

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

Morrell Legacy Real Estate LLC.
4645 S Highland Dr.
Holladay, UT 84117

for the construction of (described facilities):

See attached.

Permit Conditions:

See attached.

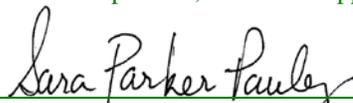
Construction of such proposed facilities shall be in accordance with the provisions of the Missouri Clean Water Law, Chapter 644, RSMo, and regulation promulgated thereunder, or this permit may be revoked by the Department of Natural Resources (Department).

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.

August 19, 2015
Effective Date


Sara Parker Pauley, Director, Department of Natural Resources

August 18, 2017
Expiration Date


John Madras, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

The project consists of the construction of a wastewater collection system and an earthen holding basin for wastewater storage before land application of the wastewater.

The proposed wastewater collection system will consist of approximately 367 linear feet (lf) of 6-inch polyvinyl chloride (PVC) Standard Dimension Ratio (SDR)-26 gravity sewer with three manholes, and 1,800 lf of 3-inch PVC SDR-21 force main which will convey water under Larry Creek before entering a manhole and ultimately reaching the earthen basin. The force main will be served by one duplex lift station with each pump capable of operating at 25 gallons per minute (gpm) at 115 feet of total dynamic head (TDH) and one portable generator. The project will include all necessary appurtenances to make a complete and usable wastewater collection system to serve an estimated population equivalent of 188 and an estimated design average flow of 18,800 gallons per day during the recreational season.

The lagoon will have a surface area of approximately 51,425 square feet (ft²), a depth of 6 feet, a freeboard of 2 feet, and a storage capacity of 120 days. The wastewater will be land applied on approximately five acres of land surrounding the lagoon with a cart mounted gasoline powered pump that will sit on the pond bank with a screened inlet hose inserted in the storage pond 2 feet from the bottom of the pond and deliver water to a traveling gun system.

The project will also include general site work appropriate to the scope and purpose of the project.

II. COST ANALYSIS FOR COMPLIANCE

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 Snyder & Associates Engineers & Planners, Inc. on July 28, 2015.
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 Kansas City Regional Office per 10 CSR 20-7.015(9)(E)2.
5. This construction permit is invalid for projects required to comply with the requirements contained in 10 CSR 20-4, "Grants and Loans"
6. Protection of drinking water supplies shall be in accordance with 10 CSR 20-8.120(10). "There shall be no physical connections between a public or private potable water supply system and a sewer, or appurtenance thereto which would permit the passage of any wastewater or polluted water into the potable supply. No water pipe shall pass through or come in contact with any part of a sewer manhole."
7. Sewers in relation to water works structures shall meet the requirements of 10 CSR 23-3.010 with respect to minimum distances from public water supply wells or other water supply sources and structures.
 - A. Sewer mains shall be laid at least 10 feet horizontally from any existing or proposed water main. The distances shall be measured edge-to-edge. In cases where it is not practical to maintain a 10 foot separation, the department may allow a deviation on a case-by-case basis, if supported by data from the design engineer. Such a deviation may allow installation of the sewer closer to a water main, provided that the water main is in a separate trench or on an undisturbed earth shelf located on either side of the sewer and at an elevation so the bottom of the water main is at least 18 inches above the top of the sewer. If it is impossible to obtain proper horizontal and vertical separation as described above for sewers, the sewer must be constructed of slip-on or mechanical joint pipe or continuously encased and be pressure tested to 150 pounds per square inch to assure water tightness.
 - B. Manholes should be located at least 10 feet horizontally from any existing or proposed water main.
 - C. Manholes shall be located with the top access at or above grade level.
 - D. Sewers crossing water mains shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and the outside of the sewer. This shall be the case where the water main is either above or below the sewer. The crossing shall be arranged so that the sewer joints will be equidistant and as far as possible from the water main joints. Where a water main crosses under a sewer, adequate structural support shall be provided for the sewer to maintain line and grade. When it is impossible to obtain proper vertical separation as stipulated above, one of the following methods must be specified:
 - a. The sewer shall be designed and constructed equal to the water pipe and shall be pressure tested to assure water tightness prior to backfilling; or
 - b. Either the water main or sewer line may be continuously encased or enclosed in a watertight carrier pipe which extends 10 feet on both sides of the crossing, measured perpendicular to the water main. The carrier pipe shall be of materials approved by the department for use in water main construction.

