

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, 92<sup>nd</sup> Congress) as amended,

Permit No.: **MO0134601**

Owner: Martin Warren  
Owner's Address: 11825 CR 8070, Rolla, MO 65401

Continuing Authority: Same as above  
Continuing Authority's Address: Same as above

Facility Name: Martin Warren Mobile Home Park WWTF  
Facility Address: Private Drive 8114, Rolla, MO 65401

Legal Description: SE ¼, NW ¼, Sec. 4, T37N, R8W, Phelps County  
Latitude/Longitude: (+3757392/-09148542)

Receiving Stream: Unnamed tributary to Little Beaver Creek (U)  
First Classified Stream and ID: Little Beaver Creek (C) (01529)  
USGS Basin & Sub-watershed No.: (10290203-010004)

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 – Mobile Home Park – Sewerage Systems (domestic) – SIC # 4952 – **Certified Wastewater Operator Not Required**  
Septic tanks/Recirculation tank/Recirculating sand filter/Ultraviolet disinfection  
Sludge disposal by contract hauler  
Design population equivalent: 29 (nine (9) each mobile home units)  
Design flow: 2,304 gallons per day  
Actual flow: 1,800 gallons per day  
Design sludge production: 0.20 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.

July 17, 2009  
Effective Date

July 17, 2009  
Issue Date

  
\_\_\_\_\_  
Mark N. Templeton, Director, Department of Natural Resources

July 16, 2014  
Expiration Date

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

<b>A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS</b>				PAGE 2 of 4		
				PERMIT NUMBER	MO0134601	
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 upon the issuance date of this operating permit and remain in effect until expiration. 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 <sub>5</sub>	mg/L		45	30	Once/quarter***	grab
Total Suspended Solids	mg/L		45	30	Once/quarter***	grab
pH – Units	SU	**		**	Once/quarter***	grab
Ammonia as N						
May 1-October 31	mg/L	3.6		1.4	Once/quarter***	grab
November 1-April 30	mg/L	7.5		2.9	Once/quarter***	grab
Temperature	°C	*		*	Once/quarter***	grab
Fecal Coliform****	#/100 mL	1000		400	Once/quarter***	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>Quarterly</u> . FIRST REPORT DUE: <u>October 28, 2009</u> . THERE SHALL BE <u>NO</u> DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
<b>B. STANDARD CONDITIONS</b>						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS OPERATING PERMIT SUBJECT TO ATTACHED <u>Part I and Part III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

MO 780-0010 (8/91)

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)**

\* Monitoring and reporting only

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

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

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

\*\*\*\* Monitoring requirements for the Fecal Coliform parameter are applicable only during the recreational season from April 1 through October 31. The Monthly Average Limit for the Fecal Coliform parameter is expressed as a geometric mean and not an average

**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.

(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. SPECIAL CONDITIONS

1. (continued)

- (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 areawide 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;
  - (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 the 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; and
- (g) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;

C. SPECIAL CONDITIONS (continued)

6. General Criteria (continued)

(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 Missouri Clean Water Commission (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.

**Missouri Department of Natural Resources**  
**FACT SHEET**  
**FOR THE PURPOSE OF ISSUING NEW**  
**MISSOURI STATE OPERATING PERMIT # MO0134601**  
**MARTIN WARREN MOBILE HOME PARK WWTF**  
**ROLLA, PHELPS 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) operating permit program. This program regulates pollutant(s) discharges from point sources into the waters of the United States, and the 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 (Federal "Clean Water Act" and "Missouri Clean Water Law" Section 644 as amended). MSOPs (operating permits) are issued for a period of five (5) years unless otherwise specified.

As per [40 CFR Part 124.8(a)] 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 Factsheet shall be prepared to give pertinent information regarding applicable regulations, development rationale for effluent limitations and conditions, and public participation process for the MSOP listed below.

A Factsheet is not an enforceable part of MSOP.

