

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

The Missouri Department of Natural Resources hereby issues a permit to:

OMEGA TRAVEL PLAZA, L.L.C.
Sehjveer Singh, Member
Sarcoxie Travel Center
SW Corner of I-44 and CR 1010
Sarcoxie, MO 64862

for the construction of (described facilities):

See attached.

Permit Conditions:

See attached.

Construction of such proposed facilities shall be in accordance with the provisions of the Missouri Clean Water Law, Chapter 644, RSMo, and regulation promulgated thereunder, or this permit may be revoked by the Department of Natural Resources (department).

As the department does not examine structural features of design or the efficiency of mechanical equipment, the issuance of this permit does not include approval of these features.

A representative of the department may inspect the work covered by this permit during construction. Issuance of a permit to operate by the department will be contingent on the work substantially adhering to the approved plans and specifications.

This permit applies only to the construction of water pollution control components; it does not apply to other environmentally regulated areas.

May 27, 2026
Effective Date

May 26, 2028
Expiration Date

Handwritten signature of Heather Peters in black ink.

Heather Peters, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

Construction will include two 10,000-gallon septic tanks from which wastewater is pumped by Orenco PF 7515 High Head Effluent pump to a 5,924-gallon equalization tank which is connected to Secondary Treatment (5) AX-100 Textile Filters. A 6-inch PVC pipe connects the filters to 5,565 gallon drain field recirculating dosing tank equipped with Orenco PF 5010 High Head Effluent pump, which pumps the wastewater to a low-pressure pipe (LPP) subsurface dispersal system to serve the proposed Sarcoxie Travel Center located at the southwest corner of I-44 and Lawrence County 1010. The soil absorption field will treat a design flow of 10,019 gallons per day (gpd) to serve the population equivalent of 100 with an area of approximately 50,490 square feet, separated into 11 beds with 6 zones in each bed. Each zone has approximately 10,098 lineal feet of 1.5-inch PVC pipe with 5/32-inch orifices placed 2-foot on center.

This project will also include general site work appropriate to the scope and purpose of the project and all necessary appurtenances to make a complete and usable wastewater treatment facility.

II. COST ANALYSIS FOR COMPLIANCE

Pursuant to Section 644.145, RSMo, when issuing permits under this chapter that incorporate a new requirement for discharges from publicly owned combined or separate sanitary or storm sewer systems or publicly owned treatment works, or when enforcing provisions of this chapter or the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq., pertaining to any portion of a publicly owned combined or separate sanitary or storm sewer system or [publicly owned] treatment works, the Department of Natural Resources shall make a “finding of affordability” on the costs to be incurred and the impact of any rate changes on ratepayers upon which to base such permits and decisions, to the extent allowable under this chapter and the Federal Water Pollution Control Act. This process is completed through a cost analysis for compliance. Permits that do not include new requirements may be deemed affordable.

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

III. CONSTRUCTION PERMIT CONDITIONS

The permittee is authorized to construct subject to the following conditions:

1. This construction permit does not authorize discharge.
2. All construction shall be consistent with plans and specifications signed and sealed by Mark Stanley, P.E. with Zanevan Engineering, LLC and as described in this permit.

