

**STATE OF MISSOURI**  
**DEPARTMENT OF NATURAL RESOURCES**  
**MISSOURI CLEAN WATER COMMISSION**



**CONSTRUCTION PERMIT**

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

Prairie Valley Landfill  
3975 Highway 19 North  
Cuba, MO 65453

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.

March 4, 2021  
Effective Date

March 3, 2023  
Expiration Date

  
Edward B. Galbraith, Director, Division of Environmental Quality

  
Chris Wieberg, Director, Water Protection Program

## **CONSTRUCTION PERMIT**

### **I. CONSTRUCTION DESCRIPTION**

Prairie Valley Landfill is installing a new wash water earthen basin from the truck washing that allows the water to be reused for dust suppression at the landfill or to be discharged through Outfall #011. The basin will be 137 ft by 90 ft, with an operating depth of 6 ft. The basin is non-aerated, has a surface area of 0.164 acres, and a volume of 148,000 gallons between the 2 ft and 6 ft level of the lagoon. With an estimated usage of 2 hours per day, producing 4.8 gpm, it is expected that the storage basin will have 171 days of storage available. The water collected in the basin will be applied as dust suppression or discharged through Outfall #011, as authorized in the 2020 operating permit renewal. Dust suppression occurs through a wagon mounted tank with a dedicated pump.

### **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 Midwest Environmental 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 Southeast Regional Office per 10 CSR 20-7.015(9)(G).
5. The wastewater treatment facility shall be located above the twenty-five (25)-year flood level.
6. 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.
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](http://dnr.mo.gov/env/wpp/epermit/help.htm). See [dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm](http://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/](http://dnr.mo.gov/env/wpp/401/) for more information.
9. All construction must adhere to applicable 10 CSR 20-8 (Chapter 8) requirements listed below.
  - 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.
  - Facilities shall be readily accessible by authorized personnel from a public right-of-way at all times. 10 CSR 20-8.140 (2) (D)
  - All sampling points shall be designed so that a representative and discrete twenty-four (24) hour automatic composite sample or grab sample of the effluent discharge

can be obtained at a point after the final treatment process and before discharge to or mixing with the receiving waters. 10 CSR 20-8.140 (6) (B)

- All outfalls shall be posted with a permanent sign indicating the outfall number (i.e.,
- 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)
- A means of flow measurement shall be provided at all wastewater treatment facilities. 10 CSR 20-8.140 (7) (E)
- 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:
  - 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)
- Dust collection equipment shall be provided to protect facility personnel from dusts injurious to the lungs or skin and to prevent polymer dust from settling on walkways that become slick when wet. 10 CSR 20-8.140 (9) (A) 6.
- Lagoon berms shall be constructed of relatively impervious material and compacted to at least ninety-five percent (95%) maximum dry density test method to form a stable structure. 10 CSR 20-200(4)(A)1.
- The minimum berm width shall be eight feet (8') to permit access of maintenance vehicles. 10 CSR 20-200(4)(A)2.
- Minimum freeboard shall be two feet (2'). 10 CSR 20-200(4)(A)3.
- An emergency spillway shall be provided that—
  - Prevents the overtopping and cutting of berms; 10 CSR 20-200(4)(A)4.A.
  - Is compacted and vegetated or otherwise constructed to prevent erosion; 10 CSR 20-200(4)(A)4.B. and
  - Has the ability for a representative sample to be collected, if discharging. 10 CSR 20-200(4)(A)4.C.

- The soil of the lagoon bottom shall be compacted with the moisture content between two percent (2%) below and four percent (4%) above the optimum water content and compacted to at least ninety-five percent (95%) maximum dry density test method. 10 CSR 20-200(4)(B)
- The lagoon shall be sealed to ensure that seepage loss is as low as possible and has a design permeability not exceeding  $1.0 \times 10^{-7}$  cm/sec. 10 CSR 20-200(4)(C)1.
- The minimum thickness of the compacted clay liner must be twelve inches (12"). For permeability coefficients greater than  $1.0 \times 10^{-7}$  cm/sec or for heads over five feet (5') such as an aerated lagoon system, the following formula shall be used to determine minimum seal thickness, Equation 200-1 per 10 CSR 20-200(4)(C)2.:

Equation 200-1

$$t = \frac{H \times K}{5.4 \times 10^{-7} \text{ cm/sec}}$$

where:

K = the permeability coefficient of the soil in question;

H = the head of water in the lagoon; and

t = the thickness of the soil seal.

- Synthetic seals thickness may vary due to liner material but the liner thickness shall be no less than two-hundredths inch (.02") or twenty (20) mil and be the appropriate material to perform under existing conditions. 10 CSR 20-200(4)(C)3.
- Seep collars shall be provided on drainpipes where they pass through the lagoon seal. 10 CSR 20-200(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.
- 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)

10. Upon completion of construction:

- A. Prairie Valley Disposal, Inc. 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).

## **IV. REVIEW SUMMARY**

### **1. CONSTRUCTION PURPOSE**

Construction is to provide a storage basin for washwater from the truck washing that allows the water to be reused for dust suppression at the landfill or to be discharged through Outfall #011.

