

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. **MO0085421**

Owner: Steelville R-III School District
Owner Address: PO Box 339, Steelville, MO 65565

Continuing Authority: Same as above
Continuing Authority Address: Same as above

Facility Name: Steelville R-III High School WWTF
Facility Address: Hwy. 19 South, Steelville, MO 65565

Legal Description: NE ¼, SW ¼, SE ¼, Sec.11, T37N, R4W, Crawford County
Latitude/Longitude: (+3756062/-09119430)

Receiving Stream: Unnamed tributary to Whittenburg Creek (U) (losing)
First Classified Stream and ID: Whittenburg Creek (C) (01899)
USGS Basin & Sub-watershed No.: (07140102-050002)

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 – High School – Standard Industrial Classification Code(s): # 8211 (Elementary and Secondary Schools) and # 4952 (Sewerage Systems–domestic) – **Certified Class D Wastewater Operator Required**

Three (3) cell lagoon/Sludge retained in lagoon
Design population equivalent = 300
Design flow = 3,500 gallons per day
Average daily effluent flow = 0 gallons per day
Design sludge production = 4.50 dry tons per year

This operating permit authorizes only wastewater, including stormwater, discharges under the Law and the National Pollutant Discharge Elimination System. This operating permit does not apply to other regulated areas. This operating permit may be appealed in accordance with the Law, Section 644.051.6., RSMo, and Section 621.250, RSMo, and Missouri Clean Water Commission regulations [10 CSR 20-6.020], Permits, Public Participation, Hearings and Notice to Governmental Agencies and [10 CSR 20-1.020], Organizations, Clean Water Commission Appeals and Requests for Hearings.

April 19, 2010
Effective Date

April 19, 2010
Renewal Date

Handwritten signature of Mark N. Templeton in black ink.

Mark N. Templeton, Director, Department of Natural Resources

April 18, 2015
Expiration Date

Handwritten signature of Gary L. Gaines in black ink.

Gary L. Gaines, P.E., Director, Southeast Regional Office

Permittee authorized to discharge from outfall(s) with serial number(s) as specified in the application for this operating permit. **Interim effluent limitations** shall become effective upon issuance (renewal) date of this operating permit and shall remain in effect for three (3) calendar years or until April 18, 2013. Such discharges shall be controlled, limited and monitored by permittee as specified below:

OUTFALL NUMBER and EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall # 001</u>						
Flow	MGD	*		*	Once/quarter***	24 hr. estimate
Biochemical Oxygen Demand ₅	mg/L		65	45	Once/quarter***	grab
Total Suspended Solids	mg/L		120	80	Once/quarter***	grab
pH – Units	SU	**		**	Once/quarter***	grab
Ammonia as N	mg/L	*		*	Once/quarter***	grab
Temperature	°C	*		*	Once/quarter***	grab

MONITORING REPORTS SHALL BE SUBMITTED Quarterly***. FIRST REPORT DUE: July 28, 2010. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS OPERATING PERMIT SUBJECT TO ATTACHED Part I and Part III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

Permittee authorized to discharge from outfall(s) with serial number(s) as specified in the application for this operating permit. **Final effluent limitations** shall become effective three (3) calendar years from issuance (renewal) date of this operating permit on April 19, 2013, and shall remain in effect until the expiration date of this operating permit. Such discharges shall be controlled, limited and monitored by permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall # 001</u>						
Flow	MGD	*		*	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
pH	SU	**		**	Once/quarter***	grab
Ammonia as N****	mg/L	*		*	Once/quarter***	grab
Temperature	° C	*		*	Once/quarter***	grab
Fecal Coliform***** (Note 1)	Colonies/100 mL	1000		400	Once/quarter***	grab
Total Residual Chlorine (Note 2)	mg/L	0.016 (0.13 ML)		0.008 (0.13 ML)	Once/quarter***	grab
Oil and Grease	mg/L	15		10	Once/quarter***	grab

MONITORING REPORTS SHALL BE SUBMITTED Quarterly***. FIRST REPORT DUE: July 28, 2013. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I and III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. INTERIM AND/OR FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

* Monitoring requirement only

** pH measured in pH Standard Units (SUs) and is not to be averaged. pH limited to the range of 6.0-9.0 pH SUs

*** See table below for quarterly sampling reporting:

Sample discharge at least once for the months of:	Report is due:
January, February, March (1 st Quarter)	April 28
April, May, June (2 nd Quarter)	July 28
July, August, September (3 rd Quarter)	October 28
October, November, December (4 th Quarter)	January 28

**** Final effluent limitations may be modified based on a Department geohydrologic evaluation and a Department Water Quality Review Analysis to be requested and submitted by permittee as part of a preliminary engineering report to be reviewed by the Department

***** Daily maximum and maximum monthly average final effluent limitations for the Fecal coliform effluent parameter shall be reported as a geometric mean

Note 1 – Final effluent limitations and monitoring requirements for the Fecal Coliform effluent parameter are applicable year-round

Note 2 – This operating permit contains final effluent limitations for the Total Residual Chlorine (TRC) effluent parameter. Disinfection is required for this facility. If facility chooses to disinfect effluent discharge via chlorination, then the final effluent limitations for the TRC effluent parameter shall be met and de-chlorination equipment shall be required by the Department.

- (a) Said final effluent limitations for the Total Residual Chlorine (TRC) effluent parameter are below the minimum quantification level (ML) of the most common and practical United States Environmental Protection Agency (US EPA) approved CLTRC methods. The Department has determined the current acceptable ML for the TRC parameter to be 0.13 mg/L when using the DPD Colorimetric Method #4500 – CL G. from Standard Methods for the Examination of Waters and Wastewater. Permittee will conduct analyses in accordance with this method, or equivalent, and report actual analytical values. Measured values greater than or equal to (\geq) the ML of 0.13 mg/L will be considered violations of this operating permit and values less than ($<$) the ML of 0.13 mg/L will be considered to be in compliance with the operating permit final effluent limitations for the TRC effluent parameter. The ML does not authorize the discharge of chlorine in excess of the final effluent limitations stated in this operating permit.
- (b) Disinfection required year-round unless this operating permit specifically states: “Final effluent limitations and monitoring requirements for the Fecal Coliform effluent parameter are applicable only during the recreational season from April 1 through October 31”. If this operating permit does not require disinfection during the non-recreational months, do not chlorinate in those months.
- (c) Do not chemically de-chlorinate if it is not needed to meet the final effluent limitations for the TRC effluent parameter in this operating permit.
- (d) If no chlorine was used in a given sampling period, an actual analysis is not necessary. Simply report as “0 mg/L” TRC.