8. 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 www.dnr.mo.gov/env/wpp/epermit/help.htm. See www.dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm for more information.
9. 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 www.dnr.mo.gov/env/wpp/401/ for more information.
10. Upon completion of construction;
 - A. Morrell Legacy Real Estate LLC. will become the continuing authority for operation, maintenance, and modernization of these facilities;
 - B. Submit the enclosed form Statement of Work Completed to the department in accordance with 10 CSR 20-6.010(5)(D); and
 - C. Submit an electronic copy of the as builts if the project was not constructed in accordance with previously submitted plans and specifications.

IV. REVIEW SUMMARY

1. AMMONIA

The Water Protection Program is providing this notice to inform permittees that EPA's published ammonia criteria for aquatic life protection is lower than the current Missouri criteria. The department has initiated stakeholder discussions on this topic and at this time, there is no firm target date for starting the rulemaking to adopt new standards. More information can be found at <http://dnr.mo.gov/pubs/pub2481.pdf>.

The facility is no discharge.

2. CONSTRUCTION PURPOSE

The facility currently treats wastewater using septic tanks but plans to construct and expand the facility into a resort. This expansion will result in a larger amount of wastewater, which the septic tanks will not be able to handle. Therefore, a wastewater lagoon will be constructed to be utilized prior to land application.

3. FACILITY DESCRIPTION

The Morrell Legacy Ranch is located northwest of Gallatin, Missouri in Daviess County. The facility currently utilizes septic tanks for wastewater treatment, but plans to be developed as a resort with the construction of a lodge, cabins, bunkhouses, a 500 seat amphitheater, and 8 three bedroom trailers. The facility also plans to allow for future additions, which include 40 one bedroom cabins and 40 RV slots. The existing septic tanks used to treat wastewater on site would not be able to handle the new flow, and soils in the area are not suitable for septic fields. Therefore, a lagoon for wastewater storage before land application will be constructed.

4. COMPLIANCE PARAMETERS

This project will allow Morrell Legacy Ranch to treat the higher average flow rate that will result from the planned expansions on the resort.

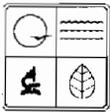
5. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

In review of lagoon design, the BOD production was found to be 43.1 pounds of BOD per day, which results in an organic loading of 36.6 pounds of BOD per acre per day. In accordance with 10 CSR 20-8.020(15)(D), the maximum organic loading on the primary cell(s) shall not exceed 34 pounds of BOD per acre per day. The amount of BOD produced per day which would result in an organic loading of 34 pounds of BOD per acre per day was back calculated and found to be 40 pounds of BOD per day. The BOD production rate of each source was evaluated and the resort's amphitheater was found to contribute 5 pounds of BOD per day when fully occupied. Due to the fact that it is unlikely that the amphitheater would be fully occupied every day during the recreational season, the production of 40 pounds of BOD per day is a reasonable assumption and therefore, the lagoon appears to be appropriately sized.

All future sewer extensions or construction must be submitted to the department for approval.

Rachel Schneider, EI
Engineering Section
rachel.schneider@dnr.mo.gov

APPENDIX – OPERATING PERMIT



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

**APPLICATION FOR CONSTRUCTION PERMIT –
WASTEWATER TREATMENT FACILITY**

MAR 20 2015

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: _____ Project #: _____
- 1.2 Has the Missouri Department of Natural Resources approved the proposed project's antidegradation review?
 YES Date of Approval: _____
 Attached is the No Degradation Evaluation Conclusion of Antidegradation Review form
- 1.3 Has the department approved the proposed project's facility plan*?
 YES Date of Approval: _____ NO N/A (If Not Applicable, complete No. 1.4.)
- 1.4 [Complete only if answered Not Applicable on No. 1.3.] 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
- 1.5 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 submittal. Denote which form: A B B2
 N/A Please explain: _____
- 1.8 Is the facility currently under enforcement with the department or the Environmental Protection Agency? YES NO
- 1.9 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

Morrell Legacy Ranch Sewer System

2.2 PROJECT DESCRIPTION

Pump station, force main and storage pond with associated irrigation system for land application of the stored wastewater for a non-discharging facility.

2.3 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION

Sludge will be stored in the storage pond and, when necessary, land applied on site.

