

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

Ralls County PWS No. 1
Attn: Martin Judlowe, Vice-President
3318 Market Street
Hannibal, MO 63401

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.

April 24, 2018
Effective Date


Edward B. Galbraith, Director, Division of Environmental Quality

April 23, 2018
Expiration Date


Chris Wieberg, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

3 filter backwash and solids blowdown lagoons as part of the 1.5 MGD water treatment facility construction. Design flow is 45,000 gallons per day. Construction consists of approximately 205.6 linear feet of twelve inch PVC pipe, 1256.7 linear feet, of 21 inch PVC pipe, six manholes, and a three-cell lime sludge storage lagoon with approximate bottom dimensions are 21 feet by 420 feet for cell one and 11 feet by 161 feet for cells two and three. All lagoons have a maximum operating level of eight feet with telescoping valves to control the actual level and twelve inch PVC transfer piping.

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 Klingner & Associates, PC on January 31, 2018 with revised pages dated received April 5, 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. 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.
6. 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.

7. Upon completion of construction:
 - A. Ralls County PWSD No. 1 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 general operating permit MO-G640242 be issued.

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

New water plant needs a treatment system for the process wastewater.

2. FACILITY DESCRIPTION

The water district currently purchases water from the City of Hannibal. The water district is proposing to build a 1.5 million gallons per day water treatment plant. The proposed water plant will include lime softening, aeration, filtration, and disinfection.

Therefore a new lime sludge storage basin will be required to settle and store the process wastewater.

The Ralls County PWSD No. 1 – Water Treatment Facility is located at 5700 Highway 61, Hannibal, in Ralls County, Missouri. The facility has a design average flow of 45,000 gpd.

3. COMPLIANCE PARAMETERS

The proposed project will be required to meet the requirements of MO-G640242 Table A.

4. ANTIDegradation

The effluent limits in the MOG64 operating permit for this discharge are adequate for prevention of degradation. The general permit has limitations for Settleable Solids, pH, and Total Residual Chlorine.

5. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

The proposed storage for lime solids will be accomplished by the use of a three-cell lagoon. Cell 1 has a volume of 988,845 gallons and cells two and three each have a volume of 334,493 gallons; providing a total volume of 1,657,831 gallons of storage. The three-cell lime sludge storage lagoon has approximate bottom dimensions are 21 feet by 420 feet for cell one and 11 feet by 161 feet for cells two and three and each has a maximum operating level of eight feet. Each cell will have a compacted clay liner. The cells will be prefilled to protect the liner, prevent weed growth, and allow measurement of percolation losses. Assuming a five percent sludge concentration in the solids blowdown, approximately 108,000 gallons of sludge will be sent to the lagoon each month. These lagoons provide a total sludge storage volume of 460.5 days. Filter backwash and filter wastewater will also be sent to the lagoon. The lagoon will utilize telescoping valves to dewater the solids and allow the sludge to settle and clear water to waste to effluent and discharge in compliance with the general permit for water treatment plant filter backwash facilities.

6. OPERATING PERMIT

Submit the Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(D) and request the general operating permit MO-G640242 be issued.

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



MISSOURI DEPARTMENT OF NATURAL RESOURCES **RECEIVED**
 WATER PROTECTION PROGRAM
APPLICATION FOR CONSTRUCTION PERMIT - 31 2018
WASTEWATER FACILITY

Water Protection Program

AP 29304
 CP0001965

FOR DEPARTMENT USE ONLY	
APP NO.	CP NO.
FEE RECEIVED <input checked="" type="checkbox"/>	CHECK NO.
DATE RECEIVED	

1-31-18

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: _____ 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: _____
- 1.4 Has the department approved the proposed project's facility plan*?
 YES Date of Approval: 11/27/2017 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

Ralls County PWSD No. 1 - Water Treatment Facility

2.2 PROJECT DESCRIPTION

Construction of 3 filter backwash and solids blowdown lagoons as part of the 1.5 MGD water treatment facility construction.

