STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT
UNDERGROUND INJECTION CONTROL

In compliance with the Missouri Clean Water Law (Chapter 644 RSMo, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.	MO-0140651
Owner:	Bartek Family Winery, LLC
Address:	8921 Jackson School Road, Bloomsdale, MO 63627
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	Chateau Sainte Genevieve Winery
Facility Address:	8921 Jackson School Road, Bloomsdale, MO 63627
Legal Description:	SE¼, Sec.17, T38N, R07E, Ste. Genevieve County
UTM Coordinates:	X = 738876, Y = 4208954
Receiving Stream:	groundwater
First Classified Stream and ID:	groundwater
USGS Basin & Sub-watershed No.:	Fourche a Du Clos; (07140101-0906)

authorizes activities pursuant to the terms and conditions of this permit in accordance with the Missouri Clean Water Law and in compliance with the Safe Drinking Water Act and authorized by 40 CFR 147 Subpart AA, this permit authorizes only underground injection activities; it does not apply to other regulated areas.

FACILITY DESCRIPTION

Sub-Surface Soil Absorption System, no surface discharge. Winery process wastewater and domestic wastewater. Wastewater is dispersed through a subsurface absorption system. 1,500 gallon settling tank, 4,500 gallon Lixor tank, 4,500 gallon MicroFast tank, 4,500 gallon dosing tank, to a subsurface dispersal system consisting of gravel-less chamber dispersal. Sludge is removed by a contract hauler. This facility does not require a certified wastewater operator per 10 CSR 20-9 as this facility is privately owned. Facility has been determined to have no exposure to stormwater. The facility will be constructed to September 20, 2024, sealed designs.

Design Flow: 2,266.8 gallons per day
Subsurface Absorption Area: 5,667 sq. feet
Rates: 0.40 gallons per day per square foot; dispersal rate is based on soils hydraulic loading rate
Vegetation Cover: Grass

February 1, 2026
Effective Date

January 31, 2031
Expiration Date

Heather S. Peters, Director, Water Protection Program

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

MONITORING POINT #001 *Process and Domestic Wastewater Monitoring For Subsurface Dispersal*		**TABLE A-1** FINAL EFFLUENT MONITORING REQUIREMENTS AND LIMITS			
The facility is authorized to conduct subsurface dispersal of process wastewater and domestic wastewater. The subsurface dispersal of wastewater shall be controlled, limited, and monitored by the facility as specified below. All parameter sampling shall occur at the dosing tank (after treatment but before dispersal). Report "operational shutdown" when injection does not occur during the entire reporting period.					
EFFLUENT PARAMETERS	UNITS	FINAL EFFLUENT LIMITATIONS		MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY AVERAGE	MINIMUM MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: OM – OPERATIONAL MONITORING					
Dispersed Volume	gallons	2,266.8	1,813.44	daily	24 hr. total
Soil Assessment ♣	pass/fail	1	*	monthly	♣
Production Tank Cleaning Record ♦	count	3	* total	daily	♦
pH ⁑	SU	6.0-9.0	-	weekly	grab ♠
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE MARCH 28, 2026.					
EFFLUENT PARAMETERS	UNITS	DAILY MAXIMUM	QUARTERLY AVERAGE	MINIMUM MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: Q - QUARTERLY					
CONVENTIONAL					
Biological Oxygen Demand$_5$	mg/L	*	*	once/quarter	grab ♠
Oil and Grease	mg/L	*	*	once/quarter	grab ♠
NUTRIENTS					
Kjeldahl Nitrogen, Total (TKN)	mg/L	*	*	once/quarter	grab ♠
Nitrate as Nitrogen	mg/L	*	*	once/quarter	grab ♠
Nitrogen, Total (TN) ⸸	mg/L	*	*	once/quarter	grab ♠
Phosphorus, Total (TP)	mg/L	*	*	once/quarter	grab ♠
OTHER					
Chloride as Cl	mg/L	*	*	once/quarter	grab ♠
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE APRIL 28, 2026.					

* Monitoring and reporting requirement only.

⁑ pH: the facility will report the minimum and maximum values; pH is not to be averaged. Weekly monitoring is monitoring any one day between Monday and Sunday. For weeks spanning two months, only 1 sample is required. All data obtained must be uploaded as a DMR attachment per Standard Conditions.

♠ Process wastewater which is dispersed subsurface shall be sampled at the dosing pump. Facility shall report required parameters when subsurface dispersal occurs during the reported period. Daily monitoring is required only for days when subsurface dispersal occurs. In the event no subsurface dispersal occurs during the monitoring period, report "no discharge".

♣ The facility shall, at least monthly, visually inspect the subsurface dispersal field. The field shall remain relatively free of moisture. Proper drainage shall consist of soils that are not saturated (except just after precipitation events). Any soils remaining saturated 2 days after precipitation event(s) shall be reported to the Southeast Regional Office. Soil saturation is exhibited by water surfacing when pressure, such as a boot, is applied. The facility will report 0 for no saturation, and 1 for saturation. 0 is passing the visual and boot print test; 1 is failing the visual assessment or boot print test.

♦ The facility shall clean no more than three tanks (tank systems) each day to protect for saturated soils. While tank cleans are not prohibited on the same days as events, the facility should determine if the total flow volume of dispersed wastewater limit can be met. The facility will keep a record of the number of tanks cleaned each day; electronic format is appropriate. The facility will note the **total** number of tank cleans occurring each month in the monthly average column.

⸸ Total Nitrogen: this permit establishes reporting for total nitrogen, (TN), which is a calculation using TKN + Nitrate + Nitrite.

B. Standard Conditions

In addition to specified conditions stated herein, this permit is subject to the attached Part I standard conditions dated August 1, 2014, and hereby incorporated as though fully set forth herein.

C. Special Conditions

1. No stormwater exposure. The facility is subject to 10 CSR 20-6.200(2) and/or 40 CFR 122.26(b)(14); however, in accordance with 10 CSR 20-6.200(1)(C) has demonstrated there is no industrial exposure for stormwater at this site. This facility must maintain the following to continue no exposure status under this permit.
   (a) Using, storing, or cleaning industrial machinery or equipment, and areas where residuals from using, storing, or cleaning industrial machinery or equipment exist and are exposed to stormwater.
   (b) Materials or residuals on the ground or in stormwater inlets from spills or leaks.
   (c) Materials or products from past industrial activity.
   (d) Material handling equipment (except adequately maintained vehicles).
   (e) Materials or products exposed during loading/unloading or transporting activities.
   (f) Materials or products stored outdoors (except final products intended for outside use, e.g., new cars, where exposure to stormwater does not result in the discharge of pollutants).
   (g) Materials contained in open, deteriorated, or leaking storage drums, barrels, tanks, or similar containers.
   (h) Materials or products handled or stored on roads or railways owned or maintained by the facility.
   (i) Waste material (except waste in covered, non-leaking containers, e.g., dumpsters).
   (j) Particulate matter or visible deposits or residuals from roof stacks or vents not otherwise regulated (i.e., under an air quality control permit) and evident in the stormwater outflow.

   If these conditions are not maintained, it is a violation of this permit. If the facility wishes to commence any of the above, a permit modification must be completed to activate appropriate stormwater conditions, which may include specific stormwater Best Management Practices, development and implementation of a Stormwater Pollution Prevention Plan, numeric benchmarks, or limits.

