

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

Nathan Graessle
Missouri State Parks
St. Francois State Park WWTF
8920 US Highway 67 N
Bonne Terre, MO 63628

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.

April 16, 2024
Effective Date

April 15, 2026
Expiration Date


John Hoke, Director Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

Construction activities include increasing lagoon storage volume by lowering the floor of the lagoon by 2 feet, addition of a synthetic geotextile liner, a new surface application field complete with 24 sprinkler heads, installation of electrical components, and construction of lift station plus force main.

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 publicly 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 Tim Garbs, P.E., with Cochran Engineering 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 Southeast 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 0.15 inches per square foot per day based on the limiting soil layer.
6. The wastewater treatment facility shall be located at least 50 feet (ft) from any dwelling or establishment. Lagoons-200 ft to residence and 50 ft to property line, Open RMFs- 200 ft to residence, other discharging-50 ft to residence per 10 CSR 20-8.140(C)(2)
7. The wastewater facility structures, electrical equipment, and mechanical equipment shall be protected from physical damage by not less than the 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 300 ft 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 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 <https://dnr.mo.gov/data-e-services/missouri-gateway-environmental-management-mogem>. See <https://dnr.mo.gov/data-e-services/water/electronic-permitting-epermitting> 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 <https://dnr.mo.gov/water/business-industry-other-entities/permits-certification-engineering-fees/section-401-water-quality> for more information.
10. All construction must adhere to applicable 10 CSR 20-8 (Chapter 8) requirements listed below.
 - Facilities shall be readily accessible by authorized personnel from a public right-of-way at all times. 10 CSR 20-8.140 (2) (D). 10 CSR 20-8.130 (2) (B)
 - Adequate provisions shall be made to effectively protect facility personnel and visitors from hazards. The following shall be provided to fulfill the particular needs of each wastewater treatment facility: 10 CSR 20-8.130(2)(C)

- Fencing. Enclose the facility site with a fence designed to discourage the entrance of unauthorized persons and animals; 10 CSR 20-8.140(8)(A)
 - Gratings over appropriate areas of treatment units where access for maintenance is necessary; 10 CSR 20-8.140(8)(B)
 - First aid equipment; 10 CSR 20-8.140(8)(C)
 - Posted “No Smoking” signs in hazardous areas; 10 CSR 20-8.140(8)(D)
 - Appropriate personal protective equipment (PPE); 10 CSR 20-8.140(8)(E)
 - Portable blower and hose sufficient to ventilate accessed confined spaces; 10 CSR 20-8.140(8)(F)
 - 10 CSR 20-8.140 (8) (G) Portable lighting equipment complying with NEC requirements. See subsection (7)(B) of this rule;
 - 10 CSR 20-8.140 (8) (H) Gas detectors listed and labeled for use in NEC Class I, Division 1, Group D locations. See subsection (7)(B) of this rule;
 - Appropriately-placed warning signs for slippery areas, non-potable water fixtures (see subparagraph (7)(D)3.B. of this rule), low head clearance areas, open service manholes, hazardous chemical storage areas, flammable fuel storage areas, high noise areas, etc.; 10 CSR 20-8.140(8)(I)
 - Explosion-proof electrical equipment, non-sparking tools, gas detectors, and similar devices, in work areas where hazardous conditions may exist, such as digester vaults and other locations where potentially explosive atmospheres of flammable gas or vapor with air may accumulate.; 10 CSR 20-8.140(8)(K)
 - Provisions for local lockout/tagout on stop motor controls and other devices; 10 CSR 20-8.140(8)(L)
 - Provisions for an arc flash hazard analysis and determination of the flash protection boundary distance and type of PPE to reduce exposure to major electrical hazards shall be in accordance with NFPA 70E *Standard for Electrical Safety in the Workplace* (2018 Edition), as approved and published August 21, 2017. 10 CSR 20-8.140(8)(M)
- The distance between wastewater pumping stations and all potable water sources shall be at least 50 ft in accordance with 10 CSR 23-3.010(1)(B). 10 CSR 20-8.130 (2) (D)
 - Multiple pumps shall be provided except for design average flows of less than 1,500 gpd (gallons per day). 10 CSR 20-8.130 (3) (B) 1.
 - Electrical equipment. Electrical equipment shall be provided with the following requirements:
 - 10 CSR 20-8.130 (3) (B) 2. A. Electrical equipment must comply with 10 CSR 20-8.140(7)(B);
 - Utilize corrosive resistant equipment located in the wet well; 10 CSR 20-8.130 (3) (B) 2. B.
 - Provide a watertight seal and separate strain relief for all flexible cable; 10 CSR 20-8.130(3) (B) 2. C.
 - Install a fused disconnect switch located above ground for the main power feed for all pumping stations. 10 CSR 20-8.130 (3) (B) 2. D.

