

**STATE OF MISSOURI**  
**DEPARTMENT OF NATURAL RESOURCES**  
**MISSOURI CLEAN WATER COMMISSION**



**CONSTRUCTION PERMIT**

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

Highlander Group LLC  
Tina M Honse  
CEO – Operations Manager  
Osage Campground Retreat  
10407 Marina Road  
Jefferson City, MO 65101

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.

June 2, 2026  
Effective Date

June 1, 2028  
Expiration Date

A handwritten signature in black ink, appearing to read 'Heather Peters'.

**Heather Peters, Director, Water Protection Program**

## **CONSTRUCTION PERMIT**

### **I. CONSTRUCTION DESCRIPTION**

This project provides upgrades to the existing onsite system currently serving Osage Campground Retreat. The new WWTF will treat the wastewater generated from the campground which has 38 recreational vehicle (RV) spaces by utilizing the existing septic tanks and adding three MicroFAST® 1.5 units each capable of treating 1,500 gallons per day, three pump tanks each having a storage capacity of 2,000 gallons, and a Low Pressure Pipe (LPP) system having three dispersal fields. The new WWTF has a design flow of 4,000 gallons per day (gpd).

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 Ethan Shackelford, P.E. with Alpha Engineering & Surveying, 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 Central Field Operations 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)
  - 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 three hundred feet (300'). 10 CSR 20-8.140(2)(C)1.
  - All wastewater treatment facilities shall be provided with an alternate source of electric power or pumping capability to allow continuity of operation during power failures. 10 CSR 20-8.140(7)(A)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)
- 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)
- Subsurface systems shall—
  - 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.
  - Provide adequate surface drainage where slopes are less than 2%; 10 CSR 20-8.200(8)(A)1.B.
  - 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
  - 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:
  - 12 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.
  - The distal pressure shall be designed and maintained at the end of each lateral to be no less than two feet when using three-sixteen inch (3/16”) or larger diameter orifices, and no less than five feet when using orifices smaller than three-sixteen inch (3/16”). 10 CSR 20-8.200(9)(C)2.
9. Upon completion of construction:
- A. The Highlander Group LLC will become the continuing authority for operation and maintenance of these facilities;
  - B. Submit an electronic copy of the as-built plans if the project was not constructed in accordance with previously submitted plans and specifications; and
  - 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 or Municipal Wastewater \(<100,000 gallons per day\)](#) and \$150 fee to the Engineering Section of the Water Protection Program 60 days prior to operation.

#### **IV. REVIEW SUMMARY**

##### **1. CONSTRUCTION PURPOSE**

This project provides upgrades to the existing onsite wastewater treatment system serving Osage Campground Retreat by adding three MicroFAST® 1.5 units after the existing septic tanks, three pump tanks, and a low-pressure pipe (LPP) subsurface system with three absorption fields. The proposed new wastewater treatment system is to treat the wastewater generated from 38 RV spaces campground to meet the requirements for the general permit MO-G823.

## **2. FACILITY DESCRIPTION**

The existing wastewater treatment facility (WWTF) that currently serves Osage Campground Retreat is an unpermitted facility. This WWTF includes septic tanks and a subsurface absorption system that is failing. Highlander Group LLC is the owner and the continuing authority of this WWTF.

On August 26, 2023, the department issued construction permit CP0002251 to Highlander Group LLC to upgrade the Osage Campground Retreat WWTF. The construction permit expired August 25, 2024. The approved construction has not been completed, and no operating permit has been issued.

On November 21, 2024, the department conducted a concern investigation at Osage Campground Retreat and found the facility was out of compliance with the Missouri Clean Water Law and the Missouri Clean Water Commission regulations. The department issued a Letter of Warning (LOW) on December 30, 2024, and required The Highlander Group LLC to take corrective action including applying for a construction permit to build a functional wastewater treatment facility for the campground and complete construction as soon as practicable.

