GENERAL PERMIT for SEWER EXTENSION CONSTRUCTION

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

Construction Permit ID: MOGC00225
Title of Project: Vogel Extension Sewer Replacement
Owner: Rock Creek Public Sewer District
Address: 4133 West Outer Road
Arnold, MO 63010

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: St. Louis  Receiving Permit ID: MO0127949

for the construction of (described construction project):

Vogel Extension Sewer Replacement, Pomme Creek Watershed-Construction of approximately 2100 lf of 12-inch PVC SDR-35 with approximately 12 manholes to serve 411 lots, a 1170 PE and a design average flow of 117,000 gpd. This is a replacement of existing 8 inch line that will be abandoned and plugged. The receiving sewer is existing 12 inch sewer line.

Project is in the vicinity of Harmony Hills Drive and Vogel Road in Arnold, Jefferson County and discharges to an existing system to be treated at MSD-Lower Meramec WWTF, St. Louis County, MO-0127949. The project owner and continuing authority is Rock Creek Public Sewer District. Rock Creek Sewer District has an agreement with MSD to treat the flows.

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.

April 20, 2017
Issue Date
Steven Feeler, Acting Director
Division of Environmental Quality

April 19, 2019
Expiration Date
David J Lamb
Acting 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](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. 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.
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* or a Sewer Extension Design Checklist* included?
   ☐ Sewer Extension Design Checklist. (N/A to department funded projects.)  ☑ Engineering Report Date of Approval:  06/01/2016

1.3 Is a copy of the appropriate plans* and specifications* included with this application?
   ☐ YES  Denote which form is submitted:  ☑ Hard copy (1 minimum) and  ☐ Electronic copy (See instructions.)  ☐ NO

1.4 Is a summary of design* included with this application?  ☑ YES  ☐ NO

1.5 Is the appropriate fee ($300) included with this application?  ☑ 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

Vogel Extension Sewer Replacement - Pomme Creek Watershed

PHYSICAL ADDRESS
Harmony Hills Drive
Arnold  MO  63010

CITY
State
ZIP CODE
COUNTY

2.2 Legal Description:  ¼, ¼, ¼, Sec., T, R

2.3 UTM Coordinates Easting (X):  725667  Northing (Y):  4255334
   For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

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

2.5 PROJECT DESCRIPTION

The replacement sewer will consist of the following:
12 manholes
Approximately 2,100 feet of 12" PVC SDR 35 pipe

2.6 DESIGN INFORMATION

A. Population or number of lots to be served by this extension:  411 lots

B. Estimated flow to be contributed by this extension:  Design Average Flow: 117,000 gpd  Design Peak Hourly Flow: 450,800 gph

C. Industrial Wastes:  Type:  NA  Flow:  gpd

D. Receiving Sewer:  Size: 12 inches  Capacity:  ** gpm

"See Burns & McDonnell report titled, "Pomme Creek Watershed Sewer Study Final, Revision 1, June 2016".

3.0 PROJECT OWNER

NAME
Rock Creek Public Sewer District

TELEPHONE NUMBER WITH AREA CODE
(636) 484-3305

EMAIL ADDRESS

ADDRESS
4133 West Outer Road
Arnold

CITY
State
ZIP CODE
63010

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
"Same as above"

TELEPHONE NUMBER WITH AREA CODE

EMAIL ADDRESS

ADDRESS

CITY
State
ZIP CODE

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
Tim Straszacker / Horner & Shifrin, Inc.

TELEPHONE NUMBER WITH AREA CODE
(314) 531-4321

EMAIL ADDRESS
tjstraszacker@hornerishifrin.com

ADDRESS
401 S. 18th Street STE 400
St. Louis

CITY
State
ZIP CODE
63103

Page 1 of 2
# 6.0 RECEIVING WASTEWATER TREATMENT FACILITY

<table>
<thead>
<tr>
<th>NAME</th>
<th>TELEPHONE NUMBER WITH AREA CODE</th>
<th>EMAIL ADDRESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Louis Metropolitan Sewer / Missouri America Water</td>
<td>MO-0127949</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MISSOURI STATE OPERATING PERMIT #</th>
<th>DESIGN AVERAGE FLOW (GPD)</th>
<th>REMAINING CAPACITY (GPD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MO-0127949</td>
<td>See note 1 below</td>
<td>See note 1 below</td>
</tr>
</tbody>
</table>

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 or the Continuing Authority and Receiving Wastewater Treatment Facility Acceptance form, if different than the continuing authority, is included with this application. [ ] YES [ ] NO [ ] 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**

Don Daniel

**DATE**

3·31·2017

**TITLE OR CORPORATE POSITION**

District Administrator

**TELEPHONE NUMBER WITH AREA CODE**

(636) 464-3305

**EMAIL ADDRESS**

don.daniel@rockcreekpsd.com

---

Mail completed copy to:

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

---

Note 1: St. Louis Metropolitan Sewer District (Lower Meramec) and Missouri American Water Company have agreement establishing maximum receiving limits.
Sewer Extension Construction Permit Requirements

<table>
<thead>
<tr>
<th>Permittee:</th>
<th>Rock Creek Sewer District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title of Plans and Specifications:</td>
<td>Vogel Sewer Replacement</td>
</tr>
<tr>
<td>Location of Project:</td>
<td></td>
</tr>
</tbody>
</table>

All sanitary sewer extensions should be designed in accordance with The Missouri Department of Natural Resources Division 20 – Clean Water Commission Chapter 8 Guidelines (10CSR20-8).