This Fact Sheet is for a(n):

- Major
- Minor
- Industrial Facility
- Variance
- Master General Permit
- General Permit Covered Facility
- And/or operating permit with widespread public interest

**Part I - Facility Information**

Facility Type: Mobile Home Park – Sewerage System (domestic)

Facility SIC Code(s): 4952

Facility Description:	Septic tank/Recirculation tank/Recirculating sand filter/Ultraviolet disinfection/Sludge disposal by contract hauler
<u>Outfall # 001</u>	Design population equivalent = 29 (nine (9) mobile home units)
	Design flow = 2,304 gallons per day
	Actual flow = 1,800 gallons per day
	Design sludge production = 0.20 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: Construction Permit: October 30, 2007; Operating Permit: June 30, 2009

Expiration Date: n/a (new facility)

Last Inspection: n/a (new facility)

In Compliance

Non Compliance

**OUTFALL(S) TABLE:** See **Appendices – APPENDIX A: WATER QUALITY REVIEW SHEET** below

Outfall # 001

Legal Description: SE ¼, NW ¼, Sec. 4, T37N, R8W, Phelps County

Latitude/Longitude: (+3757392/-09148542)

Receiving Stream: Unnamed tributary to Little Beaver Creek (U)

First Classified Stream and ID: Little Beaver Creek (C) (01529)

USGS Basin & Sub-watershed No.: (10290203–010004)

Receiving Water Body’s Water Quality and Facility Performance History: See **Appendices – APPENDIX A: WATER QUALITY REVIEW SHEET** below.

Comments: See **Appendices – APPENDIX A: WATER QUALITY REVIEW SHEET** below

**Part II – Operator Certification Requirements**

As per Missouri Clean Water Commission (MCWC) regulation [10 CSR 20-6.010(8)], Permits, 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 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 Systems Requirements, and any other applicable state law or regulation. As per MCWC regulation [10 CSR 20-9.010(2)(A)], Treatment Plant Operations, Classification of Wastewater Treatment Systems, Wastewater Treatment Systems Requirements, 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 or 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: The Department requires this facility to retain the services of a certified wastewater operator due to: n/a.

Yes

No

This 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.



This facility not required to have a certified operator (population equivalent less than (>) two-hundred (200) and less than (<) fifty (50) service connections.

### **Part III – Receiving Stream Information** (See **Appendices – APPENDIX A: WATER QUALITY REVIEW SHEET** below)

**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 LIMITATIONS TABLE** below and further discussed in the **DERIVATION AND DISCUSSION OF INTERIM AND/OR FINAL EFFLUENT LIMITATIONS** section below.

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 STREAM(S) TABLE:** See **Appendices – APPENDIX A: WATER QUALITY REVIEW SHEET** below

**RECEIVING STREAM(S) LOW-FLOW VALUES TABLE:** See **Appendices – APPENDIX A: WATER QUALITY REVIEW SHEET** below

**RECEIVING STREAM MONITORING REQUIREMENTS:** No receiving water monitoring requirements recommended at this time (see **Appendices – APPENDIX A: WATER QUALITY REVIEW SHEET** below).

**MIXING CONSIDERATIONS:** See **Appendices – APPENDIX A: WATER QUALITY REVIEW SHEET**

### **Part IV – Rationale and Derivation of 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:

New facility. Backsliding does not apply.

All limits in this Factsheet are at least as protective as those previously established; therefore, backsliding does not apply.

Interim and/or final effluent limitations in this operating permit for the reissuance of this operating permit conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and [40 CFR Part 122.44].

**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.



Renewal and/or modification. No degradation proposed and no further review necessary.