C. SPECIAL CONDITIONS

1. This operating 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 operating permit; or
 - (2) Controls any pollutant not limited in the operating permit.

C. SPECIAL CONDITIONS (continued)

1. (continued)

- (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.

The operating permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

- 2. All outfalls must be clearly marked in the field.
- 3. Permittee will cease discharge by connection to area wide wastewater treatment system within ninety (90) calendar days of notice of its availability.
- 4. Changes in Discharges of Toxic Substances

Permittee shall notify the Director as soon as it knows or has reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the operating permit, if that discharge will exceed the highest of the following "notification levels":
 - (1) One hundred micrograms per liter (100 µg/L);
 - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (3) Five (5) times the maximum concentration value reported for the pollutant in the operating permit application; or
 - (4) The level established in Part A of the operating permit by the Director.
 - (b) That permittee has begun or expects to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the operating permit application.
- 5. Report as no-discharge when a discharge does not occur during the reporting period.
 - 6. General Criteria. The following 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 waters of the state from meeting the following conditions:
 - (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;
 - (b) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
 - (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;
 - (d) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
 - (e) There shall be no significant human health hazard from incidental contact with the water;
 - (f) There shall be no acute toxicity to livestock or wildlife watering;

C. SPECIAL CONDITIONS (continued)

6. General Criteria (continued)

- (g) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community; or
- (h) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in the Missouri Solid Waste Management Law, Section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to Section 260.200-260.247, RSMo.

7. Permittee shall comply with any applicable requirements listed in MCWC regulations [10 CSR 20-8], Design Guides, and [10 CSR 20-9], Treatment Plant Operations, unless facility has received written notification that the Department has approved a modification to the requirements. Monitoring frequencies contained in this operating permit shall not be construed by permittee as a modification of monitoring frequencies listed in MCWC regulation [10 CSR 20-9], Treatment Plant Operations. If a modification of monitoring frequencies listed in MCWC regulation [10 CSR 20-9], Treatment Plant Operations, is needed, permittee shall submit a written request to the Department for review and, if deemed necessary, approval.
8. This wastewater treatment facility required to have an operator that is certified by the Department and shall possess, at a minimum, a wastewater certification level of "D" or higher.

D. SCHEDULE OF COMPLIANCE

Final maximum weekly average and maximum monthly average limitations for the Biochemical Oxygen Demand-Five (5) Day (BOD₅) effluent parameter limitations of 15 mg/L and /10 mg/L, respectively, and final maximum weekly average and maximum monthly average limitations for the Total Suspended Solids (TSS)/Non-filterable residues (NFRs) effluent parameter limitations of 20 mg/L and 15 mg/L, respectively, shall become effective three (3) calendar years from the issuance (renewal) date of this operating permit on April 19, 2013, in accordance with the terms and conditions below.

Final daily maximum and maximum monthly average limitations for the Fecal Coliform effluent parameter of 1000/100 mL and 400/100 mL, respectively, shall become effective three (3) calendar years from the issuance (renewal) date of this operating permit on April 19, 2013, in accordance with the terms and conditions below, or on December 31, 2013, whichever comes first:

1. Within one (1) calendar year from the issuance (renewal) date of this operating permit, on or before April 18, 2011, permittee shall submit, to the Department, at the address listed on the cover letter that accompanies this operating permit, a preliminary engineering report (PER) prepared by a licensed professional engineer registered in the State of Missouri. Said PER shall:
 - (a) Make recommendations to upgrade the wastewater treatment facility to include effluent disinfection equipment installation (if facility utilizes disinfection by chlorine, facility shall be required to de-chlorinate the effluent discharge);
 - (b) Include a geohydrologic evaluation and a Water Quality Review Analysis (WQRA) requested by permittee, and completed and provided by the Department, to determine expected performance standards for subject wastewater treatment system as required by Missouri Clean Water Commission regulations;
 - (c) Evaluate ability of wastewater treatment facility to meet final effluent limitations, and propose further upgrades if necessary; and
 - (d) Give special consideration to performing a leakage test, performing wastewater treatment facility modifications/conversion to a "no-discharge" facility with land application system, and replacement alternatives of existing wastewater treatment facility with an onsite wastewater treatment system.
2. Within two (2) calendar years from the issuance (renewal) date of this operating permit, on or before April 18, 2012, and after Department approval of the above mentioned PER, permittee shall submit, to the Department at the address listed on the cover letter that accompanies this operating permit, a construction permit application. Said application shall include applicable fees, construction activity schedule, plans and specifications in accordance with the Department approved PER.

D. SCHEDULE OF COMPLIANCE (continued)

3. Within three (3) calendar years from the issuance (renewal) date of this operating permit, on or before April 18, 2013, facility should have completed any improvements necessary to comply with final effluent limitations, and upon completion of construction, permittee shall submit, to the Department at the address listed in the cover letter that accompanies this operating permit, a letter of authorization or statement of work complete signed by the owner and a licensed professional engineer registered in the State of Missouri.
4. If permittee fails to meet any of the interim dates above, permittee shall notify the Department in writing, at the address listed on the cover letter that accompanies this operating permit, of the reason(s) for non-compliance, no later than 14 calendar days following each interim date mentioned above.

Missouri Department of Natural Resources
FACT SHEET
FOR THE PURPOSE OF RENEWING
MISSOURI STATE OPERATING PERMIT # MO0085421
STEELVILLE R-III HIGH SCHOOL WASTEWATER TREATMENT FACILITY
STEELVILLE, CRAWFORD COUNTY

The Federal Water Pollution Control Act ("Clean Water Act", Section 402, Public Law 92-500, as amended) established the National Pollutant Discharge Elimination System (NPDES) permit program. This program regulates pollutant(s) discharge from point sources into the waters of the United States, and stormwater releases from certain point sources. All such discharges are unlawful without an operating permit (Section 301 of the "Clean Water Act"). After an operating permit is obtained, a discharge, not in compliance with all operating 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 (the Federal "Clean Water Act" and the "Missouri Clean Water Law", Section 644, as amended). MSOPs are issued for a period of five (5) calendar years unless otherwise specified.

As per [40 CFR Part 124.8(a)], Protection of Environment, Environmental Protection Agency, Water Programs, Procedures for Decisionmaking, General Program Requirements, Fact sheet, and Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-6.020(1)(A)2.], Permits, Public Participation, Hearings and Notice to Governmental Agencies, Public Participation, a Fact Sheet shall be prepared to give pertinent information regarding the applicable regulations, development rationale of effluent limitations and conditions, and the public participation process for the MSOP (operating permit) listed below.