3. The department must be contacted in writing prior to making any changes to the plans and specifications that would directly or indirectly have an impact on the capacity, flow, system layout, or reliability of the proposed wastewater treatment facilities or any design parameter that is addressed by 10 CSR 20-8, in accordance with 10 CSR 20-8.110(11).
4. State and federal law does not permit bypassing of raw wastewater, therefore steps must be taken to ensure that raw wastewater does not discharge during construction. If a sanitary sewer overflow or bypass occurs, report the appropriate information to the department's Southwest Regional Office per 10 CSR 20-7.015(9)(G).
5. The completed project shall be field tested to verify actual pumped volume of each dose. The timer controls shall be set to ensure a dosing rate not to exceed the allowable rate of 0.2 gallons per square foot per day.
6. In addition to the requirements for a construction permit, 10 CSR 20-6.200 requires land disturbance activities of 1 acre or more to obtain a Missouri state operating permit to discharge stormwater. The permit requires best management practices sufficient to control runoff and sedimentation to protect waters of the state. Land disturbance permits will only be obtained by means of the department's ePermitting system available online at <https://dnr.mo.gov/data-e-services/missouri-gateway-environmental-management-mogem>. See <https://dnr.mo.gov/data-e-services/water/electronic-permitting-epermitting> for more information.
7. A United States Army Corps of Engineers (USACE) Clean Water Act Section 404 Department of the Army permit and a Section 401 Water Quality Certification issued by the department may be required for the activities described in this permit. This permit is not valid until these requirements are satisfied or notification is provided that no Section 404 permit is required by the USACE. You must contact your local USACE district since they determine what waters are jurisdictional and which permitting requirements may apply. You may call the department's Water Protection Program, Operating Permits Section at 573-522-4502 for more information. See <https://dnr.mo.gov/water/business-industry-other-entities/permits-certification-engineering-fees/section-401-water-quality> for more information.
8. All construction must adhere to applicable 10 CSR 20-8 (Chapter 8) requirements listed below.
 - Flood protection shall apply to new construction and to existing facilities undergoing major modification. The wastewater facility structures, electrical equipment, and mechanical equipment shall be protected from physical damage by not less than the one hundred (100) -year flood elevation. 10 CSR 20-8.140(2)(B), 10 CSR 20-8.130(3)(A)
 - Fencing. Enclose the facility site with a fence designed to discourage the entrance of unauthorized persons and animals; 10 CSR 20 8.140(8)(A).

- Unless another distance is determined by the Missouri Geological Survey or by the department's Public Drinking Water Branch, the minimum distance between wastewater treatment facilities and all potable water sources shall be at least 300 feet.
10 CSR 20-8.140(2)(C)1.
- Electrical systems and components in raw wastewater or in enclosed or partially enclosed spaces where hazardous concentrations of flammable gases or vapors that are normally present, shall comply with the NFPA 70 National Electric Code (NEC) (2017 Edition), as approved and published August 24, 2016, requirements for Class I, Division 1, Group D locations. 10 CSR 20-8.140(7)(B)
- An audiovisual alarm or a more advanced alert system, with a self-contained power supply, capable of monitoring the condition of equipment whose failure could result in a violation of the operating permit, shall be provided for all wastewater treatment facilities.
10 CSR 20-8.140(7)(C)
- No piping or other connections shall exist in any part of the wastewater treatment facility that might cause the contamination of a potable water supply. 10 CSR 20-8.140(7)(D)1.
- A means of flow measurement shall be provided at all wastewater treatment facilities.
10 CSR 20-8.140(7)(E)
- All wastewater treatment facilities must have a screening device, comminutor, or septic tank for the purpose of removing debris and nuisance materials from the influent wastewater. 10 CSR 20-8.150(2)
- A septic tank must have a minimum capacity of at least 1,000 gallons.
10 CSR 20- 8.180(2)(A)
- The septic tank shall be baffled. 10 CSR 20-8.180(2)(B)
- Subsurface systems shall—
 - o Exclude unstabilized fill and soils that have been highly compacted and/or disturbed, such as old road beds, foundations, or similar things; 10 CSR 20-8.200(8)(A)1.A.
 - o Provide adequate surface drainage where slopes are less than two percent;
10 CSR 20-8.200(8)(A)1.B.
 - o Provide surface and subsurface water diversion where necessary, such as a curtain or perimeter drain; 10 CSR 20-8.200(8)(A)1.C. and
 - o Have a 10 foot buffer from the property line. 10 CSR 20-8.200(8)(A)1.D.

