

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

Mr. James Wiskstrom
36000 Westermier Road
Sedalia, MO 65301

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.

January 14, 2019
Effective Date

January 13, 2021
Expiration Date


Edward B. Galbraith, Director, Division of Environmental Quality


Chris Wieberg, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

The facility will replace its current single cell lagoon with an extended aeration treatment plant. The plant will retain the existing septic tank and its design flow of 1,800 GPD. The treatment plant provides wastewater treatment for 12 apartments.

A closure plan of the lagoon cell will need to be submitted to the Kansas City Regional Office for review and approval prior to any closure activities.

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 publically-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 in accordance with the plans and specifications submitted by Eaves Engineering on January 3, 2019.
3. The Department must be contacted in writing prior to making any changes to the approved 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(8).

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 Kansas City Regional Office per 10 CSR 20-7.015(9)(E)2.
5. The wastewater treatment facility shall be located at least fifty feet (50') from any dwelling or establishment.
6. The wastewater treatment facility shall be located above the twenty-five (25)-year flood level.
7. Wastewater treatment facility shall not be located within one hundred feet (100') of any water well or water supply structure.
8. 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 dnr.mo.gov/env/wpp/epermit/help.htm. See dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm for more information.
9. A United States (U.S.) Army Corps of Engineers (COE) permit (404) and a Water Quality Certification (401) issued by the Department or permit waiver may be required for the activities described in this permit. This permit is not valid until these requirements are satisfied. If construction activity will disturb any land below the ordinary high water mark of jurisdictional waters of the U.S. then a 404/401 will be required. Since the COE makes determinations on what is jurisdictional, you must contact the COE to determine permitting requirements. You may call the Department's Water Protection Program at 573-751-1300 for more information. See dnr.mo.gov/env/wpp/401/ for more information.
10. A full closure plan of the lagoon cell shall be submitted to the Department's Kansas City Regional Office for review and approval of any permitted wastewater treatment system being replaced. In accordance with 10 CSR 20-6.010(12), the closure plan must meet the requirements outlined in Standard Conditions Part III of the Missouri State Operating Permit No. MO-0097276. Closure shall not commence until the submitted closure plan is approved by the Department.
11. Upon completion of construction:
 - A. Mr. James Wikstrom will become the continuing authority for operation, maintenance, and modernization 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 eDMR permit Holder and Certifier Registration, Form--MO 780-2204 to comply with your operating permit;
- D. Submit the enclosed form Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(D) and request the operating permit modification be issued.

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

The Oak Tree Apartments wastewater treatment system has an aerated septic tank, a single cell lagoon and chlorination disinfection and dechlorination system. The existing treatment plants fail to meet nitrogen state standards for discharge. The owner of the property is proposing to replace the existing lagoon treatment with an extended aeration treatment plant in order to meet ammonia limits in the facility's state operating permit.

2. FACILITY DESCRIPTION

The current facility includes two aerated septic tanks, followed by a single cell lagoon, then chlorination and dechlorination disinfection before discharging. Sludge is hauled away by a contract hauler.

The facility will replace its single cell lagoon with a sludge recycling extended aeration plant which includes two 1,500 gallons aeration tanks and 659 gallons secondary clarifier. The existing aerated septic tanks and chlorination system will remain in service.

The Oak Trees Apartment WWTF is located at 4930 Vernon Road, Sedalia, in Pettis County, Missouri. The facility has a design average flow of 1,800 gpd and serves a hydraulic population equivalent of approximately 36 people.

3. COMPLIANCE PARAMETERS

The draft operating permit publicly noticed June 19, 2017 included final effluent limitations for Biochemical Oxygen Demand₅ of 45 mg/L weekly average and 30 mg/L monthly average; and Total Suspended Solids of 45 mg/L weekly average and 30 mg/L monthly average; and Ammonia as N of 3.6 mg/L daily maximum and 1.4 mg/L monthly average during summer months, 7.5 mg/L daily maximum and 2.5 mg/L monthly average during winter months; and Escherichia Coliform of 1030 colonies per 100 mL daily maximum and 206 colonies per 100 mL monthly average; and Total Residual Chlorine of <130 ug/L daily maximum and monthly average; and pH of 9.0 maximum and 6.5 minimum.