New and/or expanded discharge. As per MCWC regulation [10 CSR 20-7.031(2)(D)], Water Quality, Water Quality Standards, Antidegradation, the three (3) levels of protection provided by the antidegradation policy in subsections (A), (B) and (C) of this section shall be implemented according to procedures developed by the department. On April 20, 2007, the MCWC approved the *Missouri Antidegradation Rule and Implementation Procedure* (Antidegradation Rule), which is applicable to new or upgraded/expanded facilities. The implementation of the Antidegradation Rule occurred on August 31, 2008. Any construction permit application or other applicable permit applications submitted prior to August 31, 2008, will not be required to have an Antidegradation Review. Said construction permit application received October 30, 2007.



Master General Permit Antidegradation Review conducted during template development.

**APPLICABLE PERMIT PARAMETERS:** See **Appendices – APPENDIX A: WATER QUALITY REVIEW SHEET** below. Effluent parameters contained in Factsheets and Missouri State Operating Permits (MSOPs) are obtained from a Technology Based Effluent Limit (TBEL), Missouri's Effluent Regulations [10 CSR 20-7.015], Missouri's Water Quality Standards [10 CSR 20-7.031], previous Missouri State Operating Permits (MSOPs), and from operating permit applications.

**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 or modification(s) to existing operating permit)

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 to be removed by a contract hauler for this facility.

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 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); it's 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

Permittee and/or facility currently under the Department's Division of Environmental Quality's Water Protection Program's Water Pollution Control Branch's Compliance and Enforcement Section enforcement action due to \_\_\_\_\_

Not Applicable

Permittee and/or facility not currently under the Department's Division of Environmental Quality's Water Protection Program's Water Pollution Control 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 a Department-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 said Department-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):** See **Appendices – APPENDIX A: WATER QUALITY REVIEW SHEET** below. 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)(iii)], 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 Water Quality Standard, the operating permit must contain effluent limitations for that pollutant.

Applicable

A Reasonable Potential Analysis (RPA) conducted on appropriate parameters See **Appendices – APPENDIX A: WATER QUALITY REVIEW SHEET** below.

Not Applicable

A Reasonable Potential Analysis (RPA) not conducted for this facility.

**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–Five (5)-day (BOD<sub>5</sub>) 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](http://www.epa.gov/fedrgstr/EPA-WATER/1999/August/Day-04/w18866.htm)).

Applicable

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

Applicable

Equivalent to Secondary Treatment is 65% removal [40 CFR Part 133.105(a)(3) and (b)(3)].

Applicable

Facility not a Publicly Owned Treatment Works (POTW); however, influent monitoring is being required to determine percent removal. Secondary Treatment is 85% removal [40 CFR Part 133.102(a)(3) and (b)(3)].

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 MCWL, 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 MCWL 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 MCWL, and implementing MCWC regulations, and/or the terms and conditions of an operating permit.

Applicable

The timeline(s) given for compliance with interim and/or final effluent limitations of this operating permit listed under Paragraph 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, Compliance with Water Quality Based Limitations.

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)], *Best Management Practices (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 Stormwater Management, 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 MCWL, 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 MCWL, Sections 644.006-644.141, RSMo, or any standard, rule or MCWC regulation promulgated pursuant to the MCWL, Sections 644.006-644.141, RSMo.

Applicable

Not Applicable

This operating permit not drafted under premises of a petition for variance(s).

**WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:** See **Appendices – APPENDIX A: WATER QUALITY REVIEW SHEET** below. 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 based criteria or water quality model results and the dilution equation below (See **Appendices – APPENDIX A: WATER QUALITY REVIEW SHEET** 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) were 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)] 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 as a Major

Facility continuously or routinely exceeds its design flow

Facility (industrial) that alters its production process throughout the year

Facility handles large quantities of toxic substances, or substances that are toxic in large amounts

Facility has Water Quality-Based Effluent Limitations (WQBELs) for toxic substances (other than Ammonia, NH3)

Facility is a Publicly Owned Treatment Works (POTW), municipality or domestic discharger with a design flow greater than (>) twenty-two-thousand-five-hundred (22,500) gallons per day (gpd)

Other: Facility is a Publicly Owned Treatment Works (POTW), municipality or domestic discharge with a design flow less than (<) twenty-two-thousand-five-hundred (22,500) gallons per day (gpd)

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 (1<sup>st</sup> 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 considered to contribute to the impairment of the above referenced water body.

