

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: MOGSE0564
Title of Project: Waters Edge Sewer Improvements
Owner: Boone County RSD
Address: 1314 N 7th St
COLUMBIA, MO 65201

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: Receiving Permit ID:

for the construction of (described construction project):

Waters Edge Sewer Improvements-construction of approximately 78 lf of 8-inch SDR-35 PVC gravity sewer and 1,600 lf of 24-inch SDR-35 PVC gravity sewer with 6 manholes. Approximately 405 lf of the 24-inch gravity sewer will have concrete encasing and will be installed under the Hagan Lake dam crossing South of Waterfront Dr N.

Construction also includes extension of the southern portion of the Hagan Lake dam crossing and repair of existing manhole 10251. Project to serve a population of 10,300 with a design average flow of 563,000 gpd. The receiving sewer is 24-inch with an estimated capacity of 7,130 gpm.

Project is in the vicinity of Waterfront Dr N and Crawdad Ct in Columbia, Boone County and discharges to an existing system to be treated at Columbia Regional WWTP, MO-0097837.

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.

June 29, 2023

Issue Date

John Hoke, Director
Water Protection Program

January 02, 2025

Expiration Date

APPLICABILITY

1. This permit authorizes the construction of gravity sewer extensions, force mains, and lift stations. Non-earthen flow equalization storage basins at lift stations and inline storage, which flows back into the lift station or collection system, are also included.
2. A site specific sewer extension construction permit may be required by the Department due to compliance and enforcement actions.
3. Projects located within an Approved Sewer Program as noted in the operating permit of the receiving wastewater treatment facility are not required to obtain a construction permit from the Department of Natural Resources (Department).
4. This permit does not apply to:
 - A. Earthen storage basins;
 - B. Exempt projects unless requested by the applicant or required by enforcement.

PREREQUISITES:

1. The General Sewer Extension Construction Permit application, appropriate fee, and documentation in accordance with 10 CSR 20-6.010(5)(G).
2. The plans and specifications each signed and sealed by a professional engineer registered in the State of Missouri in accordance with 10 CSR 20-8 and 10 CSR 20-6.010.
3. The Design Certification form or Engineering Report or Summary of Design signed and sealed by a professional engineer registered in the State of Missouri certifying the design of the system was prepared in accordance with 10 CSR 20-6 and 10 CSR 20-8.
4. A statement from the continuing authority, as defined in 10 CSR 20-6.010, accepting the wastewater for treatment and indicating the permitted treatment facility has the available capacity.
5. A statement from the continuing authority, as defined in 10 CSR 20-6.010, accepting the responsibility for operation and maintenance of these facilities.

PERMIT CONDITIONS:

1. This permit authorizes the activities and scope of work detailed in the plans and specifications submitted with the request.
2. The construction must be in accordance with the final plans and specifications approved by the Department.
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 regional office per 10 CSR 20-7.015(9)(E)2., or through the Online Bypass/SSO Reporting system found at <https://dnr.mo.gov/eservices.htm> under Water Protection.

PERMIT CONDITIONS: (continued)

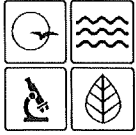
4. Protection of drinking water supplies must meet the requirements of 10 CSR 23-3.010 .
 - A. There shall be no physical connections between a public or private potable water supply system and a sewer, or appurtenance thereto, which would permit the passage of any wastewater or polluted water into the potable supply.
 - B. Sewers shall be laid at least fifty feet (50') in a horizontal direction from any existing or proposed public water supply well or other water supply sources or structures.
5. Manholes shall be located with the top access at or above grade level.
6. In addition to the requirements for a construction permit, see 10 CSR 20-6.200 for land disturbance requirements 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 under the jurisdiction of the Department, then a full closure plan shall be submitted with a Facility Closure Request Form, Form – MO 780-2512 to the Department's appropriate regional office for review and approval. In accordance with 10 CSR 20-6.010(12), the closure plan must meet the requirements outlined in Standard Conditions Part III, of the Missouri State Operating Permit. Closure shall not commence until the submitted closure plan is approved by the Department.
9. If this project is part of a project to resolve an enforcement action or is receiving funding from the Department, submit a statement of work complete following the completion of construction