The proposed new WWTF will treat the wastewater generated from 38 RV spaces campground by utilizing the existing septic tanks with total volume of 2,500 gallons and adding three MicroFAST® 1.5 units each capable of treating 1,500 gallons per day (gpd), three dosing tanks each having a storage capacity of 2,000 gallons, and a LPP system having three dispersal fields.

sage Campground Retreat WWTF is located at 10407 Marina Road, Jefferson City, in Cole County, Missouri. The new WWTF has a design average flow of 4,000 gpd and serves a hydraulic population equivalent of approximately 40 people.

## **3. COMPLIANCE PARAMETERS**

The existing facility is an unpermitted system. The proposed project is required to meet the requirements of MOG823000 with an expiration date of August 24, 2027.

## **4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA**

**Existing major components that will remain in use include the following:**

Septic Tanks – The provided information from the previous construction permit CP0002251 indicates there are one 1,000-gallon and one 1,500-gallon septic tanks. The two existing septic tanks will continue to be used.

**Construction will cover the following items:**

- Components are designed for a design flow of 4,000 gpd.
- Aerobic Treatment Units (ATUs) – Three MicroFAST® 1.5 treatment units as manufactured by Bio-Microbics, Inc. will be installed after the existing septic tanks. Each unit can treat 1,500 gallons per day (gpd) to meet secondary treatment standards. Each unit consists of FAST system insert, leg extensions, blower assembly, blower controls and alarms, and other necessary internal piping.
- Pump Tanks – Construction of three 2,000-gallon pump tanks interconnected to pump secondary treated wastewater from the ATUs to the subsurface soil dispersal system. The last pump tank is equipped with a one horsepower submersible pump capable of dosing 81.6 gallons per minute (gpm) at 41 ft TDH. The pump transfers wastewater to the subsurface soil dispersal system that has three absorption fields.
- Subsurface Soil Dispersal System – The soils at this site are rated for 0.2 gallons per day per square foot. Soil morphology review indicated site soils were determined to be acceptable for this system. The soil investigation was completed by Melissa Bettes, Soil Scientist, on April 9, 2025.
  - Soils Report. Two dug pits within the proximity of the proposed subsurface soil treatment area were evaluated.
    - The soil profiles were described as poorly drained moderately slow permeability with an application rating of 0.20 gallons per day per square foot to 19 inches deep. There was an indication of a seasonal water table at 19-inches below ground surface.
  - Hydraulic loading rate used in the design was 0.20 gallons per day per square foot.
  - Low Pressure Piping (LPP) – The low-pressure piping is distributed at three absorption fields and divided into six separate zones.
    - The six zones consist of approximately 3,724 linear feet of 1-inch lateral lines.
    - The lateral spacing is 5-foot off center with the 3/16-inch orifices spaced at 6-feet apart, for a total of 589 orifices.
    - The total area needed for loading is 20,000 square feet.

## **5. OPERATING PERMIT**

After completion of construction project submit:

1. Statement of work completed,
2. As-built drawings if the project was not constructed in accordance with previously submitted plans and specifications, and
3. Ensure that Application Form B, and fee has been submitted.

Missouri State Operating Permit, General Permit MO-G823, will be issued after receipt of the above documents.