- The vertical separation between the bottom of the drip lines and/or the trench and a limiting layer, including but not limited to, bedrock; restrictive horizon; or seasonal high water table, shall be no less than:
 - o Twelve inches for systems dispersing secondary or higher quality effluent;
10 CSR 20-8.200(8)(A)2.B.
 - Subsurface systems shall be, at a minimum, preceded by preliminary treatment.
10 CSR 20-8.200(8)(B)
 - Loading rates shall not exceed the values assigned by the site and soil evaluation.
10 CSR 20-8.200(8)(C)
 - All network piping and low pressure distribution piping and fittings with polyvinyl chloride (PVC) shall meet ASTM Standard D 1785 Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, or 120 as approved and published August 1, 2015, or equivalent rated to meet or exceed ASTM D2466 Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings as approved and published August 1, 2017. These standards shall hereby be incorporated by reference into this rule, as published by ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428- 2959. This rule does not incorporate any subsequent amendments or additions. 10 CSR 20-8.200(9)(A)2.
 - Manifold design for LPP systems shall address freeze protection while assuring uniform distribution and to minimize drain down of laterals into other laterals at a lower elevation between dosing events. 10 CSR 20-8.200(9)(A)3.
 - The orifice number and spacing shall be designed to provide a distribution of no more than six square feet per orifice with an orifice size of not less than one-eighth inch.
10 CSR 20-8.200(9)(C)1.
9. Upon completion of construction:
- A. The OMEGA TRAVEL PLAZA, L.L.C. will become the continuing authority for operation and maintenance of these facilities;
 - B. Submit an electronic copy of the as built if the project was not constructed in accordance with previously submitted plans and specifications;
 - C. Submit the Statement of Work Completed form to the department in accordance with 10 CSR 20-6.010(5)(N) (<https://dnr.mo.gov/document-search/wastewater-construction-statement-work-completed-mo-780-2155>) and submit a Form B - Application for an Operating Permit for Domestic Wastewater ($\leq 100,000$ gallons per day) and fee to the Engineering Section of the Water Protection Program 60 days prior to operation.

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

This project provides a wastewater treatment system to treat domestic flows from a proposed new Sarcoxie Travel center.

2. FACILITY DESCRIPTION

This facility is a new system for a proposed travel center located at the southwest corner of I-44 and Lawrence County 1010, Sarcoxie City, in Lawrence County, Missouri. The facility has a design average flow of 10,019 gpd and serves a population equivalent of approximately 100 people.

3. COMPLIANCE PARAMETERS

The proposed project will meet the requirements of general operating permit for No-discharge, private, domestic wastewater treatment facilities with design flows of less than 50,000 gallons per day which expires August 24, 2027. Your operating permit application for renewal will be due 60 days prior to expiration of your operating permit. Ensure that Application Form B, and fee has been submitted before June 24, 2027.

4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

Construction will cover the following items:

- **Gravity Sewer Collection System** - Construction of approximately 998 ft of 8-inch PVC SDR-35 gravity sewer lines with approximately four manholes.
- **Flow Measurement** – Installation of accurate flow measurement devices between the MH A-2 and septic tanks will give the treatment facility a means of improved data analysis.
 - o V-notch Weir –A v-notch weir with a 22.5-degree notch; appropriate for flows between 5,700 gpd and 53,000 gpd. This measurement device does not include flow totalizing or recording. Flowmeter will be TELEDYNE ISCO SIGNATURE with TIENet 310 Ex Ultrasonic Level Sensor.
- **Septic Tank** – A septic tank provides passive primary treatment as the settleable solids in raw wastewater settle onto the bottom of the tank. Raw wastewater will flow by gravity from the office to two 10,000-gallon septic tanks in series. There are approximately 36 hours of detention time at design average flows in the septic tank.
 - o 6-inch PVC Schedule 40 transfer pipe will be installed from the septic tank to the equalization tank.
 - o Settled solids in the septic tank shall be removed by a contract hauler.

- **Diurnal Flow Equalization** – Diurnal flow equalization is utilized to reduce the variability of influent wastewater flow. As a result, a consistent discharge to downstream treatment components is achieved and these processes may not have restricted capacity due to the peak hourly flow. Diurnal flow equalization is utilized to store peak flow periods for treatment during the periods of the day when the flows are reduced. A variety of methods may be employed to achieve flow equalization. Consideration may be given to on-line units, where all the flow passes through the equalization tanks and sideline units, where only that amount of flow above the maximum desired flow is diverted through the equalization tank(s). The proposed diurnal flow equalization tank is 16.5 ft by 8 ft by 6 ft deep (5924 gallon), which is approximately 50 % of the average daily flow. The Orenco PF 7515 High Head effluent pump is rated at 65 gpm and total head of 67 ft at less than 1.5 Hp.