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

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

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: BCRSD 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
 If the project is using standard specifications, name of community: _____
- 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

Waters Edge Sewer Improvements

ADDRESS	CITY	STATE	ZIP CODE	COUNTY
1850 Waterfront Drive N.	Columbia	MO	65202	Boone

2.2 Legal Description: ¼, ¼, ¼, Sec. 2-3, T 48N, R 12W

2.3 Project Components (check all that apply):

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

2.4 PROJECT DESCRIPTION

This project includes approximately 1,600 feet of gravity sanitary sewer (24-inch) and six (6) manholes (4 feet diameter), lowering lake water level, extension of concrete drain from the lake, 12,600 SF of 18-inch rip rap, geotextile fabric, bypass pumping of sewage, traffic control and repair of a manhole in the roadway.

2.5 DESIGN INFORMATION

- A. Population or number of lots to be served by this extension: 10,300 population
- B. Estimated flow to be contributed by this extension: Design Average Flow: 563K gpd Design Peak Hourly Flow: 1.66M gph
- C. Industrial Wastes: Type: N/A Flow: N/A gpd
- D. Receiving Sewer: Size: 24 inches Capacity: 7130 gpm
- E. Does this project (check all that apply):
 Connect to an existing treatment plant Resolve enforcement issue Eliminate or consolidate an existing treatment plant
- F. Estimated number of onsite systems being removed: 0
- G: Estimated costs associated with piping: \$ 391,000 Estimated costs associated with lift station(s): \$ 0

3.0 PROJECT OWNER

NAME	TELEPHONE NUMBER WITH AREA CODE	EMAIL ADDRESS	
Boone County Regional Sewer District	573 443-2774	bcrsd@bcrsd.com	
ADDRESS	CITY	STATE	ZIP CODE
1314 N 7th Street	Columbia	MO	65201

CHARTER NUMBER (SECRETARY OF STATE) or REGISTERED AGENT

N/A

4.0 CONTINUING AUTHORITY: A continuing authority is a company, business, entity, or person(s) that will be legally responsible for ensuring compliance with the permit requirements and provide continuous stable oversight of the permitted facility or activity. The Continuing authority should be a relatively permanent entity responsible for the ongoing operation, maintenance and modernization, when needed, of the permitted facility or activity. 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 [Clean Water Commission Chapter 6](#). A continuing authority's name must be listed exactly as it appears on the Missouri Secretary of State's (SoS's) webpage: [Missouri Secretary of State](#), unless the continuing authority is an individual(s), government entity, or otherwise not required to register with the SoS.

NAME Boone County Regional Sewer District (BCRSD)		TELEPHONE NUMBER WITH AREA CODE	EMAIL ADDRESS
ADDRESS	CITY	STATE	ZIP CODE
CHARTER NUMBER (SECRETARY OF STATE)			

4.1 Has appropriate continuing authority acceptance been provided as follows:
 A letter from the continuing authority accepting responsibility for continued maintenance of the sewer (if the continuing authority is different than the original owner of the construction), or a properly executed "Continuing Authority and Receiving Wastewater Treatment Facility Acceptance" Form 780-2584. YES NO N/A

5.0 ENGINEER

ENGINEER NAME / COMPANY NAME Bryce Banion, PE/HDR Engineering, Inc.		TELEPHONE NUMBER WITH AREA CODE 816 347-1157	EMAIL ADDRESS Bryce.Banion@hdrinc.com
ADDRESS 10450 Holmes Road, Suite 600	CITY Kansas City	STATE MO	ZIP CODE 64131

6.0 RECEIVING WASTEWATER TREATMENT FACILITY

NAME Columbia Regional WWTF		TELEPHONE NUMBER WITH AREA CODE 573 445-9426	EMAIL ADDRESS sewer@comogov
MISSOURI STATE OPERATING PERMIT # MO-0097837	COUNTY Boone	REMAINING CAPACITY (GPD) 11,000,000	

6.1 If different from the owner, has a letter been provided from the receiving treatment facility demonstrating that they agree to accept the expanded flow or has a properly executed Continuing Authority and Receiving Wastewater Treatment Facility Acceptance MO 780-2584 form been provided? YES NO N/A

