STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION

GENERAL PERMIT for SEWER EXTENSION CONSTRUCTION

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

Construction Permit ID:	MOGC00563
Title of Project:	Wolf Hollow Estates II Phase 1
Owner:	Rodney G'Sell
Address:	6539 Old State Route 21 Barnhart, MO 63012

The project will also include general site work appropriate to the scope and purpose of the project and will include all the necessary appurtenances to make a complete and usable collection system. The construction of this project will be in the vicinity of the county below and discharge to Receiving Permit ID below:

County: Jefferson Receiving Permit ID: MO0106461

for the construction of (described construction project):

Wolf Hollow Estates II Phase I-Construction of approximately 2,010 lf of 8-inch PVC SDR-35 gravity sewer lines with approximately 11 manholes to serve 45 lots, with a design PE of 166 and a design average flow of 16,650 gpd. The receiving sewer is 8 inches with a capacity of 109 gpm. This project utilizes Rock Creek Public Sewer District (RCPSD) standard specification approved on December 17, 2018.

Project is in the vicinity of Wolf Hollow Road and Grey Wolf Drive in Imperial, Jefferson County and discharges to an existing system to be treated at RCPSD Kimmswick WWTF, MO-0106461. Mr. Don Daniel with RCPSD, provided an acceptance letter dated September 6, 2019.

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.
This permit applies only to the construction of water pollution control components; it does not apply to other environmentally regulated areas.

September 11, 2019
Issue Date

Edward B. Galbraith, Director
Division of Environmental Quality

April 19, 2020
Expiration Date

Chris Wieberg, Director
Water Protection Program

APPLICABILITY

1. This permit authorizes the construction of gravity sewer extensions, force mains, and lift stations. Storage basins, considered part of the collection system, are also included. Earthen basins are not included under this General Sewer Extension Construction permit.

2. A Sewer Extension Construction Permit may be required by the department due to compliance and enforcement actions.

3. This permit does not apply to:
   A. Earthen storage basins;
   B. Projects located within an Approved Sewer Program. These include the City of Blue Springs, City of Columbia, City of Kansas City, City of Jefferson City, City of Joplin, City of Lebanon, City of Springfield, City of St. Peters, Duckett Creek Sewer District, and Metropolitan St. Louis Sewer District;
   C. Projects funded by the Department of Natural Resources;
   D. Projects that substantially deviate from the Design Guides in 10 CSR 20-8; and
   E. Exempt projects unless requested by the applicant or required by enforcement.

PREREQUISITES:

1. The General Sewer Extension Construction Permit application, appropriate fee, and a schedule for construction with the date on which construction will begin and anticipated completion date.

2. The engineering report, as required, plans and specifications each signed and sealed by a professional engineer registered in the State of Missouri. A Summary of Design is an acceptable substitute for the engineering report required by this permit prerequisite.

3. The Design Certification form signed and sealed by a professional engineer registered in the State of Missouri certifying the design of the system was done in accordance with 10 CSR 20-6 and 10 CSR 20-8.

4. A statement from the continuing authority was received accepting the wastewater for treatment.

5. A statement from the continuing authority was received accepting the responsibility for operation, maintenance, and modernization of these facilities

PERMIT CONDITIONS:

1. Contact the department's appropriate regional office 48 hours prior to starting construction. Contact information can be found at http://dnr.mo.gov/regions/regions.htm.

2. This permit authorizes the activities and scope of work detailed in the plans and specifications submitted with the request.

3. The construction must be in accordance with the design certification stating the plans and specifications comply with 10 CSR 20-6 and 10 CSR 20-8.

PERMIT CONDITIONS: (continued)

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 regional office per 10 CSR 20-7.015(9)(E)2.

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 shall be located with the top access at or above grade level.

   D. Manholes should be located at least ten feet (10') 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 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.

PERMIT CONDITIONS: (continued)

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 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.

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/ for more information.

