

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

MISSOURI CLEAN WATER COMMISSION



**CONSTRUCTION PERMIT**

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

U. S. Army IMCOM and Fort Leonard Wood  
1334 1<sup>st</sup> Street  
Fort Leonard Wood, MO 64573

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 8, 2014  
Effective Date

September 7, 2016  
Expiration Date

Sara Parker Pauley, Director, Department of Natural Resources

Director, Water Protection Program

## **CONSTRUCTION PERMIT**

### **COLLECTION SYSTEM:**

This project consists of the installation and construction of approximately 3.8 mile sanitary sewer pipe network. This network will include 377 linear feet (lf) of 6-inch (6") polyvinyl chloride (PVC) Standard Dimension Ratio (SDR)-35, 382 lf of 8" PVC SDR-35, 257 lf of 12" PVC SDR-26, 72 lf of 18" PVC SDR-26, 1858 lf of 24" PVC SDR-26, 10,673 lf of 30" PVC SDR-26, 1,663 lf of 36" PVC SDR-26, 3,384 lf of 42" PVC SDR-26, and 276 lf of 42" DIP gravity sewer lines with approximately 80 manholes that vary in diameter from 4 feet to 8 feet and all the necessary appurtenances to make a complete and usable wastewater collection system. No new load will be added to the treatment facility since this new sewer network will be parallel and replace approximately 9,123 lf of existing 21" RCP and 1,813 lf of existing 18" PVC pipe. The existing sewer lines will be abandoned in place and existing abandoned manholes will be removed to below grade and filled with grout. The project will also include general site work appropriate to the scope and purpose of the project.

These wastewater facilities will be in south side of the city of Fort Leonard Wood, Pulaski County and discharge to an existing sewer system to be treated at the Ford Leonard Wood Wastewater, Missouri State Operating Permit No. MO-0029742. Bobby N. Rakes, Jr., director of Directorate of Public Works, with Ford Leonard Wood WWTF provided an acceptance letter dated July 22, 2014.

### **PERMIT CONDITIONS:**

1. All construction shall be in accordance with the plans and specifications submitted by Merrick and Company as follows:
  - Specifications and Plans received on August 5, 2014 and signed and sealed by Aaron C. Seal, P.E. on August 1, 2014.
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 Southeast 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 ten feet (10’) 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 ten foot (10’) 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 should be located at least ten feet (10’) horizontally from any existing or proposed water main.
  - 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 (1) 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 ten feet (10’) 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 (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 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 with this form.
9. Upon completion of construction, the U. S. Army IMCOM and Fort Leonard Wood will become the continuing authority for operation, maintenance, and modernization of these facilities.

**Lei HOU, PE**  
**Engineering Section**  
**[Lei.hou@dnr.mo.gov](mailto:Lei.hou@dnr.mo.gov)**

RECEIVED

APM110  
CPSE00964  
C13659



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

AUG 5 2014

FOR DEPARTMENT USE ONLY	
APP NO.	CP NO.
FEE RECEIVED \$300.00	CHECK NO. 2283
DATE RECEIVED 8/5/14	SS

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: USACE Project #: 446318
- 1.2 Has the Department of Natural Resources approved the proposed project's engineering report\*?  YES Date of Approval: 08/19/2013  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

Southern Sewer Interceptor Project (SSIP)

ADDRESS	CITY	STATE	ZIP CODE	COUNTY
1334 First Street	FLW	MO	65473	Pulaski

2.2 Legal Description: ¼, ¼, ¼, Sec. 11, 14, 23, T 35N, R 11W

2.3 Project Components (check all that apply):

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

2.4 PROJECT DESCRIPTION

Please refer to attached project description

2.5 DESIGN INFORMATION

- A. Population or number of lots to be served by this extension: 20,000 people
  - B. Estimated flow to be contributed by this extension: Design Average Flow: 2.7M gpd Design Peak Hourly Flow: 0.76M gph
  - C. Industrial Wastes: Type: no Flow: 0 gpd
  - D. Receiving Sewer: Size: 42 inches Capacity: 20625 gpm
- Flows for SSIP only. No new flows added.  
Replacement of existing interceptor.

**3.0 PROJECT OWNER**

NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS	
U. S. Army IMCOM and Fort Leonard Wood	(573) 596-0840		
ADDRESS	CITY	STATE	ZIP CODE
1334 1st Street	Fort Leonard Wood	MO	64573

**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	
U. S. Army IMCOM and Fort Leonard Wood	(573) 596-0840		
ADDRESS	CITY	STATE	ZIP CODE
1334 1st Street	Fort Leonard Wood	MO	64573

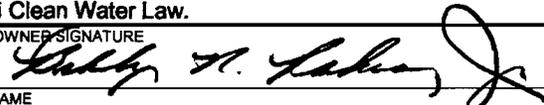
4.1 A letter from the continuing authority, if different than the owner, is included with this application.  YES  NO  N/A

**5.0 ENGINEER**

ENGINEER NAME / COMPANY NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS	
Merrick and Company	(303) 751-0741	aaron.seal@merrick.com	
ADDRESS	CITY	STATE	ZIP CODE
5970 Greenwood Plaza Blvd	Greenwood Village	CO	80111

**6.0 RECEIVING WASTEWATER TREATMENT FACILITY**

NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
Fort Leonard Wood WWTP	(573) 596-0078	

MISSOURI STATE OPERATING PERMIT # MO-0029742		REMAINING CAPACITY (GPD) 3,000,000
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 <b>PROJECT OWNER:</b> 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 		
PRINTED NAME BOBBY N. RAKES, JR.		DATE 22 JUL 14
TITLE OR CORPORATE POSITION DIRECTOR, DIRECTORATE OF PUBLIC WORKS	TELEPHONE NUMBER WITH AREA CODE (573) 596-0840	E-MAIL ADDRESS
Mail completed copy to: MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM P.O. BOX 176 JEFFERSON CITY, MO 65102-0176		

## Southern Sewer Interceptor Project (SSIP)

### **Project Description:**

The proposed Southern Sewer Interceptor Project (SSIP) will consist of the construction of a 3.8 mile sanitary sewer pipe network. This new network will be parallel and replace approximately 9,123 LF of existing 21" RCP and 1,813 LF of existing 18" PVC pipe. The existing sewer lines will be abandoned in place and existing abandoned manholes will be removed to below grade and filled with grout. The following new sewer pipes will be installed; 377 LF of 6" PVC, 382 LF of 8" PVC, 257 LF of 12" PVC, 72 LF of 18" PVC, 1858 LF of 24" PVC, 10,673 LF of 30" PVC, 1,663 LF of 36" PVC, 3,384 LF of 42" PVC, and 276 LF of 42" DIP. These pipes will be connected with 80 new manholes that vary in diameter from 4 feet to 8 feet.