## **V. NOTICE OF RIGHT TO APPEAL**

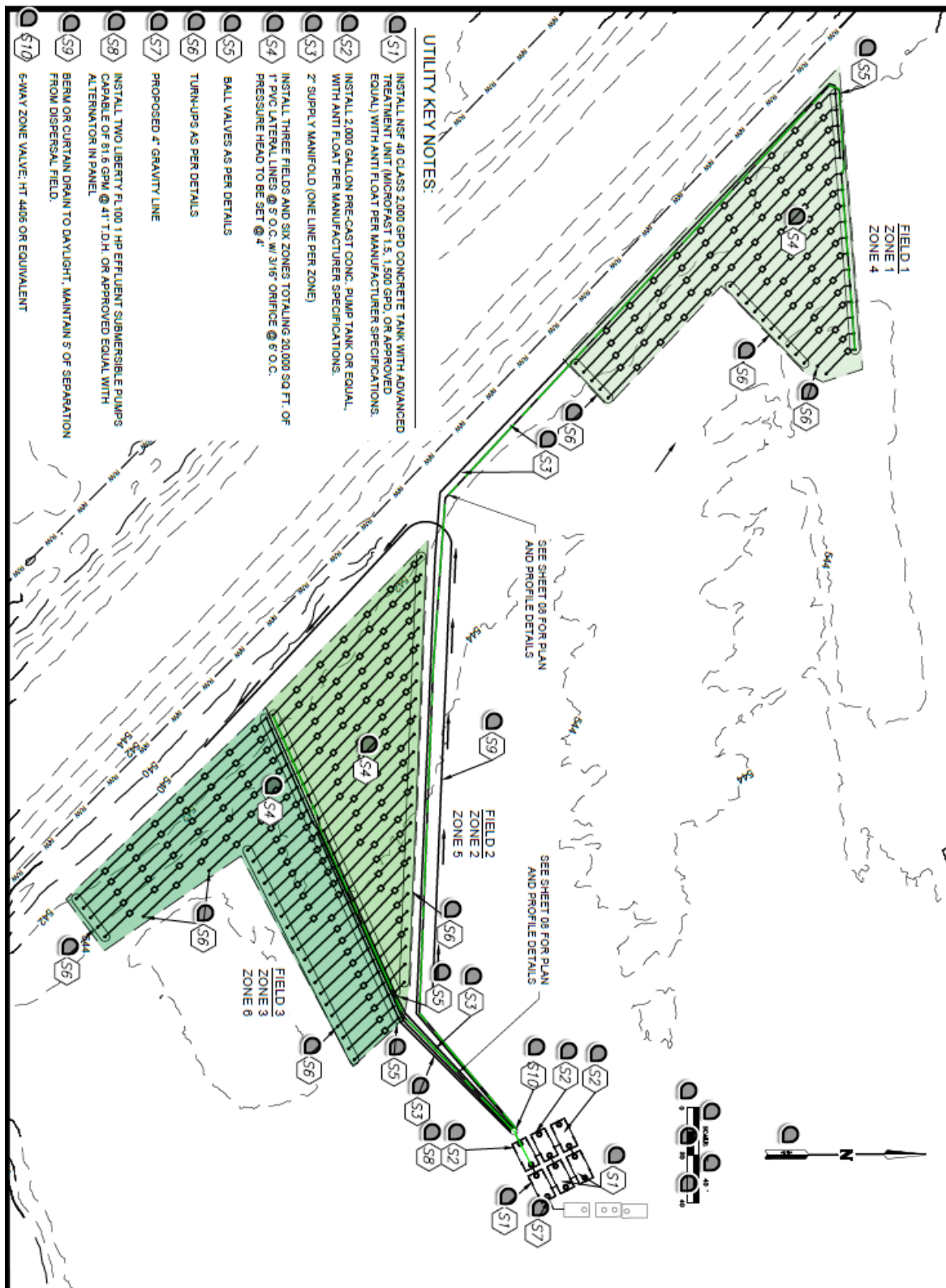
If you were adversely affected by this decision, you may be entitled to an appeal before the Administrative Hearing Commission (AHC) pursuant to Section 621.250 RSMo. To appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, 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>



Sieu T. Dang, P.E.  
Engineering Section  
[sieu.dang@dnr.mo.gov](mailto:sieu.dang@dnr.mo.gov)

## **APPENDIX**

- **Site Plan**



C:\Share\Projects\Osage Campground\Osage Campground LPP 20260204.dwg

<p>DATE: 04-28-28 SCALE: 1"=40' PROJECT NUMBER: 25-00109 SHEET NUMBER: 4 OF 9</p>	<p><b>SITE PLAN</b></p> <p>Ethan K. Shackelford, PE MO # PE 2018000271</p> 	<p>Scale: Alpha Engineering &amp; Surveying, LLC Missouri State Certificate of Authority: E - 2020030512 LS - 2020040755</p>	<p>Project: ON-SITE SEWER FOR OSAGE CAMPGROUND RETREAT</p> <p>10407 MARINA RD JEFFERSON CITY, MO 65101 COLE COUNTY</p> <p><b>Alpha Engineering &amp; Surveying, LLC</b></p> <p>3048 Hwy. 52 Eldon, MO 65026 (573) 392-3312 1037 Osage Beach Rd. Osage Beach, MO 65065 (573) 348-5552</p> <p>Civil &amp; Structural Engineering Land Surveying Environmental Materials Testing</p> 
---	--	--	---



