

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

Jennifer Torrans
Boiling Springs Resort
15750 Highway BB
Licking, MO 65542

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.

January 4, 2019
Effective Date

January 3, 2021
Expiration Date


Edward B. Galbraith, Director, Division of Environmental Quality


Chris Wieberg, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

Construction of a no-discharge wastewater treatment facility consisting of three distinct separate treatment systems.

System One. Three septic tanks each with a nominal capacity of 1500 gallons, a dosing chamber consisting of two connected tanks each with a nominal capacity of 1500 gallons, two 0.5 HP submersible effluent pumps (Orenco Model PF5005, or equal) for dosing absorption field, each with a capacity of approximately 44 GPM at a TDH of 43 feet, screen filter pump vault, supply force main of approximately 360 feet of 2.0 inch PVC force main, LPP (low-pressure pipe) soil absorption system with an absorption area of 15,000 square feet, separated into eight zones. Design flow of 2970 GPD.

System Two. One septic tank with a nominal capacity of 1500 gallons, a dosing chamber with a nominal capacity of 1000 gallons, two 0.5 HP submersible effluent pumps (Orenco Model PVA3005, or equal) for dosing absorption field, each with a capacity of approximately 37 GPM at a TDH of 45 feet, screen filter pump vault, supply force main of approximately 385 feet of 2.0 inch PVC force main, LPP (low-pressure pipe) soil absorption system with an absorption area of 3,000 square feet, separated into two zones. Design flow of 600 GPD.

System Three. One septic tank with a nominal capacity of 1500 gallons, a dosing chamber with a nominal capacity of 1000 gallons, two 0.5 HP submersible effluent pumps (Orenco Model PVA3005, or equal) for dosing absorption field, each with a capacity of approximately 39 GPM at a TDH of 41 feet, screen filter pump vault, supply force main of approximately 230 feet of 2.0 inch PVC force main, LPP (low-pressure pipe) soil absorption system with an absorption area of 6,000 square feet, separated into four zones. Design flow of 1170 GPD.

And all the necessary appurtenances to make the facilities complete and usable to treat the waste from a total population equivalent of 48 with a total average daily flow of 4,740 gpd. This is a non-discharging facility to be located in the NE 1/4, of the SW 1/4, of Section 24, T32N, R10W, Texas County, Missouri.

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.

approximate locations:

System 1 Drainfield location	UTM (zone 15)	X=589780, Y=4146576
System 2 Drainfield location	UTM (zone 15)	X=589720, Y=4146645
System 3 Drainfield location	UTM (zone 15)	X=589694, Y=4146660

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 in accordance with the plans and specifications submitted by Total Environmental on August 23, 2018.
3. The Department must be contacted in writing prior to making any changes to the approved 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(8).
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)(E)2.
5. The wastewater treatment facility shall be located at least fifty feet (50’) from any dwelling or establishment.
6. Wastewater treatment facility shall not be located within one hundred feet (100’) of any water well or water supply structure.

7. 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.
8. 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 dnr.mo.gov/env/wpp/401/ for more information.
9. Upon completion of construction:
 - A. Submit an electronic copy of the as built's if the project was not constructed in accordance with previously submitted plans and specifications; and
 - B. Submit the enclosed form Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(D); and
 - C. Submit a Form B - Application for an Operating Permit for Domestic or Municipal Wastewater ($\leq 100,000$ gallons per day) and fee to the Engineering Section of the Water Protection Program 90 days prior to operation. Identify that the application is for a General permit for land application of domestic wastewater, MO-G823. The fee for the first time operating permit is \$150.00; this covers the first annual fee.

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

A no discharge soil absorption wastewater treatment facility is being installed to serve a float outfitter and campground.

2. FACILITY DESCRIPTION

Wastewater has previously been treated through the use of multiple on-site systems. The new construction will consolidate and modernize all treatment into three separate LPP systems. All three systems will utilize a septic tank, pump chamber and a soil absorption LPP system having multiple zones and use timed dosing.

The Boiling Springs WWTF is located at 15750 Highway BB, Licking, in Texas County, Missouri. The facility has a design average flow of 4740 gpd and serves a design population equivalent of 48.