The draft operating permit also has monitoring only requirement for Flow and Dissolved Oxygen. This proposed construction project will allow the facility to meet these limits.

4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

- Aeration Chambers – Two 5ft by 12 ft by 4 feet sidewater depth aeration chambers operating in series by means of a transfer pipe with a total volume of 480 ft³ will be provided. Aeration by means of duplex 9.5 hp blowers (Roots Model 36J) capable of supplying 120 scfm each to 4 fine bubble diffusers per chamber with a capacity of 15 scfm per diffuser. The aeration chambers are designed for an average daily loading of 5.1 lbs BOD₅. A transfer pipe and elbow allows wastewater from the second aeration chamber to move by gravity to the clarifier.
- Final Clarifier – The final clarifier will have a settling volume of 659 gallons and a detention time of 8.7 hours with a settling rate of 72 gpd/ft². An air lift surface skimmer is provided to remove grease and floatables. The clarified effluent will flow by gravity to the existing disinfection system. An air lift pump will be provided to move settled sludge from the dual square hopper bottoms to the first and second aeration chamber as return activated sludge.
- Sludge Holding Chamber – The sludge holding chamber will have a volume of 1,500 gallons. Sludge removal shall be by contract hauler.

5. OPERATING PERMIT

Operating permit MO-0097276 will require a modification to reflect the construction activities. The modified Oak Tree Apartments WWTF, MO-0097276, was successfully public noticed from June 19, 2017 to July 18, 2017 with no comments received. Submit the Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(D) and request the operating permit modification be issued.

Lei Hou, PE
Engineering Section
lei.hou@dnr.mo.gov

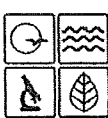
HP 30318
CPC00 2015

RECEIVED

JUL 26 2018

Water Protection Program

FOR DEPARTMENT USE ONLY	
APP NO.	CP NO.
FEE RECEIVED \$1000.00	CHECK NO. 3426
DATE RECEIVED 7-26-18	



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

APPLICATION OVERVIEW

The Application for Construction Permit - Wastewater Facility form is for construction pertaining to domestic wastewater treatment facilities, agricultural facilities, and components thereof. This 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 Is this an application for an agricultural? ☐ YES (See instructions.) ☒ N/A
- 1.3 Has the Missouri Department of Natural Resources approved the proposed project's antidegradation review?
☐ YES Date of Approval: _____ N/A
- 1.4 Has the department approved the proposed project's facility plan*?
☐ YES Date of Approval: _____ ☒ NO ☒ N/A (If Not Applicable, complete No. 1.5.)
- 1.5 [Complete only if answered Not Applicable on No. 1.4] Is a copy of the engineering report* for wastewater treatment facilities with a design flow less than 22,500 gpd included with this application?
☒ YES ☐ NO
- 1.6 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
- 1.7 Is a summary of design* included with this application? ☒ YES ☐ NO
- 1.8 Is a general operating permit applicable?
☒ YES Submit the appropriate operating permit application to the Regional Office at least 60 days prior to operation.
☐ NO Enclose the appropriate operating permit application and fee submittal. Denote which form: ☐ B ☐ B2
- 1.9 Is the facility currently under enforcement with the department or the Environmental Protection Agency? ☐ YES ☒ NO
- 1.10 Is the appropriate fee included with this application? ☒ YES ☐ NO (See instructions for appropriate fee.)