A Fact Sheet is not an enforceable part of an operating permit.

This Fact Sheet is for a(n):

Major ; Minor ; Industrial Facility ; Variance ; Master General Permit ;
General Permit Covered Facility ; Operating permit with widespread public interest

Part I – Facility Information

Facility Address: Hwy. 19 South, Steelville, MO 65565

Facility Type: High School

Facility Standard Industrial Classification (SIC) Code(s): # 8211 (Elementary and Secondary Schools) and # 4952 (Sewerage Systems-domestic)

Facility Description:

Outfall # 001

Three (3) cell facultative lagoon system/Sludge retained in lagoon

Design population equivalent = 300

Design flow = 3,500 gallons per day

Average daily flow = 0 gallons per day

Design sludge production = 4.50 dry tons per year

Have any changes occurred at this facility or in the receiving water body that effects effluent limit derivation?

Yes ; No

Application Date: July 14, 2009

Expiration Date: January 6, 2010

Last Inspection: July 31, 2008

In Compliance ; From August 18, 2008, environmental compliance inspection report narrative: "Observations and Recommendations: (1) At the time of inspection, facility was fenced and locked. Warning signs were not visible from all sides of facility due to over grown vegetation around fence area. Warning signs should be posted and made visible from all directions of approach. The [D]partment recommends that vegetation around the security fence be removed; (2) Stormwater from school parking lot drains down into first cell of lagoon system. Stormwater should be diverted away from entering lagoon system. This

extra flow reduces detention time of sewage in lagoons which, in turn, reduces treatment capabilities of lagoon. [Said] stormwater is also creating erosion issues inside first cell of lagoon. This weakens integrity of lagoon berm and fills in lagoon with unwanted sediment; (3) Lagoons were completely covered with duckweed. The [D]epartment recommends that approximately 50% of lagoon surface area remain open for adequate sunlight treatment and aeration. Duckweed should be removed by using a rake or other mechanical means; (4) Trees and other vegetation have completely surrounded lagoon cells, especially the second and third cells. Vegetation should be mowed up to wastewater line. This discourages burrowing animals from digging into lagoon berms and weakening lagoon's integrity. Having a bare shoreline also improves sewage aeration in lagoon. Trees in and around lagoon system must be removed. Tree roots can penetrate lagoon berms creating weaknesses that may lead to leaking; (5) First lagoon cell had only inches of freeboard. Inspector noted that discharge pipe of this first cell was completely submerged and only minimal flow was being discharged to second cell. It appears that discharge piping may be clogged by vegetation or possibly a small turtle. These pipes must be checked routinely to ensure proper flow between cells; (6) Facility outfall signage not posted. Per Part C, Special Conditions, Paragraph 2 of facility's [Missouri State Operating Permit (MSOP)]: "All outfalls must be clearly marked in the field". Please post proper signage at facility outfall; (7) Facility submits Discharge Monitoring Reports (DMRs) to the [D]epartment as required, but [said DMRs] appear to be incomplete or incorrectly filled out. Inspector gave operator a new, blank DMR and reviewed, with operator, the correct way to fill out a DMR. Facility required to sample only once annually during reporting period that covers October 1–September 30 of the following year. If facility discharges during this time, a sample must be taken and analyzed for parameters listed in Part A, Effluent Limitations and Monitoring Requirements of facility's MSOP. These reports must be submitted to the [D]epartment no later than October 28th of each year. Closing Remarks: Although facility appeared to be in compliance with its MSOP and associated state regulations at the time of inspection, the [D]epartment recommends that facility develop and implement a formal operation and maintenance program to ensure the continued compliance of lagoons. Further degradation of lagoon system will eventually lead to non-compliance. Please take appropriate steps to ensure your system is operating to its full capacity."

Non Compliance ;

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)*	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	0.005	Equivalent to Secondary	Domestic	0.75

* - Cubic feet per second (CFS)

Outfall # 001

Legal Description: NE ¼, SW ¼, SE ¼, Sec.11, T37N, R4W, Crawford County

Latitude/Longitude: (+3756062/-09119430)

Receiving Stream: Unnamed tributary to Whittenburg Creek (U) (losing)

First Classified Stream and ID: Whittenburg Creek (C) (01899)

USGS Basin & Sub-watershed No.: (07140102–050002)

Receiving Water Body's Water Quality and Facility Performance History: Observed Impact: NO DISCHARGE, STREAMBED DRY (09-04).

Comments: None.

Part II – Operator Certification Requirements

Please see **Part VII – Appendices, APPENDIX A – CLASSIFICATION WORKSHEET** below.

As per Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-6.010(8)], Water Quality, Construction and Operating Permits, Terms and Conditions of a Permit, permittees shall operate and maintain facilities to comply with the Missouri Clean Water Law (MCWL) and applicable permit conditions and MCWC regulations. Operators or supervisors of operations at regulated wastewater treatment facilities shall be certified in accordance with MCWC regulation [10 CSR 20-9.020(2)], Treatment Plant Operations, Classification of Wastewater Treatment Systems, Wastewater Treatment System Requirements. As per MCWC regulation [10 CSR 20-9.020(2)(A)], Treatment Plant Operations, Wastewater Treatment Systems Operation Scope Monitoring, requirements for operation by certified personnel shall apply to all wastewater treatment systems, if applicable, as listed below:

Owned or operated by or for:

Municipalities ; Public Sewer District ; County ; Public Water Supply Districts ;
Private sewer company regulated by the Public Service Commission ; State of Federal Agencies

Each of the above entities are only applicable if they have a Population Equivalent greater than two hundred (200) and/or fifty (50) or more service connections.

Department required:

Yes ; Please see **Part VII – Appendices, APPENDIX A – CLASSIFICATION WORKSHEET** below. According to operating permit renewal application, facility has a Population Equivalent greater than two-hundred (200), and operation and maintenance deficiencies noted in August 18, 2008, environmental compliance inspection report observed during July 31, 2008, environmental compliance inspection; No

– Facility does not currently retain an operator with the correct level of certification required to operate the wastewater treatment facility. The MCWL and its implementing MCWC regulation [10 CSR 20-9.020(2)(F)], Treatment Plant Operations, Classification of Wastewater Treatment Systems, Wastewater Treatment Systems Requirements, allows the Department to develop a schedule of activities including the date by which compliance shall be obtained. This schedule of activities may be established in this operating permit as a Schedule of Compliance (SOC) or following Department consultation with permittee.

