 - (a) An analysis conducted by the permittee or their contracted laboratory shall be conducted in such a way that the precision and accuracy of the analyzed result can be enumerated.
 - (b) The permittee shall not report a sample result as "Non-Detect" without also reporting the detection limit of the test. Reporting as "Non Detect" without also including the detection limit will be considered failure to report, which is a violation of this permit.
 - (c) The permittee shall provide the "Non-Detect" sample result using the less than sign and the minimum detection limit (e.g. <10).
 - (d) The permittee shall use one-half of the detection limit for the non-detect result when calculating monthly averages.
 - (e) See Standard Conditions Part I, Section A, #4 regarding proper detection limits used for sample analysis.
9. Bypasses are not authorized at this facility unless they meet the criteria in 40 CFR 122.41(m). If a bypass occurs, the permittee shall report in accordance to 40 CFR 122.41(m)(3), and with Standard Condition Part I, Section B, subsection 2.b. Bypasses are to be reported to the Kansas City Regional Office during normal business hours or the Environmental Emergency Response hotline at 573-634-2436 outside of normal business hours. Blending, which is the practice of combining a partially-treated wastewater process stream with a fully-treated wastewater process stream prior to discharge, is not considered a form of bypass. If the permittee wishes to utilize blending, the permittee shall file an application to modify this permit to facilitate the inclusion of appropriate monitoring conditions.
10. The facility must be sufficiently secured to restrict entry by children, livestock and unauthorized persons as well as to protect the facility from vandalism.
11. At least one gate must be provided to access the wastewater treatment facility and provide for maintenance and mowing. The gate shall remain locked except when opened by the permittee to perform operational monitoring, sampling, maintenance, mowing, or for inspections by the Department.
12. At least one (1) warning sign shall be placed on each side of the facility enclosure in such positions as to be clearly visible from all directions of approach. There shall also be one (1) sign placed for every five hundred feet (500') (150 m) of the perimeter fence. A sign shall also be placed on each gate. Minimum wording shall be SEWAGE TREATMENT FACILITY—KEEP OUT. Signs shall be made of durable materials with characters at least two inches (2") high and shall be securely fastened to the fence, equipment or other suitable locations.
13. An Operation and Maintenance (O & M) manual shall be maintained by the permittee and made available to the operator. The O & M manual shall include key operating procedures and a brief summary of the operation of the facility.
14. An all-weather access road shall be provided to the treatment facility.
15. The discharge from the wastewater 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 sewer 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.

D. SCHEDULE OF COMPLIANCE

The facility shall attain compliance with final effluent limitations for Ammonia as N and *E. coli* as soon as reasonably achievable or no later than **2 years** of the effective date of this permit.

1. Within six months of the effective date of this permit, the permittee shall report progress made in attaining compliance with the final effluent limits.
2. The permittee shall submit interim progress reports detailing progress made in attaining compliance with the final effluent limits within 12 months from effective date.
3. Within **2 years** of the effective date of this permit, the permittee shall attain compliance with the final effluent limits, for Ammonia as N and *E. coli*.

Please submit progress reports to the Missouri Department of Natural Resources, Kansas City Regional Office, 500 NE Colbern Road, Lee's Summit, MO 64086.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0128511
CENTRAL RIVERS WASTEWATER UTILITY, BERKSHIRE GLENN TREATMENT FACILITY

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

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

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

This Factsheet is for a Minor.

Part I – Facility Information

Facility Type: NON-POTW – Residential Subdivision – SIC #4952

Facility Description:

STEP system / recirculating sand filter / sludge disposal is by contract hauler.

Application Date: 10/28/14

Expiration Date: 05/05/15

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE
#001	0.022	Secondary	Domestic

Facility Performance History:

This facility was last inspected on January 19, 2011. The conditions of the facility at the time of inspection were found to be satisfactory. A review of the past five years of monitoring reports submitted by the permittee indicates BOD exceedances in the following months: February 2014 and April 2014. No other effluent limit exceedances were noted.