**SUBMITTAL REQUIREMENTS**
Either Fast Track Process OR Detailed Review Track Process
(All 5 items must be submitted. Incomplete applications will be returned)

| ✓  | 1. Application for Construction Permit - Sewer Extension (form MO 780-1632) and associated fee of $300 (> 1000 lineal feet) (6.011 (4)) |
| ✓  | 2. Written approval from the continuing authority and/or Written acceptance of flow from the treatment facility |
| ✓  | 3. Sewer Extension Design Checklist (include pump calculations for pump station designs) |
| ✓  | 4. Plans and Specifications signed and sealed by professional engineer (8.110 (6) A) |

**FAST TRACK PROCESS**
- Answer the following questions.
- If Checklist items —
  - Part 1 is answered YES and Part 2, Part 3 and Part 4 are answered N/A; OR
  - Part 1, Part 2, are answered YES and Part 3 and Part 4 are answered YES or N/A:
    - Sign and seal the Fast Track Certification Statement.

Submit the following 5 items to the Missouri Department of Natural Resources.

| N/A | 5. Fast Track review Certification Statement form signed and sealed |

**DETAILED REVIEW TRACK PROCESS**
- Answer the following questions.
- If Checklist items —
  - Part 1 is answered NO or N/A, or
  - Part 2, Part 3, or Part 4 are answered NO
    - Sign and seal the Statement for Detailed Review; and
    - Provide justification for not following each specific Chapter 8 guideline.

Submit the following 5 items to the Missouri Department of Natural Resources.

<p>| N/A | 5. Detailed review Certification Statement form signed and sealed |</p>
<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
<th>N/A</th>
<th>REGULATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.</td>
<td></td>
<td></td>
<td></td>
<td>Are methods employed to provide adequate control of siltation and erosion during construction?</td>
</tr>
<tr>
<td>16.</td>
<td></td>
<td></td>
<td></td>
<td>8.120(6)(C) Are manholes at least 48 inches in diameter with a clear opening of 22 inches?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8.020(9)(C)</td>
</tr>
<tr>
<td>17.</td>
<td></td>
<td></td>
<td></td>
<td>8.120(6)(A) Are where cleanouts are used at the end of a lateral instead of a manhole, they are a minimum diameter of 8 inches, and the lateral length is not greater than 150 feet?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8.020(9)(C)</td>
</tr>
<tr>
<td>18.</td>
<td></td>
<td></td>
<td></td>
<td>8.120(6)(D) Are the manholes designed and/or specified to have flow channels in the bottom that conforms in shape and slope of the sewer?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8.020(9)(C)</td>
</tr>
<tr>
<td>19.</td>
<td></td>
<td></td>
<td></td>
<td>8.120(6)(F) Are the manholes precast or poured in place concrete with watertight connections and conform to the &quot;Frame and Cover&quot; requirements?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8.020(9)(C)</td>
</tr>
<tr>
<td>20.</td>
<td></td>
<td></td>
<td></td>
<td>8.120(6)(G) Do the specifications include a requirement for inspection and testing for manholes?</td>
</tr>
<tr>
<td>21.</td>
<td></td>
<td></td>
<td></td>
<td>8.120(6)(E) Are sewers 24 inches or less laid straight between manholes?</td>
</tr>
<tr>
<td>22.</td>
<td></td>
<td></td>
<td></td>
<td>8.120(6)(F) When a smaller sewer joins a larger one, is the 0.8 depth point of both sewers at the same elevation in the manhole?</td>
</tr>
<tr>
<td>23.</td>
<td></td>
<td></td>
<td></td>
<td>8.120(7) Do the inverted siphons have two barrels with at least a pipe size of 6 inches?</td>
</tr>
<tr>
<td>24.</td>
<td></td>
<td></td>
<td></td>
<td>8.120(8) 8.020(9)(A) Is the top of all sewers entering or crossing streams at least 3 feet below the natural stream bottom, perpendicular to the stream, and constructed of cast- or ductile-iron pipe?</td>
</tr>
<tr>
<td>25.</td>
<td></td>
<td></td>
<td></td>
<td>8.120(9) 8.020(9)(A) Are all aerial crossings ductile iron pipe with mechanical joints, supported at all pipe joints and designed to withstand freezing and a 50-year flood?</td>
</tr>
<tr>
<td>26.</td>
<td></td>
<td></td>
<td></td>
<td>8.120(10)(C) 8.020(9)(A) Are sewers and manholes located at least 10 feet horizontally and 18 inches vertically from any existing or proposed water line?</td>
</tr>
<tr>
<td>27.</td>
<td></td>
<td></td>
<td></td>
<td>8.120(10) 8.020(9)(A) Is the sewer free from physical connections to a potable water supply system? Are there no water pipes that come in contact with a sewer manhole?</td>
</tr>
<tr>
<td>28.</td>
<td></td>
<td></td>
<td></td>
<td>8.020(9)(B) If your system is for a subdivision in a metropolitan area, or in a rural area adjacent to a regional system where incorporation into a region is feasible, is the sewer pipe at least 8 inches in diameter, laid at a slope of 0.40 feet/100 feet with appropriate bedding specifications and at least 30&quot; of cover?</td>
</tr>
</tbody>
</table>

Part 1

I answered YES to questions 1 – 28.