- When such equipment is exposed to weather, it shall comply with the requirements of weatherproof equipment; enclosure NEMA 4; NEMA 4X where necessary; and *NEMA Standard 250-2014*, published December 15, 2014. 10 CSR 20-8.130 (3) (B) 2. E.
- Install lightning and surge protection systems; 10 CSR 20-8.130 (3) (B) 2. F.
- Install a one hundred ten-volt (110 V) power receptacle inside the control panel located outdoors to facilitate maintenance; 10 CSR 20-8.130 (3) (B) 2. G.
- Provide Ground Fault Circuit Interruption (GFCI) protection for all outdoor receptacles. 10 CSR 20-8.130 (3) (B) 2. H.
- Water level controls must be accessible without entering the wet well. 10 CSR 20-8.130 (3) (C)
- Valves shall not be located in the wet well unless integral to a pump or its housing. 10 CSR 20-8.130 (3) (D)
- Covered wet wells shall have provisions for air displacement to the atmosphere, such as an inverted and screened “j” tube or other means. 10 CSR 20-8.130 (3) (E)
- 10 CSR 20-8.130 (4) (C) Wet well access shall not be through the equipment compartment.
- There shall be no physical connection between any potable water supply and a wastewater pumping station, which under any conditions, might cause contamination of the potable water supply. If a potable water supply is brought to the station, 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 20-8.130 (3) (G)
 - 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.
- 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.
- Alarm systems with an uninterrupted power source shall be provided for pumping stations. 10 CSR 20-8.130 (6)

- 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.
- A means of flow measurement shall be provided at all wastewater treatment facilities. 10 CSR 20-8.140 (7) (E)
- Lagoon berms shall be constructed of relatively impervious material and compacted to at least 95 percent maximum dry density test method to form a stable structure. 10 CSR 20-8.200(4)(A)1.
- The minimum berm width shall be eight feet to permit access of maintenance vehicles. 10 CSR 20-8.200(4)(A)2.
- Minimum freeboard shall be two feet. 10 CSR 20-8.200(4)(A)3.
- An emergency spillway shall be provided that—
 - Prevents the overtopping and cutting of berms; 10 CSR 20-8.200(4)(A)4.A.
 - Is compacted and vegetated or otherwise constructed to prevent erosion; 10 CSR 20-8.200(4)(A)4.B. and
 - Has the ability for a representative sample to be collected, if discharging. 10 CSR 20-8.200(4)(A)4.C.
- The soil of the lagoon bottom shall be compacted with the moisture content between 2 percent below and 4 percent above the optimum water content and compacted to at least 95 percent maximum dry density test method. 10 CSR 20-8.200(4)(B)
- The lagoon shall be sealed to ensure that seepage loss is as low as possible and has a design permeability not exceeding 1.0×10^{-7} cm/sec. 10 CSR 20-8.200(4)(C)1.
- Synthetic seals thickness may vary due to liner material, but the liner thickness shall be no less than .02 inches or 20 mil and be the appropriate material to perform under existing conditions. 10 CSR 20-8.200(4)(C)3.
- Seep collars shall be provided on drainpipes where they pass through the lagoon seal. 10 CSR 20-8.200(4)(C)4.
- Unlined corrugated metal pipe shall not be used for influent lines due to corrosion problems. 10 CSR 20-8.200 (4) (D) 1.
- A manhole shall be installed with its invert at least six inches above the maximum operating level of the lagoon, prior to the entrance into the primary cell, and provide sufficient hydraulic head without surcharging the manhole. 10 CSR 20-8.200 (4) (D) 2.