Comments:

This facility discharges to a tributary to Holmes Creek which flows about 0.9 miles to 8-20-13 MUDD V1.0 (C) (3960). This tributary is now classified as EPA has approved the Department's new stream classifications. A schedule of compliance has been included in the permit to meet final effluent limitations for *E. coli* which are protective of the WBC-B use designation of the stream.

Statistical analysis was performed using the past five years of ammonia monitoring data submitted by the permittee and determined this facility has reasonable potential to cause or contribute to an instream excursion of water quality standards. Because of this, limits have been included in this permit with a two year schedule to comply. The department has determined that a recirculating sand filter is a technology capable of ammonia treatment. The two year schedule of compliance has been established in this permit in order for the facility to make operational adjustments to meet ammonia limitations and to upgrade to meet *E. coli* limitations.

Changes in this permit include the addition of Ammonia as N and *E. coli* effluent limits and the removal of Temperature monitoring. See Part VII of the Fact Sheet for further information regarding the addition and removal of effluent parameters. Special conditions were updated to include the addition of the reporting of Non-detects and bypass reporting requirements.

Part II – Operator Certification Requirements

- ☐ - This facility is required to have a certified operator.
☒ - This facility is not required to have a certified operator.

Part III– Operational Monitoring

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

Part IV – Receiving Stream Information

10 CSR 20-7.031 Missouri Water Quality Standards, the Department defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1st classified receiving stream's beneficial water uses to be maintained, are located in the Receiving Stream Table located below in accordance with [10 CSR 20-7.031(4)].

RECEIVING STREAM(S) TABLE: OUTFALL #001

WATER-BODY NAME	CLASS	WBID	DESIGNATED USES*	12-DIGIT HUC	DISTANCE TO CLASSIFIED SEGMENT (MI)
Tributary to Holmes Creek	NA	NA	General Criteria	(10300101-0407)	0.9
8-20-13 MUDD V1.0	C	3960	IRR, LWW, AQL, HHP, WBC-B, SCR		

* - Irrigation (IRR), Livestock & Wildlife Watering (LWW), Protection of Warm Water Aquatic Life (AQL), Human Health Protection (HHP), Cool Water Fishery (CLF), Cold Water Fishery (CDF), Whole Body Contact Recreation – Category A (WBC-A), Whole Body Contact Recreation – Category B (WBC-B), Secondary Contact Recreation (SCR), Drinking Water Supply (DWS), Industrial (IND), Groundwater (GRW).

RECEIVING STREAM(S) LOW-FLOW VALUES:

RECEIVING STREAM (C, E, P, P1)	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
8-20-13 MUDD V1.0 (C)	0.0	0.0	0.0

MIXING CONSIDERATIONS

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

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

RECEIVING STREAM MONITORING REQUIREMENTS:

No receiving water monitoring requirements recommended at this time.

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(36)] & [10 CSR 20-7.031(1)(N)], or is an existing facility.

ANTI-BACKSLIDING:

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

☒ - Limitations in this operating permit for the reissuance of this permit conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44. Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance. Temperature monitoring has been removed as there is no reasonable potential for it to cause an instream excursion of water quality standards.

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.

☒ - 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.

AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:

As per [10 CSR 20-6.010(3)(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. Additional information regarding biosolids and sludge is located at the following web address: <http://extension.missouri.edu/main/DisplayCategory.aspx?C=74>, items WQ422 through WQ449.

☒ - Permittee is not authorized to land apply biosolids. Sludge/biosolids are removed by contract hauler.

COMPLIANCE AND ENFORCEMENT:

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

☒ - The facility is not currently under Water Protection Program enforcement action.

DISCHARGE MONITORING REPORTS:

On July 30, 2013, EPA proposed the Clean Water Act National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, which requires electronic reporting of NPDES information rather than the currently-required paper-based reports from permitted facilities. To comply with the upcoming federal rule, the Department is asking all permittees to begin submitting discharge monitoring data online. For permittees already using the Department's eDMR data reporting system, those permittees will be required to exclusively use the eDMR data reporting system.