2. All records and recordkeeping required by this permit may be retained electronically. These records should be saved as a searchable document if possible. These records may be requested by the department at any time, and must be made available to the department. The facility will maintain the following records for at least five years.
   (a) The facility must maintain a record of cleaning the outlet filter. This information must be retained for at least five years.
   (b) This facility may not clean more than three beverage distilling tanks (tank system) per day to protect hydraulic loading of soils. The facility must maintain a record of the count of production tank cleans occurring each day. A “day” is from midnight to midnight. This information must be retained for at least five years.
   (c) This facility must maintain operational high-level alarms on the 3,000 gallon dosing tank. A monthly test must occur. This information must be retained for at least five years.
   (d) The facility shall maintain all service and maintenance records for at least five years. These records shall be made available to department personnel upon request.
   (e) The facility must record each time the treatment tanks are pumped and hauled. This must include the date, volume removed, and business name, address, and phone number of the hauling company.

3. Spills, Overflows, and Other Unauthorized Discharges
   (a) Any spill, overflow, or other discharge(s) not specifically authorized are unauthorized discharges.
   (b) If an unauthorized discharge cause or permit any contaminants to discharge or enter waters of the state, the unauthorized discharge must be reported to the regional office as soon as practicable but no more than 24 hours after the discovery of the discharge. If the spill or overflow needs to be reported after normal business hours or on the weekend, the facility must call the department’s 24-hour spill line at 573-634-2436.

4. Any discharge not meeting permitted limits may be pumped and hauled to an accepting wastewater treatment facility, or otherwise properly disposed.

5. The Electronic Reporting Rule, 40 CFR Part 127, requires effluent monitoring data and any report required by the permit (unless specifically directed otherwise by the permit), shall be submitted via an electronic system to ensure timely, complete, accurate, and nationally consistent set of data for the NPDES program. The eDMR system is currently the only department-approved reporting method unless specified elsewhere in this permit, or a waiver is granted by the department. The facility must register in the department’s eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before the first report is due.

C. SPECIAL CONDITIONS (CONTINUED)

6. Site-wide minimum Best Management Practices (BMPs)
   At a minimum, the facility shall adhere to the following:
   (a) Provide good housekeeping practices on the site to keep trash from entry into waters of the state. Dumpsters must remain closed when not in use.
   (b) Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, warehouse activities, and other areas, to prevent the contamination of stormwater from these substances.
   (c) Provide collection facilities and arrange for proper disposal of waste products including but not limited to petroleum waste products, and solvents.
   (d) Store all paint, solvents, petroleum products, petroleum waste products, and storage containers (such as drums, cans, or cartons) so these materials are not exposed to stormwater or provide other prescribed BMPs such as plastic lids and/or portable spill pans to prevent the commingling of stormwater with container contents. Commingled water may not be discharged under this permit. Provide spill prevention control, and/or management sufficient to prevent any spills of these pollutants from entering waters of the state. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater. Spill records shall be retained for a period of not less than five years.
   (e) The facility shall not discharge substances resulting from an on-site spill.
   (f) Provide sediment and erosion control sufficient to prevent or minimize sediment loss off the property, and to protect embankments from erosion.
   (g) Wash water for vehicles, building(s), or pavement must be handled in a no-discharge manner (infiltration, hauled off-site, etc.). Describe the no-discharge method used and include all pertinent information (quantity/frequency, soap use, effluent destination, BMPs, etc.) in the application for renewal. If wash water is not produced, note this instead.
   (h) If chlorinated, outdoor fire protection test water must be handled in a no-discharge manner (infiltration, hauled off-site, etc.) to protect receiving waterbodies from chlorine toxicity.
   (i) Salt and sand shall be stored in a manner minimizing mobilization in stormwater (for example: under roof, in covered container, under tarp, etc.).

7. Reporting Non-Detects
   (a) Compliance analysis conducted by the facility, or any contracted laboratory shall be conducted in such a way the precision and accuracy of the analyzed result can be enumerated. See sufficiently sensitive test method requirements in Standard Conditions Part I, A, No. 4 regarding proper testing and detection limits used for sample analysis. For the purposes of this permit, the definitions in 40 CFR 136 apply.
   (b) Method detection limit (MDL) and laboratory-established reporting limit (RL) may be used interchangeably in this permit. The reporting limits established by the laboratory must be below the lowest effluent limits established for the specified parameter (including any parameter's future limit after an SOC) in the permit unless the permit provides for a minimum level (ML). A minimum level is a permit-established MDL, or refers to a sufficiently sensitive method.
   (c) The facility shall not report a sample result as "non-detect" without also reporting the MDL or ML. Reporting "non-detect" without also including the MDL or ML will be considered failure to report, which is a violation of this permit.
   (d) For the daily maximum, the facility shall report the highest value; if the highest value was a non-detect, use the less than symbol, "<" and the highest value of the MDL, RL, or ML. (e.g. <6).
   (e) When calculating monthly averages, zero shall be used in place of any value(s) not detected. Where all data used in the average are below the MDL, RL, or ML, the highest MDL, RL, or ML shall be reported as "<#" for the average.

8. Changes in Discharges of Toxic Pollutant.
   In addition to the reporting requirements under 40 CFR 122.41, all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director per 40 CFR 122.42(a)(1) and (2) as soon as recognizing:
   (a) An activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:
      (1) One hundred micrograms per liter (100 µg/L);
      (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile;
      (3) Five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol;
      (4) One milligram per liter (1 mg/L) for antimony;
      (5) Five (5) times the maximum concentration value reported for the pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
      (6) The notification level established by the department in accordance with 40 CFR 122.44(f).
   (b) Any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
      (1) Five hundred micrograms per liter (500 µg/L);

C. SPECIAL CONDITIONS (CONTINUED)

(2) One milligram per liter (1 mg/L) for antimony;
(3) Ten (10) times the maximum concentration value reported for the pollutant in the permit application in accordance with 40 CFR 122.21(g)(7).
(4) The level established by the Director in accordance with 40 CFR 122.44(f).

(c) Authorization of new or expanded pollutant discharges may be required under a permit modification or renewal and may require an antidegradation review.

9. The full implementation of this operating permit, which includes implementation of any applicable schedules of compliance, shall constitute compliance with Sections 301, 302, 306, 307, and 403 of the federal Clean Water Act, except for standards imposed under Section 307 for toxic pollutants injurious to human health, and with equivalent provisions of the Missouri Clean Water Law, in accordance with Section 644.051.15 RSMo and CWA §402(k). This permit may be reopened and modified, or alternatively revoked and reissued to comply with any applicable effluent standard or limitation issued or approved under CWA §§301(b)(2)(C) and (D), §304(b)(2), and §307(a)(2), if the effluent standard or limitation so issued or approved contains different conditions or is otherwise more stringent than any effluent limitation in the permit, or controls any pollutant not already limited in the permit. This permit may be modified, revoked and reissued, or terminated for cause, including determination new pollutants found in the discharge not identified in the application for the new or revised permit. The filing of a request by the facility for a permit modification, termination, notice of planned changes, or anticipated non-compliance does not stay any permit condition.

10. This permit does not authorize the facility to accept, treat, or discharge wastewater from other sources unless explicitly authorized herein. If the facility would like to accept, treat, or discharge wastewater from another activity or facility, the permit must be modified to include external wastewater pollutant sources in the permit.

D. UNDERGROUND INJECTION CONTROL (UIC) CONDITIONS

1. In accordance with 40 CFR 144.26, the permittee shall submit a UIC Inventory Form for each active or new underground injection well drilled, or when the status of a well changes, to the Missouri Department of Natural Resources, Geological Survey Program, P.O. Box 250, Rolla, Missouri 65402. The UIC Inventory Form can be requested from the Geological Survey Program or can be found at the following web address: https://dnr.mo.gov/document-search/uic-class-v-injection-well-inventory-mo-780-1774 Only one submittal is required for the life of the UIC system unless changes are made (see form).