Facility considered to be a source of or has the potential to contribute to the impairment of the above referenced water body or considered to contribute the above listed pollutant(s).

Not Applicable

Facility does not discharge to a 303(d) listed stream.

## **Part V – Effluent Limits Determination**

### **OUTFALL # 001** – Main Facility Outfall

**EFFLUENT LIMITATIONS TABLE:** See **Appendices – APPENDIX A: WATER QUALITY REVIEW SHEET** below

**OUTFALL # 001 – DERIVATION AND DISCUSSION OF INTERIM AND/OR FINAL EFFLUENT LIMITATIONS** (see **Appendices – APPENDIX A: WATER QUALITY REVIEW SHEET** below):

- **Flow.** See **Appendices – APPENDIX A: WATER QUALITY REVIEW SHEET** below. 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 interim and final effluent limitations. If permittee is unable to obtain effluent flow, then it is the responsibility of permittee to inform the department, which may require the submittal of an operating permit modification.
- **Biochemical Oxygen Demand (BOD<sub>5</sub>).** See **Appendices – APPENDIX A: WATER QUALITY REVIEW SHEET** below. 45 mg/L as a Weekly Average and 30 mg/L as a Monthly Average [Missouri Clean Water Commission (MCWC) regulation 10 CSR 20-7.015(8)(B)1., Water Quality, Effluent Regulations, Effluent Limitations for All Waters, Except Those in Paragraphs (1)(A)1.-6.] (please see **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information** section above).
- **Total Suspended Solids (TSS).** See **Appendices – APPENDIX A: WATER QUALITY REVIEW SHEET** below. 45 mg/L as a Weekly Average and 30 mg/L as a Monthly Average [MCWC regulation 10 CSR 20-7.015(8)(B)1., Water Quality, Effluent Regulations, Effluent Limitations for All Waters, Except Those in Paragraphs (1)(A)1.-6.] (please see **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information** section above).
- **pH.** See **Appendices – APPENDIX A: WATER QUALITY REVIEW SHEET** below. pH shall be maintained in the range from 6.0-9.0 standard units (SUs) [MCWC regulation 10 CSR 20-7.015(8)(B)2., Water Quality, Effluent Regulations, Effluent Limitations for

All Waters, Except Those in Paragraphs (1)(A)1.-6.] (please see **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information** section above).

- **Total Ammonia Nitrogen.** See **Appendices – APPENDIX A: WATER QUALITY REVIEW SHEET** below.
- **Temperature.** See **Appendices – APPENDIX A: WATER QUALITY REVIEW SHEET** below. Monitoring requirement only. Monitoring requirement for the Temperature parameter included due to that toxicity of Ammonia varies by temperature.
- **Fecal Coliform.** See **Appendices – APPENDIX A: WATER QUALITY REVIEW SHEET** below. Facility discharge less than (<) two (2) stream miles from the first classified stream (please see **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information** section above and MCWC regulation [10 CSR 20-7.015(8)(B)4.], Water Quality, Effluent Regulations, Effluent Limitations for All Waters, Except Those in Paragraphs (1)(A)1.-6., Fecal coliform.
- **Total Residual Chlorine.** See **Appendices – APPENDIX A: WATER QUALITY REVIEW SHEET** below. Not applicable. Permittee will not be utilizing chlorine as the disinfection method.
- **Minimum Sampling and Reporting Frequency Requirements.** Once per quarter is the sampling frequency requirement being placed in this operating permit per MCWC regulation [10 CSR 20-7.015(8)(C)], Water Quality, Effluent Regulations, Effluent Limitations for All Waters, Except Those in Paragraphs (1)(A)1.-6., Monitoring Requirements. 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 average (except for the pH parameter) to show compliance with monthly averages listed in the operating permit.