- The influent line(s) shall be located along the bottom of the lagoon so that the top of the pipe is just below the average elevation of the lagoon seal; however, there shall be an adequate seal below the pipe. 10 CSR 20-8.200 (4) (D) 3.
- The wetted application area of a surface irrigation system must be located
 - Outside of flood-prone areas having a flood frequency greater than once every 10 years; 10 CSR 20-8.200 (6) (B) 1.
 - At least 150 ft from existing dwellings or public use areas, excluding roads or highways; 10 CSR 20-8.200 (6) (B) 2. A.
 - At least 50 ft inside the property line; 10 CSR 20-8.200 (6) (B) 2. B.
 - At least 300 ft from any sinkhole, losing stream, or other structure or physiographic feature that may provide direct connection between the ground water table and the surface; 10 CSR 20-8.200 (6) (B) 2. C.
 - At least 300 ft from any existing potable water supply well not located on the property. Adequate protection shall be provided for wells located on the application site; 10 CSR 20-8.200 (6) (B) 2. D.
 - 100 ft to wetlands, ponds, gaining streams (classified or unclassified; perennial or intermittent); 10 CSR 20-8.200 (6) (B) 2. E. and
 - If an established vegetated buffer or the wastewater is disinfected, the setbacks established in subsections (A)–(E) above may be decreased if the applicant demonstrates the risk is mitigated. 10 CSR 20-8.200 (6) (B) 2. F.
- The wetted application area of a surface irrigation system must be Fenced, or if not fenced, provide in the construction permit application or the facility plan, the—
 - Method of disinfection being utilized; 10 CSR 20-8.200 (6) (B) 3. A.
 - Suitable barriers in place, 10 CSR 20-8.200 (6) (B) 3. B. or
 - Details on how public access is limited and not expected to be present. 10 CSR 20-8.200 (6) (B) 3. C.
- At a minimum, treatment prior to irrigation shall provide performance equivalent to that obtained from a primary wastewater lagoon cell and include 90 days wastewater storage in addition to the primary volume. 10 CSR 20-8.200 (6) (C)
- An automatic notification alarm system shall be installed on the pressure monitoring system, on each pivot and pump system, and be capable of notifying an on-call operator when a fault occurs in the system. 10 CSR 20-8.200 (6) (G)

11. Upon completion of construction:

- A. Missouri State Parks will become the continuing authority for operation and maintenance of these facilities;
- B. Submit an electronic copy of the as built 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) and submit a Form B - Application for an Operating Permit for Domestic or Municipal Wastewater ($\leq 100,000$ gallons per day) and fee of \$150 to the Engineering Section of the Water Protection Program 60 days prior to operation. Identify that the application is for a general permit for land application of domestic wastewater, MO-G823.

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

The purpose of this construction is to provide treatment capacity for St. Francois State Park as they plan to build a new bathhouse and expand the number of RV spaces by 63, 40 with and 23 without sewer connections. The total number of RV parking spots at the campground will be 172, 40 having sewer hookup. The new design flow will be approximately 8,900 gpd for days with full park occupancy.

2. FACILITY DESCRIPTION

The St. Francois State Park WWTF is located at Bonne Terre, in St. Francois County, Missouri. The facility has a design flow of approximately 2,200 gpd and serves a hydraulic population equivalent of approximately 30 people. The existing system is an evaporative lagoon which serves the 109 existing campsites (2 with sewer hookup), dump station, onsite bathrooms, and shower house. The workshop and administration building is served by it's own subsurface dispersal system permitted under the St. Francois health department. Flow estimates were developed based on well water usage as well as recommended per capita flows from PUB2754 Table 1-1 and 1-2.

The new surface application system is replacing the evaporative lagoon in terms of treatment, but the basin will be maintained for wet weather storage. After construction the flows will be approximately 8,900 gpd. Sources will include the existing onsite dump station, the 2 bathhouses (1 old and 1 new), and the 172 camping spots (40 with sewer, 132 without). The new system is a 24 head spray irrigation system to disperse equivalent to secondary treated wastewater generated from campground users. Water will be carried from the lagoon via force main to the land application field located away from the campground spots and park trails. The lagoons will be modified to increase storage capacity and a synthetic geomembrane liner will be installed to ensure the berm is watertight after construction.

3. COMPLIANCE PARAMETERS

The proposed project is required to meet the requirements of [MOG823](#) Table A and B. While there are no effluent limits required with land application, flow dispersal shall be monitored and in the event of an emergency bypass effluent concentrations will be monitored consistent with Table C.

4. ANTIDegradation

No antidegradation review was conducted as the selected alternative is non-discharging and therefore antidegradation review requirements do not apply per 10 CSR 20-6.010(3).

5. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

- Lagoon Cell No. 1
 - Existing: Non-aerated with a surface area of 0.74 acres and a wastewater volume of 595,520 gallons. This cell has 2 ft of freeboard, 3 ft of operating depth, and 2 ft of sludge depth. This provides approximately 115 days of retention at the existing design flow of assuming 220 days operating at average capacity and 16 inches of rainfall accumulation over a 90-day period. Required storage capacity for St. Francois County is 90 days, but two cells together provide approximately 201 days.
 - New: Non-aerated and has a surface area of 0.74 acres and a wastewater volume of 867,470 gallons. This cell has 2 ft of freeboard, 4.37 ft of operating depth, and 2 ft of sludge depth, and a synthetic HDPE geomembrane liner. This provides approximately 100 days of retention at the proposed design flow assuming 220 days operating at average capacity and 16 inches of rainfall accumulation over a 90-day period. Required storage capacity for St. Francois County is 90 days, but two cells together will provide approximately 182 days. A 60 mil HDPE geomembrane liner will be installed after lagoon modification is completed.

- Lagoon Cell No. 2
 - Existing: Non-aerated and has a surface area of 0.64 acres and a wastewater volume of 470,910 gallons. This cell has 2 ft of freeboard, 3 ft of operating depth, and 2 ft of sludge depth. This provides approximately 86 days of retention at the existing design flow assuming 220 days operating at average capacity and 16 inches of rainfall accumulation over a 90-day period. Required storage capacity for St. Francois County is 90 days, but two cells together provide approximately 201 days.

- New: Non-aerated and has a surface area of 0.64 acres and a wastewater volume of 682,819 gallons. This cell has 2 ft of freeboard, 4.37 ft of operating depth, and 2 ft of sludge depth, and a synthetic HDPE geomembrane liner. This provides approximately 82 days of retention at the proposed design flow assuming 220 days operating at average capacity and 16 inches of rainfall accumulation over a 90-day period. Required storage capacity for St. Francois County is 90 days, but two cells together will provide approximately 182 days. A 60 mil HDPE geomembrane liner will be installed after lagoon modification is completed.
- Components are designed for a Population Equivalent of 30 based on average daily hydraulic loading to the system, but due to irregular nature of occupancy the lagoon is sized for required storage duration based on a 1,071,537 gallons per year of influent.
- Flow Measurement – Installation of accurate flow measurement devices will give the treatment facility a means of improved data analysis.
 - Flow measurement will be calculated based on the runtimes of the effluent lift station pumps.
- Land Application Pump Station – Construction of a duplex pump station to transfer treated wastewater from Lagoon Cell No. 2 to the land application site with each 10.7 HP pump capable of operating at 60 gpm at 150 feet of TDH.
- Land Application Site – Construction of approximately 2,000 lf of 3-inch PVC SDR-21 force main with cleanouts and air release valves to transfer wastewater from the land application pump station to the land application site. The land application site is in the vicinity of St. Francois State Park grounds. The land application site is approximately 6.23 acres with grass covering, exceeding the land requirement of 2.23 acres based on calculations from 10 CSR 20-8.200(6)(D)2.A. This site is fenced. Maximum application rates are 0.15 inches/hour, 1 inch/day, 3 inches/week, and 24 inches/year. Pressure regulators will be installed on the positive pressure side of the system to ensure that at the sprinkler head the flow will always be 30 gpm and two heads will be operating whenever land application is occurring.
- Wastewater Irrigation –
 - Solid Set Sprinklers – The distribution includes 1 sprinkler per zone with 24 zones, for a total of 24 sprinklers. The sprinklers will be Senniger 4012 Impact series. The sprinklers will be set with a height 1.5 ft above existing grade and have a nozzle size of a 7/32 inch.

6. OPERATING PERMIT

After completion of construction project submit: statement of work completed, as-builts if the project was not constructed in accordance with previously submitted plans and specifications. Missouri State Operating Permit, General Permit MO-G823235, will be issued after receipt of the above documents. The operating permit fee of \$150 needs submitted.