– Facility not required to retain a certified operator

Part III – Receiving Water Body Information

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE: As per Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-7.015], Water Quality, Effluent Regulations, 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 and Discussion of Limits section.

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

As per MCWC regulation [10 CSR 20-7.031], Water Quality, Water Quality Standards, the Department defines the MCWC water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses". The receiving stream and/or first classified receiving stream’s beneficial water uses to be maintained are located in the Receiving Stream Table located below in accordance with MCWC regulation [10 CSR 20-7.031(3)], Water Quality, Water Quality Standards, General Criteria.

RECEIVING WATER BODY TABLE:

WATER BODY NAME	CLASS	WBID*	DESIGNATED USES**	8-DIGIT HUC***	EDU***
Unnamed tributary to Whittenburg Creek (losing)	U	---	General Criteria	10290203	Meramec
Whittenburg Creek	C	01899	LWW; AQL; WBC (B)****		

* - Water Body Identification (WBID) Number

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

*** - Hydrologic Unit Code (HUC); Ecological Drainage Unit (EDU)

**** - Use Attainability Analysis (UAA), for above stated water body, conducted [DATE], supporting Whole Body Contact (WBC) Recreation use designation retention

***** - Use Attainability Analysis (UAA) has not been conducted for above stated water body

RECEIVING WATER BODY LOW-FLOW VALUES TABLE: Not applicable. Facility does not qualify for dilution credit.

RECEIVING STREAM (U, C, P)	LOW-FLOW VALUES (CFS*)		
	1Q ₁₀ **	7Q ₁₀ **	30Q ₁₀ **
Unnamed tributary to Whittenburg Creek (U) (losing)	---	---	---

Whittenburg (C) (01899)	n/a	n/a	n/a
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* - Cubic feet per second (CFS)

** - Average minimum flow for one (1) consecutive calendar day that has a probable recurrence interval of once-in-ten (10) calendar years (1Q₁₀); Average minimum flow for seven (7) consecutive calendar days that has a probable recurrence interval of once-in-ten (10) calendar years (7Q₁₀); Average minimum flow for 30 (30) consecutive calendar days that has a probable recurrence interval of once-in-ten (10) calendar years (30Q₁₀)

MIXING CONSIDERATIONS:

Mixing Zone: Not Allowed per MCWC regulation [10 CSR 20-7.031(4)(A)4.B.(I)(a)], Water Quality, Water Quality Standards, Specific Criteria, For mixing zones, Streams with seven (7)-day Q₁₀ low flows of less than 0.1 cfs, Mixing zone, the allowable mixing zone is one-quarter (1/4) of the stream width, cross-sectional area or volume of flow; length of one-quarter (1/4) mile

Zone of Initial Dilution: Not Allowed MCWC regulation [10 CSR 20-7.031(4)(A)4.B.(I)(b)], Water Quality, Water Quality Standards, Specific Criteria, For mixing zones, Streams with seven (7)-day Q₁₀ low flows of less than 0.1 cfs, Zone of initial dilution

RECEIVING WATER BODY MONITORING REQUIREMENTS: No receiving water monitoring requirements recommended at this time.

Part IV – Rationale and Derivation of Interim and/or Final Effluent Limitations, and Permit Conditions

ALTERNATIVE EVALUATIONS FOR NEW FACILITIES: As per Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-7.015(4)(A)], Water Quality, Effluent Regulations, Effluent Limitations for Losing Streams, 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.

Applicable ; Facility discharges to a Losing Stream as defined by MCWC regulation [10 CSR 20-2.010(36)], Definitions, Losing stream, and [10 CSR 20-7.031(1)(N)], Water Quality, Water Quality Standards, Definitions, Losing Stream, and has submitted alternative evaluation(s)

Not applicable ; Facility does not discharge to a Losing Stream as defined by MCWC regulation [10 CSR 20-2.010(36)], Definitions, Losing Streams, and [10 CSR 20-7.031(1)(N)], Water Quality, Water Quality Standards, Definitions, Losing stream

ANTI-BACKSLIDING: A provision in the Federal Regulations [CWA §303(d)(4); CWA §402(c); and 40 CFR Part 122.44(I)] requires a that a reissued operating permit to be as stringent as the previous operating permit with some exceptions:

ANTIDegradation: In accordance with MCWC regulation [10 CSR 20-7.031(2)], Water Quality, Water Quality Standards, Antidegradation, the Department shall 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.

New facility ; Backsliding does not apply

– All interim and/or final effluent limitations in this Fact sheet are at least as protective as those established in the previous operating permit; therefore, backsliding does not apply

– Interim and/or final effluent limitations in this operating permit for the issuance (renewal) of this operating permit conform to anti-backsliding provisions of Section 402(o) of the Clean Water Act, and [40 CFR Part 122.44], Protection of Environment, Establishing limitations, standards, and other permit conditions (applicable to State National Pollutant Discharge Elimination System programs

AREA-WIDE WASTE TREATMENT MANAGEMENT AND CONTINUING AUTHORITY: As per MCWC regulation [10 CSR 20-6.010(3)(B)], Permits, Construction and Operating Permits, Continuing Authorities: “ ... 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.”.

BIO-SOLIDS, SLUDGE AND SEWAGE SLUDGE: Bio-solids are solid materials resulting from wastewater treatment that meet federal and state criteria for beneficial uses (i.e., fertilizer). Sludge is any solid, semi-solid or liquid waste generated from a municipal, commercial or industrial wastewater treatment plant; water supply treatment plant; air pollution control facility; or any other such waste having similar characteristics and effect. 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(es); 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.

Applicable (renewal and/or modification to existing operating permit) ; Permittee has proposed that sludge and bio-solids are to be removed by a contract hauler for this facility. Permittee has proposed to land apply the sludge and bio-solids as per MSOP, Paragraph B., Standard Conditions, Part III.