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
FLOW	ONCE/QUARTER	ONCE/QUARTER
BIOCHEMICAL OXYGEN DEMAND (BOD <sub>5</sub> )	ONCE/QUARTER	ONCE/QUARTER
TOTAL SUSPENDED SOLIDS (TSS)	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

See table below for quarterly sampling collection and reporting:

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

## **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 operating permit is tentatively scheduled to begin on January 11, 2008, or is in process.



The Public Notice period for this operating permit was from January 11, 2008, through February 10, 2008. No responses received or responses to the Public Notice of this operating permit do not warrant the modification of interim and/or final effluent limitations and/or major modifications to the terms and conditions of this operating permit.

**DATE OF INITIAL FACT SHEET:** DECEMBER 17, 2007

**DATE OF REVISED FACT SHEET:** JULY 1, 2009

**COMPLETED BY:**

Bruce D. Volner  
Environmental Engineer  
Southeast Regional Office  
Rolla Satellite Office  
(573) 368-3625  
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## **Appendices**

### **APPENDIX A: WATER QUALITY REVIEW SHEET**



**Missouri Department of Natural Resources**  
**Water Protection Program**  
 NPDES PERMITS AND ENGINEERING SECTION

**Water Quality Review Sheet**  
*Determination of Effluent Limits and Monitoring Requirements*

**Facility Information**

FACILITY NAME: Martin Warrens Trailer Park WWTF NPDES #: NOT AVAILABLE

FACILITY TYPE/DESCRIPTION: Design flow will be 0.0024 MGD.

EDU\*: Ozark / Gasconade Drainage 8-DIGIT HUC: 10290203 COUNTY: Phelps  
 \* - Ecological Drainage Unit

LEGAL DESCRIPTION: SE1/4, NW1/4, Sec 4, T37N, R8W LATITUDE/LONGITUDE: 37.573922/-91.485421

WATER QUALITY HISTORY: No history

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	RECEIVING WATERBODY	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	0.004	Secondary	Unnamed Trib to Little Beaver Creek	1.2

Receiving Waterbody Information

WATERBODY NAME	CLASS	WBID	LOW-FLOW VALUES (CFS)			DESIGNATED USES**
			1Q10	7Q10	30Q10	
Unnamed Trib to Little Beaver Creek	U	-	-	-	-	General Criteria
Little Beaver Creek	C	01529	0.0	0.0	0.1	LWW, AQL, WBC(A)

\*\* Irrigation (IRR), Livestock & 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)

COMMENTS: No Geohydrological evaluation was submitted with the request. Time of travel was not provided in a timely manner so ammonia limits were determined without decay. Ammonia decay is an optional allowance on the regulatory limits. Requestee was given the option of providing the time of travel to the first classified stream, however no information was provided. Appendix A shows the location of the outfall. According to the contour lines, discharge will travel until it reaches the man-made pond and then to an unclassified segment of L. Beaver Creek for a total of 1.2 miles. The determination of the discharge travel path was determined based on location information provided by Integrity Engineering, Inc.

Antidegradation Policy

**IN ACCORDANCE WITH MISSOURI'S WATER QUALITY STANDARD [10 CSR 20-7.031(2)], THE DEPARTMENT IS TO DOCUMENT BY MEANS OF ANTIDEGRADATION REVIEW THAT THE USE OF A WATER BODY'S AVAILABLE ASSIMILATIVE CAPACITY IS JUSTIFIED. ANTIDEGRADATION IS JUSTIFIED BY DOCUMENTING THE SOCIO-ECONOMIC IMPORTANCE OF A DISCHARGING ACTIVITY AFTER DETERMINING THE NECESSITY OF THE DISCHARGE. EFFECTIVE TENTATIVELY AUGUST 2008 (DEPENDING ON THE RULEMAKING PROCESS), A FACILITY WILL BE REQUIRED TO USE MISSOURI'S ANTIDEGRADATION IMPLEMENTATION PROCEDURE. THIS PROCEDURE WILL BE APPLICABLE TO NEW, UPGRADED, AND EXPANDED WASTEWATER FACILITIES.**

