

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 Centralia
114 South Rollins St
Centralia, MO 65240

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.

September 10, 2020
Effective Date


Edward B. Galbraith, Director, Division of Environmental Quality

September 09, 2022
Expiration Date


Chris Wieberg, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

This project includes construction of two new single-cell storage basins for a land application system. Other related improvements will be covered under a separate construction permit and will include another storage cell, several new irrigation areas, necessary piping and pumping, operational changes, improved data measurement, and removal of the existing overland flow process.

Benoit Storage Cell Number Two will be constructed and sealed with a clay liner. The basin operating depth is 10 ft. The basin is non-aerated, has a surface area of 15.81 acres, and a volume of 56,713,899 gallons.

Rhodes Storage Cell will be constructed and sealed with a clay liner. The operating depth is 13.5 ft. The basin is non-aerated, has a surface area of 8.85 acres, and a volume of 41,850,872 gallons.

These storage basins, in conjunction with other proposed storage basins and existing storage basins, provides for approximately 440 days of retention at the proposed design flow and 355 days at the 1 in 10-year rainfall minus evaporation for the proposed storage period.

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.

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 Matthew Vander Tuig of Bartlett & West 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 Northeast Regional Office per 10 CSR 20-7.015(9)(G).
5. The wastewater treatment facility shall be located above the twenty-five (25)-year flood level.
6. 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 per 10 CSR 20-8.140(2)(B). The minimum distance between wastewater treatment facilities and all potable water sources shall be at least three hundred feet (300') per 10 CSR 20-8.140(2)(C)1.
7. 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.
8. 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.

9. All construction must adhere to applicable 10 CSR 20-8 (Chapter 8) requirements listed below.

10 CSR 20-8.140 Wastewater Treatment Facilities

- 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.
- Facilities shall be readily accessible by authorized personnel from a public right-of-way at all times. 10 CSR 20-8.140 (2) (D)

10 CSR 20-8.200 Wastewater Treatment Lagoons and Wastewater Irrigation Alternatives.

- The minimum berm width shall be eight feet (8') to permit access of maintenance vehicles. 10 CSR 20-8.200 (4) (A) 2.
- Berms shall be constructed of relatively impervious material and compacted to at least ninety-five percent (95%) maximum dry density test method to form a stable structure. 10 CSR 20-8.200(4)(A)1.
- Minimum freeboard shall be two feet (2'). 10 CSR 20-8.200 (4) (A) 3.
- An emergency spillway shall be provided. 10 CSR 20-8.200 (4) (A) 4.
- An emergency spillway must have the ability for a representative sample to be collected if a discharge occurs. 10 CSR 20-8.200 (4) (A) 4. C.
- Unlined corrugated metal pipe shall not be used for influent lines due to corrosion problems. 10 CSR 20-8.200 (4) (D) 1.
- The influent line(s) shall be located along the bottom of the lagoon so that the top of the pipe is just below the average elevation of the lagoon seal; however, there shall be an adequate seal below the pipe. 10 CSR 20-8.200 (4) (D) 3.
- Lagoon bottom soil shall be compacted with the moisture content between two percent (2%) below and four percent (4%) above the optimum water content and compacted to at least ninety-five percent (95%) maximum dry density test method. 10 CSR 20-8.200(4)(B).

- The minimum thickness of the compacted clay liner must be twelve inches (12"). For permeability coefficients greater than 1.0×10^{-7} cm/sec or for heads over five feet (5'), the following formula shall be used to determine minimum seal thickness.
10 CSR 20-8.200(4)(C)2.

$$t = \frac{H \times K}{5.4 \times 10^{-7} \text{ cm/sec}}$$

Where:

- K = the permeability coefficient of the soil in question;
- H = the head of water in the lagoon; and
- t = the thickness of the soil seal.

10. Upon completion of construction:

- A. The City will become the continuing authority for operation and maintenance of these facilities;
- B. Submit an electronic copy of the as built if the project was not constructed in accordance with previously submitted plans and specifications; and
- C. Submit the enclosed form Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(N) and request that the operating permit modification be issued.

