Permit No. CP0002238

STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

CONSTRUCTION PERMIT

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

RRE Investments, LLC
2500 E Kearny St.
Springfield, MO 65803

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.

October 20, 2021
Effective Date

Edward B. Galbraith, Director, Division of Environmental Quality

October 19, 2023
Expiration Date

Chris Wieberg, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

This project includes the relocation of the existing drip dispersal system for The Outdoor Academy target shooting attraction located in Taney County. Construction will include a new 2-in Schedule 80 PVC supply pipe to the relocated 30,000 sq. ft. drip field. All existing infrastructure upstream of the 2-in PVC supply pipe will remain in place. The existing 15,000 l.f. of Netafim Bioline® drip line will be relocated to the new drip field site southwest of the existing drip dispersal field.

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 complete a cost analysis for compliance because the facility is not a combined or separate sanitary sewer system for a publically-owned treatment works.

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 Timothy Schoenhoff, P.E. with Great River Engineering and as described in this permit.

3. During construction, wastewater will be pumped and hauled to the Hollister WWTF (MO0116041). The facility is required to obtain a written contract with the hauler and approval from the receiving facility prior to beginning any construction activities to

ensure that there is treatment during construction as required at 10 CSR 20-8.110(5)(E)15, 10 CSR 20-8.110(9)(A)5., and 10 CSR 20-8.110(10)(C).

4. 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).

5. 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 Southwest Regional Office per 10 CSR 20-7.015(9)(G).

6. 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 0.2 gallons per square foot per day.

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 dnr.mo.gov/env/wpp/epermit/help.htm. See dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm 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 dnr.mo.gov/env/wpp/401/ for more information.

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

- Subsurface systems shall—
  - 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.
  - Provide adequate surface drainage where slopes are less than two percent (2%); 10 CSR 20-8.200 (7) (A) 1. B.
  - 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
  - Have a ten foot (10') buffer from the property line. 10 CSR 20-8.200 (7) (A) 1. D.

- The vertical separation between the bottom of the drip lines and/or the trench and a limiting layer, including but not limited to, bedrock; restrictive horizon; or seasonal high water table, shall be no less than:
  - Twenty-four inches (24"); 10 CSR 20-8.200 (7) (A) 2. A. or
  - Twelve inches (12") for systems dispersing secondary or higher quality effluent; 10 CSR 20-8.200 (7) (A) 2. B. or
  - Forty-eight inches (48") where karst features are present unless the site can be reclassified. 10 CSR 20-8.200 (7) (A) 2. C.

- 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)

- 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.

- The drip dispersal lines shall be placed at a minimum depth of six inches (6") below the surface. 10 CSR 20-8.200 (9) (B) 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) 2.

11. Upon completion of construction:

A. RRE Investments, LLC 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;

C. Submit the enclosed form Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(N). When the facility applies for their next operating permit renewal, they will be expected to include an updated facility description on their application.

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

The purpose of this project is to relocate the existing drip dispersal field due to construction activities occurring at the facility site.

2. FACILITY DESCRIPTION

The Outdoor Academy is an existing facility located at 1901 State Highway 86, Ridgedale, in Taney County, Missouri. The facility has a design average flow of 3,960 gallons per day (gpd) and serves a hydraulic population equivalent of approximately 47 people. The treatment system is sized based on a maximum daily flow of 6,000 gpd. The existing treatment system consists of two (2) 4,500 gallon septic tanks, two (2) 3,000 gpd three-compartment BioCoir® media treatment units, two (2) 3,000 gpd recirculation tanks, one (1) 6,500 gallon drip field recirculation tank. The existing 30,000 square foot (sq. ft.) drip dispersal field will be removed. Flows from the drip field recirculation tank will be re-routed via new 2-in PVC pipe to the new 30,000 sq. ft. drip field located southwest of the existing treatment system. The drip field contains 15,000 lf of Netafim Bioline® drip line with emitters every 2 ft.