General Assumptions of the Water Quality Review Sheet

1. A Water Quality Review Sheet (WQRS) assumes that [10 CSR 20-6.010(3) Continuing Authorities] has been or will be addressed in a Missouri State Operating Permit or Construction Permit Application.
2. A WQRS does not indicate approval or disapproval of alternative analysis as per [10 CSR 20-7.015(4) Losing Streams], and/or any section of the effluent regulations.
3. Changes to Federal and State Regulations made after the drafting of this WQRS may alter Water Quality Based Effluent Limits (WQBEL).
4. Effluent limitations derived from Federal or Missouri State Regulations (FSR) may be WQBEL or Effluent Limit Guidelines (ELG).
5. WQBEL supercede ELG only when they are more stringent. Mass limits derived from technology based limits are still appropriate.
6. A WQRS does not allow discharges to waters of the state, and shall not be construed as a National Pollution Discharge Elimination System or Missouri State Operating Permit to discharge or a permit to construct, modify, or upgrade.
7. Limitations and other requirements in a WQRS may change as Water Quality Standards, Methodology, and Implementation procedures change.

Mixing Considerations

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

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

Permit Limits and Information

WASTELOAD ALLOCATION  
STUDY CONDUCTED (Y OR N):

N

USE ATTAINABILITY  
ANALYSIS CONDUCTED (Y OR N):

N

WHOLE BODY CONTACT  
USE RETAINED (Y OR N):

Y

**OUTFALL #001**

WET TEST (Y OR N):

N

FREQUENCY:

NA

AEC:

NA

METHOD:

NA

PARAMETER	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	WQBEL (NOTE 2)	MONITORING FREQUENCY
FLOW	*		*	N/A	Once/quarter
BOD <sub>5</sub> (MG/L)		45	30	FSR	Once/quarter
TSS (MG/L)		45	30	FSR	Once/quarter
pH (S.U.)	6.0 – 9.0		6.0 – 9.0	FSR	Once/quarter
TEMPERATURE (°C)	*		*	N/A	Once/quarter
AMMONIA AS N (MG/L) (MAY 1 – OCT 31)	3.6		1.4	Y	Once/quarter
AMMONIA AS N (MG/L) (NOV 1 – APR 30)	7.5		2.9	Y	Once/quarter
ESHERICHIA COLIFORM (E. COLI)	PLEASE SEE THE E. COLI DISCUSSION IN THE DERIVATION & DISCUSSION OF LIMITS SECTION OF THIS WQRS BELOW.				
FECAL COLIFORM (NOTE 1)	1000		400**	FSR	Once/quarter
CHLORINE, TOTAL RESIDUAL (MG/L)	0.017		0.008	Y	Once/quarter

\* - Monitoring requirements only.

\*\* - The Monthly Average for Fecal Coliform shall be reported as a Geometric Mean.

NOTE 1 – COLONIES/100 mL

NOTE 2 – THIS FIELD INFORMS THE APPLICANT IF THE PARAMETER’S EFFLUENT LIMITATION IS A WATER QUALITY BASED EFFLUENT LIMITATION (WQBEL): Y – YES; FSR – FEDERAL/STATE REGULATION; AND N/A – NOT APPLICABLE. ALSO, PLEASE SEE THE **GENERAL ASSUMPTIONS OF THE WQRS #4 & #5.**

Receiving Water Monitoring Requirements

No receiving water monitoring requirements recommended at this time.

Derivation and Discussion of Limits

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

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

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

Chronic wasteload allocations were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration). Acute wasteload allocations were determined using applicable water quality criteria (CMC: criteria maximum concentration).