Applicable (renewal and/or modification to existing operating permit) ; Permittee has proposed that sludge and bio-solids are not to be removed by a contract hauler for this facility. Facility has been approved to land apply as per MSOP, Paragraph B., Standard Conditions, Part III, and a Department-approved bio-solids management plan

Applicable (new operating permit) ; Permittee has proposed that sludge and bio-solids are not to be removed by a contract hauler for this facility. Permittee has proposed to land apply the sludge and bio-solids as per MSOP, Paragraph B., Standard Conditions, Part III. The Department has reviewed and approved permittee's bio-solids management plan, and therefore, permittee and/ or facility is approved to land apply said sludge and bio-solids as a means of treatment or disposal

Not applicable ; This term and/or condition not applicable to permittee for this specific facility

COMPLIANCE AND ENFORCEMENT: Enforcement is the action taken by the Department's Division of Environmental Quality's Water Protection Program's Water Pollution Control Branch's Compliance and Enforcement Section to bring an entity into compliance with the Missouri Clean Water Law (MCWL), implementing MCWC regulations, and/or any terms and conditions of an operating permit. The primary purpose of the enforcement activity in the Department's Division of Environmental Quality's Water Protection Program's Water Pollution Control Branch's Compliance and Enforcement Section is to resolve violations and return the entity to compliance.

Applicable ; Not applicable ; Permittee and/or facility not currently under the Department's Division of Environmental Quality's Water Protection Program's Water Control Pollution Branch's Compliance and Enforcement Section enforcement action

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 Publicly Owned Treatment Works (POTW), or combination of POTW, operated by the same authority and/or municipality, with a total design flow greater than (>) five-point-zero (5.0) million gallons per day (MGD) and receiving industrial wastes that interfere with or pass through the POTW or are otherwise subject to the pretreatment standards. Pretreatment programs can also be required at a POTW/municipality with a design flow less than (<) 5.0 MGD if needed to prevent interference with operations or pass through.

Several special conditions pertaining to permittee's and/or facility's pretreatment program may be included in an operating permit, and are as follows:

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

Applicable ; This permittee and/or facility have an approved pretreatment program in accordance with the requirements of [40 CSR Part 403] and MCWC regulation [10 CSR 20-6.100], Permits, General Pretreatment Regulation, and said permittee and/or facility is expected to implement and enforce its approved pretreatment program

Not applicable ; Permittee and/or facility, at this time, not required to have a pretreatment program or do not have a Department-approved pretreatment program

REASONABLE POTENTIAL ANALYSIS (RPA): Federal regulation [40 CFR Part 122.44(d)(1)(i)], Protection of Environment, EPA Administered Permit Programs: The National Pollutant Discharge Elimination System [NPDES], Permit Conditions, Establishing limitations, standards, and other permit conditions, Water quality standards and State requirements, 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)], referenced above, if the Department permit writer determines that any give pollutant has the reasonable potential to cause, or contribute to an in-stream excursion above the State of Missouri water quality standard, the MSOP must contain interim and/or final effluent limitations for that pollutant.

Applicable ; A Reasonable Potential Analysis (RPA) conducted on appropriate parameters

Not applicable ; A Reasonable Potential Analysis (RPA) not conducted for this facility. Data not available to conduct RPA for the Ammonia parameter (no monitoring required by previous operating permit)

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 (POTW)/municipalities (see the United States Environmental Protection Agency's (EPA's) Web site for interpretation of percent removal requirements for National Pollutant Discharge Elimination System Permit Application Requirements for Publicly Owned Treatment Works and Other Treatment Works Treating Domestic Sewage at: www.epa.gov/fedrgstr/EPA-WATER/1999/August/Day-04/w18866.htm.)

Applicable ; Secondary Treatment (85% removal) per [40 CFR Part 133.102(a)(3) and (b)(3)], Protection of Environment, Secondary Treatment Regulation, Secondary treatment, BOD₅ and SS

Applicable ; Equivalent to Secondary Treatment (65% removal) per [40 CFR Part 133.105(a)(3) and (b)(3)], Protection of Environment, Secondary Treatment Regulation Treatment equivalent to secondary treatment, BOD₅ and SS

Applicable ; Facility not a Publicly Owned Treatment Works (POTW); however, influent monitoring is being required to determine percent removal

Not applicable ; Influent monitoring not being required for this facility to determine percent removal

SANITARY SEWER OVERFLOWS (SSOs), BYPASSES, INFLOW AND INFILTRATION (I&I) – PREVENTION/REDUCTION: Sanitary Sewer Systems (SSSs) are municipal wastewater collection systems that convey domestic, commercial and industrial wastewater, and limited amounts of infiltrated groundwater and stormwater (i.e., inflow and infiltration (I&I)) to a Publicly Owned Treatment Works. SSSs are not designed to collect large amounts of stormwater runoff from precipitation events.

Untreated or partially treated discharges from SSSs are commonly referred to as Sanitary Sewer Overflows (SSOs). SSOs have a variety of causes including: blockages; line breaks; sewer defects that allow excess stormwater and ground water to overload SSS; lapses in sewer system operation and maintenance; inadequate sewer design and construction; power failures; and vandalism. A SSO is defined as an untreated or partially treated sewage release from a SSS. SSOs can occur at any point in an SSS, during dry weather or wet weather. SSOs include overflows that reach waters of the state. SSOs also include overflows out of manholes and onto city streets, sidewalks and other terrestrial locations. SSSs can back up into buildings including private residences. When sewage backups are caused by problems in the publicly-owned portion of an SSS, said sewage backups are considered SSOs.

Applicable ; Permittee and/or facility required to develop or implement a program for maintenance and repair of the collection system and shall be required in this operating permit by either means of a Special Condition or Schedule of Compliance (SOC). In addition, the Department considers the development of this program as an implementation of this condition

At this time, the Department recommends the United States Environmental Protection Agency's (US EPA's) *Guide for Evaluating Capacity, Management, Operation and Maintenance (CMOM) Programs At Sanitary Sewer Collection Systems* (Document # EPA 305-B-05-002). The *CMOM* identifies some of the criteria used by the US EPA to evaluate a collection system's management, operation and maintenance, and was intended for use by the US EPA, state, regulated community and/or third party entities. The *CMOM* is applicable to small, medium and large systems; both public and privately owned; and both regional and satellite collection systems. The *CMOM* does not substitute for the Federal Clean Water Act, the Missouri Clean Water Law, MCWC regulations, and both federal and state regulations, as said *CMOM* is not a regulation.

Not applicable ; Permittee and/or facility not required to develop and/or implement a program for maintenance and repair of the collection system; however, it is a violation of the Missouri Clean Water Law and associated MCWC regulations to allow untreated wastewater to discharge to waters of the state

SCHEDULE OF COMPLIANCE (SOC): A schedule of remedial measures included in an operating permit, including an enforceable sequence of interim requirements (actions, operations or milestone events) leading to compliance with the Missouri Clean Water Law, and implementing MCWC regulations, and/or the terms and conditions of an operating permit.

