

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 Meadville
310 South Macon Street
P.O. Box 152
Meadville, MO 64659

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.

July 2, 2020
Effective Date


Edward B. Galbraith, Director, Division of Environmental Quality

July 1, 2022
Expiration Date


Chris Wieberg, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

The wastewater treatment facility project will consist of the construction and installation of a subsurface drip dispersal field and the modification of the current lagoon system to act as a holding basin for wastewater before application to the field. The proposed wastewater treatment facility will have a design average flow of 50,000 gallons per day and includes the following components:

- Installation of 166,666.5 feet of drip tubing over 12 one-acre plots of land to achieve the required dispersal requirements of 7.65 acres at a rate of 0.6 gph, with a tube spacing of 2 feet between tubes;
- Construction of an irrigation pump station, including 8,000 feet of 3-inch PVC pipe and 30 feet of 8-inch PVC pipe to connect the lagoon and the drip tubing;
- Modification of the three-cell earthen lagoon to act as a holding basin for wastewater prior to land application;
- The decommissioning of the outfall the current lagoon system discharges to; and
- Addition of associated infrastructure and appurtenances for safe operation of subsurface drip dispersal system (i.e., fencing off irrigated land).

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 Missouri 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 Allstate Consultants on April 17, 2020, and signed and sealed by Cary Sayre, P.E. on March 26, 2020, and approved by the Department on July 2, 2020.
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 Northeast 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 Army Corps of Engineers (USACE) section 404 permit and a section 401 water quality certification issued by the Department may be required for the activities described in this construction permit. This construction permit is not valid until these requirements are satisfied. If construction activity will disturb a jurisdictional waters of the U.S., then a 404 permit with an accompanying 401 certification will be required. Since the USACE makes determinations on what is jurisdictional and thus needing a 404

permit, please contact the appropriate USACE office found at http://dnr.mo.gov/env/wpp/401/docs/2018-08-10_RegulatoryReorgMap.pdf. You may call the Department's Water Protection Program at 573-751-1300 or visit dnr.mo.gov/env/wpp/401/, for more information.

9. Upon completion of construction, the City of Meadville will:
 - A. Become the continuing authority for operation and maintenance 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;
 - C. Include an updated facility description on their application when the facility applies for their next operating permit renewal.

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

The construction of the subsurface drip field for the treatment of the wastewater will allow the facility to no longer be out of compliance, as the current facility often exceeds permit limits.

2. FACILITY DESCRIPTION

The Meadville WWTF is located at the West Terminus of John Street, Meadville, Missouri 64659, in Linn County. The facility has a design average flow of 50,000 gpd and serves a hydraulic population equivalent of approximately 500 people.

3. REVIEW OF MAJOR TREATMENT DESIGN CRITERIA

- Subsurface Soil Dispersal System – The soils at this site are rated for 0.1-0.15 gpd/sf. The facility decided to use a conservative design loading rate of 0.15 gpd/sf for the entire system. Soil morphology review was conducted during the facility plan application review and on-site soils were determined to be acceptable for this system. The soil investigation was completed by Randall J. Miles, Certified Soil Scientist with Randall J. Miles, LLC on April 24, 2017.
 - Soils Report. In the soils investigation, there were 8 pits dug over the proposed site.
 - All of the test pits indicated soil with a moderately high hydraulic conductivity, a very slow subsoil conductivity, and indicators for a seasonally high water table. The solids consisted of a mixture of silt loam and clay loam and allows for a maximum daily application rate of less than 1 inch/day, maximum weekly application is 3 inch/week, and maximum annual application is 40 inch/year.

- Hydraulic loading rate used in the design was conservative at 0.15 gallons per square foot per day.
- Drip – The facility has selected the NETAFIM subsurface drip dispersal system. The system will dose 12 zones at 0.15 gpd/sf, which provides 15 dosings per day. Each zone is 1 acre, for a total of 12 acres, which accommodates the needed total area for subsurface drip application (7.65 acres) and allows for future expansion if needed.

4. OPERATING PERMIT

Operating Permit No. MO-0041114 will require a modification to reflect the construction activities. The modified Meadville WWTF Operating Permit No. MO-0041114, was successfully public noticed from May 7, 2020, to June 8, 2020, with no comments received. Once construction has been completed, 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.

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