3. COMPLIANCE PARAMETERS

The proposed project is required to meet the requirements of MOG823xxx, and all applicable conditions, with an expiration date of August 24, 2022. There are no reporting requirements for the type of system proposed.

4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

The design flow is based on serving three separate service areas of a seasonal float outfitter with 5 three person cabins, 36 RV sites and one shower house. System One to serve 18 RV sites, 4 cabins, one shower house; design flow of 2970 gpd. System Two to serve 5 RV sites, and one cabin; design flow of 600 gpd. System Three to serve 13 RV sites; design flow of 1170 gpd.

System One. Three septic tank in series each with a nominal capacity of 1500 gallons, a pumping chamber consisting of two tanks each with a nominal capacity of 1500 gallons intended to provide at least one time the daily flow. Two 0.5 HP pumps ; (Orenco Model PF5005, or equal) for dosing absorption field, each with a capacity of approximately 44 GPM at a TDH of 43 feet, pumps are in a pump vault that has a 3mm mesh screen; approximately 360 feet of 2 inch PVC Schedule 40 force main to a flow splitter. Absorption field consists of two cells, each cell has four zones, each zone has 3 laterals of 125 feet in length, laterals are placed 5 feet apart; total length of LPP distribution pipe/trench is 3000 ft. with an effective absorption area of 15,000 square feet. At the design flow of 2970 gpd and design absorption rate of 0.2 gpd/sq. ft. the absorption area provided exceeds the required area. Dosing to be controlled by timers with a design setting of two doses/zone/day.

All the LPP absorption fields to have distribution pipe of 1.5 inch Sch. 40 PVC with 5/32 –inch diameter holes every 5 feet, trenches to be 12 inches deep, and 5 feet apart on center. Detailed soil analysis was performed by Ms. Melissa Bettles, Soil Scientist. The loading rate recommended in the soil report is 0.3 gpd/sq. ft./day; the loading rate used for the system design is 0.2 gpd/sq. ft./day. The soil is loam from the surface to the 24-inch depth; distribution will occur at the 12-inch depth (based on pits #1, #2 and #3). Set back distance from the nearest absorption field to the existing well located on the property is shown as approximately 240 feet. A Geohydrologic Evaluation was performed by the Missouri Geological Survey, completed November 1, 2018. Based on the characteristics observed, the site receives a slight overall geologic evaluation limitation rating.

System Two. One septic tank with a nominal capacity of 1500 gallons, a pumping chamber with a nominal capacity of 1000 gallons. Two 0.5 HP pumps; (Orencia Model PVA3005, or equal) for dosing absorption field, each with a capacity of approximately 37 GPM at a TDH of 45 feet, pumps are in a pump vault that has a 3mm mesh screen; approximately 385 feet of 2 inch PVC Schedule 40 force main to a flow splitter. Absorption field consists of one cell with two zones, each zone has 6 laterals of 50 feet in length, laterals are placed 5 feet apart; total length of LPP distribution pipe/trench is 600 ft. with an effective absorption area of 3,000 square feet. The design flow is 600 gpd and design absorption rate is 0.2 gpd/sq. ft. Dosing to be controlled by timers with a design setting of five doses/zone/day.

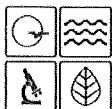
System Three. One septic tank with a nominal capacity of 1500 gallons, a pumping chamber with a nominal capacity of 1000 gallons. Two 0.5 HP pumps; (Orencia Model PVA3005, or equal) for dosing absorption field, each with a capacity of approximately 39 GPM at a TDH of 41 feet, pumps are in a pump vault that has a 3mm mesh screen; approximately 230 feet of 2 inch PVC Schedule 40 force main to a flow splitter. Absorption field consists of one cell with four zones, each zone has 3 laterals of 100 feet in length, laterals are placed 5 feet apart; total length of LPP distribution pipe/trench is 1200 ft. with an effective absorption area of 6,000 square feet. The design flow is 1170 gpd and design absorption rate is 0.2 gpd/sq. ft. Dosing to be controlled by timers with a design setting of four doses/zone/day.