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	2.2 ESTIMATED PROJECT CONSTRUCTION COST \$
---------------------	---

2.3 PROJECT DESCRIPTION

2.4 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION

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

**3.0 WASTEWATER TREATMENT FACILITY**

NAME		TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS	
ADDRESS (PHYSICAL)	CITY	STATE	ZIP CODE	COUNTY

Wastewater Treatment Facility: Mo- (Outfall Of )

3.1 Legal Description: \_\_\_\_\_ ¼, \_\_\_\_\_ ¼, \_\_\_\_\_ ¼, Sec. \_\_\_\_\_, T \_\_\_\_\_, R \_\_\_\_\_  
(Use additional pages if construction of more than one outfall is proposed.)

3.2 UTM Coordinates Easting (X): \_\_\_\_\_ Northing (Y): \_\_\_\_\_  
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

3.3 Name of receiving streams: \_\_\_\_\_

**4.0 PROJECT OWNER**

NAME		TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS	
ADDRESS	CITY	STATE	ZIP CODE	

**5.0 CONTINUING AUTHORITY:** A continuing authority is a company, business, entity or person(s) that will be operating the facility and/or ensuring compliance with the permit requirements.

NAME		TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS	
ADDRESS	CITY	STATE	ZIP CODE	

5.1 A letter from the continuing authority, if different than the owner, is included with this application.  YES  NO  N/A

5.2 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHORITY IS A MISSOURI PUBLIC SERVICE COMMISSION REGULATED ENTITY.

A. Is a copy of the certificate of convenience and necessity included with this application?  YES  NO

5.3 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHORITY IS A PROPERTY OWNERS ASSOCIATION.

A. Is a copy of the as-filed restrictions and covenants included with this application?  YES  NO

B. Is a copy of the as-filed warranty deed, quitclaim deed or other legal instrument which transfers ownership of the land for the wastewater treatment facility to the association included with this application?  YES  NO

C. Is a copy of the as-filed legal instrument (typically the plat) that provides the association with valid easements for all sewers included with this application?  YES  NO

D. Is a copy of the Missouri Secretary of State's nonprofit corporation certificate included with this application?  YES  NO


**6.0 ENGINEER**

ENGINEER NAME / COMPANY NAME		TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS	
ADDRESS	CITY	STATE	ZIP CODE	

**7.0 APPLICATION FEE**

CHECK NUMBER  JETPAY CONFIRMATION NUMBER

**8.0 PROJECT OWNER:** I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

PROJECT OWNER SIGNATURE  


PRINTED NAME \_\_\_\_\_ DATE \_\_\_\_\_

TITLE OR CORPORATE POSITION	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
-----------------------------	---------------------------------	----------------

Mail completed copy to: MISSOURI DEPARTMENT OF NATURAL RESOURCES  
WATER PROTECTION PROGRAM  
P.O. BOX 176  
JEFFERSON CITY, MO 65102-0176

**END OF PART A.**  
**REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHETHER PART B NEEDS TO BE COMPLETE.**

**PART B – LAND APPLICATION ONLY**  
**(Submit only if the proposed construction project includes land application of wastewater.)**

**8.0 FACILITY INFORMATION**

8.1 Type of wastewater to be irrigated:  Domestic  State/National Park  Seasonal business  
 Municipal  Municipal with a pretreatment program or significant industrial users  
 Other (explain) \_\_\_\_\_

8.2 Months when the business or enterprise will operate or generate wastewater:  
 12 months per year  Part of the year (list months): \_\_\_\_\_

8.3 This system is designed for:  
 No-discharge.  
 Partial irrigation when feasible and discharge rest of time.  
 Irrigation during recreational season, April – October, and discharge during November – March.  
 Other (explain) \_\_\_\_\_.

