

**STATE OF MISSOURI**  
**DEPARTMENT OF NATURAL RESOURCES**

MISSOURI CLEAN WATER COMMISSION



**CONSTRUCTION PERMIT**

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

Top of the Rock LLC  
150 Top of the Rock Road  
Ridgedale, MO 65739

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.

April 10, 2015  
Effective Date

April 9, 2017  
Expiration Date

Sara Parker Pauley, Director, Department of Natural Resources

John Madras, Director, Water Protection Program

## **CONSTRUCTION PERMIT**

### **COLLECTION SYSTEM:**

The proposed wastewater collection system will consist of a low pressure sewer system, with grinder pumps at each connection, which will carry raw wastewater to the receiving wastewater treatment facility.

Construction and installation of approximately 544 linear feet (lf) of 1.5-inch polyvinyl chloride (PVC) Standard Dimension Ratio (SDR)-21 and 2566 lf of 1.5-inch PVC SDR-21 force main with cleanouts and air release valves, and all necessary appurtenances to make a complete and usable wastewater collection system to serve an estimated population equivalent of 27 and an estimated design average flow of 2,000 gallons per day. The project will also include general site work appropriate to the scope and purpose of the project.

Installation of 3 simplex grinder pump units with an 11 gallon per minute capacity against 92.40 feet of total dynamic head and all necessary appurtenances to make a complete grinder pump system.

These activities will be at The Lost Canyon Cave, Ridgedale, Taney County and discharge to an existing sewer system to be treated at the Big Cedar Lodge Wastewater Treatment Facility, Missouri State Operating Permit No. MO-0039578. Mr. Jamie C. Keys, Assistant General Manager, with Big Cedar Lodge WWTF provided an acceptance letter.

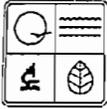
### **PERMIT CONDITIONS:**

1. All construction shall be in accordance with the plans and specifications submitted by M.E. Stalzer & Associates Consulting Engineers as follows:
  - Plans and specifications received on February 27, 2015 and signed and sealed by Michael E. Stalzer, P.E. on February 23, 2015.
2. 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).
3. 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 Southwest Regional Office per 10 CSR 20-7.015(9)(E)2.

4. This construction permit is invalid for projects required to comply with the requirements contained in 10 CSR 20-4, "Grants and Loans".
5. 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."
  - A. 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.
  - B. 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.
  - C. Manholes shall be located with the top access at or above grade level.
  - D. Manholes should be located at least 10 feet horizontally from any existing or proposed water main.
  - E. 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:
    - 1) 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

- 2) 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.
  
6. In addition to the requirements for a construction permit, 10 CSR 20-6.200 requires land disturbance activities of one 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 may only be obtained by means of the department's ePermitting system available online at [www.dnr.mo.gov/env/wpp/epermit/help.htm](http://www.dnr.mo.gov/env/wpp/epermit/help.htm).  
See [www.dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm](http://www.dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm) for more information.
  
7. 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/](http://www.dnr.mo.gov/env/wpp/401/) for more information.
  
8. In accordance with 10 CSR 20-6.010(6)(B), submit the enclosed form Application for Letter of Authorization – Sewer Extension to the department following completion of construction. Submit an electronic copy of the as-built drawings with this form if the project was not constructed in accordance with previously submitted plans and specifications.
  
9. Upon completion of construction, the Big Cedar Lodge will become the continuing authority for operation, maintenance, and modernization of these facilities.

RECEIVED



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
WATER PROTECTION PROGRAM  
APPLICATION FOR CONSTRUCTION PERMIT  
SEWER EXTENSION

1750  
2005  
AP 2005  
14507

FOR DEPARTMENT USE ONLY	
APP NO.	CP NO.
FEE RECEIVED	CHECK NO.
FEE RECEIVED	CHECK NO.

WATER PROTECTION PROGRAM

NOTE ► PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM

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 Department of Natural Resources approved the proposed project's engineering report\*?  
 YES Date of Approval: \_\_\_\_\_  NO  N/A
- 1.3 Is a copy of the appropriate plans\* and specifications\* included with this application?  YES  NO
- 1.4 Is a summary of design\* included with this application?  YES  NO
- 1.5 Is the appropriate fee included with this application? (See instructions for appropriate fee.)  YES  NO

\* Must be affixed with a Missouri registered professional engineer's seal, signature and date.

2.0 PROJECT INFORMATION

2.1 NAME OF PROJECT

Top of the Rock Welcome Center Sewer Service

ADDRESS	CITY	STATE	ZIP CODE	COUNTY
150 Top of the Rock rd.	Ridgedale	MO	65739	Taney

2.2 Legal Description: ¼, ¼, ¼, Sec. 17, T 21, R 23

2.3 Project Components (check all that apply):

- Gravity sewers  Pumping stations  Force mains  Alternative sewer system  Other (Describe below.)

2.4 PROJECT DESCRIPTION

544.17 lf 1.5" SDR-21 PVC, 2565.63 lf 2.5" SDR-21 PVC, 3 E-One simplex grinder stations. Up to 6 future E-One simplex grinder stations.

2.5 DESIGN INFORMATION

A. Population or number of lots to be served by this extension:

B. Estimated flow to be contributed by this extension: Design Average Flow: 2000 gpd Design Peak Hourly Flow: 335 gph

C. Industrial Wastes: Type: n/a Flow: gpd

D. Receiving Sewer: Size: 2.5" inches Capacity: 33 gpm

3.0 PROJECT OWNER

NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
Top of the Rock LLC	(417) 339-5160	

ADDRESS	CITY	STATE	ZIP CODE
150 Top of the Rock Rd	Ridgedale	MO	65739

4.0 CONTINUING AUTHORITY: Permanent organization that will serve as the continuing authority for the operation, maintenance and modernization of the wastewater collection system.

NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
Big Cedar Lodge	(417) 339-5160	

ADDRESS	CITY	STATE	ZIP CODE
612 Devil's Pool Road	Ridgedale	MO	65739

4.1 A letter from the continuing authority, if different than the owner, is included with this application.  YES  NO  N/A

5.0 ENGINEER

ENGINEER NAME / COMPANY NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
Michael Stalzer, P.E.	(417) 334-8820	

ADDRESS	CITY	STATE	ZIP CODE
210 S. 3rd Street	Branson	MO	65616

6.0 RECEIVING WASTEWATER TREATMENT FACILITY

NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
Big Cedar Lodge	(417) 339-5160	

MISSOURI STATE OPERATING PERMIT # MO-0039578		REMAINING CAPACITY (GPD) 100,000 gpd	
6.1 Has the receiving treatment facility agreed to accept the additional wastewater flow? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
6.2 A letter from the receiving wastewater treatment facility, if different than the continuing authority, is included with this application. <input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> N/A			
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.			
PROJECT OWNER SIGNATURE <i>J. Keys</i>			
PRINTED NAME <i>James C. Keys</i>		DATE <i>2-5-15</i>	
TITLE OR CORPORATE POSITION <i>A.G.M</i>		TELEPHONE NUMBER WITH AREA CODE <i>417-339-5160</i>	E-MAIL ADDRESS
Mail completed copy to:		MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM P.O. BOX 176 JEFFERSON CITY, MO 65102-0176	