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

2.0 PROJECT INFORMATION

2.1 NAME OF PROJECT
Oak Tree Apartments WWTF Upgrade

2.2 PROJECT DESCRIPTION
Existing permitted lagoon being replaced by package treatment plant.

2.3 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION
No change

2.4 DESIGN INFORMATION
A. Current population: 30; Design population: 36
B. Actual Flow: 1800 gpd; Design Average Flow: 2880 gpd;
Actual Peak Daily Flow: 3000 gpd; Design Maximum Daily Flow: 21600 gpd;
Design Wet Weather Event: 3000

2.5 ADDITIONAL INFORMATION
A. Is a topographic map attached? ☒ YES ☐ NO
B. Is a process flow diagram attached? ☒ YES ☐ NO

2.6 ESTIMATED PROJECT CONSTRUCTION COST
\$ 45,000

3.0 WASTEWATER TREATMENT FACILITY					
NAME <i>Oak Tree WWT</i>		TELEPHONE NUMBER WITH AREA CODE <i>660/287-7780</i>		EMAIL ADDRESS	
ADDRESS <i>4930 Vernon Rd</i>		CITY <i>Sedalia</i>	STATE <i>MO</i>	ZIP CODE <i>65301</i>	COUNTY <i>Pettis</i>
Wastewater Treatment Facility: Mo- (Outfall Of)					
3.1 Legal Description: <i>1/4 NE 1/4, NE 1/4, Sec. 20, T 45N, R 21W</i> +3840051/ (Use additional pages if construction of more than one outfall is proposed.) -09315124					
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: <i>Tributary to Flat Creek (U) (C) (00865) 303(d) list</i>					
4.0 PROJECT OWNER					
NAME <i>James Wiskstrom</i>		TELEPHONE NUMBER WITH AREA CODE <i>660/287-7780</i>		EMAIL ADDRESS	
ADDRESS <i>36000 Westermier Rd</i>		CITY <i>Sedalia</i>	STATE <i>MO</i>	ZIP CODE <i>65301</i>	
5.0 CONTINUING AUTHORITY: Permanent organization that will serve as the continuing authority for the operation, maintenance and modernization of the wastewater collection system.					
NAME <i>Same as above</i>		TELEPHONE NUMBER WITH AREA CODE		EMAIL ADDRESS	
ADDRESS		CITY	STATE	ZIP CODE	
5.1 A letter from the continuing authority, if different than the owner, is included with this application. <input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> 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? <input type="checkbox"/> YES <input checked="" type="checkbox"/> 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? <input type="checkbox"/> YES <input checked="" type="checkbox"/> 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? <input type="checkbox"/> YES <input checked="" type="checkbox"/> 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? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
D. Is a copy of the Missouri Secretary of State's nonprofit corporation certificate included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO					
6.0 ENGINEER					
ENGINEER NAME / COMPANY NAME <i>Harvard Ebers / Eaves Engineering</i>		TELEPHONE NUMBER WITH AREA CODE <i>816 820-6566</i>		EMAIL ADDRESS <i>eavesm@eaves-eng.com</i>	
ADDRESS <i>358 Sweet William Lane</i>		CITY <i>Sedalia</i>	STATE <i>MO</i>	ZIP CODE <i>65301</i>	
7.0 PROJECT OWNER: I hereby certify that I am familiar with the information contained in this application and to the best of my knowledge and belief such information is true, complete, and accurate, and if granted this permit, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders, and decisions, subject to any legitimate appeal available to applicant under Missouri Clean Water Law. I also understand the issuance of the construction permit does not guarantee the proposed wastewater treatment will meet the required effluent limitations of the issued Missouri State Operating Permit for this facility.					
PROJECT OWNER SIGNATURE <i>James Wiskstrom</i>					
PRINTED NAME <i>James Wiskstrom</i>				DATE <i>Jan 30, 2017</i>	
TITLE OR CORPORATE POSITION <i>Owner</i>		TELEPHONE NUMBER WITH AREA CODE <i>660/287-7780</i>		EMAIL 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.					