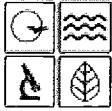
V. NOTICE OF RIGHT TO APPEAL

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>

Alex Bielefeldt, E.I.
Engineering Section
Alex.Bielefeldt@dnr.mo.gov

Chia-Wei Young, P.E.
Engineering Section
Chia-Wei.Young@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

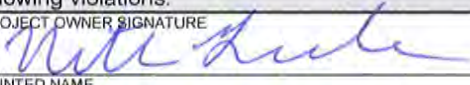
1.0 APPLICATION INFORMATION (Note – If any of the questions in this section are answered NO, this application may be considered incomplete and returned.)

- 1.1 Is this a Federal/State funded project? YES N/A Funding Agency: O of A Project #: X2310-01
- 1.2 Has the Missouri Department of Natural Resources approved the proposed project's antidegradation review?
 YES Date of Approval: _____ N/A
- 1.3 Has the department approved the proposed project's facility plan*?
 YES Date of Approval: 12/23 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 St. Francois State Park Spray Field Project (X2310-01)	2.2 ESTIMATED PROJECT CONSTRUCTION COST \$ 1,012,000
2.3 PROJECT DESCRIPTION The project consists replacing an evaporative lagoon system with a spray irrigation system to land apply wastewater. The system currently does not utilize an Operating Permit currently.	
2.4 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION The sludge will be disposed of off-site by a local/qualified contractor.	
2.5 DESIGN INFORMATION A. Current population: <u>N/A</u> ; Design population: <u>N/A</u> B. Actual Flow: <u>N/A</u> gpd; Design Average Flow: <u>2,977</u> gpd; Actual Peak Daily Flow: <u>N/A</u> gpd; Design Maximum Daily Flow: <u>8,856</u> gpd; Design Wet Weather Event: <u>700k</u>	
2.6 ADDITIONAL INFORMATION A. Is a topographic map attached? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO B. Is a process flow diagram attached? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	

3.0 WASTEWATER TREATMENT FACILITY				
NAME St. Francois State Park W.W.T.F.		TELEPHONE NUMBER WITH AREA CODE 573-751-5360		E-MAIL ADDRESS nathan.graessle@dnr.mo.gov
ADDRESS (PHYSICAL) 8920 US Highway 67 North		CITY Bonne Terre	STATE MO	ZIP CODE 63628
COUNTY St. Francois				
Wastewater Treatment Facility: Mo- (Outfall Of)				
3.1 Legal Description: - <u> </u> ¼, - <u> </u> ¼, - <u> </u> ¼, Sec. - <u> </u> , T - <u> </u> , R - <u> </u> (Use additional pages if construction of more than one outfall is proposed.)				
3.2 UTM Coordinates Easting (X): <u>716306</u> Northing (Y): <u>4204276</u> For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)				
3.3 Name of receiving streams: <u>N/A</u>				
4.0 PROJECT OWNER				
NAME St. Francois State Parks		TELEPHONE NUMBER WITH AREA CODE 573-751-5360		E-MAIL ADDRESS nathan.graessle@dnr.mo.gov
ADDRESS 8920 US Highway 67		CITY Bonne Terre	STATE MO	ZIP CODE 63628
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 St. Francois State Park		TELEPHONE NUMBER WITH AREA CODE 573-751-5360		E-MAIL ADDRESS nathan.graessle@dnr.mo.gov
ADDRESS 8920 US Highway 67		CITY Bonne Terre	STATE MO	ZIP CODE 63628
5.1 A letter from the continuing authority, if different than the owner, is included with this application. <input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> 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? <input type="checkbox"/> YES <input type="checkbox"/> 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? <input type="checkbox"/> YES <input type="checkbox"/> 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? <input type="checkbox"/> YES <input type="checkbox"/> 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? <input type="checkbox"/> YES <input type="checkbox"/> NO				
D. Is a copy of the Missouri Secretary of State's nonprofit corporation certificate included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO				
6.0 ENGINEER				
ENGINEER NAME / COMPANY NAME Cochran Engineering/ Timothy Garbs		TELEPHONE NUMBER WITH AREA CODE 573-584-0540		E-MAIL ADDRESS tgarbs@cochraneng.com
ADDRESS 530A E. Independence Drive		CITY Union	STATE MO	ZIP CODE 63084
7.0 APPLICATION FEE				
<input checked="" type="checkbox"/> CHECK NUMBER <input type="checkbox"/> JETPAY CONFIRMATION NUMBER				
8.0 PROJECT OWNER: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.				
PROJECT OWNER SIGNATURE 				
PRINTED NAME Nathan Graessle			DATE 01/09/2024	
TITLE OR CORPORATE POSITION Missouri State Parks Planning & Development		TELEPHONE NUMBER WITH AREA CODE 573-751-5360		E-MAIL ADDRESS nathan.graessle@dnr.mo.gov
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.				