8. If this project eliminates a wastewater treatment facility, then a full closure plan shall be submitted to the department's appropriate regional office for review and approval of any permitted wastewater treatment system being replaced. In accordance with 10 CSR 20-6.010(12), the closure plan must meet the requirements outlined in Standard Conditions Part III, Section I, of the Missouri State Operating Permit. Closure shall not commence until the submitted closure plan is approved by the department. Form J – Request for Termination of a State Operating Permit, shall be submitted to the department's appropriate Regional Office for termination of any existing Missouri State Operating Permit, once closure is completed in accordance with the approved closure plan.

9. Submit a Statement of Work Completed Form to the department following completion of construction. Submit an electronic copy of the as built plans if the project was not constructed in accordance with previously submitted plans and specifications.

RECEIVED AP33563 MOG600563

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

APPLICATION FOR CONSTRUCTION PERMIT – SEWER EXTENSION

AUG 2 6 2019 Water Protection Program

FOR DEPARTMENT USE ONLY	
APP NO.	CP NO.
FEE RECEIVED $300.00	CHECK NO. 20010938
DATE RECEIVED 6-26-19	

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 or JetPay confirmation included with this application? ☐ YES ☐ NO
See Section 7.0

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

2.0 PROJECT INFORMATION

2.1 NAME OF PROJECT
Wolf Hollow Estates II Phase 1

ADDRESS	CITY	STATE	ZIP CODE	COUNTY
6111 Old State Road	Imperial	MO	63052	Jefferson

2.2 Legal Description: ¼, ¼, ¼, Sec. 19 , T 42 , R 6

2.3 Project Components (check all that apply):
☑ Gravity sewers ☐ Pumping stations ☐ Force mains ☐ Alternative sewer system ☐ Other (Describe below.)

2.4 PROJECT DESCRIPTION
2,010 linear feet of 8-inch sanitary sewer, 11 manholes and 1,900 linear feet of laterals to serve 45 residential lots. There will be no force mains or lift stations.

2.5 DESIGN INFORMATION
A. Population or number of lots to be served by this extension: 45
B. Estimated flow to be contributed by this extension: Design Average Flow: 16650 gpd Design Peak Hourly Flow: 694 gph
C. Industrial Wastes: Type: Flow: gpd
D. Receiving Sewer: Size: 8 inches Capacity: 109 gpm

3.0 PROJECT OWNER

NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
Rodney G'Sell	314-575-1431	rodney@gsellhomes.com

ADDRESS	CITY	STATE	ZIP CODE
6539 Old State Route 21	Barnhart	MO	63012

4.0 CONTINUING AUTHORITY:

A continuing authority is a company, business, entity or person(s) that will be operating the facility and/or ensuring compliance with the permit requirements. A continuing authority is not, however, an entity or individual that is contractually hired by the permittee to sample or operate and maintain the system for a defined time period, such as a certified operator or analytical laboratory. To access the regulatory requirement regarding continuing authority, 10 CSR 20-6.010(2), please visit https://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf. A continuing authority's name must be listed exactly as it appears on the Missouri Secretary of State's (SoS's) webpage: https://bsd.sos.mo.gov/BusinessEntity/BESearch.aspx?SearchType=0, unless the continuing authority is an individual(s), government, or otherwise not required to register with the SoS.

NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
Rock Creek Sewer District	636-575-1431	

ADDRESS	CITY	STATE	ZIP CODE
PO Box 1060	Imperial	MO	63052

4.1 A letter from the continuing authority or the Continuing Authority and Receiving Wastewater Treatment Facility Acceptance form, 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
Govero Land Services	636-464-9380	glsland@goverolandservices.net

ADDRESS	CITY	STATE	ZIP CODE
5929 Old State Road	Imperial	MO	63052

6.0 RECEIVING WASTEWATER TREATMENT FACILITY

NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
Rock Creek Sewer District	636-464-3305	dondaniel@rockcreekPSd.com