5. OPERATING PERMIT

There is currently not an Operating Permit for this site or entity.

After completion of construction project submit: statement of work completed, as-builts, and ensure that Application Form B, and fee has been submitted. Missouri State Operating Permit, General Permit MO-G823xxx, will be issued after receipt of the above documents.

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



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

**APPLICATION FOR CONSTRUCTION PERMIT –
WASTEWATER FACILITY**

RECEIVED

AUG 23 2018

Water Protection Program

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

AP 30488

CP 0002026

51000.00

7401

8-23-18

SB

APPLICATION OVERVIEW

The Application for Construction Permit – Wastewater Facility form is for construction pertaining to domestic wastewater treatment facilities, agrichemical facilities, and components thereof. This 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 Is this an application for an agrichemical? ☐ YES (See instructions.) ☒ N/A
- 1.3 Has the Missouri Department of Natural Resources approved the proposed project's antidegradation review?
☐ YES Date of Approval: N/a
- 1.4 Has the department approved the proposed project's facility plan*?
☐ YES Date of Approval: _____ ☐ NO ☒ N/A (If Not Applicable, complete No. 1.5.)
- 1.5 [Complete only if answered Not Applicable on No. 1.4] Is a copy of the engineering report* for wastewater treatment facilities with a design flow less than 22,500 gpd included with this application?
☒ YES ☐ NO
- 1.6 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
- 1.7 Is a summary of design* included with this application? ☒ YES ☐ NO
- 1.8 Is a general operating permit applicable?
☒ YES Submit the appropriate operating permit application to the Regional Office at least 60 days prior to operation.
☐ NO Enclose the appropriate operating permit application and fee submittal. Denote which form: ☐ B ☐ B2
- 1.9 Is the facility currently under enforcement with the department or the Environmental Protection Agency? ☐ YES ☒ NO
- 1.10 Is the appropriate fee included with this application? ☒ YES ☐ NO (See instructions for appropriate fee.)

* Must be affixed with a Missouri registered professional engineer's seal, signature and date.

2.0 PROJECT INFORMATION

2.1 PROJECT NAME Boiling Springs Resort WWTF

2.2 PROJECT DESCRIPTION

The modification of existing holding tanks and replacement of failed lateral field with new Low Pressure Pipe (LPP) subsurface irrigation.

2.3 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION

Sludge will remain in the septic tanks and pumped as needed by a licensed contract hauler.

2.4 DESIGN INFORMATION

- A. Current population: _____; Design population: 82 PE
- B. Actual Flow: Unknown gpd; Design Average Flow: 4740 gpd;
Actual Peak Daily Flow: _____ gpd; Design Maximum Daily Flow: 7110 gpd;
Design Wet Weather Event: _____

2.5 ADDITIONAL INFORMATION

- A. Is a topographic map attached? ☒ YES ☐ NO See plans.
- B. Is a process flow diagram attached? ☒ YES ☐ NO