PART B – LAND APPLICATION ONLY

(Submit only if the proposed construction project includes land application of wastewater.)

8.0 FACILITY INFORMATION

8.1 Type of wastewater to be irrigated: Domestic State/National Park Seasonal business
 Municipal Municipal with a pretreatment program or significant industrial users
 Other (explain) _____

8.2 Months when the business or enterprise will operate or generate wastewater:
 12 months per year Part of the year (list months): March - October

8.3 This system is designed for:
 No-discharge.
 Partial irrigation when feasible and discharge rest of time.
 Irrigation during recreational season, April – October, and discharge during November – March.
 Other (explain) _____.

9.0 STORAGE BASINS

9.1 Number of storage basins: 2 (Use additional pages if greater than three basins.)

9.2 Type of basins: Steel Concrete Fiberglass Earthen Earthen with membrane liner

9.3 Storage basin dimensions at inside top of berm (feet). Report freeboard as feet from top of berm to emergency spillway or overflow pipe.

Basin #1:	Length <u>238</u>	Width <u>146</u>	Depth <u>7'</u>	Freeboard <u>2'</u>	Depth <u>3'</u>	Safety <u>2'</u>	% Slope <u>33.3</u>
Basin #2:	Length <u>122</u>	Width <u>215</u>	Depth <u>7'</u>	Freeboard <u>2'</u>	Depth <u>3'</u>	Safety <u>2'</u>	% Slope <u>33.3</u>
Basin #3:	Length _____	Width _____	Depth _____	Freeboard _____	Depth _____	Safety _____	% Slope _____

9.4 Storage Basin operating levels (report as feet below emergency overflow level).

Basin #1:	Maximum operating water level <u>647.5</u> ft	Minimum operating water level <u>642.5</u> ft
Basin #2:	Maximum operating water level <u>647.5</u> ft	Minimum operating water level <u>642.5</u> ft
Basin #3:	Maximum operating water level _____ ft	Minimum operating water level _____ ft

9.5 Design depth of sludge in storage basins.

Basin #1: 0.5 ft Basin #2: 0.5 ft Basin #3: _____ ft

9.6 Existing sludge depth, if the basins are currently in operation.

Basin #1: 0.66 ft Basin #2: 0.31 ft Basin #3: _____ ft

9.7 Total design sludge storage: N/A dry tons and N/A cubic feet

10.0 LAND APPLICATION SYSTEM

10.1 Number of irrigation sites 1 Total Acres 3.26 Maximum % field slopes 10%
 Location: SW $\frac{1}{4}$, NW $\frac{1}{4}$, NW $\frac{1}{4}$, 31 Sec. 38N T 5E R St. Fr County 3.26 Acres
 Location: _____ $\frac{1}{4}$, _____ $\frac{1}{4}$, _____ $\frac{1}{4}$, _____ Sec. _____ T _____ R _____ County _____ Acres
 Location: _____ $\frac{1}{4}$, _____ $\frac{1}{4}$, _____ $\frac{1}{4}$, _____ Sec. _____ T _____ R _____ County _____ Acres
 (Use additional pages if greater than three irrigation sites.)

10.2 Type of vegetation: Grass hay Pasture Timber Row crops
 Other (describe) _____

10.3 Wastewater flow (dry weather) gallons per day: Average annual N/A Seasonal 5,314 Off-season 827

10.4 Land application rate (design flow including 1-in-10 year storm water flows):

Design:	<u>24</u> inches/year	<u>0.5</u> inches/hour	<u>1</u> inches/day	<u>3</u> inches/week
Actual:	<u>24</u> inches/year	<u>0.5</u> inches/hour	<u>1</u> inches/day	<u>3</u> inches/week

10.5 Total irrigation per year (gallons): Design: 2.1 M gal Actual: 1.1 M gal

10.6 Actual months used for irrigation (check all that apply):

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

10.7 Land application rate is based on:

Hydraulic Loading Other (describe) _____
 Nutrient Management Plan (N&P) If N&P is selected, is the plan included? YES NO