2.4 DESIGN INFORMATION

- A. Current population: _____; Design population: 100
- B. Actual Flow: _____ gpd; Design Average Flow: 10,000 gpd;
Actual Peak Daily Flow: _____ gpd; Design Maximum Daily Flow: 18,783 gpd

2.5 ADDITIONAL INFORMATION

- A. Is a topographic map attached? YES NO
- B. Is a process flow diagram attached? YES NO

3.0 WASTEWATER TREATMENT FACILITY

NAME Morrell Legacy Ranch Storage Pond		TELEPHONE NUMBER WITH AREA CODE (801) 244-6195	E-MAIL ADDRESS phil.morrell@morrellinternational.com	
ADDRESS (PHYSICAL) 21332 Midway Ave	CITY Gallatin	STATE MO	ZIP CODE 64640	COUNTY Daviness
Wastewater Treatment Facility: Mo- N/A (Outfall Of)				
3.1 Legal Description: NA ¼, ¼, ¼, Sec. _____, T _____, R _____ (Use additional pages if construction of more than one outfall is proposed.)				
3.2 UTM Coordinates Easting (X): NA Northing (Y): _____ For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)				
3.3 Name of receiving streams: N/A				

4.0 PROJECT OWNER

NAME Morrell Legacy Real Estate LLC. (Utah LLC)		TELEPHONE NUMBER WITH AREA CODE (801) 878-7984	E-MAIL ADDRESS phil.morrell@morrellinternational.com	
ADDRESS 4645 S Highland DR	CITY Holladay	STATE UT	ZIP CODE 84117	

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 Same		TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS	
ADDRESS	CITY	STATE	ZIP CODE	

5.1 A letter from the continuing authority, if different than the owner, is included with this application. YES NO 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? YES 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? YES 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? YES NO

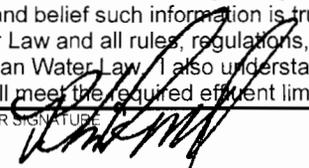
C. Is a copy of the as-filed legal instrument (typically the plat) that provides the association with valid easements for all sewers included with this application? YES NO

D. Is a copy of the Missouri Secretary of State's nonprofit corporation certificate included with this application? YES NO

6.0 ENGINEER

ENGINEER NAME / COMPANY NAME Mark Pearson/Snyder & Assoc Engs & Planners, Inc		TELEPHONE NUMBER WITH AREA CODE (816) 364-5222	E-MAIL ADDRESS mpearson@snyder-associates.com	
ADDRESS 802 Francis	CITY St. Joseph	STATE MO	ZIP CODE 64501	

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 Phil Morrell	DATE 3-13-2015
TITLE OR CORPORATE POSITION President	TELEPHONE NUMBER WITH AREA CODE 801-244-6195
E-MAIL ADDRESS phil.morrell@morrellinternational.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) Campground

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.
 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: 1 (Use additional pages if greater than three 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 365 Width 167.5 Depth 8 Freeboard 2 Berm Width 20' % Slope 20%
 Basin #2: Length Width Depth Freeboard Berm Width % Slope
 Basin #3: Length Width Depth Freeboard Berm Width % Slope

9.4 Storage Basin operating levels (report as feet below emergency overflow level).
 Basin #1: Maximum operating water level 885 ft Minimum operating water level 881 ft
 Basin #2: Maximum operating water level ft Minimum operating water level ft
 Basin #3: Maximum operating water level ft Minimum operating water level ft

9.5 Design depth of sludge in storage basins.
 Basin #1: 1 ft Basin #2: ft Basin #3: ft

9.6 Existing sludge depth, if the basins are currently in operation.
 Basin #1: ft Basin #2: ft Basin #3: ft

9.7 Total design sludge storage: 133 dry tons and 73.5K cubic feet

10.0 LAND APPLICATION SYSTEM

10.1 Number of irrigation sites 1 Total Acres 8 Maximum % field slopes 8%
 Location: ¼, SW ¼, SE ¼, 2 Sec. 59N T 28W R Davie County 8 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.)

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

10.3 Wastewater flow (dry weather) gallons per day: Average annual 8100 Seasonal 18.8k Off-season 3,000

10.4 Land application rate (design flow including 1-in-10 year storm water flows):
 Design: 8.02 inches/year 0.2 inches/hour 1.6 inches/day 1.6 inches/week
 Actual: inches/year inches/hour inches/day inches/week

10.5 Total irrigation per year (gallons): Design: 1.8m gal Actual: gal

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

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