2. Subsurface Wastewater Dispersal System(s) under this permit are Class V well(s); 10 CSR 20-8.200(8) restrictions apply.
(a) Subsurface dispersal shall not occur within 100 feet of any known karst feature, drinking water well, private well, sinkhole, or losing stream.
(b) All systems shall not allow effluent to surface, cause soils to be saturated at the surface, reach waters of the state, effect a stream, or effect any nearby buildings or dwellings.
(c) Subsurface dispersal area(s) access must be controlled to prevent damage from traffic, heavy vehicles, livestock, construction, or digging.
(d) Subsurface dispersal areas shall have adequate surface drainage and maintain vegetation (if appropriate).
(e) Systems shall be placed at or greater than 10 feet from the property line.

3. In accordance with 40 CFR 144.82, construction, operation, maintenance, conversion, plugging, or closure of injection wells shall not cause movement of fluids containing any contaminant into Underground Sources of Drinking Water (USDWs). If the presence of any contaminant may cause a violation of primary drinking water standards or groundwater standards under 10 CSR 20-7.031, or other health-based standards, or may otherwise adversely affect human health, the department may require closure of the injection wells, or other actions listed in 40 CFR 144.12(c), (d), or (e).

4. The facility shall develop, maintain, and implement an Operation and Maintenance (O&M) manual.
(a) The manual must include all necessary items to ensure the operation and integrity of the waste handling system.
(b) The O&M manual must include key operating procedures, an aerial or topographic site map with the feature outlined, and a brief summary of the operation of the facility.
(c) The O&M manual shall be made available to the operator.
(d) The O&M manual shall be reviewed and updated at least every five years or when changes have occurred.

D. UNDERGROUND INJECTION CONTROL (UIC) CONDITIONS (CONTINUED)

5. Requirements prior to abandonment.
   (a) The permittee shall submit a well subsurface dispersal system removal plan to the Water Protection Program, which contains at least the details to comply with the following abandonment requirements:
      (1) The permittee shall close the well in a manner that prevents the movement of fluid containing any contaminant into an USDW, if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR part 141 or may otherwise adversely affect the health of persons.
      (2) If the department has determined that the proposed well abandonment plan is not acceptable to the site, the permittee must grout the well full length with neat cement or bentonite.
      (3) The permittee shall dispose of or otherwise manage any soil, gravel, sludge, liquids, or other materials removed from or adjacent to the well in accordance with all applicable Federal, State, and local regulations and requirements.
      (4) After a cessation of operations, the permittee shall remove the subsurface system in accordance with the plan unless the permittee:
         (i) Provides a written notice to the Water Protection Program that the system will be used within the next two years; and
         (ii) Describes actions or procedures, satisfactory to the Water Protection Program, that the owner or operator will take to ensure that the system will not endanger USDWs during the period of temporary abandonment. These actions and procedures shall include compliance with the technical requirements applicable to active injection wells unless waived by the Water Protection Program.

E. NOTICE OF RIGHT TO APPEAL

If you were adversely affected by this decision, you may be entitled to pursue an appeal before the administrative hearing commission (AHC) pursuant to 621.250 and 644.051.12 RSMo. To appeal, you must file a petition with the AHC within thirty 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 shall 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

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF A NEW PERMIT
MO-0140651
CHATEAU SAINTE GENEVIEVE WINERY

The Federal Water Pollution Control Act (Clean Water Act (CWA) §402 Public Law 92-500 as amended) established the National Pollutant Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of stormwater from certain point sources. All such discharges are unlawful without a permit (§301 of the Clean Water Act). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (MSOPs) are issued by the Director of the Missouri Department of Natural Resources (department) under an approved program, operating in accordance with federal and state laws (Federal Clean Water Act and Missouri Clean Water Law 644 RSMo as amended). MSOPs may also cover underground injection, non-discharging facilities, and land application facilities. Permits are issued for a period of five (5) years unless otherwise specified for less.

Per 40 CFR Part 124.8(a) and 10 CSR 20-6.020(1)(A)2 a factsheet shall be prepared to give pertinent information regarding applicable regulations, rationale for the development of limitations and conditions, and the public participation process for the Missouri State Operating Permit (MSOP or permit) listed below. A factsheet is not an enforceable part of a permit.

PART I. FACILITY INFORMATION

Facility Type: No Discharge, Industrial: Minor, <1 MGD
SIC Code(s): 2084 and 4592
NAICS Code(s): 312130

FACILITY DESCRIPTION

Winery generated process wastewater and domestic wastewater; 2,350 gallons per day of wastewater is dispersed through a subsurface absorption system. There is a 1,500 gallon settling tank, a 4,500 gallon Lixor tank, a 4,500 gallon MicroFast tank, a 4,500 gallon dosing tank, and then is distributed to a subsurface absorption system. Sludge is removed by a contract hauler. This facility does not require a certified wastewater operator per 10 CSR 20-9.020 as this facility is privately owned.

Winery process wastewater is discharged into the subsurface system (a UIC system). Seasonally, during harvest time, beverage processing tanks are cleaned, no more than three a day. The process uses 5 gallons of 2% potassium hydroxide caustic wash in a bucket. The tanks are hand-scrubbed (tank exteriors, doors, and valve ports). The debris is removed from the bottom of the tank and is disposed of in trash containers. 500 gallons of 2% potassium hydroxide caustic wash is used to clean IBC totes. A high-pressure wash is used on tank interiors with Alfa-Laval Gamma Jet using the 500-gallon caustic wash for 13 minutes. 5 gallons of 2% citric acid-neutralizing rinse is used while spraying down the interior and exterior of the tanks. Next, 5 gallons of Star-San sanitizer is used to spray the tank interiors and exteriors. And finally, the tank interiors and exteriors are rinsed with 10-15 gallons of water. Between each step, employees dispose of the accumulated solids and liquids captured in the bottom of the tank. This process may be repeated on one to two additional tanks each day. One tank clean uses approximately 530 gallons of fluids.

This facility has the following occupancy and is used by more than 20 people some days (a UIC system). The following flows are expected from domestic wastewater. During production, 6 employees are present each day. During tasting events, 3 additional employees and one market employee are present; for a total of 10 employees. The tasting room (Cheese and Sausage Room) has a 20-person capacity. Therefore approximately 30 persons may use the restroom on one day. There are no showers present. Total gallons expected for discharge during tasting events is 30 persons multiplied by 25 gallons = 750 gallons of domestic wastewater a day. The facility estimated that 1,600 gallons per day may be used by staff and guests as a maximum in one day for domestic wastewater.

Design Flow: 2,266.8 gallons a day maximum for dispersal
    Tank Clean: 530 gallons
    Event Domestic Flow: 750
Subsurface Absorption Area: 5,667 square feet
Rates: 0.40 gallons per day per square foot; dispersal rate is based on soils hydraulic loading rate

UNDERGROUND INJECTION CONTROL (UIC)

This facility's wastewater is discharged into a Class V well system. For this facility, a sub-surface dispersal is considered a Class V well. UIC systems may be described as having "septic tanks" or "lateral lines" in addition to the traditional well type (vertical) injection. The UIC program for all classes of wells in the State of Missouri is administered by the Missouri Department of Natural Resources and approved by EPA pursuant to §§1422 and 1425 of the Safe Drinking Water Act (SDWA) and 40 CFR 147 Subpart AA.

Injection wells are classified based on the liquids which are being injected. Class I wells are hazardous waste wells which are banned by 577.155 RSMo; Class II wells are established for oil and natural gas production; Class III wells are used to inject fluids to extract minerals; Class IV wells are also banned by Missouri in 577.155 RSMo.

