

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

PUREHAUL HAWG WASH LLC
Michael Phillips, Member
Purehaul Hawg Wash LLC
CR 426
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.

September 29, 2026
Effective Date

September 28, 2028
Expiration Date

Heather Peters, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

The washout facility is located in the vicinity of CR 426 in Marion County, Missouri. The facility has a design average flow of 7,680 gpd. Construction will include a wash bay with a wastewater drain pit, two solids separation pits, a 3.5 Mgal wastewater lagoon, and a 1,500-gallon septic tank for domestic waste from an office building.

The land application site for wastewater is located at Section 30-T57N-R5W, Parcel 011.09.30.0.00.005.000 in Marion County, Missouri. There are 60.8 acres available for land application of wastewater via traveling gun. Solids from the solids separation pit will be hauled to the land application field.

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 publicly-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 consistent with plans and specifications signed and sealed by Jeff Browning, P.E. with Allied Engineering Services, LLC 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. 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 <https://dnr.mo.gov/data-e-services/missouri-gateway-environmental-management-mogem>. See <https://dnr.mo.gov/data-e-services/water/electronic-permitting-epermitting> for more information.
6. A United States Army Corps of Engineers (USACE) Clean Water Act Section 404 Department of the Army permit and a Section 401 Water Quality Certification issued by the department may be required for the activities described in this permit. This permit is not valid until these requirements are satisfied or notification is provided that no Section 404 permit is required by the USACE. You must contact your local USACE district since they determine what waters are jurisdictional and which permitting requirements may apply. You may call the department's Water Protection Program, Operating Permits Section at 573-522-4502 for more information. See <https://dnr.mo.gov/water/business-industry-other-entities/permits-certification-engineering-fees/section-401-water-quality> for more information.
7. All construction must adhere to applicable 10 CSR 20-8 (Chapter 8) requirements listed below.
 - 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), 10 CSR 20-8.130(2)(A)
 - 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 20-8.130(3)(B)
 - Adequate provisions shall be made to effectively protect facility personnel and visitors from hazards. The following shall be provided to fulfill the particular needs of each wastewater treatment facility: 10 CSR 20-8.130(3)(C)
 - Fencing. Enclose the facility site with a fence designed to discourage the entrance of unauthorized persons and animals; 10 CSR 20-8.140(8)(A)
 - Gratings over appropriate areas of treatment units where access for maintenance is necessary; 10 CSR 20-8.140(8)(B)
 - First aid equipment; 10 CSR 20-8.140(8)(C)

- 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.
- No treatment unit with a capacity of twenty-two thousand five hundred gallons per day (22,500 gpd) or less shall be located closer than the minimum distance of 200' to a neighboring residence and 50' to property line for lagoons; 200' to a neighboring residence for open recirculating media filters following primary treatment; and 50' to a neighboring residence for all other discharging facilities. See 10 CSR 20-2.010(68) for the definition of a residence.
10 CSR 20-8.140(2)(C)2
- An audiovisual alarm or a more advanced alert system, with a self-contained power supply, capable of monitoring the condition of equipment whose failure could result in a violation of the operating permit, shall be provided for all wastewater treatment facilities. 10 CSR 20-8.140(7)(C)
- No piping or other connections shall exist in any part of the wastewater treatment facility that might cause the contamination of a potable water supply.
10 CSR 20-8.140(7)(D)1.
- A means of flow measurement shall be provided at all wastewater treatment facilities. 10 CSR 20-8.140(7)(E)
- All sampling points shall be designed so that a representative and discrete twenty-four (24) hour automatic composite sample or grab sample of the effluent discharge can be obtained at a point after the final treatment process and before discharge to or mixing with the receiving waters. 10 CSR 20-8.140(6)(B)
- All wastewater treatment facilities must have a screening device, comminutor, or septic tank for the purpose of removing debris and nuisance materials from the influent wastewater. 10 CSR 20-8.150(2)
- A septic tank must have a minimum capacity of at least one thousand (1,000) gallons. 10 CSR 20-8.180(2)(A)
- The septic tank shall be baffled. 10 CSR 20-8.180(2)(B)
- Treatment prior to surface irrigation shall provide performance equivalent to that obtained from a primary wastewater lagoon cell designed and constructed in accordance with 10 CSR 20-8.200(4), except that the lagoon depth may be increased to include wastewater storage in addition to the primary volume.
10 CSR 20-8.200(4)(B).
- Lagoon 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(5)(A)1.

- The minimum berm width shall be eight feet (8') to permit access of maintenance vehicles. 10 CSR 20-8.200(5)(A)2.
- Minimum freeboard shall be two feet (2'). 10 CSR 20-8.200(5)(A)3.
- An emergency spillway shall be provided that—
 - Prevents the overtopping and cutting of berms;
10 CSR 20-8.200(5)(A)4.A.
 - Is compacted and vegetated or otherwise constructed to prevent erosion;
10 CSR 20-8.200(5)(A)4.B. and
 - Has the ability for a representative sample to be collected, if discharging.
10 CSR 20-8.200(5)(A)4.C.
- The soil of the lagoon bottom 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(5)(B)
- The lagoon shall be sealed to ensure that seepage loss is as low as possible and has a design permeability not exceeding 1.0×10^{-7} cm/sec.
10 CSR 20-8.200(5)(C)1.
- 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') such as an aerated lagoon system, the following formula shall be used to determine minimum seal thickness, Equation 200-1 per 10 CSR 20-8.200(5)(C)2.:

Equation 200-1

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

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.