☒ - The permittee/facility is not currently using the eDMR data reporting system. To sign up for the eDMR system, visit the Department's eDMR page at <http://dnr.mo.gov/env/wpp/edmr.htm>.

PRETREATMENT PROGRAM:

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

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

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

REASONABLE POTENTIAL 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.

☒ - A RPA was conducted on appropriate parameters. Please see **APPENDIX – RPA RESULTS**.

REMOVAL EFFICIENCY:

Removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD₅) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals.

☒ - 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(11)] and should not be confused with the federal definition of bypass. SSOs result from a variety of causes including blockages, line breaks, and sewer defects that can either allow wastewater to backup within the collection system during dry weather conditions or allow excess stormwater and groundwater to enter and overload the collection system during wet weather conditions. SSOs can also result from lapses in sewer system operation and maintenance, inadequate sewer design and construction, power failures, and vandalism. SSOs include overflows out of manholes, cleanouts, broken pipes, and other into waters of the state and onto city streets, sidewalks, and other terrestrial locations.

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

Missouri RSMo §644.026.1.(13) mandates that the Department issue permits for discharges of water contaminants into the waters of this state, and also for the operation of sewer systems. Such permit conditions shall ensure compliance with all requirements as established by sections 644.006 to 644.141. Standard Conditions Part I, referenced in the permit, contains provisions requiring proper operation and maintenance of all facilities and systems of treatment and control. Missouri RSMo §644.026.1.(15) instructs the Department to require proper maintenance and operation of treatment facilities and sewer systems and proper disposal of residual waste from all such facilities. To ensure that public health and the environment are protected, any noncompliance which may endanger public health or the environment must be reported to the Department within 24 hours of the time the permittee becomes aware of the noncompliance. Standard Conditions Part I, referenced in the permit, contains the reporting requirements for the permittee when bypasses and upsets occur. The permit also contains requirements for permittees to develop and implement a program for maintenance and repair of the collection system. The permit requires that the permittee submit an annual report to the Department for the previous calendar year that contains a list of all SSOs and building backups (locations, features of collection system where the SSO/building backup occurred, volumes, durations, receiving stream, causes, mitigation efforts, and actions to prevent reoccurrences), a summary of efforts taken by the permittee to locate and eliminate sources of excess I & I, a summary of general maintenance and repairs to the collection system, and a summary of any planned maintenance and repairs to the collection system for the upcoming calendar year.

☒ - 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 includes 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.

☒ - The time given for effluent limitations of this permit listed under Interim Effluent Limitation and Final Effluent Limitations were established in accordance with [10 CSR 20-7.031(11)]. The facility has been given a schedule of compliance to meet final effluent limits for *E. coli* and Ammonia as N. The two year schedule of compliance has been established in this permit in order for the facility to make operational adjustments to meet ammonia limitations and to upgrade to meet *E. coli* limitations.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):

In accordance with 40 CFR 122.44(k) *Best Management Practices (BMPs)* to control or abate the discharge of pollutants when: (1) Authorized under section 304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities; (2) Authorized under section 402(p) of the CWA for the control of stormwater discharges; (3) Numeric effluent limitations are infeasible; or (4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (Document number EPA 833-B-09-002) [published by the United States Environmental Protection Agency (USEPA) in February 2009], BMPs are measures or practices used to reduce the amount of pollution entering (regarding this operating permit) waters of the state. BMPs may take the form of a process, activity, or physical structure.

Additionally in accordance with the Stormwater Management, a SWPPP is a series of steps and activities to (1) identify sources of pollution or contamination, and (2) select and carry out actions which prevent or control the pollution of stormwater discharges.

☒ - At this time, the permittee is not required to develop and implement a SWPPP.