In accordance with 40 CFR 144.82, construction, operation, maintenance, conversion, plugging, or closure of injection wells shall not cause movement of fluids containing any contaminant into Underground Sources of Drinking Water (USDW) if the presence of any contaminant may cause a violation of any drinking water standards or groundwater standards under 10 CSR 20-7.031, or other health-based standards, or may otherwise adversely affect human health. If the director finds the injection activity may endanger USDWs, the department may require closure of the injection wells, or other actions listed in 40 CFR 144.12(c), (d), or (e).

In accordance with 40 CFR 144.26, the facility shall submit a Class V Well Inventory Form for each active or new underground injection well drilled, or when the status of a well changes, to the Missouri Department of Natural Resources, Geological Survey Program, P.O. Box 250, Rolla, Missouri 65402. The Class V Well Inventory Form can be requested from the Geological Survey Program or can be found at the following web address: https://dnr.mo.gov/document-search/class-v-well-inventory-form-mo-780-1774. The completed form can be emailed to geology@dnr.mo.gov

The facility is also required to report UIC status changes to Missouri Geological Survey (MGS) using the above form and email. The changes in status are: active, incomplete, plugged, under construction, disconnected from wastewater source, or no longer used for injection. Abandonment of the system under this operating permit is not allowed; see Part III, CLOSURE for more information.

The department implements additional requirements for these types of operations pursuant to 10 CSR 20-6.015(4)(A)1 which instructs the department to develop permit conditions containing limitations, monitoring, reporting, and other requirements to protect soils, crops, surface waters, groundwater, public health, and the environment.

PERMITTED FEATURES TABLE

PF	AVERAGE FLOW	DESIGN FLOW	TREATMENT LEVEL	EFFLUENT TYPE
#001	unknown, new	2,266.8 gallons	Secondary	Domestic and winemaking process wastewater

Items listed in the facility (or outfall) description, applicable to the operation, maintenance, control, and resultant effluent quality are required to be enumerated in the facility description. The facility description ensures the facility continues to operate the wastewater (or stormwater) controls listed in the permit to preserve and maintain the effluent quality pursuant to 40 CFR 122.21(e). Any planned changes to the facility (which changes the facility or outfall description) are required to be reported to the department pursuant to 40 CFR 122.41(l)(1)(ii). If the facility does not or cannot use all of their disclosed treatment devices, this is considered bypassing pursuant to 40 CFR 122.41(m) in the case of wastewater, and BMP disruption in the case of stormwater.

APPLICATION

The application was received July 8, 2024 with updates received December 31, 2024, and May 29, 2025. A geohydrologic evaluation was completed; see Appendix A. A soils report was submitted; see Appendix B. Pursuant to 10 CSR 20-6.010(7)(B)1.F the design engineer submitted certification that this project was designed to meet the requirements of 10 CSR 20-8; because this project was exempted, by rule. 10 CSR 20-6.010(5)(B)5 indicates construction permits are not required for non-domestic wastewater projects. And while this facility is not discharging, 10 CSR 20-6.010(5)(B)14 allows the department to exempt other projects as warranted; UIC projects are generally exempted from construction permitting as all designs must follow the design requirements in 10 CSR 20-8.200(8), (9), and/or (10). On September 20, 2024, the engineer submitted sealed engineering plans. This permit was written based on the sealed designs, and in compliance with Chapter 8, Rule 200, Section 8, for Class V systems; therefore no changes may be made to the designs without consultation with the department which may require that the permit be modified.

10 CSR 20-8.200(8) design standards are applicable to this type of Subsurface Absorption Systems. The department verified that all of the site restrictions were met and that the engineered components meet the requirements of Chapter 8. Per 10 CSR 20-8.200(8)(C), loading rates were assigned in this permit to not exceed the values assigned by the site and soil evaluation.

On September 29, 2025, engineer Paul Ganey, Loc#28L240331, attested and sealed the attestation that the system was designed to Chapter 8 requirements.

CONTINUING AUTHORITY

Pursuant to 10 CSR 20-6.010(2)(A) and (E), the department has received the appropriate continuing authority authorized signature from the facility. The Missouri Secretary of State continuing authority charter number for this facility is LC014425958; this number was verified to be associated with the facility and precisely matches the continuing authority (Bartek Family Winery, LLC) reported by the facility. Pursuant to 10 CSR 20-6.010(2)(B)4, this facility is a Level 4 Authority.

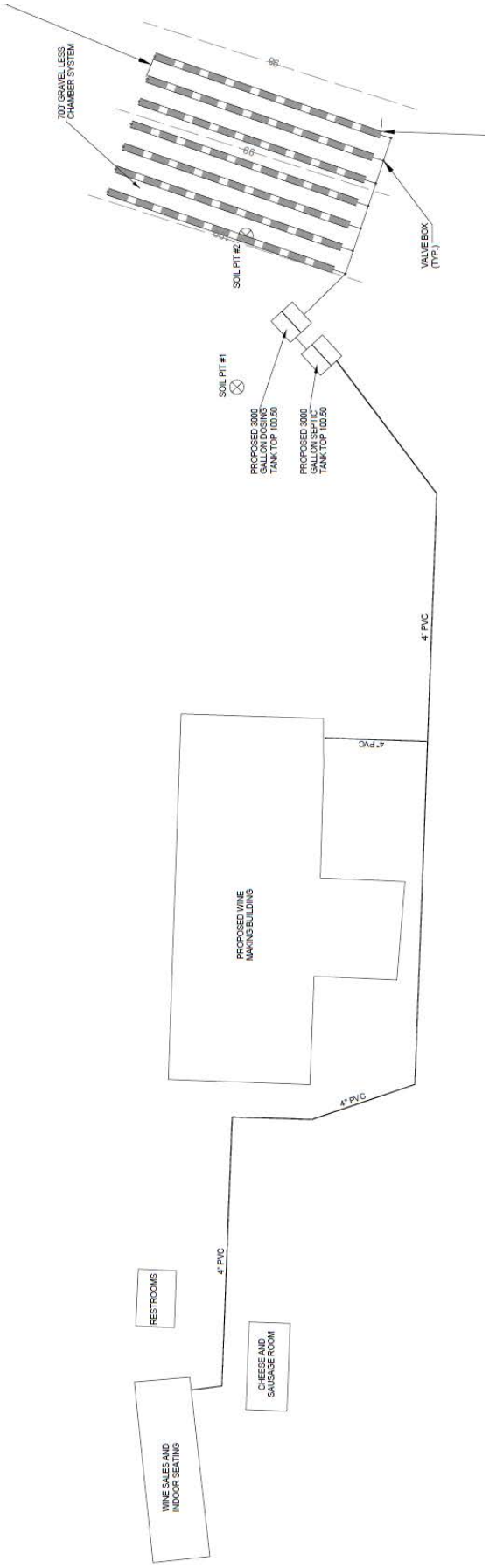
- ✓ Pursuant to 10 CSR 20-6.010(2)(D), the facility demonstrated the closest collection system was greater than 2,000 feet from the property line per 10 CSR 20-6.010(2)(C)3.

OTHER ENVIRONMENTAL PERMITS

In accordance with 40 CFR 122.21(f)(6), the department evaluated other environmental permits currently held by this facility. This facility holds the drinking water permit: BARTEK FAMILY WINERY LLC, d/b/a Chateau Sainte Genevieve also holds a Permit to Dispense Water to the Public. Permit # 4000082-24.