- Seep collars shall be provided on drainpipes where they pass through the lagoon seal. 10 CSR 20-8.200(5)(C)4.
- Unlined corrugated metal pipe shall not be used for influent lines due to corrosion problems. 10 CSR 20-8.200(5)(D)1.
- A manhole shall be installed with its invert at least six inches (6") above the maximum operating level of the lagoon, prior to the entrance into the primary cell, and provide sufficient hydraulic head without surcharging the manhole.
10 CSR 20-8.200(5)(D)2.

- The wetted application area of a surface irrigation system must be located
 - Outside of flood-prone areas having a flood frequency greater than once every ten (10) years; 10 CSR 20-8.200(7)(B)1.
 - At least one hundred fifty feet (150') from existing dwellings or public use areas, excluding roads or highways; 10 CSR 20-8.200(7)(B)2.A.
 - At least fifty feet (50') inside the property line; 10 CSR 20-8.200(7)(B)2.B.
 - At least three hundred feet (300') from any sinkhole, losing stream, or other structure or physiographic feature that may provide direct connection between the ground water table and the surface; 10 CSR 20-8.200(7)(B)2.C.
 - At least three hundred feet (300') from any existing potable water supply well not located on the property. Adequate protection shall be provided for wells located on the application site; 10 CSR 20-8.200(7)(B)2.D.
 - One hundred feet (100') to wetlands, ponds, gaining streams (classified or unclassified; perennial or intermittent); 10 CSR 20-8.200(7)(B)2.E. and
 - If an established vegetated buffer or the wastewater is disinfected, the setbacks established in subsections (A)–(E) above may be decreased if the applicant demonstrates the risk is mitigated. 10 CSR 20-8.200(7)(B)2.F.
- The wetted application area of a surface irrigation system must be fenced, or if not fenced, provide in the construction permit application or the facility plan, the—
 - Method of disinfection being utilized; 10 CSR 20-8.200(7)(B)3.A.
 - Suitable barriers in place, 10 CSR 20-8.200(7)(B)3.B. or
 - Details on how public access is limited and not expected to be present. 10 CSR 20-8.200(7)(B)3.C.
- At a minimum, treatment prior to irrigation shall provide performance equivalent to that obtained from a primary wastewater lagoon cell and include 120 days wastewater storage in addition to the primary volume. 10 CSR 20-8.200(7)(C)
- The public shall not be allowed into an area when irrigation is being conducted; 10 CSR 20-8.200(7)(F)2.

8. Upon completion of construction:

- A. Purehaul Hawg Wash LLC will become the responsible 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 Statement of Work Completed form to the department in accordance with 10 CSR 20-6.010(5)(N) (<https://dnr.mo.gov/document-search/wastewater-construction-statement-work-completed-mo-780-2155>)

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

Construction of an earthen storage basin with surface land application to serve a hog transport trailer wash facility.

2. FACILITY DESCRIPTION

The washout facility is located in the vicinity of CR 426 in Marion County, Missouri. The facility has a design average flow of 7,680 gpd. Construction will include a wash bay with a wastewater drain pit, two solids separation pits, a 3.5 Mgal wastewater lagoon, and a 1,500-gallon septic tank for domestic waste from an office building.

The land application site for wastewater is located at Section 30-T57N-R5W, Parcel 011.09.30.0.00.005.000 in Marion County, Missouri. There are 60.8 acres available for land application of wastewater via traveling gun. Solids from the solids separation pit will be hauled to the land application field.

3. COMPLIANCE PARAMETERS

The proposed project is required to meet the requirements of with an expiration date of March 4, 2029. The facility will be required to monitor storage basin freeboard, daily precipitation, daily volume land applied, application area and application rate.

4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

Construction will cover the following items:

- Storage Lagoon – Lagoon will be constructed and sealed with a 1 foot thick clay liner. The basin will have 3:1 side slopes, a depth from the top of the berm to the lagoon floor of 24 ft, with 2 ft for sludge depth, and 2 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 1.6 acres, and a volume of 4,947,392 gallons. This provides approximately 435 days of retention at the proposed design flow and 366 days at the 1-in-10-year rainfall minus evaporation for the proposed storage period. The berm width will be 10 ft. This lagoon site is going to be fenced.
- Septic Tank – A septic tank provides passive primary treatment as the settleable solids in raw wastewater settle onto the bottom of the tank. Raw wastewater will flow by gravity to the 1,500 gallon two-compartment septic tank. When the water level reaches a certain height, the wastewater flows into the second compartment by two tee-drop pipes. The septic tanks provide approximately 18 days of detention at design average flow. The pumped wastewater shall discharge into the lagoon.

- Land Application Site – The land application site is in the vicinity of Section 30-T57N-R5W, Parcel 011.09.30.0.00.005.000, Marion County. The leased land application site is approximately 60.8 acres with row crops such as soybeans and corn. This site is fenced. Maximum application rates are 0.25 inches/hour, 0.5 inch/day, 1 inches/week, and 2.12 inches/year. Effluent will be applied via traveling gun.

OPERATING PERMIT

After completion of construction project submit: statement of work completed and as-built if the project was not constructed in accordance with previously submitted plans and specifications. Missouri State Operating Permit, General Permit MO-G750060, will be issued after receipt of the above documents.

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>

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APPENDIX: Process Flow Diagram