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

On March 1st, 2018 the City of Centralia received their operating permit renewal, which included a schedule of compliance to meet tighter discharge limits on ammonia and *E. coli* that could not be met with the existing lagoon and overland flow treatment. The current land application system cannot handle the influent flows that the City is currently receiving without having to periodically discharge from their overland flow treatment system adjacent to the NE Basin.

2. FACILITY DESCRIPTION

The existing treatment system includes a Northwest 2-cell lagoon system and a Northeast 2-cell lagoon system, as well as three additional storage cells, overland flow system, and 12 center pivot wastewater irrigation fields.

This construction permit covers the addition of two new single cell storage basins as part of the larger solution to help solve this issue. This part of the project is being constructed by the farmers who will utilize the storage cells. Other improvements will be constructed in 2021-2022 by the City using SRF funding. The other improvements will be covered under a separate construction permit and will include another storage cell, several new irrigation areas, necessary piping and pumping, operational changes, and improved data measurement. The existing overland flow system is also being removed.

The Centralia WWTF is located 0.25 miles east of the March Road and Fountain Street intersection, Centralia, in Boone County, Missouri. The facility has a design average flow of 0.806 MGD and serves a hydraulic population equivalent of approximately 8,060 people.

The new Benoit storage cell is located southwest of the intersection of Audrain Road 126 and Audrain Road 124 in Audrain County, Missouri.

The new Rhodes storage cell is located southeast of the intersection of Audrain Road 232 and Audrain Road 233 in Audrain County, Missouri.

3. COMPLIANCE PARAMETERS

The proposed project is part of a solution to meet final effluent limits as established in Operating Permit MO-0028789.

The newly permitted features for the two new storage basins will need to meet monitoring requirements for freeboard and precipitation following the completion of construction.

4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

Construction will cover the following items:

- Benoit Storage Cell Number Two – Lagoon will be constructed and sealed with a minimum of 12 inch clay liner. The basin will have 3:1 side slopes, a depth from the top of the berm to the lagoon floor of 14 ft, with 2 ft for sludge depth, and 1 ft of freeboard plus 1 foot above emergency spillway. The operating depth is 10 ft. The basin is non-aerated, has a surface area of 15.81 acres, and a volume of 56,713,899 gallons. This storage basin, in conjunction with other proposed storage basins and existing storage basins, provides for approximately 440 days of retention at the proposed design flow and 355 days at the 1 in 10-year rainfall minus evaporation for the proposed storage period. The storage lagoon is designed to be pumped to the minimum operating level of 2 feet in the fall to allow winter storage capacity. The berm width will be 12 ft.

- Rhodes Storage Cell – Lagoon will be constructed and sealed with a minimum of 12 inch clay liner. The basin will have 3:1 side slopes, a depth from the top of the berm to the lagoon floor of 17.5 ft, with 2 ft for sludge depth, and 1 ft of freeboard plus 1 feet above emergency spillway. The operating depth is 13.5 ft. The basin is non-aerated, has a surface area of 8.85 acres, and a volume of 41,850,872 gallons. This storage basin, in conjunction with other proposed storage basins and existing storage basins, provides for approximately 440 days of retention at the proposed design flow and 355 days at the 1 in 10-year rainfall minus evaporation for the proposed storage period. The storage lagoon is designed to be pumped to the minimum operating level of 2 feet in the fall to allow winter storage capacity. The berm width will be 12 ft.

5. OPERATING PERMIT

Operating permit MO-0028789 will require a modification to reflect the construction activities. The modified Centralia WWTF, MO-0028789, was successfully public noticed from August 7, 2020 to September 8, 2020 with no comments received. Upon completion of construction, submit the Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(N) 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. A renewal application must be filed before July 4, 2021.

This facility does not meet the requirements of the general operating permit MOG823 issued on August 27, 2017 for the following reason: publicly owned.