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(78)], 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
Cs = upstream concentration
Qs = upstream flow
Ce = effluent concentration
Qe = effluent flow

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

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

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.

☒ - 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 facility does not discharge to a 303(d) listed stream.

Part VI –2013 Water Quality Criteria for Ammonia

Upcoming changes to the Water Quality Standard for ammonia may require significant upgrades to wastewater treatment facilities.

On August 22, 2013, the U.S. Environmental Protection Agency (EPA) finalized new water quality criteria for ammonia, based on toxicity studies of mussels and gill breathing snails. Missouri's current ammonia criteria are based on toxicity testing of several species, but did not include data from mussels or gill breathing snails. Missouri is home to 69 of North America's mussel species, which are spread across the state. According to the Missouri Department of Conservation nearly two-thirds of the mussel species in Missouri are considered to be "of conservation concern". Nine species are listed as federally endangered, with an additional species currently proposed as endangered and another species proposed as threatened.

The adult forms of mussels that are seen in rivers, lakes, and streams are sensitive to pollutants because they are sedentary filter feeders. They vacuum up many pollutants with the food they bring in and cannot escape to new habitats, so they can accumulate toxins in their bodies and die. But very young mussels, called glochidia, are exceptionally sensitive to ammonia in water. As a result of a citizen suit, the EPA was compelled to conduct toxicity testing and develop ammonia water quality criteria that would be protective if young mussels may be present in a waterbody. These new criteria will apply to any discharge with ammonia levels that may pose a reasonable potential to violate the standards. Nearly all discharging domestic wastewater treatment facilities (cities, subdivisions, mobile home parks, etc.), as well as certain industrial and stormwater dischargers with ammonia in their effluent, will be affected by this change in the regulations.

When new water quality criteria are established by the EPA, states must adopt them into their regulations in order to keep their authorization to issue permits under the National Pollutant Discharge Elimination System (NPDES). States are required to review their water quality standards every three years, and if new criteria have been developed they must be adopted. States may be more protective than the Federal requirements, but not less protective. Missouri does not have the resources to conduct the studies necessary for developing new water quality standards, and therefore our standards mirror those developed by the EPA; however, we will utilize any available flexibility based on actual species of mussels that are native to Missouri and their sensitivity to ammonia.

Many treatment facilities in Missouri are currently scheduled to be upgraded to comply with the current water quality standards. But these new ammonia standards may require a different treatment technology than the one being considered by the permittee. It is important that permittees discuss any new and upcoming requirements with their consulting engineers to ensure that their treatment systems are capable of complying with the new requirements. The Department encourages permittees to construct treatment technologies that can attain effluent quality that supports the EPA ammonia criteria.

Ammonia toxicity varies by temperature and by pH of the water. Assuming a stable pH value, but taking into account winter and summer temperatures, Missouri includes two seasons of ammonia effluent limitations. Current effluent limitations in this permit are:

Summer – 4.1 mg/L daily maximum, 1.4 mg/L monthly average.

Winter – 8.4 mg/L daily maximum, 2.8 mg/L monthly average.

Under the new EPA criteria, where mussels of the family Unionidae are present or expected to be present, the estimated effluent limitations for a facility in a location such as this that discharges to a receiving stream with no mixing will be:

Summer – 1.9 mg/L daily maximum, 0.6 mg/L monthly average.

Winter – 6.2 mg/L daily maximum, 2.1 mg/L monthly average.

These estimated limits above are based in part on the actual performance of the plant at the time of the drafting of this permit and should not be construed as future effluent limitations. Future effluent limits, based on the EPA's 2013 water quality criteria for ammonia, will depend in part on the actual performance of the facility at the time the permit is renewed.

Operating permits for facilities in Missouri must be written based on current statutes and regulations. Therefore permits will be written with the existing effluent limitations until the new standards are adopted. To aid permittees in decision making, an advisory will be added to permit Fact Sheets notifying permittees of the expected effluent limitations for ammonia. When setting schedules of compliance for ammonia effluent limitations, consideration will be given to facilities that have recently constructed upgraded facilities to meet the current ammonia limitations.