FACILITY MAP

WATER FLOW DIAGRAM



PART II. RECEIVING WATERBODY INFORMATION

RECEIVING WATERBODY

The receiving waterbody is groundwater.
Designated uses as described in 10 CSR 20-7.031(6).
HUC: Hydrologic Unit Code https://water.usgs.gov/GIS/huc.html
Water Quality Standards Search https://apps5.mo.gov/mocwis_public/waterQualityStandardsSearch.do

EXISTING WATER QUALITY & IMPAIRMENTS

The receiving waterbody(s) segment(s), upstream, and downstream confluence water quality was reviewed. The USGS https://waterdata.usgs.gov/nwis/sw or the department's quality data database was reviewed. https://apps5.mo.gov/mocwis_public/wqa/waterbodySearch.do and https://apps5.mo.gov/wqa/ Impaired waterbodies which may be impacted by discharges from this facility were determined. Impairments include waterbodies on the 305(b) or 303(d) list and those waterbodies or watersheds under a TMDL. https://dnr.mo.gov/water/what-were-doing/water-planning/quality-standards-impaired-waters-total-maximum-daily-loads/tmdls Section 303(d) of the federal Clean Water Act requires each state identify waters not meeting water quality standards and for which adequate water pollution controls have not been required. https://dnr.mo.gov/water/what-were-doing/water-planning/quality-standards-impaired-waters-total-maximum-daily-loads/impaired-waters Water quality standards protect beneficial uses of water provided in 10 CSR 20-7.031. The 303(d) list helps state and federal agencies keep track of impaired waters not addressed by normal water pollution control programs. A TMDL is a calculation of the maximum amount of a given pollutant a water body can absorb before its water quality is affected; hence, the purpose of a TMDL is to determine the pollutant loading a specific waterbody can assimilate without exceeding water quality standards.

✓ There is no groundwater quality information for this area.

PART III. RATIONALE AND DERIVATION OF PERMIT CONDITIONS

ANTIBACKSLIDING

Federal antibacksliding requirements per CWA §402(o) and 40 CFR § 122.44(l) https://www.ecfr.gov/current/title-40/chapter-I/subchapter-D/part-122#p-122.44(l) generally prohibit a reissued permit from containing effluent limitations that are less stringent than the previous permit, with some exceptions.

✓ New facility, backsliding does not apply.

ANTIDEGRADATION REVIEW

Discharges with new, altered, or expanding flows, the department is to document, by means of antidegradation review, if the use of a water body's available assimilative capacity is justified. See https://dnr.mo.gov/document-search/antidegradation-implementation-procedure The prescribed minimum BMPs required in the permit for stormwater are developed by the department pursuant to 10 CSR 20-7.031(3), and BMP use for stormwater discharges is authorized under 40 CFR 122.44(k)(2). The facility must pay for the department to complete the review. In accordance with Missouri's water quality regulations for antidegradation 10 CSR 20-7.031(3), degradation may be justified by documenting the socio-economic importance of a discharge after determining the necessity of the discharge. Facilities must submit the antidegradation review request to the department prior to establishing, altering, or expanding discharges. Per 10 CSR 20-7.015(4)(A), new discharges to losing streams shall be permitted only after other alternatives including land application, discharges to a gaining stream, or connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.

✓ Not applicable; the facility is not discharging to the surface. However, the permit determinations assess any possible degradation to subsurface waters.

BEST MANAGEMENT PRACTICES (BMPS)

Minimum site-wide best management practices (BMPs) are established in this permit to ensure all facilities are managing their sites equally to protect waters of the state from certain activities which could cause negative effects in receiving water bodies. While not all sites require a SWPPP because the SIC codes are specifically exempted in 40 CFR 122.26(b)(14) or 10 CSR 20-6.200(2), these best management practices are not specifically included only for stormwater purposes. These practices are minimum requirements for all industrial sites to protect waters of the state. If the minimum best management practices are not followed, the facility may violate general criteria per 10 CSR 20-7.031(4). Statutes are applicable to all permitted facilities in the state; therefore, pollutants cannot be released unless in accordance with Missouri Clean Water Law. The prescribed minimum BMPs required in the permit are developed by the department pursuant to 10 CSR 20-7.031(3), and BMPs use is authorized under 40 CFR 122.44(k)(2).

CLOSURE

To properly decontaminate and close a wastewater storage structure, treatment structure, lagoon, basin, or device, the facility must draft a complete closure plan, and include the Closure Request Form #2512 https://dnr.mo.gov/document-search/facility-closure-request-form-mo-780-2512 The publication, Wastewater Treatment Plant Closure - PUB2568 found at https://dnr.mo.gov/print/document-search/pub2568 may be helpful to develop the closure plan. The regional office will then approve

the closure plan, and provide authorization to begin the work. The regional office contact information can be found here: https://dnr.mo.gov/about-us/division-environmental-quality/regional-office

CHANGES IN DISCHARGES OF TOXIC POLLUTANT

This special condition reiterates the federal rules found in 40 CFR 122.44(f) for technology treatments and 122.42(a)(1) for all other toxic substances. In these rules, the facility is required to report changes in amounts of toxic substances discharged. Toxic substances are defined in 40 CFR 122.2 as any pollutant listed as toxic under section 307(a)(1) or, in the case of "sludge use or disposal practices," any pollutant identified in regulations implementing section 405(d) of the CWA." Section 307 of the clean water act then refers to those parameters listed in 40 CFR 401.15 and any other toxic parameter the department determines is applicable for reporting under these rules in the permit. The facility must also consider any other toxic pollutant in the discharge as reportable under this condition and must report all increases to the department as soon as discovered in the effluent. The department may open the permit to implement any required effluent limits pursuant to CWA §402(k) where sufficient data was not supplied within the application but was supplied at a later date by either the facility or other resource determined to be representative of the discharge, such as sampling by department personnel.

COMPLIANCE AND ENFORCEMENT

Enforcement is the action taken by the Water Protection Program (WPP) to bring an entity into compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and conditions of an operating permit. The primary purpose of the enforcement activity in the WPP is to resolve violations and return the entity to compliance.

✓ Not applicable; the facility is not currently under Water Protection Program enforcement action.

DISCHARGE MONITORING REPORTING – ELECTRONIC (EDMR) SUBMISSION SYSTEM

The U.S. Environmental Protection Agency (EPA) promulgated a final rule on October 22, 2015, to modernize Clean Water Act reporting for municipalities, industries, and other facilities by requiring electronic data reporting. To comply with the federal rule, the department is requiring all facilities to submit discharge monitoring data and reports online. To review historical data, the department's database has a publicly facing search engine, available at https://apps5.mo.gov/mocwis_public/dmrDisclaimer.do

Registration and other information regarding MoGEM can be found at https://dnr.mo.gov/mogem. Information about the eDMR system can be found at https://dnr.mo.gov/env/wpp/edmr.htm.The first user shall register as an Organization Official and the association to the facility must be approved by the department. To access the eDMR system, use: https://apps5.mo.gov/mogems/welcome.action For assistance using the eDMR system, contact edmr@dnr.mo.gov or call 855-789-3889 or 573-526-2082. To assist the facility in entering data into the eDMR system, the permit describes limit sets designators in each table in Part A of the permit. Facility personnel will use these identifiers to ensure data entry is being completed appropriately. For example, M for monthly, Q for quarterly, A for annual, and others as identified.

DOMESTIC WASTEWATER, SLUDGE, AND BIOSOLIDS

Domestic wastewater is defined as wastewater originating primarily from the sanitary conveyances of bathrooms and kitchens. Domestic wastewater excludes stormwater, wash water, animal waste, process, or ancillary wastewater.