Applicable ; The time given for effluent limitations of this MSOP listed under Part A., Effluent Limitations and Monitoring Requirements, via Interim and/or Final Effluent Limitations, were established in accordance with MCWC regulation [10 CSR 20-7.031(10)], Water Quality, Water Quality Standards

Not applicable ; This operating permit does not contain a Schedule of Compliance (SOC)

STORMWATER POLLUTION PREVENTION PLAN (SWPPP): In accordance with [40 CFR 122.44(k)], Protection of Environment, EPA Administered Permit Programs: The National Pollutant Discharge Elimination System [NPDES], Permit Conditions, Establishing limitations, standards, and other permit conditions, Best Management Practices [BMPs], BMPs are required 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 United States Environmental Protection Agency's (US EPA's) *Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices* [EPA 832-R-92-006] (Storm Water Management), Best Management Practices (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(es), activity(ies), or physical structure(s). Additionally, in accordance with the Storm Water Management document reference above, a Stormwater Pollution Prevention Plan (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.

Applicable ; A Stormwater Pollution Prevention Plan (SWPPP) shall be developed and implemented for each site, and shall incorporate required practices identified by the Department with jurisdiction; incorporate erosion control practices specific to site conditions; and provide for maintenance and adherence to the SWPPP

Not applicable ; At this time, permittee and/or facility not required to develop and implement a Stormwater Pollution Prevention Plan (SWPPP)

VARIANCE: As per the Missouri Clean Water Law, Section 644.061.4, RSMo, variances shall be granted for such period of time and under such terms and/or conditions as shall be specified by the MCWC in its order. Said variance(s) may be extended by affirmative action of the MCWC. In no event shall the variance(s) be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law, Sections 644.006-644.141, RSMo, or any standard, rule or MCWC regulation promulgated pursuant to Missouri Clean Water Law, Sections 644.006-644.141, RSMo.

Applicable ; Not applicable ; This operating permit not drafted under premises of a petition for variance(s)

WASTELOAD ALLOCATIONS (WLAS) FOR LIMITS: As per MCWC regulation [10 CSR 20-2.010(78)], Definitions, Waste load allocation, 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.

Applicable ; Wasteload allocations (WLAs) calculated where applicable using water quality criteria or water quality model results and the dilution equation below:

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

Where C = downstream concentration

Cs = upstream concentration

Qs = upstream flow

Ce = effluent concentration

Qe = effluent flow

Chronic wasteload allocations (WLAs) 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 WLAs 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 interim and/or final effluent limitations were calculated using methods and procedures outlined in the United States Environmental Protection Agency's (US EPA's) "Technical Support Document For Water Quality-based Toxics Control" (EPA/505/2-90-001).

Not applicable ; Wasteload allocations (WLAs) not calculated

WASTELOAD ALLOCATIONS (WLA) MODELING: There are two (2) 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 WQBELs must be used.

Applicable ; A wasteload allocations (WLA) study including modeling was submitted to the Department by _____. The wasteload allocations (WLA) study determined that the (parameter) for _____.

Not applicable ; A wasteload allocations (WLA) study was either not submitted or determined not applicable by Department staff

WATER QUALITY STANDARDS: Per MCWC regulation [10 CSR 20-7.031(3)], Water Quality, Water Quality Standards, General Criteria, shall be applicable to all waters of the state at all times including mixing zones. Additionally, [40 CFR 122.44(d)(1)], Protection of Environment, EPA Administered Permit Programs: The National Pollutant Discharge Elimination System [NPDES], Permit Conditions, Establishing limitations, standards, and other permit conditions, Water quality standards and State requirements, directs the Department to establish, in each National Pollutant Discharge Elimination System (NPDES) operating permit, 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) TESTING: A Whole Effluent Toxicity (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.

Applicable ; In accordance with the Clean Water Act (CWA) [§101(a)(3)], requiring Whole Effluent Toxicity (WET) testing is reasonably appropriate for site-specific MSOPs for discharges to waters of the state issued under the National Pollutant Discharge Elimination System (NPDES). Furthermore, WET testing is a means by which the Department determines that MCWC regulation [10 CSR 20-7.031(3)(D), (F) and (G)], Water Quality, Water Quality Standards, General Criteria, are being met by the permitted facility. In addition to justification for WET testing, WET tests are required under MCWC regulation [10 CSR 20-6.010(8)(A)4.], Construction and Operating Permits, Terms and Conditions of Permits, to be performed by specialists who are properly trained in conducting WET testing according to the methods prescribed by the Federal Government as referenced in [40 CFR Part 136]. WET testing shall be required by all facilities meeting the following criteria:

- Facility designated Major
- Facility continuously or routinely exceeds its design flow
- Industrial facility that alters production process throughout the year
- Facility handles large quantities of toxic substances, or substances that are toxic in large amounts
- Facility has interim and/or final effluent Water Quality-based Effluent Limitations (WQBELs) for toxic substances (Total Residual Chlorine) [other than ammonia (NH₃)]
- Facility is a Public Owned Treatment Works (POTW), municipality or domestic discharger with a design flow greater than or equal to (\geq) twenty-two-thousand-five-hundred (22,500) gallons per day (gpd)
- Facility is a Public Owned Treatment Works (POTW), municipality or domestic discharger with a design flow less than ($<$) (\geq) twenty-two-thousand-five-hundred (22,500) gallons per day (gpd)
- Other

Not applicable ; At this time, permittee and/or facility not required to conduct Whole Effluent Toxicity (WET) testing for this facility

303(d) LIST AND 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 (WBC) (such as swimming), maintaining fish and other aquatic life (AQL), and providing drinking water for people (DWS), livestock and wildlife watering (LWW). 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 Total Maximum Daily Load (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.

Applicable ; (Receiving water body's name) or (1st classified water body's name) is listed on the (YEAR) Missouri 303(d) List for (pollutant).