For more information on this topic feel free to contact the Missouri Department of Natural Resources, Water Protection Program, Water Pollution Control Branch, Operating Permits Section at (573) 751-1300.

Part VII – Effluent Limits Determination

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

As per Missouri's Effluent Regulations [10 CSR 20-7.015], the waters of the state are divided into the below listed 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 Limits section.

- ☐ Missouri or Mississippi River [10 CSR 20-7.015(2)] ☐ Subsurface Water [10 CSR 20-7.015(7)]
☐ Lake or Reservoir [10 CSR 20-7.015(3)] ☒ All Other Waters [10 CSR 20-7.015(8)]
☐ Losing [10 CSR 20-7.015(4)]
☐ Metropolitan No-Discharge [10 CSR 20-7.015(5)]

OUTFALL #001 – MAIN FACILITY OUTFALL

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

EFFLUENT LIMITATIONS TABLE:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type ***
Flow	MGD	1	*		*	*/*	Quarterly	Quarterly	E
BOD ₅	mg/L	1		45	30	45/30	Quarterly	Quarterly	G
TSS	mg/L	1		45	30	45/30	Quarterly	Quarterly	G
<i>Escherichia coli</i> **	#/100mL	1, 3	1030		206	Fecal 1000/ 400	Quarterly	Quarterly	G
Ammonia as N (Apr 1 – Sep 30)	mg/L	2, 3	4.1		1.4	*/*	Quarterly	Quarterly	G
Ammonia as N (Oct 1 – Mar 31)	mg/L	2, 3	8.4		2.8	*/*	Quarterly	Quarterly	G
PARAMETER	Unit	Basis for Limits	Minimum		Maximum	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type
pH	SU	1	6.5		9.0	6.0-9.0	Quarterly	Quarterly	G

* - Monitoring requirement only.

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

*** - E = 24-hour estimate
G = Grab

Basis for Limitations Codes:

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

OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

- Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification.
- Biochemical Oxygen Demand (BOD₅).** Effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Effluent Limits Determination**.
- Total Suspended Solids (TSS).** Effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Effluent Limits Determination**.
- Escherichia coli* (*E. coli*).** Monthly average of 206 per 100 mL as a geometric mean and Daily Maximum of 1030 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.

- **Total Ammonia Nitrogen.** Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(5)(B)7.C. & Table B3]. Background total ammonia nitrogen = 0.01 mg/L. No mixing considerations allowed; therefore, WLA = appropriate criterion.

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: $C_e = ((0.022 + 0.0)1.5 - (0.0 * 0.01))/0.022$
 $C_e = 1.5 \text{ mg/L}$

Acute WLA: $C_e = ((0.022 + 0.0)12.1 - (0.0 * 0.01))/0.022$
 $C_e = 12.1 \text{ mg/L}$

$LTA_c = 1.5 \text{ mg/L} (0.746) = 1.12 \text{ mg/L}$
 $LTA_a = 12.1 \text{ mg/L} (0.276) = 3.34 \text{ mg/L}$

[CV = 0.71, 99th Percentile, 30 day avg.]
[CV = 0.71, 99th Percentile]

Use most protective number of LTA_c or LTA_a .

MDL = 1.12 mg/L (3.62) = **4.1 mg/L**
AML = 1.12 mg/L (1.23) = **1.4 mg/L**

[CV = 0.71, 99th Percentile]
[CV = 0.71, 95th Percentile, n=30]

Winter: October 1 – March 31

Chronic WLA: $C_e = ((0.022 + 0.0)3.1 - (0.0 * 0.01))/0.022$
 $C_e = 3.1 \text{ mg/L}$

Acute WLA: $C_e = ((0.022 + 0.0)12.1 - (0.0 * 0.01))/0.022$
 $C_e = 12.1 \text{ mg/L}$

$LTA_c = 3.1 \text{ mg/L} (0.743) = 2.30 \text{ mg/L}$
 $LTA_a = 12.1 \text{ mg/L} (0.274) = 3.31 \text{ mg/L}$

[CV = 0.72, 99th Percentile, 30 day avg.]
[CV = 0.72, 99th Percentile]

Use most protective number of LTA_c or LTA_a .