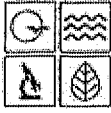
V. NOTICE OF RIGHT TO APPEAL

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>

Cailie Carlile, PE
Engineering Section
cailie.carlile@dnr.mo.gov



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: SRF Project #: not received yet
- 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: 2-1-19 NO (If No, complete No. 1.4.) There was an amendment 1 as well dated 9-13-2019, also approved DNR.
- 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 Centralia WWTP Improvements - Benoit & Rhodes Storage Basins	2.2 ESTIMATED PROJECT CONSTRUCTION COST \$ 400,000-500,000 (estimated by farmers)
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2.3 PROJECT DESCRIPTION
 Construction of two wastewater storage basins on the Benoit property and the Rhodes property as shown in the attached plans. The farmers will construct the basins themselves meeting construction plans and DNR standards for wastewater storage facilities.

2.4 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION
 The water in the storage basins is treated wastewater, so this is not applicable. For reference, the associated SRF-funded City project's preliminary plans are also attached to this application. Sludge is retained in upstream City lagoon cells.

2.5 DESIGN INFORMATION
 A. Current population: 4192; Design population: 4788 see approved facility plan for this information
 B. Actual Flow: 560K gpd; Design Average Flow: 806K gpd;
 Actual Peak Daily Flow: _____ gpd; Design Maximum Daily Flow: _____ gpd; Design Wet Weather Event: 1M

2.6 ADDITIONAL INFORMATION
 A. Is a topographic map attached? YES NO Refer to sheet 3 of the City's WWTP Improvement Project preliminary plans attached to this application
 B. Is a process flow diagram attached? YES NO

3.0 WASTEWATER TREATMENT FACILITY				
NAME City of Centralia, Mike Forsee, Public Works		TELEPHONE NUMBER WITH AREA CODE 573-682-3098		E-MAIL ADDRESS mforsee@centraliamo.org
ADDRESS (PHYSICAL) 114 South Rollins Street		CITY Centralia	STATE MO	ZIP CODE 65240
COUNTY Boone				
Wastewater Treatment Facility: Mo- 0028789 (Outfall 2 Of 2) 2 outfalls contribute to Benoit's and Rhodes basin:				
3.1 Legal Description: _____ ¼, _____ ¼, _____ ¼, Sec. 9, T 51N, R 11W (in Boone County for NW system) (Use additional pages if construction of more than one outfall is proposed.) (Sec. 12, T51N, R11W Audrain County for NE system,				
3.2 UTM Coordinates Easting (X): 572996 Northing (Y): 4342150 UTM coordinates X=577864, Y=4341338 For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)				
3.3 Name of receiving streams: Tributary to Goodwater Creek (NW) & Tributary to Youngs Creek (NE)				
4.0 PROJECT OWNER				
NAME City of Centralia, Mike Forsee, Public Works		TELEPHONE NUMBER WITH AREA CODE 573-682-3098		E-MAIL ADDRESS mforsee@centraliamo.org
ADDRESS 114 South Rollins Street		CITY Centralia	STATE MO	ZIP CODE 65240
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 City of Centralia, Mike Forsee, Public Works		TELEPHONE NUMBER WITH AREA CODE 573-682-3098		E-MAIL ADDRESS mforsee@centraliamo.org
ADDRESS 114 South Rollins Street		CITY Centralia	STATE MO	ZIP CODE 65240
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 Gary Davis, Bartlett & West, Inc.		TELEPHONE NUMBER WITH AREA CODE 573-659-6731		E-MAIL ADDRESS gary.davis@bartwest.com
ADDRESS 1719 Southridge Drive, Suite 100		CITY Jefferson City	STATE MO	ZIP CODE 65109
7.0 APPLICATION FEE				
<input type="checkbox"/> CHECK NUMBER <input checked="" type="checkbox"/> 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 Mike Forsee			DATE 6-5-2020	
TITLE OR CORPORATE POSITION Director of Public Works and Utilities		TELEPHONE NUMBER WITH AREA CODE 573-682-3098		E-MAIL ADDRESS mforsee@centraliamo.org
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.				