- Facility not considered to be a source of the above listed pollutant(s) or not considered to contribute to the impairment of the above referenced water body
- Facility considered to be a source of the above listed pollutant(s), considered to contribute to the above listed pollutant(s), considered to contribute or has the potential to contribute to the impairment of the above referenced water body

Not applicable ; Facility does not discharge to a 303(d) listed stream

Part V – Interim and/or Final Effluent Limitations Determination

Outfall # 001 – Main Facility Outfall

EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNITS	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS OPERATING PERMIT EFFLUENT LIMITATIONS
FLOW	MGD	1	*	N/A	*	NO	S
BIOCHEMICAL OXYGEN DEMAND ₅	MG/L	1	N/A	15	10	YES	65/45
TOTAL SUSPENDED SOLIDS	MG/L	1	N/A	20	15	YES	110/70
PH	SU	1	6.0-9.0	N/A	6.0-9.0	YES	> 6.0
AMMONIA AS N	MG/L	2/3/5	*	N/A	*	YES	***
TEMPERATURE	°C	1/5/8	*	N/A	*	YES	***
FECAL COLIFORM	COLONIES/100 ML	1/2	1000	N/A	400	YES	***
TOTAL RESIDUAL CHLORINE	MG/L	1/2	0.016 (0.13 ML)	N/A	0.008 (0.13 ML)	YES	***
OIL AND GREASE	MG/L	1	15	N/A	10	YES	***
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the DERIVATION AND DISCUSSION OF INTERIM AND/OR FINAL EFFLUENT LIMITATIONS section below.						

* - Monitoring requirement only

** - # of colonies/100mL; the maximum monthly average for the Fecal Coliform effluent parameter is a geometric mean

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

N/A – Not applicable

S – Same as previous operating permit

Basis for Limitations Codes:

- | | |
|--|--|
| 1. State or Federal Regulation/Law | 7. Antidegradation Policy |
| 2. Water Quality Standard [includes Reasonable Potential Analysis (RPA)] | 8. Water Quality Model |
| 3. Water Quality Based Effluent Limits (WQBELs) | 9. Best Professional Judgment |
| 4. Lagoon Policy | 10. Total Maximum Daily Load (TMDL)/Operating Permit in lieu of TMDL |
| 5. Ammonia Policy | 11. Whole Effluent Toxicity (WET) test Policy |
| 6. Dissolved Oxygen Policy | |

OUTFALL # 001 – DERIVATION AND DISCUSSION OF INTERIM AND/OR FINAL EFFLUENT LIMITATIONS:

- Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)], Protection of Environment, Environmental Protection Agency [EPA], EPA Administered Permit Programs: The National Pollutant Discharge Elimination System [NPDES], Permit Conditions, Establishing limitations, standards, and other permit conditions (applicable to state NPDES programs), Monitoring requirements, volume of effluent discharged from each outfall required to assure compliance with Missouri State Operating Permit (MSOP) interim and/or final limitations. If permittee is unable to obtain effluent flow, then it is permittee’s responsibility to inform the Department, which may require an operating permit modification submittal.
- Biochemical Oxygen Demand (BOD₅).** Facility, when discharging, discharges wastewater effluent to an unnamed tributary less than one (1) upstream mile from a water body designated as a losing stream per Missouri Clean Water Commission (MCWC) regulations [10 CSR 20-2.010(36)], Definitions, Definitions, Losing streams, and [10 CSR 20-7.031, Table J], Water Quality, Water Quality Standards, Losing Streams. Final effluent limitations changed (revised) from previous Missouri State Operating Permit (MSOP) per MCWC regulation [10 CSR 20-7.015(4)(B)1.], Water Quality, Water Quality Standards, Effluent Limitations for Losing Streams, equal to or less than (≥) a maximum monthly average of 10 mg/L and a maximum weekly average of 15 mg/L (please see **Part III – Receiving Water Body Information, APPLICABLE DESIGNATION OF WATERS OF THE STATE** section above).
- Total Suspended Solids (TSS).** Facility, when discharging, discharges wastewater effluent to an unnamed tributary less than one (1) upstream mile from a water body designated as a losing stream per MCWC regulations [10 CSR 20-2.010(36)], referenced above, and [10 CSR 20-7.031, Table J], referenced above. Final effluent limitations changed (revised) from previous MSOP per MCWC regulation [10 CSR 20-7.015(4)(B)2.], referenced above, equal to or less than (≥) a maximum monthly average of 15 mg/L and a maximum weekly average of twenty 20 mg/L (please see **Part III – Receiving Water Body Information, APPLICABLE DESIGNATION OF WATERS OF THE STATE** section above).
- pH.** Facility, when discharging, discharges wastewater effluent to an unnamed tributary less than one (1) upstream mile from a water body designated as a losing stream per MCWC regulations [10 CSR 20-2.010(36)], referenced above, and [10 CSR 20-

7.031, Table J], referenced above. Final effluent limitations changed (revised) from previous MSOP per MCWC regulation [10 CSR 20-7.015(4)(B)3.], referenced above, and shall be maintained in the range from six-point-zero to nine-point-zero (6.0–9.0) standard units (please see **Part III – Receiving Water Body Information, APPLICABLE DESIGNATION OF WATERS OF THE STATE** section above).

- **Total Ammonia Nitrogen.** Monitoring requirement only. Monitoring for the Ammonia parameter included to determine whether “reasonable potential” to exceed water quality standards exists.
- **Temperature.** Monitoring requirement only. Monitoring for the Temperature parameter included due to toxicity of Ammonia varies by temperature.
- **Fecal Coliform.** Facility, when discharging, discharges wastewater effluent to an unnamed tributary less than one (1) upstream mile from a water body designated as a losing stream per MCWC regulations [10 CSR 20-2.010(36)], referenced above, and [10 CSR 20-7.031, Table J], referenced above. Final effluent limitations added per MCWC regulation [10 CSR 20-7.015(4)(B)4.], referenced above, and shall not contain more than a monthly geometric mean of four hundred (400) fecal coliform colonies per one hundred milliliters (100 mL), and a daily maximum of one thousand (1,000) fecal coliform colonies per one hundred milliliters (100 mL) (please see **Part III – Receiving Water Body Information, APPLICABLE DESIGNATION OF WATERS OF THE STATE** section above).
- **Total Residual Chlorine (TRC).** Warm-water Protection of Aquatic Life (Criteria Continuous Concentration, CCC) = 10 µg/L and Criteria Maximum Concentration (CMC) = 19 µg/L per MCWC regulation [10 CSR 20-7.031, Table A], Water Quality, Criteria for Designated Uses. Background TRC = 0.0 µg/L.

Chronic Wasteload Allocation (WLA): $C_e = ((0.0035 + 0.0)10 - (0.0 * 0.0))/0.0035$
 $C_e = 10 \mu\text{g/L}$

Acute WLA: $C_e = ((0.0035 + 0.0)19 - (0.0 * 0.0))/0.0035$
 $C_e = 19 \mu\text{g/L}$

Chronic Long-Term Average (LTA_c) = 10(0.527) = 5.3 µg/L [Coefficient of Variation (CV) = 0.6, 99th Percentile]
 Acute Long-Term Average (LTA_a) = 19(0.321) = 6.1 µg/L [CV = 0.6, 99th Percentile]

Use most protective number of LTA_c or LTA_a.