3. COMPLIANCE PARAMETERS

The proposed project is required to meet the requirements of the MO-G823 general permit with an expiration date of August 24, 2022. The facility shall comply with the Permit Requirements (applicable to all facilities) found on pages 4 and 5 of the permit and the Subsurface Dispersal Operation Requirements found on pages 8 and 9 of the permit.

4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

Existing major components that will remain in use include the following:

- Septic Tank – A septic tank provides passive primary treatment as the settleable solids in raw wastewater settle onto the bottom of the tank. Raw wastewater flows by gravity to two (2) 4,500 gallon septic tanks located in series. Settled solids in the septic tank shall be removed by a contract hauler.

- Quanics Advanced Treatment System – The Quanics advanced treatment system is a recirculating fixed film type treatment system. The system consists of two (2)

three-compartment BioCoir® media treatment units for a total of six (6) filter tanks. The system was designed based on a loading rate to the filter media of 12.5 gallons per cubic feet of filter media for a resulting effluent quality of 30 mg/L TSS and 25 mg/L CBOD. Media is either a manufactured foam product or a natural recycled product. Effluent from the filter tanks is stored in two (2) 3,000 gallon per day (gpd) recirculation tanks each with two (2) 0.5 HP Orenco Model P1005 submersible pumps or approved equivalent – each capable of 13 gallons per minute (gpm) at 62 ft total dynamic head (TDH).

- Drip Field Recirculation Tank – One (1) 6,500 gallon drip field recirculation tank to pump effluent to the drip dispersal field. The recirculation tank has two (2) 1.5 HP Orenco Model P2015 submersible pumps – each capable of 21 gpm at 150 ft TDH.

Construction will cover the following items:

- Subsurface Soil Dispersal System – The soils at this site are rated for a loading rate of 0.2 to 0.25 gpd/sq. ft. The facility decided to use a conservative design loading rate of 0.2 gpd/sq. ft. for the entire system. Soil morphology review was conducted during the construction permit application review and onsite soils were determined to be acceptable for this system. The soil investigation was completed by Thomas A. DeWitt, Certified Soil Scientist, on February 24, 2021. The soils report noted trenches must not be dug when wet to prevent damaging soil or trench surfaces.

- Drip – The facility has selected the Netafim subsurface drip dispersal system. The system will dose 4 zones at 0.2 gpd/sq. ft, which provides 4 dosings per day. Combo air/vacuum release valves will be installed at all high points. The drip distributing valve will be a Zoeller Model 6402 or approved equivalent with 2-in PVC Schedule 40 supply and return pipe. The drip field area is 30,000 sq. ft. and contains 15,000 linear feet of 0.57-in I.D. Bioline® tubing fitted with emitters every 2 ft installed at a depth of 8-in to 12-in.

- During construction, wastewater will be pumped and hauled to the Hollister WWTF (MO0116041). The facility is required to obtain a written contract with the hauler and approval from the receiving facility prior to beginning any construction activities to ensure that there is treatment during construction as required at 10 CSR 20-8.110(5)(E)15, 10 CSR 20-8.110(9)(A)5., and 10 CSR 20-8.110(10)(C).

5. OPERATING PERMIT

These construction activities do not require a modification to the operating permit. It is expected that the facility owner will include updated facility information and a new facility map in their next operating permit renewal application to reflect the relocation of the drip dispersal field.

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: https://ahc.mo.gov

Ellen Modglin, E.I.
Engineering Section
Ellen.Modglin@dnr.mo.gov

Cailie Carlile, P.E.
Engineering Section
Cailie.Carlile@dnr.mo.gov

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 been developed in a modular format and consists of Part A and B. **All applicants must complete Part A.** Part B should be completed for applicants who currently land-apply wastewater or propose land application for wastewater treatment. **Please read the accompanying instructions before completing this form. Submittal of an incomplete application may result in the application being returned.**

PART A – BASIC INFORMATION

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 Missouri Department of Natural Resources approved the proposed project's antidegradation review?
☑ YES Date of Approval: 2014 ☐ N/A

1.3 Has the department approved the proposed project's facility plan*?
☑ YES Date of Approval: 2014 ☐ NO (If No, complete No. 1.4.)