✓ Applicable; this facility does not fall under the jurisdiction of the health department and discharges domestic and winemaking process wastewater subsurface; see Underground Injection Control (UIC) requirements in Part I, and in the permit. The wastewater system is jurisdiction of the Missouri Department of Natural Resources. This permit authorizes industrial wastewater for introduction into the sub-surface system. This is a UIC system for domestic and industrial wastewater. Sludge and solids removal will occur by contract hauler.

EFFLUENT LIMITATIONS

Two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs) are reviewed. Permits are required to establish the most stringent or most protective limit per 10 CSR 20-7.015(9)(A) and 40 CFR 122.44(b)(1). The department has regulatory authorization to implement limits based on best professional judgment per 10 CSR 20-7.015(9)(I)1. Effluent limitations derived and established for this permit are based on current operations of the facility. Any flow through the outfall is considered a discharge and must be sampled and reported per permit requirements. Daily maximums and monthly averages are required for continuous discharges per 40 CFR 122.45(d)(1). Weekly limits are not available for non-POTWs.

FEDERAL EFFLUENT LIMITATION GUIDELINES

Effluent Limitation Guidelines (ELGs) are found at 40 CFR 400-499. https://www.ecfr.gov/current/title-40/chapter-I/subchapter-N These are limitations established by the EPA based on the type of activities a facility is conducting. Most ELGs are for process wastewater and some address stormwater. Effluent guidelines are not always established for every pollutant present in a point source discharge. In many instances, EPA promulgates effluent guidelines for an indicator pollutant. Industrial facilities complying with the effluent guidelines for the indicator pollutant will also control other pollutants (e.g. pollutants with a similar chemical structure). For example, EPA may choose to regulate only one of several metals present in the effluent from an industrial category, and compliance with the effluent guidelines will ensure similar metals present in the discharge are adequately controlled. All are technology-based limitations which must be met by the applicable facility at all times. If Reasonable Potential is established for any particular

parameter, and water-quality based effluent limits are more protective of the receiving water's quality, the WQBEL will be used as the limiting factor in accordance with 40 CFR 122.44(d) and 10 CSR 20-7.015(9)(A).

✓ The facility does not have an associated ELG.

FEES

Failure to pay fees associated with this permit is a violation of the Missouri Clean Water Law (644.055 RSMo). Fee amounts are listed in 644.052 and 644.053 RSMo. Fees are due pursuant to 644.054 RSMo, which is each annual anniversary date of initial permit issuance until the permit is terminated. Fees are due the same month each year, regardless of whether a renewal has occurred or is occurring that year.

GENERAL CRITERIA CONSIDERATIONS

In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into permits for pollutants determined to cause, have reasonable potential to cause, or to contribute to, an excursion above any water quality standard, including narrative water quality criteria. In order to comply with this regulation, permit decisions were made by completing a reasonable potential determination on whether discharges have reasonable potential to cause or contribute to an excursion of the general criteria listed in 10 CSR 20-7.031(4). See Part III REASONABLE POTENTIAL for more information. In instances where reasonable potential exists, the permit includes limitations to address the reasonable potential. In discharges where reasonable potential does not exist, the permit may include monitoring to later determine the discharge's potential to impact the narrative criteria. Part I §D – Administrative Requirements of Standard Conditions included in this permit state it shall be unlawful for any person to cause or allow any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of §§644.006 to 644.141 of the Missouri Clean Water Law or any standard, rule, or regulation promulgated by the commission. See Part IV for specific determinations.

GOOD HOUSEKEEPING PRACTICES

Good housekeeping is a practical, cost-effective way to maintain a clean and orderly facility to prevent potential pollution sources from coming into contact with stormwater. It includes establishing protocols to reduce the possibility of mishandling materials or equipment and employee training. Common areas where good housekeeping practices should be followed include trash containers and adjacent areas, material storage areas, vehicle and equipment maintenance areas, and loading docks. Good housekeeping practices must include a schedule for regular pickup and disposal of garbage and waste materials and routine inspections of drums, tanks, and containers for leaks and structural conditions. Practices also include containing and covering garbage, waste materials, and debris. Involving employees in routine monitoring of housekeeping practices is an effective means of ensuring the continued implementation of these measures.

Specific good housekeeping may include:

- ◆ Spill and overflow protection under chemical or fuel connectors to contain spillage at liquid storage tanks
- ◆ Load covers on residue hauling vehicles and ensure gates on trucks are sealed and the truck body is in good condition
- ◆ Containment curbs around loading/unloading areas or tanks
- ◆ Techniques to reduce solids residue which may be tracked on to access roads traveled by residue trucks or residue handling vehicles.
- ◆ Techniques to reduce solid residue on exit roads leading into and out of residue handling areas

Where feasible, minimizing exposure of potential pollutant sources to precipitation is an important control option. Minimizing exposure prevents pollutants, including debris, from coming into contact with precipitation and can reduce the need for BMPs to treat contaminated stormwater runoff. It can also prevent debris from being picked up by stormwater and carried into drains and surface waters. Examples of BMPs for exposure minimization include covering materials or activities with temporary structures (e.g., tarps) when wet weather is expected or moving materials or activities to existing or new permanent structures (e.g., buildings, silos, sheds). Even the simple practice of keeping a dumpster lid closed can be a very effective pollution prevention measure. For erosion and sediment control, BMPs must be selected and implemented to limit erosion on areas of your site that, due to topography, activities, soils, cover, materials, or other factors, are likely to experience erosion. Erosion control BMPs such as seeding, mulching, and sodding prevent soil from becoming dislodged and should be considered first. Sediment control BMPs such as silt fences, sediment ponds, and stabilized entrances trap sediment after it has eroded. Sediment control BMPs should be used to back-up erosion control BMPs.

ICE-MELT PRODUCT REMOVAL

The department is authorized to require BMPs for facilities per 40 CFR 122.44(k)(2). The facility must apply traction control materials judiciously. The facility should, to the extent practicable, remove large pieces of salt as soon as possible. After winter weather has ceased for the year, the facility should inspect all low-lying areas for extra salt and sand and remove these as soon as possible. Salt applied to large areas has the potential to cause freshwater salinization which could result in a fish kill of sensitive species. To reduce potential for solids entering a stream, sand or other traction control materials will need to be evaluated against the probability that these materials could cause general criteria violations of solids and bottom deposits per 10 CSR 20-7.031(4).

LAND DISTURBANCE

Land disturbance, sometimes called construction activities, are actions which cause disturbance of the root layer or soil; these include clearing, grading, and excavating of the land. 40 CFR 122.26(b)(14) and 10 CSR 20-6.200(3) requires permit coverage for these activities. Coverage is not required for facilities when only providing maintenance of original line and grade, hydraulic capacity, or to continue the original purpose of the facility.

✓ Not applicable; this permit does not provide coverage for land disturbance activities. The facility may obtain a separate land disturbance permit (MORA) online at https://dnr.mo.gov/water/business-industry-other-entities/permits-certification-engineering-fees/stormwater/construction-land-disturbance MORA permits may not cover disturbance of contaminated soils, however, site specific permits such as this one can be modified to include appropriate controls for land disturbance of contaminated soils by adding site-specific BMP requirements and additional outfalls.