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

6.3 If the receiving treatment plant or continuing authority is regulated by the Public Service Commission (PSC) for sewer activities, a Certificate of Convenience and Necessity has been received? Yes - Date: No N/A

OPTIONAL QUESTIONS REGARDING MILITARY SERVICE

Have you or an immediate family member ever served in the U.S. Armed Forces?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If yes, would you like information about military-related services in Missouri?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

7.0 Application Fee

<input type="checkbox"/> Check Number	<input checked="" type="checkbox"/> JetPay Confirmation Number 20043728
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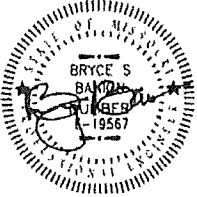
8.0 PROJECT OWNER: I certify under penalty of law this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who 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 there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

PROJECT OWNER SIGNATURE 

PRINTED NAME Thomas T. Ratermann, PE	DATE 5/15/23
TITLE OR CORPORATE POSITION General Manager	TELEPHONE NUMBER WITH AREA CODE 573 443-2775
EMAIL ADDRESS tratermann@bcrsd.com	

Mail completed copy to: MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM PO BOX 176 JEFFERSON CITY, MO 65102-0176	Submit completed electronic copy to: Missouri Department of Natural Resources at DNR.WPPEngineerSection@dnr.mo.gov
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9.0 SEWER EXTENSION CHECKLIST				
SEWER EXTENSION DESIGN CERTIFICATION: Answer all questions yes or N/A. Answer N/A only if the question is clearly not applicable to the design of the proposed sewer extension.				
	REGULATION		YES	N/A
1.	8.110(3)(A)	Is the design flow based on actual flow data for an existing system?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.	8.110(3)(B)	Are average design flows, peak hourly flows and I&I contributions for new systems calculated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.	8.110(9)(B)	Is there a detailed plan showing tributary area, boundaries, pertinent elevations, topography, existing and proposed facilities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.	8.120(2)	Does the sewer exclude water from roofs, streets, groundwater from foundation drains and combined wastewater?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5.	8.120(3)(A)	Is the pipe installation, embedment and backfill designed to prevent damage to the pipe and its joints?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7.	8.120(3)(A)2	Is the pipe covered with at least 36" of soil or sufficiently insulated to prevent freezing?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8.	8.120(3)(B)	Is deflection testing specified to ensure no pipe exceeds a deflection of 5% of the inside diameter?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9.	8.120(4)(A)	Are manholes located at the end of each line, at all changes in grade, size or alignment and at all intersections?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10.	8.120(4)(C)	Are manholes at least 42 inches in diameter with a clear opening of 22 inches on sewer line larger than 8"?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 inches or larger and equal to the diameter for pipes < 8"?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12.	8.120(4)(E)	Are the manholes watertight, constructed and installed in accordance with the manufacturer's recommendations and procedures?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
13.	8.120(4)(F)	Do the specifications include a requirement for inspection and testing for manholes?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
14.	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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
15.	8.120(5)(B)	Are sewers and manholes located at least 50 feet horizontally from any existing or proposed water supply well, sources, structures?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10.0 PRESSURE SEWERS, GRINDER PUMP, STEP AND STEG SEWER CHECKLIST				
	REGULATION		YES	N/A
16.	8.125(5)(A)1.	Does the cleaning velocity of ≥ 2 ft/s happen more than once per day?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
17.	8.125(5)(A)2.	Is the diameter of the pressure sewer main pipe at least 1.5"?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
18.	8.125(5)(B)	Are appurtenances compatible with the piping system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
19.	8.125(5)(B)2.	Are isolation valves located: upstream of major pipe intersections; both sides of stream, bridge and RR crossings; at terminal end of system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
20.	8.125(5)(C)	Do service line pipes have a minimum diameter of 1.25"?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
21.	8.125(5)(D)1.A	Do simplex grinder pump stations service only a single equivalent dwelling unit (EDU)? i.e. 1 residence – 1 grinder pump.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22.	8.125(5)(D)1.B	Are multiple unit pump stations owned, operated and maintained by an approved continuing authority?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
23.	8.125(5)(D)3.	Is there at least 70 gallons of storage in the grinder pump unit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
24.	8.125(5)(D)4.	Do grinder pump stations have shutoff valves, check valves and anti-siphon valves (where siphoning could occur) that are accessible from the ground surface?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
25.	8.125(5)(D)7., 8.130(3)(B)2.	Are units serviceable and replaceable under wet conditions without electrical hazard and is electrical equipment suitable for hazardous locations (National Electrical Code, Class I, Group D, Division 1 location)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
26.	8.125(5)(D)8., 8.125(2)(F)6.	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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
27.	8.125(6)(D)	In a STEP system is at least one septic tank (1,000 gallons or more) provided for each EDU with 20% of tank volume dedicated to freeboard and ventilation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
28.	8.125(6)(F)	Are duplex pumps provided for the design flow of 1,500 gallons or greater?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