**9.0 STORAGE BASINS**

9.1 Number of storage basins: \_\_\_\_\_ (Use additional pages if greater than three basins.)

9.2 Type of basins:  Steel  Concrete  Fiberglass  Earthen  Earthen with membrane liner

9.3 Storage basin dimensions at inside top of berm (feet). Report freeboard as feet from top of berm to emergency spillway or overflow pipe.  
Basin #1: Length \_\_\_\_\_ Width \_\_\_\_\_ Depth \_\_\_\_\_ Freeboard \_\_\_\_\_ Depth \_\_\_\_\_ Safety \_\_\_\_\_ % Slope \_\_\_\_\_  
Basin #2: Length \_\_\_\_\_ Width \_\_\_\_\_ Depth \_\_\_\_\_ Freeboard \_\_\_\_\_ Depth \_\_\_\_\_ Safety \_\_\_\_\_ % Slope \_\_\_\_\_  
Basin #3: Length \_\_\_\_\_ Width \_\_\_\_\_ Depth \_\_\_\_\_ Freeboard \_\_\_\_\_ Depth \_\_\_\_\_ Safety \_\_\_\_\_ % Slope \_\_\_\_\_

9.4 Storage Basin operating levels (report as feet below emergency overflow level).  
Basin #1: Maximum operating water level \_\_\_\_\_ ft Minimum operating water level \_\_\_\_\_ ft  
Basin #2: Maximum operating water level \_\_\_\_\_ ft Minimum operating water level \_\_\_\_\_ ft  
Basin #3: Maximum operating water level \_\_\_\_\_ ft Minimum operating water level \_\_\_\_\_ ft

9.5 Design depth of sludge in storage basins.  
Basin #1: \_\_\_\_\_ ft Basin #2: \_\_\_\_\_ ft Basin #3: \_\_\_\_\_ ft

9.6 Existing sludge depth, if the basins are currently in operation.  
Basin #1: \_\_\_\_\_ ft Basin #2: \_\_\_\_\_ ft Basin #3: \_\_\_\_\_ ft

9.7 Total design sludge storage: \_\_\_\_\_ dry tons and \_\_\_\_\_ cubic feet

**10.0 LAND APPLICATION SYSTEM**

10.1 Number of irrigation sites \_\_\_\_\_ Total Acres \_\_\_\_\_ Maximum % field slopes \_\_\_\_\_  
Location: \_\_\_\_\_ ¼, \_\_\_\_\_ ¼, \_\_\_\_\_ ¼, \_\_\_\_\_ Sec. \_\_\_\_\_ T \_\_\_\_\_ R \_\_\_\_\_ County \_\_\_\_\_ Acres  
Location: \_\_\_\_\_ ¼, \_\_\_\_\_ ¼, \_\_\_\_\_ ¼, \_\_\_\_\_ Sec. \_\_\_\_\_ T \_\_\_\_\_ R \_\_\_\_\_ County \_\_\_\_\_ Acres  
Location: \_\_\_\_\_ ¼, \_\_\_\_\_ ¼, \_\_\_\_\_ ¼, \_\_\_\_\_ Sec. \_\_\_\_\_ T \_\_\_\_\_ R \_\_\_\_\_ County \_\_\_\_\_ Acres  
(Use additional pages if greater than three irrigation sites.)

10.2 Type of vegetation:  Grass hay  Pasture  Timber  Row crops  
 Other (describe) \_\_\_\_\_

10.3 Wastewater flow (dry weather) gallons per day: Average annual \_\_\_\_\_ Seasonal \_\_\_\_\_ Off-season \_\_\_\_\_

10.4 Land application rate (design flow including 1-in-10 year storm water flows):  
Design: \_\_\_\_\_ inches/year \_\_\_\_\_ inches/hour \_\_\_\_\_ inches/day \_\_\_\_\_ inches/week  
Actual: \_\_\_\_\_ inches/year \_\_\_\_\_ inches/hour \_\_\_\_\_ inches/day \_\_\_\_\_ inches/week

10.5 Total irrigation per year (gallons): Design: \_\_\_\_\_ gal Actual: \_\_\_\_\_ gal

10.6 Actual months used for irrigation (check all that apply):  
 Jan  Feb  Mar  Apr  May  Jun  Jul  Aug  Sep  Oct  Nov  Dec

10.7 Land application rate is based on:  
 Hydraulic Loading  Other (describe) \_\_\_\_\_  
 Nutrient Management Plan (N&P) If N&P is selected, is the plan included?  YES  NO

## INSTRUCTIONS FOR COMPLETING APPLICATION FOR CONSTRUCTION PERMIT – WASTEWATER TREATMENT FACILITIES

All blanks must be filled in when the application is submitted to the Missouri Department of Natural Resources. This includes the **required signature**.