MAJOR WATER USER

Any surface or groundwater user with a water source and the equipment necessary to withdraw or divert 100,000 gallons (or 70 gallons per minute) or more per day combined from all sources from any stream, river, lake, well, spring, or other water source is considered a major water user in Missouri. https://dnr.mo.gov/water/business-industry-other-entities/reporting/major-water-users All major water users are required by 256.400 RSMo to register water use annually. https://dnr.mo.gov/document-search/frequently-asked-major-water-user-questions-pub2236/pub2236

MODIFICATION REQUESTS

Facilities have the option to request a permit modification from the department at any time under RSMo 644.052.8. Requests must be submitted to the Water Protection Program with the appropriate forms and fees paid per 10 CSR 20-6.011. It is recommended facilities contact the program early so the correct forms and fees are submitted, and the modification request can be completed in a timely fashion. Minor modifications, found in 40 CFR 122.63, are processed without the need for a public comment period. Major modifications, those requests not explicitly fitting under 40 CFR 122.63, do require a public notice period. Modifications to permits must be completed when: a new pollutant is found in the discharge; operational or functional changes occur which affect the technology, function, or outcome of treatment; the facility desires alternate numeric benchmarks; or other changes are needed to the permit.

Modifications are not required when utilizing or changing additives in accordance with the publication https://dnr.mo.gov/document-search/additive-usage-wastewater-treatment-facilities-pub2653/pub2653 nor are required when a temporary change or provisional discharge has been authorized by the regional office. While provisional discharges may be authorized by the regional office, they will not be granted for more than the time necessary for the facility to obtain an official modification from the Water Protection Program. Temporary provisional discharges due to weather events or other unforeseen circumstances may or may not necessitate a permit modification. The facility may ask for a Compliance Assistance Visit (CAV) from the regional office to assist in the decision-making process; CAVs are provided free to the permitted entity.

OPERATOR CERTIFICATION REQUIREMENTS

Operators or supervisors of operations at regulated domestic wastewater treatment facilities shall be certified in accordance with 10 CSR 20-9 and any other applicable state law or regulation.

✓ Not applicable; this facility is not owned or operated by a municipality, public sewer district, county, public water supply district, or private sewer company regulated by the Public Service Commission or operated by a state or federal agency.

PERMIT SHIELD

The permit shield provision of the Clean Water Act (Section 402(k)) and Missouri Clean Water Law (644.051.22 RSMo) provides that when a permit holder is in compliance with its NPDES permit or MSOP, it is effectively in compliance with certain sections of the Clean Water Act, and equivalent sections of the Missouri Clean Water Law. In general, the permit shield is a legal defense against certain enforcement actions but is only available when the facility is in compliance with its permit and satisfies other specific conditions, including having completely disclosed all discharges and all facility processes and activities to the department at time of application. It is the facility's responsibility to ensure that all potential pollutants, waste streams, discharges, and activities, including wastewater land application, storage, and treatment areas, are all fully disclosed to the department at the time of application or during the draft permit review process. Previous permit applications are not necessarily evaluated or considered during permit renewal actions. All relevant disclosures must be provided with each permit application, including renewal applications, even when the same information was previously disclosed in a past permit application. Subsequent requests for authorization to discharge additional pollutants, expanded or newly disclosed flows, or for authorization for previously unpermitted and undisclosed activities or discharges, will likely require an official permit modification, including another public participation process. Additionally, the use of insufficiently sensitive analytical methods to disclose the absence of any pollutant may not provide permit shield coverage.

Any discharges (or qualified activities such as land application) not expressly authorized in this permit, and not clearly disclosed in the permit application, cannot become authorized or shielded from liability under CWA section 402(k) or Section 644.051 RSMo, by disclosure to EPA, state, or local authorities after issuance of this permit via any means, including any other permit applications,

funding applications, the SWPPP, discharge monitoring reporting, or during an inspection. Submit a permit modification application, and an antidegradation determination if appropriate, to request authorization of new or expanded discharges, or new activities.

PRETREATMENT

This permit cannot regulate pretreatment requirements for facilities discharging to an accepting permitted wastewater treatment facility. If applicable, the receiving entity (the publicly owned treatment works - POTW) is to ensure compliance with any effluent limitation guidelines for pretreatment listed in 40 CFR Subchapter N per 10 CSR 20-6.100. Pretreatment regulations per 644.016 RSMo are limitations on the introduction of pollutants or water contaminants into publicly owned treatment works or facilities. Domestic wastewater from industrial entities is not subject to pretreatment requirements.

REASONABLE POTENTIAL (RP)

Regulations per 10 CSR 20-7.015(9)(A)2 and 40 CFR 122.44(d)(1)(i) require effluent limitations for all pollutants which are (or may be) discharged at a level causing or have the reasonable potential to cause (or contribute to) an in-stream excursion above narrative or numeric water quality standards. Per 10 CSR 20-7.031(4), general criteria shall be applicable to all waters of the state at all times; however, acute toxicity criteria may be exceeded by permit allowance in zones of initial dilution, and chronic toxicity criteria may be exceeded by permit allowance in mixing zones. A reasonable potential analysis (RPA) is a numeric RP decision calculated using effluent data provided by the facility for parameters that have a numeric Water Quality Standard (WQS). If any given pollutant has the reasonable potential to cause or contribute to an in-stream excursion above the WQS or derived WQBEL, the permit must contain a WQBEL for the pollutant per 40 CFR Part 122.44(d)(1)(iii) and the most stringent limits per 10 CSR 20-7.031(9)(A). The RPA is performed using the *Technical Support Document for Water Quality Based Toxics Control (TSD)* methods (EPA/505/2-90-001) for continuous discharges. See additional considerations under Part II WATERBODY MIXING CONSIDERATIONS and Part III WASTELOAD ALLOCATIONS. Wasteload allocations are determined utilizing the same equations and statistical methodology. Absent sufficient effluent data, WQBELs are derived without consideration of effluent variability and is assumed to be present unless found to be absent to meet the requirements of antidegradation review found in 10 CSR 20-7.031(3) and reporting of toxic substances pursuant to 40 CFR 122.44(f). The department's permit writer's manual (https://dnr.mo.gov/water/business-industry-other-entities/technical-assistance-guidance/wastewater-permit-writers-manual), the EPA's permit writer's manual (https://www.epa.gov/npdes/npdes-permit-writers-manual), program policies, and best professional judgment guide each decision. Each parameter in each outfall is carefully considered; and all applicable information regarding: technology based effluent limitations, effluent limitation guidelines, water quality standards, inspection reports, stream water quality information, stream flows, uses assigned to each waterbody, and all applicable site specific information and data gathered by the facility through discharge monitoring reports and renewal (or new) application sampling.

Reasonable potential determinations (RPD) are based on physical conditions of the site as provided in Sections 3.1.2, 3.1.3, and 3.2 of the TSD using best professional judgement. An RPD consists of evaluating visual observations for compliance with narrative criteria, non-numeric information, or small amounts of numerical data (such as 1 data point supplied in the application). Narrative criteria with RP typically translate to a numeric WQBEL, so a parameter's establishment being based on narrative criteria does not necessarily make the decision an RPD vs RP—how the data is collected does, however. For example, a facility with orange discharge can have RP for narrative criteria like color, but a numeric iron limit is established to account for the violation of narrative criteria based on effluent data submitted by the facility. When insufficient data is received to make a determination on RP based on numeric effluent data, the RPD decisions are based on best professional judgment considering the type of effluent discharged, the current operational controls in place, and historical overall management of the site. In the case of iron causing excursions of narrative criteria for color, if a facility has not had iron monitoring in a previous permit, adding iron monitoring would be an RPD, since numeric data isn't being used in the determination, but observable, site-specific conditions are.

When the facility is performing subsurface land application, the volume of water, frequency of application, type of vegetation, soil type, land slopes, and general overall operating conditions are considered. 10 CSR 20-8 are regulations for the minimum operating conditions for land application; these regulations cannot be excused even if there is no RP. RP is reserved for discharging outfalls given that these outfalls are the only ones which water quality standards apply to, but the process is similar as the site conditions are compared to regulations, soil sampling, pollutant profile, and other site-specific conditions. In the case of non-discharging outfalls, an RPD is instead used to determine monitoring requirements.

