

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

City of Salisbury
PO Box 168
Salisbury, MO 65281

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 4, 2018
Effective Date

October 23, 2020
Modification Date

Edward B. Galbraith
Edward B. Galbraith, Director, Division of Environmental Quality

April 1, 2021
Expiration Date

Chris Wieberg
Chris Wieberg, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

Construction includes a new 14 million gallons earthen storage basin with pumpdown marker, pump house with 2 – 75 hp variable frequency drive pumps – each designed for 1000 gallons per minute at 160 feet of total dynamic head, 8, 10, and 12 inch diameter C900 PVC header pipe system, and 213 acres utilized for irrigation consisting of a 783.2 foot center pivot with 151.3 foot end gun covering an effective area of 62.0 acres and 38 – 151.3 foot radius, 150 gallon per minute fixed head sprinklers covering 44.24 effective acres.

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 determine Cost Analysis for Compliance because the permit contains no new conditions or requirements that convey a new cost to the facility. To address the permit exceedances for BOD, and Ammonia effluent limitations as required in the current Missouri State Operating Permit, MO-0025313, the City of Salisbury determined that no-discharge system was the preferred cost effective option as there was ample land available for the land application site near the existing lagoon.

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 White Cloud Engineering & Construction on April 30, 2018.

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 Northeast 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'), and preferably three hundred feet (300') 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. Upon completion of construction:
 - A. The City will become the continuing authority for operation, maintenance, and modernization of these facilities;

- B. Submit an electronic copy of the as-builts if the project was not constructed in accordance with previously submitted plans and specifications; and
- C. 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 facility is not meeting effluent limitations for BOD and *E. Coli* in the current Missouri State Operating Permit, MO-0025313. The City of Salisbury determined that no-discharge system was the best option as there was ample land available for the land application site. Therefore, the City plans to convert the existing discharge lagoon to a no-discharge system with irrigation.

2. FACILITY DESCRIPTION

The existing facility is a three-cell lagoon with a design flow of 196,000 gallons per day. The proposed facility will add a fourth cell to become a four-cell storage lagoon with no-discharge land application for 170,500 gpd. The Salisbury WWTF is located at the south terminus of Market Lane, Salisbury, in Chariton County, Missouri.

3. COMPLIANCE PARAMETERS

Currently, the facility has quarterly discharge monitoring report requirements. The facility has compliance issues with the effluent limitations for BOD and *E. Coli*. Ammonia final limits become effective on February 1, 2019 and these limits are not expected to be met regularly with the current discharging lagoon. Converting to no-discharge is proposed to address the compliance issues.

4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

The average design flow is 170,500 gallons per day with the design flow plus 10-year rainfall minus evaporation being 205,000 gallons per day. The facility has approximately 109 days of storage during the wettest year in ten when using the minimum operating depth of two feet. The new storage basin with 14 million gallons of storage between the two and twelve foot maximum water levels will have a clay liner, rip rap, and a pumpdown marker. A pumpdown marker will also be installed in each of the existing basins.

2 – 75 hp variable frequency drive pumps – each designed for 1000 gpm at 160 feet of total dynamic head will be able to operate independently into two separate header systems. One header is for the center pivot and the other is for the fixed heads. Header system includes 3700 linear feet of 12 inch, 3200 linear feet of 10 inch, and 6200 linear feet of 8 inch C900 PVC piping.

The irrigation equipment consists of a 783.2 foot center pivot with 151.3 foot end gun covering an effective area of 62.0 acres and 38 – 151.3 foot, 150 gallon per minute radius fixed head sprinklers covering 44.24 effective acres. The sprinkler heads are proposed as Model 100 Nelson “Big Gun” sprinklers. The system is designed for one inch per day, three inches per week, and 24 inches per year onto grass hay. A TWIG system of programmable valve control will be used to control each irrigation head, both fixed and the end gun on the center pivot. This will eliminate both overloading irrigation acres due to overlap and sprinkling areas outside the allowable zone.

A detailed Operation and Maintenance Manual must be completed to utilize the system and manage the storage and irrigation of the wastewater effectively. With the water levels in the lagoon cells at varying elevations, the valves must be operated to effectively utilize the storage volume of the each lagoon cell. Additionally, the land application area must be checked for potential over irrigation of areas and any runoff including the capped tile drains. Existing tile drains will be permanently capped, as runoff into those drains would not comply with the zero-discharge design criteria.