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

**Outfall # 001 – Main Facility Outfall**

- **Biochemical Oxygen Demand (BOD<sub>5</sub>)**. 30 mg/L monthly average, 45 mg/L weekly average [10 CSR 20-7.015(8)(B)1]. Influent monitoring may be required for this facility in its Missouri State Operating Permit.
- **Total Suspended Solids (TSS)**. 30 mg/L monthly average, 45 mg/L weekly average [10 CSR 20-7.015(8)(B)1]. Influent monitoring may be required for this facility in its Missouri State Operating Permit.
- **pH**. pH shall be maintained in the range from six to nine (6 – 9) standard units [10 CSR 20-7.015 (8)(B)2.].
- **Temperature**. Monitoring requirement only. Temperature affects the toxicity of Ammonia
- **Total Ammonia Nitrogen**. Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(4)(B)7.C. & Table B3]. Background total ammonia nitrogen = 0.01 mg/L

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

Summer: May 1 – October 31, Winter: November 1 – April 30.

Summer

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

Chronic WLA:  $C_e = 1.5 \text{ mg/L}$

Acute WLA:  $C_e = 12.1 \text{ mg/L}$

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

$LTA_a = 12.1 \text{ mg/L} (0.321) = 3.88 \text{ mg/L}$  [CV = 0.6, 99<sup>th</sup> Percentile]

MDL =  $1.17 \text{ mg/L} (3.11) = 3.6 \text{ mg/L}$  [CV = 0.6, 99<sup>th</sup> Percentile]

AML =  $1.17 \text{ mg/L} (1.19) = 1.4 \text{ mg/L}$  [CV = 0.6, 95<sup>th</sup> Percentile, n = 30]

Winter

Chronic WLA:  $C_e = 3.1 \text{ mg/L}$

Acute WLA:  $C_e = 12.1 \text{ mg/L}$

$LTA_c = 3.1 \text{ mg/L} (0.780) = \mathbf{2.4 \text{ mg/L}}$  [CV = 0.6, 99<sup>th</sup> Percentile, 30 day avg.]

$$LTA_a = 12.1 \text{ mg/L} (0.321) = 3.9 \text{ mg/L} \quad [CV = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$MDL = 2.4 \text{ mg/L} (3.11) = 7.5 \text{ mg/L} \quad [CV = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$AML = 2.4 \text{ mg/L} (1.19) = 2.9 \text{ mg/L} \quad [CV = 0.6, 95^{\text{th}} \text{ Percentile}, n = 30]$$

Season	Maximum Daily Limit (mg/l)	Average Monthly Limit (mg/l)
Summer	3.6	1.4
Winter	7.5	2.9

- Fecal Coliform.** Discharge shall not contain more than a monthly geometric mean of 400 colonies/100 mL and a daily maximum of 1000 colonies/100 mL during the recreational season (April 1 – October 31) [10 CSR 20-7.015(8)(B)4.A.]. Future renewals of the facility operating permit will contain effluent limitations for E. coli that will replace fecal coliform as the applicable bacteria criteria in Missouri’s water quality standards when Missouri adopts the implementation of the E. coli standards. Also, please see **GENERAL ASSUMPTIONS OF THE WQRS # 7.**
- Total Residual Chlorine (TRC).** Warm-water Protection of Aquatic Life CCC = 10 µg/L, CMC = 19 µg/L [10 CSR 20-7.031, Table A]. Background TRC = 0.0 µg/L.

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

Chronic WLA:  $C_e = 10 \text{ µg/L}$

Acute WLA:  $C_e = 19 \text{ µg/L}$

$$LTA_c = 10 \text{ µg/L} (0.527) = \mathbf{5.3 \text{ µg/L}} \quad [CV = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$LTA_a = 19 \text{ µg/L} (0.321) = 6.1 \text{ µg/L} \quad [CV = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$MDL = \mathbf{5.3 \text{ µg/L}} (3.11) = 16.5 \text{ µg/L} \quad [CV = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$AML = \mathbf{5.3 \text{ µg/L}} (1.55) = 8.2 \text{ µg/L} \quad [CV = 0.6, 95^{\text{th}} \text{ Percentile}, n = 4]$$

Total Residual Chlorine effluent limits of 0.017 mg/L daily maximum, 0.008 mg/L monthly average are recommended if chlorine is used as a disinfectant. Standard compliance language for TRC, including the minimum level (ML), should be included in the permit.