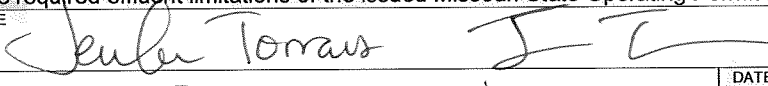
2.6 ESTIMATED PROJECT CONSTRUCTION COST

N/a

RECEIVED

AUG 21 2018

DNR/DEQ/ESP

3.0 WASTEWATER TREATMENT FACILITY					
NAME Boiling Springs Resort WWTF		TELEPHONE NUMBER WITH AREA CODE 573-674-3488		EMAIL ADDRESS spanishjack@gmail.com	
ADDRESS (PHYSICAL) 15750 Highway BB		CITY Licking	STATE MO	ZIP CODE 65542	COUNTY Texas
Wastewater Treatment Facility: MO- Pending (Outfall 001 Of 001)					
3.1 Legal Description: ¼, NE ¼, SW ¼, Sec.24 , T 32N, R 10W (Use additional pages if construction of more than one outfall is proposed.)					
3.2 UTM Coordinates Easting (X): Northing (Y): For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)					
3.3 Name of receiving stream(s): Big Piney River (only if surfacing occurs)					
4.0 PROJECT OWNER					
NAME Boiling Springs Resort		TELEPHONE NUMBER WITH AREA CODE 573-674-3488		EMAIL ADDRESS spanishjack@gmail.com	
ADDRESS 15750 Highway BB		CITY Licking	STATE MO	ZIP CODE 65542	
5.0 CONTINUING AUTHORITY: Permanent organization that will serve as the continuing authority for the operation, maintenance and modernization of the wastewater collection system.					
NAME Boiling Springs Resort		TELEPHONE NUMBER WITH AREA CODE 573-674-3488		EMAIL ADDRESS spanishjack@gmail.com	
ADDRESS 15750 Highway BB		CITY Licking	STATE MO	ZIP CODE 65542	
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 Seth A. Coggin, P.E. / Total Environmental Services, Inc.		TELEPHONE NUMBER WITH AREA CODE 573-346-3810		EMAIL ADDRESS sethcoggin@totalenvironmental.com	
ADDRESS 515 Old South 5		CITY Camdenton	STATE MO	ZIP CODE 65020	
7.0 PROJECT OWNER: I hereby certify that I am familiar with the information contained in this application and to the best of my knowledge and belief such information is true, complete, and accurate, and if granted this permit, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders, and decisions, subject to any legitimate appeal available to applicant under Missouri Clean Water Law. I also understand the issuance of the construction permit does not guarantee the proposed wastewater treatment will meet the required effluent limitations of the issued Missouri State Operating Permit for this facility.					
PROJECT OWNER SIGNATURE 					
PRINTED NAME Jennifer Torrans JOAQUIN TORRANS				DATE 8-17-18	
TITLE OR CORPORATE POSITION Owner		TELEPHONE NUMBER WITH AREA CODE 573-674-3488		EMAIL ADDRESS jennifer@boilingspringsresort.com	
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):

8.3 This system is designed for:

☒ No-discharge ☒ Subsurface
☐ 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: See Plans (Use additional pages if greater than two 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 _____ Width _____ Depth _____ Freeboard _____ Depth _____ Safety _____ % Slope _____
Basin #2: 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 _____ ft Minimum operating water level _____ ft
Basin #2: Maximum operating water level _____ ft Minimum operating water level _____ ft

9.5 Design depth of sludge in storage basins.

Basin #1: _____ ft Basin #2: _____ ft

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

Basin #1: _____ ft Basin #2: _____ ft

9.7 Total design sludge storage: _____ dry tons and _____ cubic feet

10.0 LAND APPLICATION SYSTEM

10.1 Type of land application: ☐ Fixed Head Sprinklers ☐ Center Pivot ☐ Traveling Gun ☐ Drip Dispersal
☒ Subsurface Low Pressure Pipe ☐ Other (describe) _____

10.2 Number of irrigation sites ³ _____ Total Acres ^{<1} _____ Maximum % field slopes ⁶ _____
Location: _____ ¼, NE ¼, SW ¼, 24 Sec. 32N T 10W R _____ Texas County <1 Acres
Location: _____ ¼, NE ¼, SW ¼, 24 Sec. 32N T 10W R _____ Texas County <1 Acres
Location: _____ ¼, _____ ¼, _____ ¼, _____ Sec. _____ T _____ R _____ Texas County <1 Acres
(Use additional pages if greater than three irrigation sites.)

10.3 Type of vegetation: ☒ Grass hay ☐ Pasture ☐ Timber ☐ Row crops
☐ Other (describe)

10.4 Wastewater flow (dry weather) gallons per day: Average annual 4,740
Seasonal _____ Off-season _____

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

Design: _____ inches/year _____ inches/hour ^{0.3} inches/day _____ inches/week
Actual: _____ inches/year _____ inches/hour _____ inches/day _____ inches/week

10.6 Total irrigation per year (gallons): Design: 1,730,100 gal Actual: _____ gal

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

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

10.8 Land application rate is based on:

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