MDL = 2.30 mg/L (3.65) = **8.4 mg/L**
AML = 2.30 mg/L (1.23) = **2.8 mg/L**

[CV = 0.72, 99th Percentile]
[CV = 0.72, 95th Percentile, n=30]

- **pH.** 6.5-9.0 SU. Technology based effluent limitations of 6.0-9.0 SU [10 CSR 20-7.015] are not protective of the Water Quality Standard, which states that water contaminants shall not cause pH to be outside the range of 6.5-9.0 SU. No mixing zone is allowed due to the classification of the receiving stream, therefore the water quality standard must be met at the outfall.
- **Parameters Removed.** Temperature monitoring has been removed as there is no reasonable potential for it to cause an instream excursion of water quality standards.

Sampling Frequency Justification:

Sampling and reporting frequency was retained from previous permit.

Sampling Type Justification:

As per 10 CSR 20-7.015, BOD₅ and TSS samples collected for sand filters may be grab samples. Grab samples must be collected for pH, Ammonia as N, and E. coli. This is due to the holding time restriction for E. coli, the volatility of Ammonia, and the fact that pH cannot be preserved and must be sampled in the field. As Ammonia samples must be immediately preserved with acid, these samples are to be collected as a grab. For further information on sampling and testing methods please review 10 CSR 20-7.015(9)(D) 2.

Part VIII – Cost Analysis for Compliance

Pursuant to Section 644.145, RSMo., the Department is required to determine whether a permit or decision is affordable and makes a “finding of affordability” for certain permitting and enforcement decisions. This requirement applies to discharges from combined or separate sanitary sewer systems or publically-owned treatment works.

☒ - The Department is not required to complete a cost analysis for compliance because the facility is not a combined or separate sanitary sewer system for a publically-owned treatment works.

Part IX – Administrative Requirements

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

PERMIT SYNCHRONIZATION:

The Department of Natural Resources is currently undergoing a synchronization process for operating permits. Permits are normally issued on a five-year term, but to achieve synchronization many permits will need to be issued for less than the full five years allowed by regulation. The intent is that all permits within a watershed will move through the Watershed Based Management (WBM) cycle together will all expire in the same fiscal year. This will allow further streamlining by placing multiple permits within a smaller geographic area on public notice simultaneously, thereby reducing repeated administrative efforts. This will also allow the Department to explore a watershed based permitting effort at some point in the future. Renewal applications must continue to be submitted within 180 days of expiration, however, in instances where effluent data from the previous renewal is less than 4 years old, that data may be re-submitted to meet the requirements of the renewal application. If the permit provides a schedule of compliance for meeting new water quality based effluent limits beyond the expiration date of the permit, the time remaining in the schedule of compliance will be allotted in the renewed permit. This permit will expire in the 3rd Quarter of calendar year 2018.

PUBLIC NOTICE:

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

☒ - The Public Notice period for this operating permit was from October 16, 2015 – November 16, 2015. No comments were received.