11.0 PUMP STATION CHECKLIST				
	REGULATION		YES	N/A
29.	8.125(7)(C)	Is the minimum diameter sewer main pipe and service line of STEG sewer at least 4"?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
30.	8.130(2)(A) 8.140(2)(B)	Is the pump station designed to withstand the 100-year flood?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
31.	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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
32.	8.130(3)(B)	If the design flow is 1,500 gpd or more, are there at least 2 pumps or pneumatic ejectors provided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
33.	8.130(3)(D)	Are valves located outside wet well unless integral to a pump or its housing?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
34.	8.130(3)(F) 8.140(8)(J)	Do wet and dry wells have separate ventilation systems?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
35.	8.130(3)(G)	Does all potable water brought to pump stations comply with 8.140(7)(D)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
36.	8.130(6)	Is an alarm system provided with uninterrupted power?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
37.	8.130(7)(A)	Is there 2 hours 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
38.	8.130(7)(B)	Are there independent utility substations provided for emergency power capable of starting and operating the pump station at its rated capacity?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
39.	8.130(8)(A)	Is the force main velocity of ≥ 2 ft/s maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
40.	8.130	Are there complete operation instructions for the pumping stations provided that include emergency procedures, maintenance schedules, special tools and spare parts that may be necessary?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12.0 SUCTION LIFT PUMP AND SUBMERSIBLE PUMP STATION CHECKLIST				
	REGULATION		YES	N/A
41.	8.130(4)	Are the suction lift pumps of the self priming or vacuum priming type?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
42.	8.130(4)(A)	Is the combined total of dynamic suction lift at the "pump off" elevation and required net positive suction head at design operating conditions less than or equal to 22 feet?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
43.	8.130(4)(B)	Are there dual vacuum pumps capable of removing air from the suction lift pump?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
44.	8.130(5)(A)	Are submersible pumps readily removable and replaceable without personnel entering, or disconnecting any pipe in the wet well?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
13.0 SEWER EXTENSION CHECKLIST -- CERTIFICATION STATEMENT				
For any questions answered "N/A" provide an explanation. Also provide any useful general comments regarding design for review engineer.				
Missouri Professional Engineer's seal, signature and date:				
 <i>Bryce S. Banion</i> May 22, 2023				
Name: Bryce Banion, PE				
Address: 10450 Holmes Road, Suite 600				
City: Kansas City		State: MO	ZIP Code: 64131	
Telephone Number with Area Code: 816 347-1157			Email: Bryce.Banion@hdrinc.com	



May 10, 2023

Mr. Tom Ratermann, P.E.
General Manager
Boone County Regional Sewer District
1314 N. Seventh Street
Columbia, MO 65201

RE: Waters Edge sewer improvement project

Dear Mr. Ratermann,

The City is in receipt of the Waters Edge sewer improvement project plans dated April 12, 2023. The purpose of this letter is to provide written consent for the connection of the above referenced project to the City's system in accordance with Amendment 1 to the General Cooperative agreement dated March 8, 2011.

The City of Columbia Regional WWTP will be the receiving treatment facility for this wastewater improvement project. The permitted capacity of the Columbia Regional WWTP is 25.2 MGD with an average daily flow of 14.2 MGD.

Please contact Lindsey Schaefer of my staff at (573) 441-5481 if you need any additional information.

Regards,
CITY OF COLUMBIA UTILITIES DEPARTMENT

A handwritten signature in blue ink that reads 'Lee White'.

Lee White, P.E., PTOE
Engineering Manager
Sewer and Storm Water Utilities