Maximum Daily Limit (MDL) = 5.3(3.11) = 16.4 µg/L = 0.016 mg/L [CV = 0.6, 99th Percentile]
 Average Monthly Limit (AML) = 5.3(1.55) = 8.2 µg/L = 0.008 mg/L [CV = 0.6, 95th Percentile, n = 4]

Final effluent limitations for the TRC effluent parameter of sixteen-one-hundredths (0.016) mg/L daily maximum and eight-one-thousandths (0.008) mg/L maximum monthly average are recommended if chlorine is used as a disinfectant. Standard compliance language for TRC, including the minimum quantification level (ML) has been included in subject MSOP.

Facility, when discharging, discharges wastewater effluent to an unnamed tributary less than one (1) upstream mile from a water body designated as a losing stream per MCWC regulations [10 CSR 20-2.010(36)], reference above, and [10 CSR 20-7.031, Table J], referenced above. Per MCWC regulation [10 CSR 20-7.015(4)(B)5.], referenced above, all chlorinated effluent discharges to losing streams or within two (2) upstream miles flow distance upstream of a losing stream shall also be de-chlorinated prior to discharge (please see **Part III – Receiving Water Body Information, APPLICABLE DESIGNATION OF WATERS OF THE STATE** section above).

- **Oil and Grease.** Conventional pollutant. Per MCWC regulation [10 CSR 20-7.031, Table A], Water Quality, Water Quality Standards, Criteria for Designated Uses, final effluent limitations for protection of aquatic life equal to ten milligrams per liter (10 mg/L) maximum monthly average and fifteen milligrams per liter (15 mg/L) daily maximum.
- **Minimum Sampling and Reporting Frequency Requirements.** Quarterly sampling and reporting requirements. The Department has changed (revised) previous annual measurement frequency, monitoring and reporting requirements in previous MSOP to a quarterly measurement frequency, monitoring and reporting requirement. This sampling frequency will yield sufficient data points for the Department to perform a Reasonable Potential Analysis at the end of the operating permit cycle for the Ammonia effluent parameter.

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
FLOW	ONCE/QUARTER	ONCE/QUARTER
BIOCHEMICAL OXYGEN DEMAND	ONCE/QUARTER	ONCE/QUARTER

TOTAL SUSPENDED SOLIDS	ONCE/QUARTER	ONCE/QUARTER
pH	ONCE/QUARTER	ONCE/QUARTER
AMMONIA AS N	ONCE/QUARTER	ONCE/QUARTER
TEMPERATURE	ONCE/QUARTER	ONCE/QUARTER
FECAL COLIFORM	ONCE/QUARTER	ONCE/QUARTER
TOTAL RESIDUAL CHLORINE	ONCE/QUARTER	ONCE/QUARTER
OIL AND GREASE	ONCE/QUARTER	ONCE/QUARTER

All sampling data taken must be submitted to the Department even if sampling occurs more frequently than quarterly. Permittee may collect samples on a more frequent basis and averaged (except for the pH effluent parameter) to show compliance with maximum monthly averages listed in the MSOP.

See table below for quarterly sampling collection and reporting:

Sample discharge at least once for the months of:	Report is due:
January, February, March (1 st Quarter)	April 28
April, May, June (2 nd Quarter)	July 28
July, August, September (3 rd Quarter)	October 28
October, November, December (4 th Quarter)	January 28

Discharge monitoring reports are to be submitted to the Department quarterly

Part VI – 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 (MCWC), proposes to issue an operating permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit. Proposed determinations are tentative pending public comment.

PUBLIC NOTICE: As per the Missouri Clean Water Law, MCWC regulations, and the federal Clean Water Act, persons wishing to comment on Missouri State Operating Permits (MSOPs) are directed to do so by a Department-approved Public Notice coversheet. This Public Notice coversheet is attached to a Missouri State Operating Permit during the Public Notice period.

; The Public Notice period for this MSOP is tentatively schedule to begin on March 5, 2010, or is in process.

; The Public Notice period for this MSOP was from March 5, 2010, through April 4, 2010. No responses received or responses to the Public Notice of this MSOP do not warrant the modification of interim and/or final effluent limitations and/or major modifications to the terms and conditions of this MSOP.

DATE OF INITIAL FACT SHEET: FEBRUARY 10, 2010

DATE OF REVISED FACT SHEET: APRIL 20, 2010

COMPLETED BY:

Bruce D. Volner
 Environmental Engineer
 Southeast Regional Office
 Rolla Satellite Office
 (573) 368-3625
bruce.volner@dnr.mo.gov

Part VII – Appendices

APPENDIX A – 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	1
Maximum: 10 pt Design Flow (avg. day) or peak month; use greater (Max 10 pts.)	1 pt. / MGD or major fraction thereof	1
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	
Discharge to lake or reservoir outside of designated whole body contact recreational area	2	
Discharge to losing stream, or stream, lake or reservoir area supporting whole body contact recreation	3	3
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/recirculating sand filter	5	
Chemical addition (except chlorine, enzymes)	4	
REQUIRED LABORATORY CONTROL – performed by plant personnel (highest level only)		
Lab work conducted outside of plant	0	0
Push – button or visual methods for simple test such as pH, settleable solids	3	
Additional procedures such as DO, COD, BOD, titrations, solids, volatile content	5	
More advanced determinations such as BOD seeding procedures, fecal coliform, nutrients, total oils, phenols, etc.	7	
Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph	10	
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 PAGE ONE (1)	----	5

APPENDIX A – 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	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	
Activated sludge with secondary clarifiers (including extended aeration and oxidation ditches)	15	
Stabilization ponds without aeration	5	5
Aerated lagoon	8	
Advanced Waste Treatment Polishing Pond	2	2
Chemical/physical – without secondary	15	
Chemical/physical – following secondary	10	
Biological or chemical/biological	12	
Carbon regeneration	4	
DISINFECTION		
Chlorination or comparable	5	TBD
De-chlorination	2	TBD
On-site generation of disinfectant [except ultraviolet (UV) light]	5	
Ultraviolet (UV) light	4	TBD
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 PAGE TWO (2)	---	7
Total from page PAGE ONE (1)	---	5
GRAND TOTAL	---	12

A: 71 points and greater

B: 51 points – 70 points

C: 26 points – 50 points

D: 0 points – 25 points