**Note:** Use the form Application for Construction Permit – Sewer Extension, MO 780-1632, if only collection system component(s) are to be constructed.

A land disturbance permit is required if construction will result in the disturbance of one or more acres of land. A land disturbance permit is available through the department's ePermitting system at [dnr.mo.gov/env/wpp/epermit/help.htm](http://dnr.mo.gov/env/wpp/epermit/help.htm). A permit fee in accordance with 10 CSR 20-6.011 is required.

After receiving a complete application, the Department enters the application information into the Missouri Clean Water Information System. You may search for the status of a construction permit online at [dnr.mo.gov/mocwis\\_public/applicationInprocessSearch.do](http://dnr.mo.gov/mocwis_public/applicationInprocessSearch.do).

### Part A – Basic Application Information

- 1.0 If the answer to any of the questions in this section is no, this application may be considered incomplete and returned to the applicant.
- 1.1 Check the appropriate box. If the project is funded with federal or state monies, supply the funding agency name and project number.
- 1.2 Check the appropriate box. Provide the date of department approval for the antidegradation report. Include a copy of the approved *Water Quality and Antidegradation Review* with this application. Not every construction project may require an antidegradation review. For more information, guidance documents and forms concerning antidegradation visit [dnr.mo.gov/env/wpp/permits/antideg-implementation.htm](http://dnr.mo.gov/env/wpp/permits/antideg-implementation.htm).
- 1.3 Check the appropriate box and provide the date of department approval. Per 10 CSR 20-8.110(2), a facility plan must be submitted to the department prior to the submittal of a construction permit application. The department has developed a fact sheet to aid in the development of an approvable facility plan, Facility Plan Guidance for Wastewater Treatment Facilities, Fact Sheet--PUB2416.
- 1.4 Complete only if No. 1.3 is answered No. Check the appropriate box. Include the exemption reason from 10 CSR 20-6.010(4)(B).
- 1.5 Check the appropriate box. Provide a copy of the appropriate plans and specifications for department review when applying for a construction permit per 10 CSR 20-8.110 and 10 CSR 20-6.010. A Missouri registered professional engineering seal, signature and date is required on each sheet of the plans and the cover of the technical specifications. An electronic copy of the construction permit application and the information listed below in Portable Document Format (PDF) searchable format or department approved equivalent per 10 CSR 20-6.010(5)(G), along with one (1) paper copy for projects not seeking department funding or two (2) paper copies for projects seeking department funding under 10 CSR 20-4.
- 1.6 Check the appropriate box. A summary of design shall accompany the plans and specifications when applying for a construction permit per 10 CSR 20-6.010(5)(G) and 10 CSR 20-8.110(8). The department has developed a fact sheet to aid in the development of an acceptable summary of design. This document is available online at [dnr.mo.gov/pubs/pub2417.htm](http://dnr.mo.gov/pubs/pub2417.htm).
- 1.7 Check the appropriate box if an operating permit modification is needed. Include the applicable operating permit application. New outfalls, discharges, projects converting to land application, or a lagoon upgrade require an operating permit modification application. Contact the Department for clarification. Projects that may not need an operating permit modification check the N/A box and indicate whether you want to review the draft prior to public notice should the Department determine a modification is required. The Department can modify your operating permit without an application for projects that are adding chlorine disinfection, constructing to meet current operating permit limits, or constructing to meet limits in a schedule of compliance.
  - Form A is available online at [dnr.mo.gov/forms/780-1479-f.pdf](http://dnr.mo.gov/forms/780-1479-f.pdf).
  - Form B is available online at [dnr.mo.gov/forms/780-1512-f.pdf](http://dnr.mo.gov/forms/780-1512-f.pdf).
  - Form B2 is available online at [dnr.mo.gov/forms/780-1805-f.pdf](http://dnr.mo.gov/forms/780-1805-f.pdf).
- 1.8 Check the appropriate box. More information about the Compliance and Enforcement Water Protection Program is available online at [dnr.mo.gov/env/wpp/enf/index.html](http://dnr.mo.gov/env/wpp/enf/index.html).