MISSOURI STATE OPERATING PERMIT #	REMAINING CAPACITY (GPD)
MO-01-6461	1,833,542.00

6.1 Has the receiving treatment facility agreed to accept the additional wastewater flow? ☑ YES ☐ NO

6.2 A letter from the receiving wastewater treatment facility, if different than the continuing authority, is included with this application.
☐ YES ☐ NO ☑ N/A

7.0 Application Fee

☐ Check Number ☒ JetPay Confirmation Number 20010938

8.0 PROJECT OWNER: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

PROJECT OWNER SIGNATURE		
PRINTED NAME Rodney G'Sell		DATE 8-13-2019
TITLE OR COPORATE POSITION	TELEPHONE NUMBER WITH AREA CODE 636-575-1431	E-MAIL ADDRESS rodney@gsellhomes.com

Mail completed copy to:

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
P.O. BOX 176
JEFFERSON CITY, MO 65102-0176

SEWER EXTENSION DESIGN CERTIFICATION

Answer all questions yes, no, or N/A. Answer N/A only if the question is clearly not applicable to the design of the proposed sewer extension **OR** if a deviation was previously allowed by the Department in the approval of Standard specifications or Standard Detail Sheets.

9.0 SEWER EXTENSION CHECKLIST					
	REGULATION		YES	NO	N/A
1.	8.110(9)(B)	Is there a detailed plan showing tributary area, boundaries, pertinent elevations, topography, existing and proposed facilities?	✓		
2.	8.110(3)(A)(B)	Is the design flow based on actual flow data for an existing system? Is the design flow based on the design peak hourly flow for a new collection system?	✓		
3.	8.120(2)	Does the sewer receive only sewage and not combined sewage?	✓		
4.	8.120(3)(C)	Are the joints sealed to prevent infiltration or exfiltration > 100 gal/inch of pipe dia/mile/day for receiving WWTF with a design flow > 22,500 gpd, and >200 gal/inch of pipe dia/mile/day for any section between manholes?	✓		
5.	8.120(4)(A)	Are manholes located at all changes in grade, size or alignment, at all intersections?	✓		
6.	8.120(3) (A)1	Is all sewer pipe constructed with a slope to obtain mean velocities of not less than 2 feet per second?	✓		
7.	8.120(3)(A)2	Is the pipe covered with at least 36" of soil or sufficiently insulated?	✓		
8.	8.120(3)(A)	Is the pipe installation, embedment, and backfill designed to prevent damage to the pipe and its joints?	✓		
9.	8.120(3)(B)	Is pipe being tested to ensure it does not exceed a deflection of 5% of the inside diameter?	✓		
10.	8.120(4)(C)	Are manholes at least 48 inches in diameter with a clear opening of 22 inches on sewer line larger than 8"?	✓		
11.	8.120(4)(C)	Where cleanouts are used at the end of a lateral instead of a manhole, they are a minimum diameter of 8 inchesor larger and equal to the diameter for pipes < 8"?	✓		
12.	8.120(4)(E)	Are the manholes watertight, constructed, installed in accordance with the manufacturer's recommendations and procedures?	✓		
13.	8.120(4)(F)	Do the specifications include a requirement for inspection and testing for manholes?	✓		
14.	8.120(5)(B)	Are sewers and manholes located at least 50 feet horizontally from any existing or proposed water supply well, sources, structures?	✓		
15.	8.120(5)(A)	Is the sewer free from physical connections to a potable water supply system and no water pipes come in contact with a sewer manhole?	✓		
10.0 PRESSURE SEWERS, GRINDER PUMP, STEP AND STEG SEWER CHECKLIST					
	REGULATION		YES	NO	N/A
16	8.125(5)(A)	Does the cleaning velocity of ≥ 2 ft/s happen more than once per day when the minimum diameter sewer main pipe is at least 1.5"?			
17	8.125(5)B	Are appirtenances compatible with the piping system?			
18	8.125(5)(C)	Is the minimum diameter service line pipe at least 1.25"?			
19	8.125(5)(D)1A	Are no multiple equivalent dwelling units (EDUs) or commercial facilities served by simplex grinder pump stations?			
20	8.125(5)(D)1B	Are multiple unit pump stations owned, operated, maintained by an approved continuing authority.			
21	8.125(5)(D)3	Is there at least 70 gallons of storage in the grinder pump unit ?			
22.	8.125(5)(D)4	is shutoff valve accessible from the ground? Is there a check valve? Is there an anti-siphon valve where siphoning could occur ?			
23	8.125(5)(D)7 8.130(3)(B)2	Are units serviceable and replaceable under wet conditions without electrical hazard to repair personnel and electrical equipment suitable for hazardous locations (National Electrical Code, Class I, Group D, Division 1 location).			