Reviewer: Todd J. Blanc

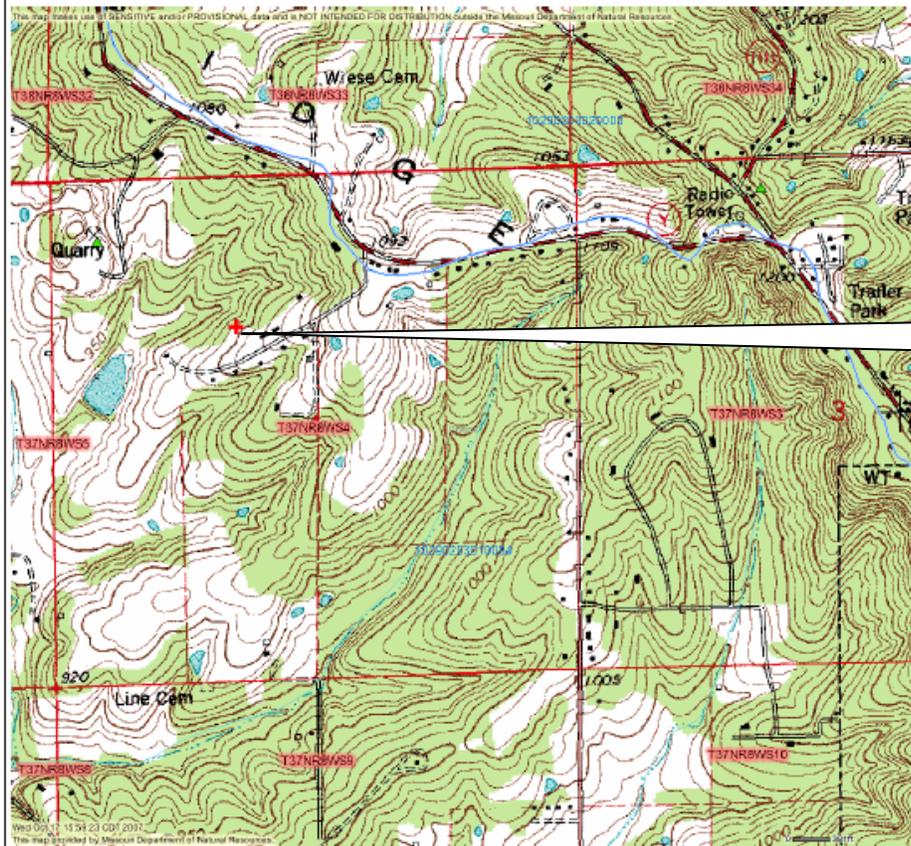
Date: October 24, 2007

Unit Chief: Refaat Mefrakis

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

Appendix A: Outfall Location Map

# Martin Warrens Trailer Park WWTF



- Legend**
- Missouri NPDES Facilities
    - CAFO
    - MUNICIPAL
    - NON-MUNICIPAL
  - 2002 303(d) Listed Waters
  - WQS Table E (P)
  - WQS Table E (L)
  - WQS Table D
  - WPCB Classified Water Bodies
  - NHD 1:500k
  - 8 Digit Watershed Boundary
  - 14 Digit Watershed Boundary
  - Public Land Survey System
  - County Boundary

Outfall location

Outfall location and trailer park are shown on map.



View Scale 1:15,040  
Disclaimer: Although this map has been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the department as to the accuracy of the data and related materials. The act of distribution shall not constitute any such warranty, and no responsibility is assumed by the department in the use of these data or related materials.