### **2. FACILITY DESCRIPTION**

The Prairie Valley Landfill is located at 3975 Highway 19 North, Cuba, in Crawford County, Missouri. The facility has 11 outfalls, construction of the storage basin will change the facility description of Outfall #011.

### **3. COMPLIANCE PARAMETERS**

The proposed project is required to meet final effluent limits established as Table A-4 in the 2020 permit renewal, which are listed below.

Outfall #011 wastewater and washwater		Table A-4 FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS				
EFFLUENT PARAMETERS	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<b>PHYSICAL</b>						
Flow	MGD	*			once/month	24 hr. est
Precipitation	°F	*			once/month	measured
<b>CONVENTIONAL</b>						
Chemical Oxygen Demand	mg/L	*			once/month	grab
Oil & Grease	mg/L	*			once/month	grab
pH †	SU	6.5-9.0			once/month	grab
Total Suspended Solids	mg/L	*			once/month	grab
<b>METALS</b>						
Aluminum, Total Recoverable	µg/L	*			once/month	grab
Copper, Total Recoverable	µg/L	*			once/month	grab
Iron, Total Recoverable	µg/L	*			once/month	grab
Zinc, Total Recoverable	µg/L	*			once/month	grab
<b>NUTRIENTS</b>						
Ammonia as N	mg/L	*			once/month	grab
Nitrate plus Nitrite	mg/L	*			once/month	grab
Nitrogen, Total Kjeldahl (TKN)	mg/L	*			once/month	grab
Phosphorus, Total (TP)	mg/L	*			once/month	grab
<b>OTHER</b>						
Benzene	µg/L	*			once/month	grab
Chloride	mg/L	*			once/month	grab
Chloride + Sulfate	mg/L	*			once/month	grab
Sulfate	mg/L	*			once/month	grab

#### **4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA**

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

- The collection system is existing with a manhole at the oil/water separator and with cleanouts.
- The oil/water separator is existing with a capacity of 1,000 gallons and rated to handle 100 gpm.

**Construction will cover:**

- Storage Lagoon – The storage lagoon will be constructed and sealed with minimum 1 ft thick clay liner with a permeability of less than  $1.0 \times 10^{-7}$  cm/sec.
  - The basin will have 3:1 side slopes, at the top of the basin, it will be 137 ft by 90 ft and at the floor of the basin it will be 22 ft by 69 ft.
  - The operating depth is 6 ft.
  - The basin is non-aerated, has a surface area of 0.164 acres, and a volume of 148,000 gallons between the 2 ft and 6 ft level of the lagoon.
  - There will be 2 ft of freeboard available.
  - With an estimated usage of 2 hours per day, producing 4.8 gpm, and assuming a 1.5 safety factor, it is expected that the storage basin will have 171 days of storage available.
  - The berm width will be 8 ft.
  - The emergency spillway will be 4 ft wide flat bottom channel with 1 ft depth.
- The water collected in the basin will be applied as dust suppression or discharged through Outfall #011. Dust suppression occurs through a wagon mounted tank with a dedicated pump.

#### **5. OPERATING PERMIT**

These construction activities do not require a modification to the operating permit. It is expected that the facility owner will include a new facility description and process flow diagram in their next operating permit renewal application to reflect the installation of the new basin.

### **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:

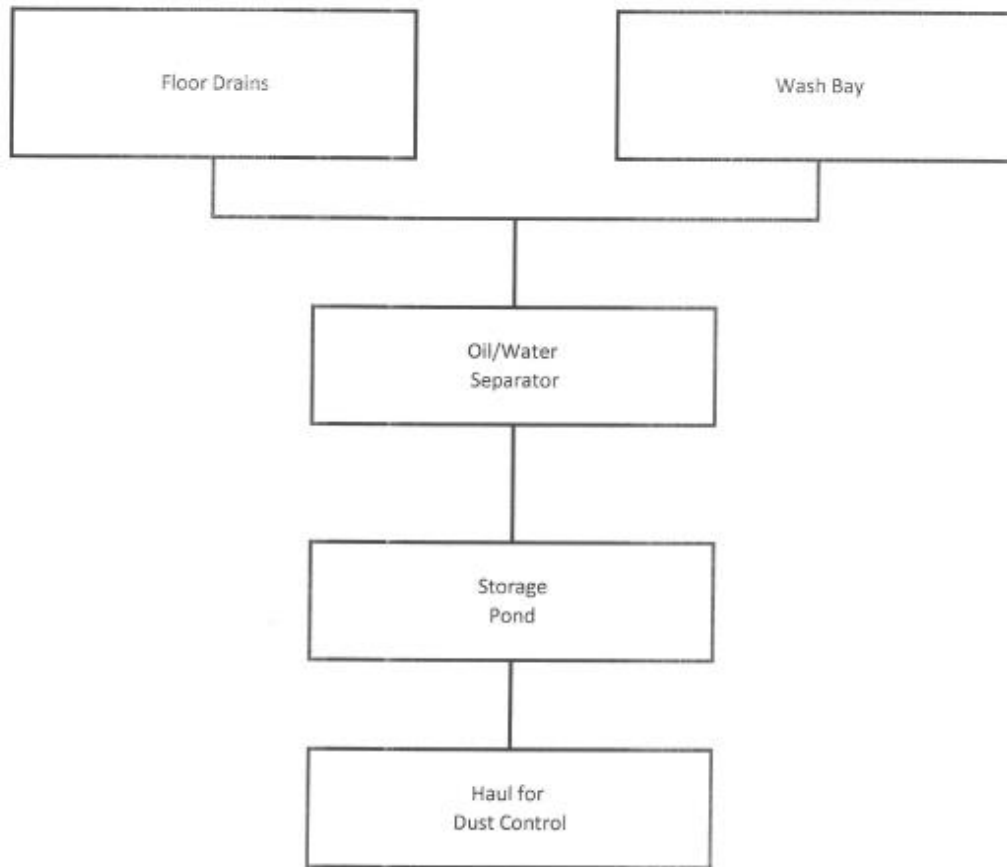
Administrative Hearing Commission  
U.S. Post Office Building, Third Floor  
131 West High Street, P.O. Box 1557  
Jefferson City, MO 65102-1557  
Phone: 573-751-2422  
Fax: 573-751-5018  
Website: <https://ahc.mo.gov>