Textile Filter – Secondary treatment is provided by installation of 5 pods of AX-100 Textile Filter. Each textile filter pod has a hydraulic loading rate of 25 gal/d/ft² and an area of 121 ft². At the design flow of 10,019 gpd, 4 pods are required. The units are equipped with 264 textile sheets hanging vertically in the pod. Each sheet is removable for external cleaning.

- **Pump Tank**- A 5,565-gallon pump tank will be installed. From the pump tank, water flows through 2-inch schedule 40 PVC pipe to the six-way automatic multi-zone distribution valve and out the 1.5-inch pipes to the fields. The pump Orenco PF 5010 High Head effluent pump is rated at 50 gpm and total head of 75 ft at 1 Hp.
- **Subsurface Soil Dispersal System** – A soils evaluation was completed for the site by Melissa Bettes, with MB Soil & Septic Consulting, LLC, on August 16, 2024. Soil morphology review was conducted during the construction permit application review and on-site soils were determined to be acceptable for this system.
 - o Soils Report. In the soil's investigation, there were 2 pits dug over the proposed site.
 - Soil test pits #1 & #2, each located in the proposed dispersal area, both had surface soil that was described as silty clay loam with an application rating of 0.2 gallons per square foot per day. A seasonal water table was identified at a depth of 22 inches, therefore trench excavation will be to a maximum depth of 10 inches and the bottom of the trench will be 12 inches from the restrictive layer. The distribution laterals will be placed in the 4-inch perforated PVC pipe surrounded by filter fabric.
 - o Low-Pressure Piping (LPP) - The low-pressure piping is divided into 11 beds of six zones with three lines per zone and a total of 10,098 linear feet of distribution laterals.
 - Distribution laterals are 50 feet long and are spaced 5 feet in the center.

- Distribution lateral orifices are 5/32 inches wide and spaced 2-feet apart, for 26 orifices per lateral line.
- With six zones for a bed and 11 beds for the site the dose per cycle is 152 gallons per zone with 1 cycle per day.
- The total area needed for loading is 50,095 square feet and there is 50,490 square feet available

5. OPERATING PERMIT

After completion of construction project submit statement of work completed, as-built if the project was not constructed in accordance with previously submitted plans and specifications, and ensure that Application Form B and fee are submitted. Missouri State Operating Permit, General Permit MO-G823, will be issued after receipt of the above documents.