- 1.9 Check the appropriate box. Include payment or payment confirmation for the fee with your application. See 10 CSR 20-6.011(2) and Wastewater Treatment Facility Permit Fees -- PUB2564.
- Note:** The department returns incomplete construction permit applications and related engineering documents and the application forfeits the fees. See 10 CSR 20-6.011(5)(A). The applicant forfeits the fees when the applicant withdraws construction applications. See 10 CSR 20-6.011(5)(B).
- 2.1 Provide the name of the proposed construction project.
- 2.2 Provide the estimated project construction cost. The estimated and final project construction cost will be useful to the department in conducting affordability analyses.
- 2.3 Briefly describe the construction project by providing the number and capacity of each new unit.
- 2.4 Briefly describe the method of sludge handling, use and disposal at the treatment facility.
- 2.5 Provide the project design information and when required in the units specified.
- A. Provide the current population and the design population to be served by the wastewater treatment facility.
- B. Provide the estimated design flow information in accordance with 10 CSR 20-8.110(3).
- 2.6 Provide the additional project information in accordance with 10 CSR 20-8.110(5).
- A. Attach a topographic map of the area extending at least one mile beyond the facility property boundaries. This map must show the outline of the facility and the following information. A topographic map is available online at [dnr.mo.gov/internetmapviewer](http://dnr.mo.gov/internetmapviewer) or from the Department of Natural Resources' Missouri Geological Survey in Rolla, Mo., at 573-368-2125. (Submittals of more than one map may be necessary to show the entire area.)
1. The area surrounding the wastewater treatment facility, including all unit processes.
  2. The major pipes or other structures through which wastewater enters the treatment facility and the pipes or other structures through which treated wastewater is discharged from the treatment facility. Include outfalls from bypass piping, if applicable.
  3. The actual point of discharge.
  4. Wells, springs, other surface water bodies and drinking water wells that are: 1) within ¼ mile of the property boundaries of the treatment facility and 2) listed in public record or otherwise known to the applicant.
  5. Any areas where biosolids produced by the treatment facility are treated, stored, or disposed.
  6. If the treatment facility receives waste classified as hazardous under the Resource Conservation and Recovery Act, or RCRA, by truck, rail, or special pipe, show on the map where hazardous waste enters the treatment works and where it is treated, stored or disposed.
  7. Outline any wastewater land application sites.
- B. Provide a process flow diagram with the influent and effluent design average flow and peak flow capabilities. Also, depict all of the treatment facility components and the corresponding hydraulic capacities of each component. In addition, include all recycle flows in the diagram. If land application is used, depict all irrigation equipment and application sites.
- 3.0 Complete the Wastewater Treatment Facility information. Include the Missouri State Operation Permit number, outfall number, physical location, and other appropriate contact information.
- 3.1 Provide the project legal description. The department's mapping system is available online at [dnr.mo.gov/internetmapviewer](http://dnr.mo.gov/internetmapviewer).
- 3.2 A Global Positioning System, or GPS, is a satellite-based navigation system. The department prefers that a GPS receiver is used and the displayed coordinates submitted. If access to a GPS receiver is not available, use a mapping system to approximate the coordinates.
- 3.3 Provide the name of the receiving stream(s) to which the discharge is directed and any subsequent tributary until a continuous flowing stream is reached.
- 4.0 Complete Project Owner information. Include the legal name, address, phone number with area code and email address.
- 5.0 Complete Continuing Authority contact information. If same as the Project Owner, write "Same as above". A continuing authority is a company, business, entity or person(s) that will be operating the facility and/or ensuring compliance with the permit requirements. A continuing authority is not, however, an entity or individual that is contractually hired by the permittee to sample or operate and maintain the system for a defined time period, such as a certified operator or analytical laboratory. To access the regulatory requirement regarding continuing authority, 10 CSR 20-6.010(2), please visit <https://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf>. A continuing authority's name must be listed exactly as it appears on the Missouri Secretary of State's (SoS's) webpage: <https://bsd.sos.mo.gov/BusinessEntity/BESearch.aspx?SearchType=0>, unless the continuing

authority is an individual(s), government, or otherwise not required to register with the SoS. See 10 CSR 20-6.010(2) for the regulatory requirement regarding continuing authority.