2.3 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION

Sludge will be stored in the lagoon. Use of telescopic valves will allow dewatering and control of discharge. Sludge will be land applied.

2.4 DESIGN INFORMATION

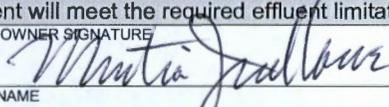
- A. Current population: n/a; Design population: n/a
- B. Actual Flow: _____ gpd; Design Average Flow: 45000 gpd;
 Actual Peak Daily Flow: _____ gpd; Design Maximum Daily Flow: 67500 gpd;
 Design Wet Weather Event: 67500

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

\$ 9,800,000.00

3.0 WASTEWATER TREATMENT FACILITY				
NAME Ralls County PWSD No. 1 - Water Treatment Plant		TELEPHONE NUMBER WITH AREA CODE (573) 221-6615		EMAIL ADDRESS ldrullinger@alliancewater.com
ADDRESS (PHYSICAL) US 61, 0.25 mi east of Rte. W intersection		CITY Hannibal	STATE MO	ZIP CODE 63401
COUNTY Marion				
Wastewater Treatment Facility: Mo-001 (Outfall 001 Of 1)				
3.1 Legal Description: NE ¼, NE ¼, ¼, Sec. 15 , T 57N , R 5W (Use additional pages if construction of more than one outfall is proposed.)				
3.2 UTM Coordinates Easting (X): 39.7411141 Northing (Y): -91.436892962 For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)				
3.3 Name of receiving streams: Tributary to Clear Creek				
4.0 PROJECT OWNER				
NAME Ralls County PWSD NO. 1		TELEPHONE NUMBER WITH AREA CODE (573) 221-6615		EMAIL ADDRESS ldrullinger@alliancewater.com
ADDRESS 3316 Market Street		CITY Hannibal	STATE MO	ZIP CODE 63401
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 Ralls County PWSD NO. 1		TELEPHONE NUMBER WITH AREA CODE (573) 221-6615		EMAIL ADDRESS ldrullinger@alliancewater.com
ADDRESS 3316 Market Street		CITY Hannibal	STATE MO	ZIP CODE 63401
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 checked="" type="checkbox"/> NO				
6.0 ENGINEER				
ENGINEER NAME / COMPANY NAME Mark C. Bross/Klingner & Associates, PC		TELEPHONE NUMBER WITH AREA CODE (573) 221-0020		EMAIL ADDRESS mcb@klingner.com
ADDRESS 4510 Paris Gravel Road		CITY Hannibal	STATE MO	ZIP CODE 63401
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 				
PRINTED NAME Frank Burch MARTIN - JUDLOWE			DATE 1/23/18	
TITLE OR CORPORATE POSITION President VICE - PRESIDENT		TELEPHONE NUMBER WITH AREA CODE (573) 221-6615		EMAIL ADDRESS ldrullinger@alliancewater.com
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 Subsurface
 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 two 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 _____

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

9.5 Design depth of sludge in storage basins.
 Basin #1: _____ ft Basin #2: _____ ft

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

9.7 Total design sludge storage: _____ dry tons and _____ cubic feet

10.0 LAND APPLICATION SYSTEM

10.1 Type of land application: Fixed Head Sprinklers Center Pivot Traveling Gun Drip Dispersal
 Subsurface Low Pressure Pipe Other (describe) _____

10.2 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.)

10.3 Type of vegetation: Grass hay Pasture Timber Row crops
 Other (describe)

10.4 Wastewater flow (dry weather) gallons per day: Average annual _____
 Seasonal _____ Off-season _____

10.5 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

10.6 Total irrigation per year (gallons): Design: _____ gal Actual: _____ gal

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

10.8 Land application rate is based on:
 Hydraulic Loading Other (describe) _____
 Nutrient Management Plan (N and P) If N and P is selected, is the plan included? YES NO