V. NOTICE OF RIGHT TO APPEAL

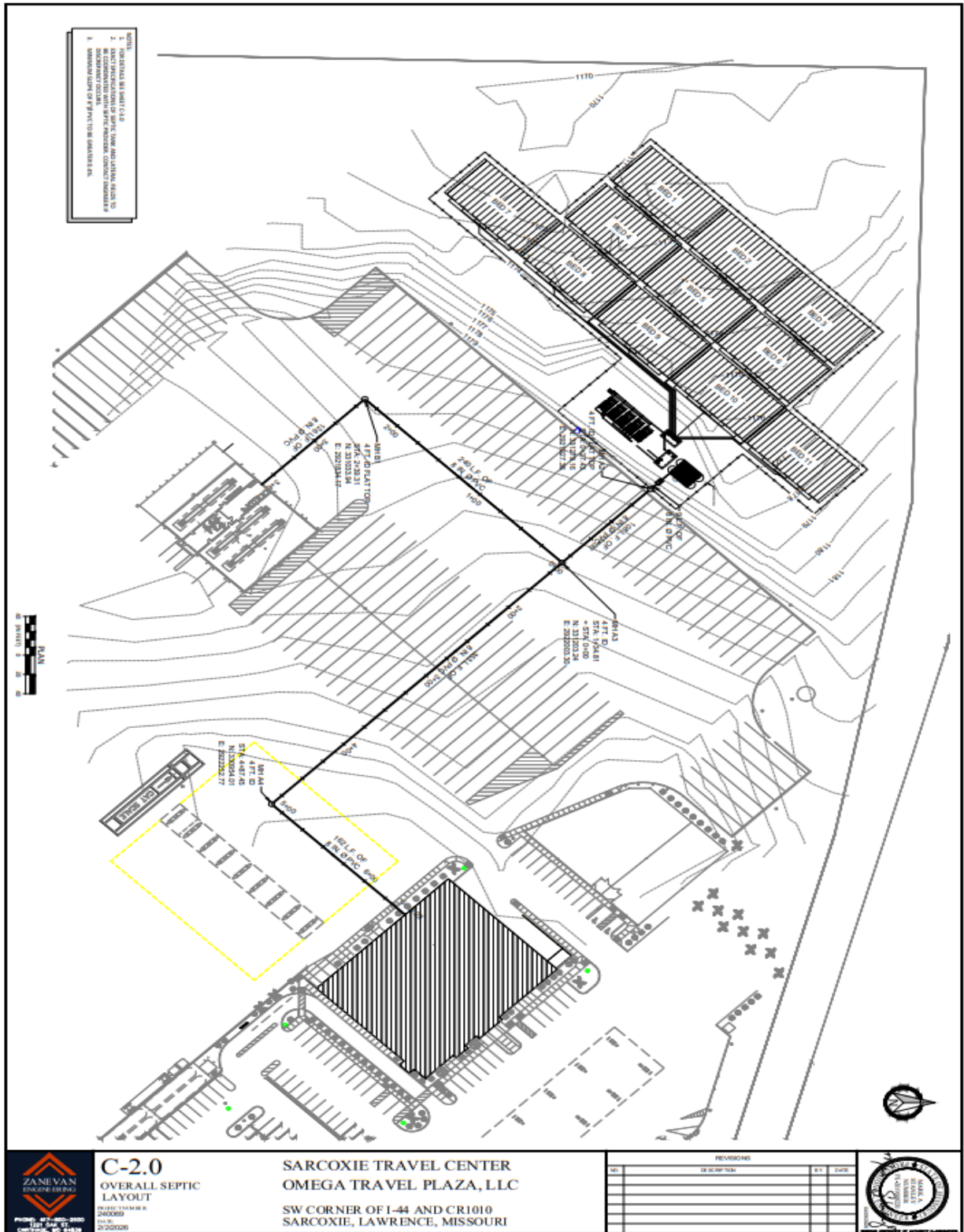
If you were adversely affected by this decision, you may be entitled to an appeal before the Administrative Hearing Commission (AHC) pursuant to Section 621.250 RSMo. To appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Any appeal should be directed to:

Administrative Hearing Commission
U.S. Post Office Building, Third Floor
131 West High Street, P.O. Box 1557
Jefferson City, MO 65102-1557
Phone: 573-751-2422
Fax: 573-751-5018
Website: <https://ahc.mo.gov>

Tasneem Khan, P.E.
Engineering Section
tasneem.khan@dnr.mo.gov

APPENDIX

• **Site Plan**



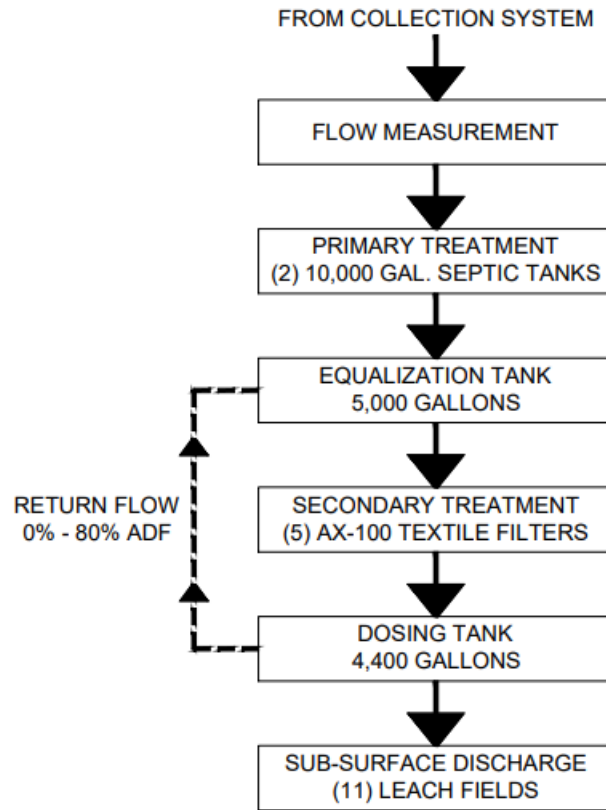
C-2.0
OVERALL SEPTIC LAYOUT
 PROJECT NUMBER: 200000
 DATE: 02/20/2006