DATE OF FACT SHEET: AUGUST 31, 2015

COMPLETED BY:

ANGELA FALLS, ENVIRONMENTAL SPECIALIST
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WATER PROTECTION PROGRAM
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Appendices

APPENDIX - CLASSIFICATION WORKSHEET:

ITEM	POINTS POSSIBLE	POINTS ASSIGNED
Maximum Population Equivalent (P.E.) served (Max 10 pts.)	1 pt./10,000 PE or major fraction thereof.	
Maximum: 10 pt Design Flow (avg. day) or peak month; use greater (Max 10 pts.)	1 pt. / MGD or major fraction thereof.	
EFFLUENT DISCHARGE RECEIVING WATER SENSITIVITY:		
Missouri or Mississippi River	0	
All other stream discharges except to losing streams and stream reaches supporting whole body contact	1	1
Discharge to lake or reservoir outside of designated whole body contact recreational area	2	
Discharge to losing stream, or stream, lake or reservoir area supporting whole body contact recreation	3	
PRELIMINARY TREATMENT - Headworks		
Screening and/or comminution	3	
Grit removal	3	
Plant pumping of main flow (lift station at the headworks)	3	
PRIMARY TREATMENT		
Primary clarifiers	5	
Combined sedimentation/digestion	5	
Chemical addition (except chlorine, enzymes)	4	
REQUIRED LABORATORY CONTROL – performed by plant personnel (highest level only)		
Push – button or visual methods for simple test such as pH, Settleable solids	3	
Additional procedures such as DO, COD, BOD, titrations, solids, volatile content	5	
More advanced determinations such as BOD seeding procedures, fecal coliform, nutrients, total oils, phenols, etc.	7	7
Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph	10	
ALTERNATIVE FATE OF EFFLUENT		
Direct reuse or recycle of effluent	6	
Land Disposal – low rate	3	
High rate	5	
Overland flow	4	
Total from page ONE (1)	----	8

APPENDIX - CLASSIFICATION WORKSHEET (CONTINUED):

ITEM	POINTS POSSIBLE	POINTS ASSIGNED
VARIATION IN RAW WASTE (highest level only) (DMR exceedances and Design Flow exceedances)		
Variation do not exceed those normally or typically expected	0	
Recurring deviations or excessive variations of 100 to 200 % in strength and/or flow	2	
Recurring deviations or excessive variations of more than 200 % in strength and/or flow	4	
Raw wastes subject to toxic waste discharge	6	
SECONDARY TREATMENT		
Trickling filter and other fixed film media with secondary clarifiers	10	10
Activated sludge with secondary clarifiers (including extended aeration and oxidation ditches)	15	
Stabilization ponds without aeration	5	
Aerated lagoon	8	
Advanced Waste Treatment Polishing Pond	2	
Chemical/physical – without secondary	15	
Chemical/physical – following secondary	10	
Biological or chemical/biological	12	
Carbon regeneration	4	
DISINFECTION		
Chlorination or comparable	5	
Dechlorination	2	
On-site generation of disinfectant (except UV light)	5	
UV light	4	
SOLIDS HANDLING - SLUDGE		
Solids Handling Thickening	5	
Anaerobic digestion	10	
Aerobic digestion	6	
Evaporative sludge drying	2	
Mechanical dewatering	8	
Solids reduction (incineration, wet oxidation)	12	
Land application	6	
Total from page TWO (2)	----	10
Total from page ONE (1)	---	8
Grand Total	---	18

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

APPENDIX – RPA RESULTS:

Parameter	CMC*	RWC Acute*	CCC*	RWC Chronic*	n**	Range max/min	CV***	MF	RP Yes/No
Total Ammonia as Nitrogen (Summer) mg/L	12.1	81.90	1.5	81.90	29.00	36.1/1.4	0.71	2.27	YES
Total Ammonia as Nitrogen (Winter) mg/L	12.1	80.71	3.1	80.71	30.00	35.8/1	0.72	2.25	YES
Total Ammonia as Nitrogen (Summer) mg/L (<i>future</i>)	3.4	81.90	0.7	81.90	29.00	36.1/1.4	0.71	2.27	YES
Total Ammonia as Nitrogen (Winter) mg/L (<i>future</i>)	8.1	80.71	2.3	80.71	30.00	35.8/1	0.72	2.25	YES

N/A – Not Applicable

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

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

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

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

n – Is the number of samples.

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

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

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

APPENDIX – FACILITY LAYOUT:

