STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

Jason Kemna 40 & J Development, LLC 5875 West Van Horn Tavern Rd. Columbia, MO 65201

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.

June 29, 2021 Effective Date

B. Anthath

Edward B. Galbraith, Director, Division of Environmental Quality

June 28, 2023

Expiration Date

Chris Wieberg, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

A 5,000 gallon trash tank, a 10,000 gallon flow equalization system (two 5,000 gallon tanks), equipped with filters and two 0.5 HP effluent pumps, two 5,000 gallon septic tanks in series. A 5,000 gallon drainfield dosing tank equipped with effluent filters and two, 1.5 HP effluent pumps, pumped effluent passes through a filter house equipped with micro filtration, a soil absorption field with an area of 129,200 square feet, separated into 8 zones, each zone with approximately 8,000 lineal feet of 0.5-inch drip irrigation pipe, pvc return lines, headworks with automatic flush system, and all the necessary appurtenances to make the facilities complete and usable to treat the waste from a population equivalent of 259, with an average daily flow of 6,460 gallons. This is a non-discharging facility to be located in the NE ¼, Sec. 3, T48N, R14W, Boone County, Missouri.

Drainfield approximate location: UTM (zone 15) X = 544591, Y = 4315178.

This project will also include general site work appropriate to the scope and purpose of the project and all necessary appurtenances to make a complete and usable wastewater treatment facility.

II. COST ANALYSIS FOR COMPLIANCE

Pursuant to Section 644.145, RSMo, when issuing permits under this chapter that incorporate a new requirement for discharges from publicly owned combined or separate sanitary or storm sewer systems or publicly owned treatment works, or when enforcing provisions of this chapter or the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq., pertaining to any portion of a publicly owned combined or separate sanitary or storm sewer system or [publicly owned] treatment works, the Department of Natural Resources shall make a "finding of affordability" on the costs to be incurred and the impact of any rate changes on ratepayers upon which to base such permits and decisions, to the extent allowable under this chapter and the Federal Water Pollution Control Act. This process is completed through a cost analysis for compliance. Permits that do not include new requirements may be deemed affordable.

The Department is not required to determine Cost Analysis for Compliance because the permit contains no new conditions or requirements that convey a new cost to the facility.

III. CONSTRUCTION PERMIT CONDITIONS

The permittee is authorized to construct subject to the following conditions:

1. This construction permit does not authorize discharge.

- 2. All construction shall be consistent with plans and specifications signed and sealed by Jesse Stephens, P.E., Crockett Engineering Consultants and as described in this permit.
- 3. The Department must be contacted in writing prior to making any changes to the 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(11).
- 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 Northeast Regional Office per 10 CSR 20-7.015(9)(G).
- 5. The completed project shall be field tested to verify actual pumped volume of each dose. The timer controls shall be set to ensure a dosing rate not to exceed the allowable rate of 0.05 gallons per square foot per day.
- 6. The wastewater treatment facility shall be located above the twenty-five (25)-year flood level.
- 7. The wastewater facility structures, electrical equipment, and mechanical equipment shall be protected from physical damage by not less than the one hundred- (100-) year flood elevation per 10 CSR 20-8.140(2)(B). The minimum distance between wastewater treatment facilities and all potable water sources shall be at least three hundred feet (300') per 10 CSR 20-8.140(2)(C)1.
- 8. In addition to the requirements for a construction permit, 10 CSR 20-6.200 requires land disturbance activities of 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 will only be obtained by means of the Department's ePermitting system available online at <u>dnr.mo.gov/env/wpp/epermit/help.htm</u>. See <u>dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm</u> for more information.
- 9. A United States Army Corps of Engineers (USACE) Clean Water Act Section 404 Department of the Army permit and a Section 401 Water Quality Certification issued by the Department may be required for the activities described in this permit. This permit is not valid until these requirements are satisfied or notification is provided that no Section 404 permit is required by the USACE. You must contact your local USACE district since they determine what waters are jurisdictional and which permitting requirements may apply. You may call the Department's Water Protection Program, Operating Permits Section at 573-522-4502 for more information. See <u>dnr.mo.gov/env/wpp/401/</u> for more information.

10. All construction must adhere to applicable 10 CSR 20-8 (Chapter 8) requirements listed below.

10 CSR 20-8.140 Wastewater Treatment Facilities

- Flood protection shall apply to new construction and to existing facilities undergoing major modification. The wastewater facility structures, electrical equipment, and mechanical equipment shall be protected from physical damage by not less than the one hundred- (100-) year flood elevation. 10 CSR 20-8.140 (2) (B)
- Unless another distance is determined by the Missouri Geological Survey or by the department's Public Drinking Water Branch, the minimum distance between wastewater treatment facilities and all potable water sources shall be at least three hundred feet (300'). 10 CSR 20-8.140 (2) (C) 1.
- No treatment unit with a capacity of twenty-two thousand five hundred gallons per day (22,500 gpd) or less shall be located closer than the minimum distance of 200' to a neighboring residence and 50' to property line for lagoons; 200' to a neighboring residence for open recirculating media filters following primary treatment; and 50' to a neighboring residence for all other discharging facilities. See 10 CSR 20-2.010(68) for the definition of a residence. 10 CSR 20-8.140 (2) (C) 2
- All wastewater treatment facilities shall be provided with an alternate source of electric power or pumping capability to allow continuity of operation during power failures. 10 CSR 20-8.140 (7) (A) 1.
- Electrical systems and components in raw wastewater or in enclosed or partially enclosed spaces where hazardous concentrations of flammable gases or vapors that are normally present, shall comply with the NFPA 70 National Electric Code (NEC) (2017 Edition), as approved and published August 24, 2016, requirements for Class I, Division 1, Group D locations. 10 CSR 20-8.140 (7) (B)
- An audiovisual alarm or a more advanced alert system, with a self-contained power supply, capable of monitoring the condition of equipment whose failure could result in a violation of the operating permit, shall be provided for all wastewater treatment facilities. 10 CSR 20-8.140 (7) (C).
- No piping or other connections shall exist in any part of the wastewater treatment facility that might cause the contamination of a potable water supply. 10 CSR 20-8.140 (7) (D) 1.
- Where a potable water supply is to be used for any purpose in a wastewater treatment facility other than direct connections, a break tank, pressure pump, and pressure tank or a reduced pressure backflow preventer consistent with the department's Public Drinking Water Branch shall be provided. 10 CSR 20-8.140 (7) (D) 3. A.
- For indirect connections, a sign shall be permanently posted at every hose bib, faucet, hydrant, or sill cock located on the water system beyond the break tank or backflow preventer to indicate that the water is not safe for drinking. 10 CSR 20-8.140 (7) (D) 3. B.
- Where a separate non-potable water supply is to be provided, a break tank will not be necessary, but all system outlets shall be posted with a permanent sign indicating the water is not safe for drinking. 10 CSR 20-8.140 (7) (D) 4.
- A means of flow measurement shall be provided at all wastewater treatment facilities. 10 CSR 20-8.140 (7) (E)

<u>10 CSR 20-8.200 Wastewater Treatment Lagoons and Wastewater Irrigation</u> Alternatives

- Subsurface systems shall
 - o Exclude unstabilized fill and soils that have been highly compacted and/or disturbed, such as old road beds, foundations, or similar things; 10 CSR 20-8.200 (7) (A) 1. A.
 - o Provide adequate surface drainage where slopes are less than two percent (2%); 10 CSR 20-8.200 (7) (A) 1. B
 - o Provide surface and subsurface water diversion where necessary, such as a curtain or perimeter drain; 10 CSR 20-8.200 (7) (A) 1. C and
 - o Have a ten foot (10') buffer from the property line. 10 CSR 20-8.200 (7) (A) 1. D
- Subsurface systems shall be, at a minimum, preceded by preliminary treatment. 10 CSR 20-8.200 (7) (B)
- Loading rates shall not exceed the values assigned by the site and soil evaluation. 10 CSR 20-8.200 (7) (C)
- All network piping and low pressure distribution piping and fittings with polyvinyl chloride (PVC) shall meet ASTM Standard D 1785 Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, or 120 as approved and published August 1, 2015, or equivalent rated to meet or exceed ASTM D2466 Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings as approved and published August 1, 2017. These standards shall hereby be incorporated by reference into this rule, as published by ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959. This rule does not incorporate any subsequent amendments or additions. 10 CSR 20-8.200 (8) (A) 2
- The location and size of the drains and buffers must be factored into the total area required for the drip dispersal system. 10 CSR 20-8.200 (9) (A) 1
- Emitters and drip dispersal lines shall be placed at a minimum on a two foot (2') spacing to achieve even distribution of the wastewater and maximum utilization of the soil. 10 CSR 20-8.200 (9) (B)
- 11. Upon completion of construction:
 - A. Boone County Regional Sewer District will become the continuing authority for operation and maintenance of these facilities;
 - B. Submit an electronic copy of the as builts if the project was not constructed in accordance with previously submitted plans and specifications; and
 - C. Submit the enclosed form Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(N). An application for Operating Permit (Form B) was submitted to the Department and received on February, 10 2021. After receipt of the final Statement of Work Completed the Operating Permit will be issued.

IV. <u>REVIEW SUMMARY</u>

1. CONSTRUCTION PURPOSE

This project provides a wastewater treatment facility to a new office and distribution complex. The new facility will be no-discharge, soil absorption.

2. FACILITY DESCRIPTION

A new treatment facility will serve the Midway USA 40 and J office and distribution complex. The wastewater treatment facility consists of a trash tank, flow equalization, septic tanks, micro filtration, dosing tank, and a drip subsurface soil absorption field. The total area of the field is 129,200 sq. feet.

The BCRSD, Midway USA WWTF; will be owned and operated by Boone County Regional Sewer District and is located at 2200 North Route J, Boone County, Missouri. The facility has a design average flow of 6,460 gpd and serves an organic population equivalent of approximately 259 people.

3. <u>COMPLIANCE PARAMETERS</u>

The proposed wastewater treatment plant will be a complete no-discharge treatment facility. All liquid waste will be treated and disposed on-site. Periodic removal of waste sludges will be necessary. A Missouri State Operating Permit is required to be maintained. Monitoring of the facility will be required along with keeping records of maintenance activities. There are currently no sampling requirements.

4. <u>REVIEW of MAJOR TREATMENT DESIGN CRITERIA</u>

The treatment facility is designed to serve offices and the distribution center with up to 575 employees and also serve up to 48 truck drivers on peak days. The number of employees is reduced on weekends; the system will equalize flow through a full week and treat an average daily flow of 6,460 gallons. Treatment facility is approximately 1,500 feet from main building. Facility to consist of a 5,000 gallon trash tank, followed by two 5,000 gallon flow equalization tanks, flow will be metered out of the tanks with two 0.5 HP Franklin Electric effluent pumps each with a capacity of 10 gpm, pumps will be located inside Simtech effluent filters with openings of 1/16-inch; flow will enter two septic/anaerobic treatment tanks arranged in series, 5,000 gallons each.

Drainfield dosing tank of 5,000 gallons, two 1.5 HP Franklin Electric effluent pumps located inside a Simtech filter with 1/16-inch openings, each with a capacity of 45 gpm at TDH of 105 feet; actual dosing rate is approximately 40 gpm, flushing flow is approximately 70 gpm, pumped flow passes through a filter house equipped with an Arkal Spin Disc filter, two micro filters, 100 micron, 2-inch with spin kiln technology; 3.0-inch pvc supply lines and 2.0-inch pvc manifolds, a soil absorption

field with an area of 129,200 square feet, separated into 8 zones, approximate zone size of 16,000 sq. ft. each, automatic distributing valves for zone selection, zones vary from 15,700 sq. ft. to 16,740; a typical zone has 8,000 lineal feet of drip irrigation pipe, 24 or 25 lines of approximately 340 feet each, placed 2 feet on center, each zone has a different layout, irrigation dripline pipe has a nominal diameter of 0.5-inch, emitters are placed every two feet and have an emitter rate of 0.61 gallons per hour, bury depth is approximately 12 inches, excess water and flush water is returned to the head of plant through 2.0-inch and 3.0-inch pvc return lines. At design flow each zone will be dosed three times a day for approximately 6.5 minutes.

Absorption field size is based on a loading rate of 0.05 gallons per square foot per day. Detailed soil analysis was performed by G. Mac Bean, Soil Scientist. The soil loading rate is in accordance with the recommended rates in the soil report. In the soils investigation there were 4 pits dug in the location of the absorption field. Depth to limiting layer is acceptable.

5. **OPERATING PERMIT**

Operating permit MO-0139629 will be issued to cover the operation of this new facility. BCRSD, Midway USA Wastewater Treatment Facility, MO-0139629, was successfully public noticed from May 28, 2021 to June 28, 2021 with no comments received. At completion of construction submit the Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(N) and request the operating permit be issued.

This facility does not meet the requirements of the MOG823, issued on August 25, 2017 for the following reason: publicly owned.

V. NOTICE OF RIGHT TO APPEAL

If you were adversely affected by this decision, you may be entitled to an appeal before the Administrative Hearing Commission (AHC) pursuant to Section 621.250 RSMo. To appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Any appeal should be directed to:

Administrative Hearing Commission U.S. Post Office Building, Third Floor 131 West High Street, P.O. Box 1557 Jefferson City, MO 65102-1557 Phone: 573-751-2422 Fax: 573-751-5018 Website: <u>https://ahc.mo.gov</u>

Andrew Appelbaum, P.E. Engineering Section andy.appelbaum@dnr.mo.gov

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MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM APPLICATION FOR CONSTRUCTION PERMIT --WASTEWATER TREATMENT FACILITY

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

APPLICATION OVERVIEW							
The Application for Construction Permit – Wastewater Treatment Facility form has b of Part A and B. All applicants must complete Part A. Part B should be complete wastewater or propose land application for wastewater treatment. Please read the completing this form. Submittal of an incomplete application may result in the	ed for applicants who currently land-apply accompanying Instructions before						
PART A – BASIC INFORMATION							
1.0 APPLICATION INFORMATION (Note – If any of the questions in this section a considered incomplete and returned.)	re answered NO, this application may be						
1.1 Is this a Federal/State funded project? 🔲 YES 🗾 N/A Funding Agency:	Project #:						
1.2 Has the Missouri Department of Natural Resources approved the proposed proj ☐ YES Date of Approval:	iect's antidegradation review?						
 1.3 Has the department approved the proposed project's facility plan*? ☑ YES Date of Approval: <u>1-29-2</u>1							
 1.4 [Complete only if answered No on No. 1.3.] Is a copy of the facility plan* for wa application? ☑ YES □ NO □ Exempt because 	stewater treatment facilities included with this						
1.5 Is a copy of the appropriate plans* and specifications* included with this application? ☑ YES Denote which form is submitted: ☑ Hard copy ☑ Electronic copy (See instructions.) □ NO							
1.6 Is a summary of design* included with this application? 🗾 YES 🔲 NO							
 1.7 Has the appropriate operating permit application (A, B, or B2) been submitted to the department? YES Date of submittal: YES Date of submittal: Enclosed is the appropriate operating permit application and fee submittal. Denote which form: A Ø B B2 N/A: However, In the event the department believes that my operating permit requires revision to permit limitation such as changing equivalent to secondary limits to secondary limits or adding total residual chlorine limits, please share a draft copy prior to public notice? YES NO 							
1.8 is the facility currently under enforcement with the department or the Environmental Protection Agency? 🔲 YES 💋 NO							
1.9 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 Midway USA 40 & J Waste Water Treatment Facility	2.2 ESTIMATED PROJECT CONSTRUCTION COST \$ 500000						
2.3 PROJECT DESCRIPTION							
Construction of a new subsurface drip dispersion system to serve the Midway USA 4	0 & J campus facility						
2.4 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION							
Sludge will be handled through a contract hauler by Boone County Regional Sewer I	District.						
2.5 DESIGN INFORMATION							
A. Current population: <u>N/A</u> ; Design population: <u>575</u>							
B. Actual Flow: <u>N/A</u> gpd; Design Average Flow: <u>6441</u> gpd; Actual Peak Daily Flow: <u>N/A</u> gpd; Design Maximum Daily Flow: <u>7740</u> gpd; Design Wet Weather Event: <u>N/A</u>							
A. Is a topographic map attached? VES NO							
B. Is a process flow diagram attached? YES NO							
MO 780-2189 (02-19)	Page 1 of 3						

3.0 WASTEWATER TREATMENT FACILIT	Y						
NAME	Facility	TELEPHONE NUMBER WITH AREA CODE		E-MAIL ADDRESS			
Midway USA 40 & J Waste Water Treatment ADDRESS (PHYSICAL)		(573) 443-2774	STATE	tratermann@bcrsd.com			
2200 North Route J	Rochepo	rt	MO	65279			
Wastewater Treatment Facility: Mo- TBD	(Outfal	1 Of 1)					
3.1 Legal Description:14,14 (Use additional pages if construction of more		4, Sec. <u>3</u> , T <u>48</u> Itfall is proposed.)	_, R <u>14</u>	-			
3.2 UTM Coordinates Easting (X): 544596 For Universal Transverse Mercator (UTM), Zo	Northin	g (Y): <u>4315085</u> h referenced to North Amer	ican Datum 19	83 (NAD83)			
3.3 Name of receiving streams: Tributa							
4.0 PROJECT OWNER							
AME 40 & J Development, LLC		TELEPHONE NUMBER WITH AREA CODE (573) 445-6363		E-MAIL ADDRESS Jkemna@thepotterfieldgroup.com			
ADDRESS	CITY	(575) 445-0505 STATE		ZIP CODE			
5875 West Van Horn Tavern Road	Columbia		MO	65203			
5.0 CONTINUING AUTHORITY: A continuit and/or ensuring compliance with the permit r	ng authori equiremer	ty is a company, busine: hts.	ss, entity or p	erson(s) that will I	be operating t	he facility	
NAME Boone County Regional Sewer District		TELEPHONE NUMBER WITH A (573) 443-2774	REA CODE	E-MAIL ADDRESS tratermann@bcrsd.com		1	
ADDRESS 1314 North Seventh Street	CITY	a	STATE MO	ZIP CODE 65201	ZIP CODE		
5.1 A letter from the continuing authority, if o						□ N/A	
5.2 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHO	ORITY IS A MIS	SOURI PUBLIC SERVICE COMMIS	SSION REGULATE	D ENTITY.			
A. Is a copy of the certificate of convenience				YES 🔽 N	0		
5.3 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHO A. Is a copy of the as-filed restrictions and c				ES INO			
B. Is a copy of the as-filed warranty deed, q					of the land fo	or the	
wastewater treatment facility to the assoc							
C. Is a copy of the as-filed legal instrument included with this application?	(typically the Image)	ne plat) that provides the	association	with valid easeme	ents for all sev	vers	
D. Is a copy of the Missouri Secretary of Sta		ofit corporation certification	te included w	ith this application	? 🗌 YES	D NO	
6.0 ENGINEER							
ENGINEER NAME / COMPANY NAME Jesse Stephens - Crockett Engineering		TELEPHONE NUMBER WITH AREA CODE 573-447-0292		E-MAIL ADDRESS			
Address	CITY	010 411 0202	575-447-0292 STATE				
1000 West Nifong, Building 1	Columbia	a	МО	65203			
7.0 APPLICATION FEE							
		JETPAY CONFIRMATION NUM					
8.0 PROJECT OWNER: I certify under per supervision in accordance with a system des	alty of law	that this document and	all attachme	nts were prepared	l under my dir	ection or	
submitted. Based on my inquiry of the perso	n or perso	ns who manage the sys	tem, or those	persons directly	responsible fo	r	
gathering the information, the information su	bmitted is,	to the best of my knowl	edge and be	lief, true, accurate	, and complet	e. I am	
aware that there are significant penalties for knowing violations.	submitting	g false information, inclu	ding the poss	sibility of fine and i	mprisonment	for	
PROJECT OWNER SIGNATURE							
In ME							
PRINTED NAME Jason Kemna				DATE 2/4/21			
TITLE OR CORPORATE POSITION		TELEPHONE NUMBER WITH AREA CODE		E-MAIL ADDRESS			
Project Manager		573-445-6363		Jkemna@thepd	otterfieldgroup	.com	
WATER P P.O. BOX	ROTECTI 176	MENT OF NATURAL R ON PROGRAM MO 65102-0176	ESOURCES				
		END OF PART A.				-	
REFER TO THE APPLICATION C MO 780-2189 (02-19)	VERVIEW	TO DETERMINE WHE	THER PAR	B NEEDS TO B	E COMPLETI	Page 2 of 3	