SARCOXIE TRAVEL CENTER
OMEGA TRAVEL PLAZA, LLC
 SW CORNER OF I-44 AND CR1010
 SARCOXIE, LAWRENCE, MISSOURI



- **Process Flow Diagram**

FLOW SCHEMATIC SARCOXIE TRAVEL CENTER





MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM
**APPLICATION FOR CONSTRUCTION PERMIT –
 WASTEWATER TREATMENT FACILITY**

FOR DEPARTMENT USE ONLY	
APP NO.	CP NO.
FEE RECEIVED	CHECK NO.
DATE RECEIVED	

APPLICATION OVERVIEW

The Application for Construction Permit – Wastewater Treatment Facility form has been developed in a modular format and consists of Part A and B. **All applicants must complete Part A.** Part B should be completed for applicants who currently land-apply wastewater or propose land application for wastewater treatment. **Please read the accompanying instructions before completing this form. Submittal of an incomplete application may result in the application being returned.**

PART A – BASIC INFORMATION

1.0 APPLICATION INFORMATION (Note – If any of the questions in this section are answered NO, this application may be considered incomplete and returned.)

- 1.1 Is this a Federal/State funded project? YES N/A Funding Agency: _____ Project #: _____
- 1.2 Has the Missouri Department of Natural Resources approved the proposed project's antidegradation review?
 YES Date of Approval: _____ N/A
- 1.3 Has the department approved the proposed project's facility plan*?
 YES Date of Approval: _____ NO (If No, complete No. 1.4.)
- 1.4 [Complete only if answered No on No. 1.3.] Is a copy of the facility plan* for wastewater treatment facilities included with this application?
 YES NO Exempt because _____
- 1.5 Is a copy of the appropriate plans* and specifications* included with this application?
 YES Denote which form is submitted: Hard copy Electronic copy (See instructions.) NO
- 1.6 Is a summary of design* included with this application? YES NO
- 1.7 Has the appropriate operating permit application (A, B, or B2) been submitted to the department?
 YES Date of submittal: _____
 Enclosed is the appropriate operating permit application and fee submittal. Denote which form: A B B2
 N/A: However, In the event the department believes that my operating permit requires revision to permit limitation such as changing equivalent to secondary limits to secondary limits or adding total residual chlorine limits, please share a draft copy prior to public notice? YES NO
- 1.8 Is the facility currently under enforcement with the department or the Environmental Protection Agency? YES NO
- 1.9 Is the appropriate fee or JetPay confirmation included with this application? YES NO
 See Section 7.0

* Must be affixed with a Missouri registered professional engineer's seal, signature and date.

2.0 PROJECT INFORMATION

2.1 NAME OF PROJECT Sarcoxie Travel Center	2.2 ESTIMATED PROJECT CONSTRUCTION COST \$ \$450,000
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2.3 PROJECT DESCRIPTION
 2 septic systems (total of 15,000 gallons) for 3 buildings at a travel center at the southwest corner of I-44 and CR1010 near Sarcoxie, Missouri.

2.4 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION
 Pumping septic tanks on a 2-3 year schedule, or as needed, if sooner.

2.5 DESIGN INFORMATION

A. Current population: _____; Design population: _____

B. Actual Flow: _____ gpd; Design Average Flow: _____ gpd;
 Actual Peak Daily Flow: _____ gpd; Design Maximum Daily Flow: _____ gpd; Design Wet Weather Event: _____

2.6 ADDITIONAL INFORMATION

A. Is a topographic map attached? YES NO

B. Is a process flow diagram attached? YES NO

