

Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

May 10, 2019

The Honorable Terry Mayfield, Mayor
City of Drexel
P.O. Box 710
137 E Main Street
Drexel, MO 64742

RE: C295803-01 City of Drexel, Missouri – Wastewater Treatment System, MO-0023655
Construction Permit No. CP0002043, Cass and Bates County

Dear Mayor Mayfield:

The Missouri Department of Natural Resources' Water Protection Program has reviewed and approved the plans and specifications submitted by Allgeier, Martin and Associates, Inc. for the City of Drexel. Please find enclosed Construction Permit No. CP0002043 and one set of approved plans and specifications. You must maintain these with your official project file for a minimum of 4 years following completion of the project.

This permit will terminate 24 months from the date of issuance. In accordance with 10 CSR 20-6.010(5)(J), the Department may grant an extension. If you believe that an extension is necessary, you must submit a request and a justification in writing for the extension at least 30 days prior to the permit expiration date.

This construction permit does not supersede any requirements of the operating permit or enforcement actions. Nothing in this permit removes any obligations to comply with county or other local ordinances or restrictions.

If you were adversely affected by this decision, you may be entitled to an appeal before the Administrative Hearing Commission (AHC) pursuant to 10 CSR 20-1.020 and 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. Contact information for the AHC is: Administrative Hearing Commission, United States Post Office Building., Third Floor, 131 West High Street, P.O. Box 1557, Jefferson City, MO 65102, Phone: 573-751-2422, Fax: 573-751-5018, and Website: ahc.mo.gov/.



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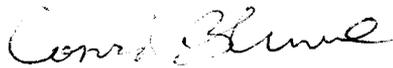
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If you have any questions concerning this matter, please contact Mr. Patrick Anderson, P.E., at 573-751-1188, or Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, MO 65102-0176.

Thank you for your efforts to help ensure clean water in Missouri.

Sincerely,

WATER PROTECTION PROGRAM



Conrad Blume, P.E., Clean Water Engineering Unit Chief
Financial Assistance Center

CB:pan

Enclosures

- c: Mr. Dean Willis, P.E., Allgeier, Martin and Associates, Inc.
Kansas City Regional Office
- Ms. Erin Meyer Heidolph, Water Protection Program, Compliance and Enforcement Section
- Mr. Patrick Anderson, P.E., Water Protection Program, Financial Assistance Center
- Ms. Courtney Zimmerman, Water Protection Program, Financial Assistance Center

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

Drexel Wastewater Treatment Facilities
P.O. Box 710
Drexel, MO 64742

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.

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.

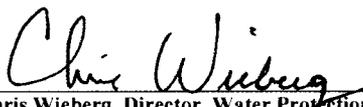
A representative of the Department may inspect the work covered by this permit during construction. Issuance of a permit to operate by the Department will be contingent on the work substantially adhering to the approved plans and specifications.

This permit applies only to the construction of water pollution control components; it does not apply to other environmentally regulated areas.

May 10, 2019
Effective Date


Edward B. Galbraith, Director, Division of Environmental Quality

May 9, 2021
Expiration Date


Chris Wieberg, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

Construction activities for this project consists of the construction of two new lift stations, the installation of approximately 6,200 linear feet of 8-inch C900 Polyvinyl chloride (PVC) pressure sewer line, and construction of an 11-acre wastewater storage lagoon. The south lift station will have two 25 Horsepower (HP) pumps to deliver 97 feet of total dynamic head at 400 gallons per minute (GPM). The north lift station will have two 20 HP pumps to deliver 57 feet of total dynamic head at 400 GPM. The 11-acre wastewater storage lagoon will have approximately 33 Million Gallons of storage.

This project also includes construction of an irrigation pumping facility, the installation of approximately 2,100 linear feet of 12-inch C900 PVC irrigation line, and the installation of an approximately 1,180-foot radius center pivot irrigator. The irrigation pumping facility will have two 75 HP pumps to deliver 167 feet of total dynamic head at 1350 GPM.

Additionally, this project includes replacement of the aerators at each existing lagoon for a total of four new floating irrigators at 3 HP each.

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 in accordance with the plans and specifications submitted by Allgeier, Martin and Associates, Inc. on February 13, 2019, and signed and sealed by Dean Willis, P.E. on January 31, 2019, and approved by the Department on May 10, 2019.
3. Regulation 10 CSR 20-4.040(18)(B)1 requires that projects be publicly advertised, allowing sufficient time for bids to be prepared and submitted. Projects should be advertised at least 30 days prior to bid opening.
4. 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(11).
5. As per 10 CSR 20-4.040, all changes in contract price or time within the approved scope of work must be by change order in accordance with Section 19 of this rule.
6. 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)(G)
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. Upon completion of construction:
 - A. The City of Drexel 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 the operating permit modification be issued.

IV. **REVIEW SUMMARY**

1. **CONSTRUCTION PURPOSE**

The city received renewed Missouri State Operating Permits for its two waste stabilization lagoons that include final effluent limitations with new parameters that must be met. The final effluent limits contain parameters for E. coli and ammonia. Improvements to Drexel's wastewater treatment facilities are needed to not only meet these more stringent effluent limits, but also to allow for future growth of the city.

2. **FACILITY DESCRIPTION**

The Drexel Wastewater Treatment Facilities are located within Drexel, Missouri, in Bates and Cass Counties. The facilities have a total design average flow of 179,000 gpd and serves a hydraulic population equivalent of approximately 1000 people.

These facilities consist of 2 - five cell baffled lagoons with the first and second cells aerated. Effluent from these lagoons will be sent to a wastewater storage basin prior to irrigation. The land application will be located at an 86-acre field and use a center pivot irrigator.

3. **COMPLIANCE PARAMETERS**

This facility is converting to a land application system to manage wastewater effluent. The proposed project will monitor for storage basin freeboard, precipitation, Total Kjeldahl Nitrogen (TKN) as N, and Nitrate as N. E. coli will have an applicable final limit if discharging to a public use area. The irrigation system will be monitored for the volume irrigated, irrigation period, application area, and application rate.

4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

Lift Stations – Construction of two lift stations with the south lift station having 2-25 HP pumps to deliver 97 feet of total dynamic head at 400 GPM and the north lift station having 2-20 HP pumps to deliver 57 feet of total dynamic head at 400 GPM.

Wastewater Storage Basin – Construction of a wastewater storage basin to hold treated wastewater prior to irrigation that is approximately 11 acres in area with 3 feet freeboard capable of storing approximately 33,070,000 gallons.

Land Application Pump Station – Construction of a land application pump station to transfer treated wastewater from the Wastewater Storage Basin to the land application site with each 75 HP pump capable of operating at 1350 GPM at 167 feet of TDH.

Land Application Site – Construction of approximately 2,100 linear feet of 12-inch C900 PVC irrigation line with cleanouts and air release valves to transfer wastewater from the land application pump station to the land application site. The land application site is in the vicinity of Drexel, Missouri, in Cass County. The leased land application site is approximately 86 acres with seasonal row crops. This site is fenced. Maximum application rates are 0.13 inches/hour, 1 inch/day, 3 inches/week, and 40 inches/year.

Center Pivots – One center pivot with a radius of approximately 1,180 feet will deliver wastewater for irrigation at the land application site. Telemetry will be provided for the pivot.

5. OPERATING PERMIT

Operating permit MO-0023655 will require a modification to reflect the construction activities. The modified Drexel Wastewater Treatment Facilities, MO-0023655, was successfully public noticed from March 29, 2019 to April 29, 2019 with no comments received. 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.