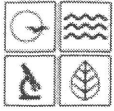
Leasue Meyers, EI  
Engineering Section  
[leasue.meyers@dnr.mo.gov](mailto:leasue.meyers@dnr.mo.gov)

Cailie Carlile, P.E.  
Engineering Section  
[cailie.carlile@dnr.mo.gov](mailto:cailie.carlile@dnr.mo.gov)



**APPENDIX-PROCESS FLOW DIAGRAM:**





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: \_\_\_\_\_ ☒ N/A
- 1.3 Has the department approved the proposed project's facility plan\*?  
☐ YES Date of Approval: \_\_\_\_\_ ☒ 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 10 CSR 20.6.010(5)(B)(5)
- 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: July 2020  
☒ 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

Prairie Valley Landfill

2.2 ESTIMATED PROJECT CONSTRUCTION COST

\$

2.3 PROJECT DESCRIPTION

Wash Water Storage Pond

2.4 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION

Retained in Pond

2.5 DESIGN INFORMATION

A. Current population: na; Design population: na

B. Actual Flow: \_\_\_\_\_ gpd; Design Average Flow: <500 gpd;  
Actual Peak Daily Flow: \_\_\_\_\_ gpd; Design Maximum Daily Flow: 2880 gpd; Design Wet Weather Event: 5.9 in

2.6 ADDITIONAL INFORMATION

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

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

**3.0 WASTEWATER TREATMENT FACILITY**

NAME Prairie Valley Landfill		TELEPHONE NUMBER WITH AREA CODE 573-885-7596		E-MAIL ADDRESS swberry@swingersonsanitation.com	
ADDRESS (PHYSICAL) 3975 Highway 19 North	CITY Cuba	STATE MO	ZIP CODE 65453	COUNTY Crawford	
Wastewater Treatment Facility: Mo- 0122416 (Outfall 011 Of )					
3.1 Legal Description: <u>1/4</u> , <u>NE</u> <u>1/4</u> , <u>NW</u> <u>1/4</u> , Sec. <u>12</u> , T <u>39N</u> , R <u>5W</u> (Use additional pages if construction of more than one outfall is proposed.)					
3.2 UTM Coordinates Easting (X): <u>638127</u> Northing (Y): <u>4220259</u> For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)					
3.3 Name of receiving streams: <u>Prairie Creek</u>					

**4.0 PROJECT OWNER**

NAME Prairie Valley Disposal, Inc.		TELEPHONE NUMBER WITH AREA CODE 573-885-7596		E-MAIL ADDRESS swberry@swingersonsanitation.com	
ADDRESS PO Box 10	CITY Cuba	STATE MO	ZIP CODE 65453		

**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 Same as Above		TELEPHONE NUMBER WITH AREA CODE		E-MAIL ADDRESS	
ADDRESS	CITY	STATE	ZIP CODE		

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 ☐ NOB. 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 ☐ NOC. 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 ☐ NOD. 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 Lindsey Henry, PE/Midwest Environmental Consultants		TELEPHONE NUMBER WITH AREA CODE 573-636-9454		E-MAIL ADDRESS LHenry@mecpc.com	
ADDRESS 2009 E. McCarty St., Ste. 2	CITY Jefferson City	STATE MO	ZIP CODE 65101		

**7.0 APPLICATION FEE**☐ CHECK NUMBER☒ NETPAY CONFIRMATION NUMBER 20019123

**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

Elaine Rutz

DATE

10-5-20

TITLE OR CORPORATE POSITION

CEO

TELEPHONE NUMBER WITH AREA CODE

573-885-7596

E-MAIL ADDRESS

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.