- 5.1 Check the appropriate box. Include a letter signed by the continuing authority (if not same as the project owner) stating they will “accept, operate and maintain” the wastewater treatment facility after successful construction. If the continuing authority will not accept and agree to operate and maintain the wastewater treatment facility, this application will be considered incomplete.
- 5.2 Complete if the continuing authority is a Missouri Public Service Commission, or PSC, regulated entity. See 10 CSR 20-6.010(2)(B)3 for more information. This information is not necessary for existing wastewater treatment facilities currently permitted with a PSC entity as owner and continuing authority.
- 5.3 Complete if the continuing authority is a property owners association. See 10 CSR 20-6.010(2)(B)5 for more information. This information is not necessary for existing wastewater treatment facilities currently permitted with the property owners association as owner and continuing authority.
- 6.0 Complete Engineer contact information.
- 7.0 Check the appropriate box and include check or confirmation number. Applicants can pay fees online by credit card or eCheck through a system called JetPay.
- Per Section 37.001, RSMo, a transaction fee will be included. The transaction fee is paid to the third party vendor JetPay, not the Department of Natural Resources.
  - Be sure to select the correct fee type and corresponding URL to ensure your payment is applied appropriately. If you are unsure what type of fee to pay, please contact the Water Protection Program’s Budget, Fees, and Grants Management Unit by phone at (573) 522-1485 for assistance.
  - Upon successful completion of your payment, JetPay provides a payment confirmation. Submit this form with a copy of the payment confirmation if requesting a new permit or a permit modification. For permit renewals of active permits, the Department will invoice fees annually in a separate request.
  - If you are unable to make your payment online, but want to pay with credit card, you may email your name, phone number, and invoice number, if applicable, [WPPFEES@dnr.mo.gov](mailto:WPPFEES@dnr.mo.gov). The Budget, Fees, and Grants Management Unit will contact you to assist with the credit card payment. **Please do not include your credit card information in the email.**
  - Applicants can find fee rates in 10 CSR 20-6.011 and Wastewater Treatment Facility Permit Fees -- PUB2564 (<https://dnr.mo.gov/pubs/pub2564.htm>).

WP 04 Construction Permits: <https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/592/>

- 8.0 The owner of the construction project must sign the application.

## Part B – Land Application

Complete Part B only if the proposed construction project includes land application of wastewater from a treatment facility.

- 8.0 Provide the applicable Facility Information land application information. Check the appropriate boxes.
- 9.0 Provide the applicable Storage Basins information. Check the appropriate boxes.
- Freeboard – The depth from the top of the berm to the emergency spillway. Minimum depth • is one foot.
  - Safety Volume – The depth to contain the 25-year, 24-hour storm event. Minimum depth is • one foot.
  - Maximum Operating Water Level – The water level at the bottom of the safety volume. • Minimum depth is two feet below the top of the berm.
  - Minimum Operating Water Level – The water level above the bottom of the lagoon basin for • seal protection. Minimum depth is two feet and may be greater when additional treatment volume is included.
  - Total Depth is from the top of the berm to the bottom of the lagoon basin including freeboard. •
- 10.0 Provide the applicable Land Application System information. Check the appropriate boxes.
- 10.7 Check the appropriate box. If the land application rate is based on a Nutrient Management Plan, or N and P, include the plan with this application for department review.

Mail the completed form and applicable fee to the department.

If there are any questions concerning this form, please contact the Department of Natural Resources, Water Protection Program at 800-361-4827 or 573-751-1300 or visit [dnr.mo.gov/env/wpp](http://dnr.mo.gov/env/wpp).