5. OPERATING PERMIT

Operating permit MO-0025313 will require a modification to reflect the construction activities. The modified Salisbury WWTF, MO-0025313, was successfully public noticed from March 16 to April 16, 2018 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.

With your CP application, an operating permit modification was submitted for public notice to reflect the change in your operating permit. Your operating permit application for a renewal will be due before your CP is expired. The modification action does not fulfill the renewal application obligation.

6. CONSTRUCTION PERMIT MODIFICATION

This construction permit is being modified upon the request of the facility owner to extend the construction permit schedule. The construction permit will now expire on April 1, 2021.

Keith Forck
Engineering Section
keith.forck@dnr.mo.gov



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

RECEIVED

OCT 06 2017

Water Protection Program

CP0001940

AP28279

FOR DEPARTMENT USE ONLY

APP NO.	CP NO.
FEE RECEIVED 1,000	CHECK NO. 37163
DATE RECEIVED 10-6-17	

APPLICATION OVERVIEW

The Application for Construction Permit - Wastewater Facility form is for construction pertaining to domestic wastewater treatment facilities, agrichemical 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: CHV Project #: _____
- 1.2 Is this an application for an agrichemical? ☐ 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 0-DISCHARGE
- 1.4 Has the department approved the proposed project's facility plan*?
☒ YES Date of Approval: 12/27/16 ☐ 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: ☐ B1 ☒ 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

SALISBURY LAGOON IMPROVEMENTS

2.2 PROJECT DESCRIPTION

ADDITION OF STORAGE BASIN + IRRIGATION SYSTEM TO
MAKE THE SYSTEM ZERO-DISCHARGE

2.3 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION

STORED IN EXISTING LAGOON, AS PER EXISTING PERMIT

2.4 DESIGN INFORMATION

- A. Current population: 1300; Design population: 2000
- B. Actual Flow: 120000 gpd; Design Average Flow: 200000 gpd;
Actual Peak Daily Flow: _____ gpd; Design Maximum Daily Flow: _____ gpd;
Design Wet Weather Event: _____

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

\$ 600,000

3.0 WASTEWATER TREATMENT FACILITY				
NAME <i>Salisbury 6 Acre Lagoon</i>		TELEPHONE NUMBER WITH AREA CODE <i>660 388</i>		EMAIL ADDRESS <i>salisburyssc@valley.net</i>
ADDRESS (PHYSICAL) <i>S. Hwy PP-Market</i>	CITY <i>SALISBURY</i>	STATE <i>MO</i>	ZIP CODE <i>65281</i>	COUNTY <i>CHARITON</i>
Wastewater Treatment Facility: Mo- (Outfall <i>1</i> Of <i>1</i>)				
3.1 Legal Description: <i>1/4, SE 1/4, SE 1/4, Sec. 11, T 53, R 17</i> (Use additional pages if construction of more than one outfall is proposed.)				
3.2 UTM Coordinates Easting (X): <i>518127</i> Northing (Y): <i>4362235</i> For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)				
3.3 Name of receiving streams: <i>UNNAMED TRIB TO CHARITON RIVER</i>				
4.0 PROJECT OWNER				
NAME <i>CITY OF SALISBURY</i>		TELEPHONE NUMBER WITH AREA CODE <i>660-388-6197</i>		EMAIL ADDRESS <i>salisburyssc@valley.net</i>
ADDRESS <i>PO Box 168</i>	CITY <i>SALISBURY</i>	STATE <i>MO</i>	ZIP CODE <i>65281</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</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 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 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 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 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>WHITE CLOND ENG + CONST.</i>		TELEPHONE NUMBER WITH AREA CODE <i>660 5824111</i>		EMAIL ADDRESS <i>whiteclond@unitedsky.net</i>
ADDRESS <i>PO Box 468</i>	CITY <i>MARYVILLE</i>	STATE <i>MO</i>	ZIP CODE <i>64468</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>Stephen J. Kacvinsky</i>				
PRINTED NAME <i>STEPHEN J. KACVINSKY</i>			DATE <i>7/18/17</i>	
TITLE OR CORPORATE POSITION <i>Mayor</i>		TELEPHONE NUMBER WITH AREA CODE <i>660 388 6197</i>		EMAIL ADDRESS <i>Salisburyssc@valley.net</i>
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.				