24	8.125(6)(D) 8.180(2)	Does at least 1 septic tank (1,000 gallons or more) provide to each EDU?			
25	8.125(6)(F)	Are duplex pumps provided for the design flow of 1,500 gallons or more STEP sewer?			
26	8.125(7)(A) 8.125(7)(C)	Is the minimum diameter sewer main pipe and service line of STEG sewer at least 4"?			
27	8.125(5)(D)8 8.125(8)	Are provisions in place to avoid interruption of service due to mechanical or power failure by providing standby power, storage capacity or interconnection with another disposal system?			
11.0 PUMP STATION CHECKLIST					
	REGULATION		YES	NO	N/A
28.	8.130(2)(A) 8.140(2)(B)	Is the pump station designed to withstand the 100-year flood?			
29.	8.130(3)(A)	Is the dry well completely separate from the wet well and is a suitable and safe means of access provided to each?			
30.	8.130(3)(B)	If the design flow is 1,500 gpd or more, are there at least 2 pumps or pneumatic ejectors?			
31	8.130(3)(D)	Are valves outside wet well unless integral to a pump or its housing?			
32.	8.130(3)(F) 8.140 (8)(J)	Is interconnection between wet and dry well ventilation system?			
33	8.130(3)(G)	Does all potable water at station comply with 8.140 (7) D?			
34	8.130(6)	Is an alarm system provided an uninterrupted power?			
35.	8.130(7) (A)	is there 2 hrs retention of the peak hourly flow for a design flow > 100,000 gpd or 4 hrs retention of the peak hourly flow for a design flow < 100,000 gpd?			
36	8.130(7)(B)	Is there independent utility substations?			
37	8.130(8)(A)	Is the force main velocity of ≥ 2 ft/s maintained?			
38.	8.130	Instructions and Equipment. Sewage pumping stations and their operators should have a complete set of operational instructions, including emergency procedures, maintenance schedules, special tools and spare parts as may be necessary.			
12.0 SUCTION LIFT PUMP AND SUBMERSIBLE PUMP STATION CHECKLIST					
	REGULATION		YES	NO	N/A
39.	8.130(4)	Are the suction lift pumps of the self priming or vacuum priming type?			
40.	8.130(4)(A)	The combined total of dynamic suction lift at the "pump off" elevation and required net positive suction head at design operating conditions shall not exceed twenty-two feet (22').			
41	8.130(4)(B)	Is there dual vacuum pumps capable of removing air from the suction lift pump.			
42	8.130(5)(A)	Are submersible pumps readily removable and replaceable without personel entering, or disconnecting any pipe in the wet well?			

12.0 CERTIFICATION STATEMENT

I hereby certify that the design plans and specifications for this project, to the best of my knowledge, conform to the requirements listed above. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

I hereby certify that this plan, specification, and/or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Missouri.

Missouri Professional Engineer's Seal:

STATE OF MISSOURI
CAROL J. ONEST
NUMBER
PE-2003025014
PROFESSIONAL ENGINEER

8-13-2019

Name: Carol J. Onest Street Address: 5929 Old State Road City: Imperial	State: MO	Zip Code: 63052
Phone Number: 636-464-9380	Email: carolo@goverolandservices.net	