1.4 [Complete only if answered No on No. 1.3.] Is a copy of the facility plan* for wastewater treatment facilities included with this application?
☑ YES ☐ NO ☐ Exempt because _____

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: _____
☐ Enclosed is the appropriate operating permit application and fee submittal. Denote which form: ☐ A ☐ 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	2.2 ESTIMATED PROJECT CONSTRUCTION COST
Buffalo Ridge Arena	$ 12000

2.3 PROJECT DESCRIPTION

The event space for the arena is under construction, with limits that conflict with the existing drip-field. The proposed WWTF retains all infrastructure excluding the location of the drip field.

2.4 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION

Contracted Licensed Hauler

2.5 DESIGN INFORMATION

A. Current population: _____; Design population: 60

B. Actual Flow: _____ gpd; Design Average Flow: 6000 gpd;
Actual Peak Daily Flow: _____ gpd; Design Maximum Daily Flow: _____ gpd; Design Wet Weather Event: _____

2.6 ADDITIONAL INFORMATION

A. Is a topographic map attached? ☑ YES ☐ NO

B. Is a process flow diagram attached? ☑ YES ☐ NO

See plans attached.

3.0 WASTEWATER TREATMENT FACILITY

NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
The Outdoor Academy	417-873-5000	

ADDRESS (PHYSICAL)	CITY	STATE	ZIP CODE	COUNTY
1901 State Highway 86	Ridgedale	MO	65803	Taney

Wastewater Treatment Facility: Mo- G823060 (Outfall Of)

3.1 Legal Description: ____ ¼, ____ ¼, ____ ¼, Sec. 22N, T 22W, R 13
(Use additional pages if construction of more than one outfall is proposed.)

3.2 UTM Coordinates Easting (X): 474889. Northing (Y): 4040560
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

3.3 Name of receiving streams: N/A

4.0 PROJECT OWNER

NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
RRE Investments	417-873-5000	

ADDRESS	CITY	STATE	ZIP CODE
2500 E Kearney	Springfield	MO	65803

5.0 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.

NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
RRE Investments	417-873-5000	

ADDRESS	CITY	STATE	ZIP CODE
2500 E Kearney	Springfield	MO	65803

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

5.2 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHORITY IS A MISSOURI PUBLIC SERVICE COMMISSION REGULATED ENTITY.

A. Is a copy of the certificate of convenience and necessity included with this application? ☐ YES ☑ NO

5.3 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHORITY IS A PROPERTY OWNERS ASSOCIATION.

A. Is a copy of the as-filed restrictions and covenants included with this application? ☐ YES ☐ NO

B. Is a copy of the as-filed warranty deed, quitclaim deed or other legal instrument which transfers ownership of the land for the wastewater treatment facility to the association included with this application? ☐ YES ☐ NO

C. Is a copy of the as-filed legal instrument (typically the plat) that provides the association with valid easements for all sewers included with this application? ☐ YES ☐ NO

D. Is a copy of the Missouri Secretary of State's nonprofit corporation certificate included with this application? ☐ YES ☐ NO

6.0 ENGINEER

ENGINEER NAME / COMPANY NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
Great River Engineering	417-886-7171	tschoenhoff@greatriv.com

ADDRESS	CITY	STATE	ZIP CODE
2826 S. Ingram Mill Rd	Springfield	MO	657804

7.0 APPLICATION FEE

☐ CHECK NUMBER ☒ JETPAY CONFIRMATION NUMBER 20023866

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: Jamie C. Keys

PRINTED NAME: Jamie C. Keys

DATE: 4-28-21

TITLE OR CORPORATE POSITION	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
V.P of Facilities	417-339-5160	

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

END OF PART A.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHETHER PART B NEEDS TO BE COMPLETE.