✓ No statistical RPAs were performed for this permit.

REGIONAL OFFICES (ROS)

Regional Offices will provide a compliance assistance visit at a facility's request; a regional map with links to phone numbers can be found here: https://dnr.mo.gov/about-us/division-environmental-quality/regional-office. Or use https://dnr.mo.gov/compliance-assistance-enforcement to request assistance from the Region online.

✓ This facility is located in the service area of Southeast Regional Office, which can be reached at sero@dnr.mo.gov, or by phone at 573-840-9750.

RENEWAL REQUIREMENTS

Pursuant to 644.051.19, the renewal application is due at least 180 days prior to expiration. The renewal special condition permit requirement is designed to guide the facility to prepare and include all relevant and applicable information in accordance with 10 CSR 20-6.010(7)(A)-(C), and any applicable federal regulations. The department may request additional information at the time of permit renewal under 644.051.19(5) RSMo and 40 CFR 122.21(h). Prior to submittal, the facility must review the entire submittal to confirm all required information and data is provided; it is the facility's responsibility to discern if additional information is required. Failure to fully disclose applicable information with the application or application addendums may result in a permit revocation per 10 CSR 20-6.010(8)(A) and may result in the forfeiture of permit shield protection authorized in 644.051.22 RSMo. 644.076.1 RSMo indicates false statements and negligent acts are prohibited. Sufficiently sensitive analytical methods must be used. A sufficiently sensitive method can effectively describe the presence or absence of a pollutant at or below the pollutant's permit limit or water quality standard, whichever is less. Forms are located here https://dnr.mo.gov/forms-applications This facility shall submit an appropriate and complete application to the department no less than 180 days prior to the expiration date listed on page 1 of the permit. The facility may email cleanwaterpermits@dnr.mo.gov to submit the application to the Program. A paper copy is not necessary if submitted electronically. For larger applications, a drop-box type service may also be used. To review applications in process, use https://apps5.mo.gov/mocwis_public/applicationInprocessSearch

✓ Application materials shall include complete Form UIC. https://dnr.mo.gov/document-search/form-uic-application-class-v-permit-mo-780-1826

SAMPLING FREQUENCY JUSTIFICATION

This facility is a new facility; quarterly parameter sampling is required to determine if the facility will be in compliance with the operating permit. However, daily flow measurements and other requirements are more frequent and are required to ensure that hydraulic loading of the soils is not exceeded.

SAMPLING TYPE JUSTIFICATION

Grab sampling is appropriate for soil absorption systems.

SCHEDULE OF COMPLIANCE (SOC)

A schedule of compliance is time allowed to meet future more stringent limitations. The SOC can also be remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, effluent limits, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and the terms and conditions of an operating permit. SOCs are allowed under 40 CFR 122.47 and 10 CSR 20-7.031(11) providing certain conditions are met.
An SOC is not allowed:

✓ Not applicable; this permit does not contain a SOC.

SPILLS, OVERFLOWS, AND OTHER UNAUTHORIZED DISCHARGE REPORTING

Any emergency involving a hazardous substance must be reported to the department's 24-hour Environmental Emergency Response hotline at (573) 634-2436 (or the National Response Center) at the earliest possible moment after discovery pursuant to 260.500-260.550 RSMo. The department may require the submittal of a written report detailing measures taken to clean up a spill. These reporting requirements apply whether or not the spill results in chemicals or materials leaving the permitted property or reaching waters of the state. This requirement is in addition to the noncompliance reporting requirement found in Standard Conditions Part I. https://revisor.mo.gov/main/OneSection.aspx?section=260.500&bid=13989&hl=

Any other spills, overflows, or unauthorized discharges reaching waters of the state must be reported to the regional office during normal business hours, or after normal business hours, to the department's 24-hour Environmental Emergency Response spill line at 573-634-2436.

Certain industrial facilities are subject to the self-implementing regulations for Oil Pollution Prevention in 40 CFR 112, and are required to initiate and follow Spill Prevention, Control, and Countermeasure (SPCC) Plans. This permit, as issued, is not intended to be a replacement for any SPCC plan, nor can this permit's conditions be automatically relaxed based on the SPCC plan if the permit is more stringent than the plan.

SLUDGE – INDUSTRIAL

Industrial sludge is solid, semi-solid, or liquid residue generated during the treatment of industrial process or non-process wastewater in a treatment works; including but not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment process; scum and solids filtered from water supplies and backwashed; and any material derived from industrial sludge. Industrial sludge could also be derived from holding structure dredging or other similar maintenance activities. Certain oil sludge, like those from oil water separators, are subject to self-implementing federal regulations under 40 CFR 279 for used oils.

✓ Applicable; sludge is removed by contract hauler. The permitted management strategy must be followed, see permit under FACILITY DESCRIPTION. If the permitted management strategy cannot be followed, the facility must obtain a permit modification.

STANDARD CONDITIONS
The standard conditions Part I attached to this permit incorporate all sections of 10 CSR 20-6.010(8) and 40 CFR 122.41(a) through (n) by reference as required by law. These conditions, in addition to the conditions enumerated within the standard conditions must be reviewed by the facility to ascertain compliance with this permit, state regulations, state statutes, federal regulations, and the Clean Water Act.

STORMWATER
A permit must require appropriate stormwater conditions if the SIC code or facility description type is found in 40 CFR 122.26(b)(14) and/or 10 CSR 20-6.200(2). Also, a SWPPP may be required of other facilities where stormwater has been identified as necessitating better management. The purpose of permit requirements for stormwater discharges is to comply with all applicable stormwater regulations, by creating an adaptive management plan to control and mitigate stream pollution from stormwater runoff under a SWPPP. Stormwater discharge associated with industrial activity, the term includes, but is not limited to: storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; sites used for the application or disposal of process wastewaters; sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials and intermediate and finished products unless material is in closed cars or trailers and the loading/unloading operation does not expose material to storm water or otherwise pose risk of storm water contamination and areas where industrial activity has taken place in the past and where significant materials remain and are exposed to storm water.
✓ Applicable; this facility's SIC code is 2084 and 4952 and is found in 10 CSR 20-6.200(2)(B)4. See next paragraph.

No Exposure Industrial Stormwater
Pursuant to 10 CSR 20-6.200(1)(C), a facility may qualify for no exposure when the following conditions are met. However, the facility may not receive a separate stormwater no exposure exemption if the facility is discharging wastewater; but the permit can determine that no exposure qualifications are met and remove stormwater requirements if warranted. If the facility is only discharging stormwater, a no exposure exemption (MONX) certificate may be issued in lieu of a permit.

For facilities which require stormwater coverage under 10 CSR 20-6.200 and/or 40 CFR 122.26(b)(14), the facility may demonstrate to the department that the stormwater at the facility qualifies as no exposure pursuant to 10 CSR 20-6.200(1)(C). This means that if the facility demonstrates no exposure during the term of the permit, the facility can request a permit modification (see Part III MODIFICATION REQUESTS) to change the stormwater requirements in the permit to reflect no exposure conditions. Or the facility can modify their SWPPP to incorporate maintaining the site as no exposure until the next renewal. Stormwater requirements found in the permit, such as stormwater monitoring are not superseded by a change in SWPPP requirements.

These are the conditions that must be met at all times for the duration of exempting industrial stormwater requirements: no exposure means that all industrial materials and activities are protected by a permanent storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, or waste product. A MONX cannot be issued to land application facilities. For facilities that hold a site-specific permit for reasons other than stormwater only, the site-specific permit will be maintained, and the no exposure conditions will be written into the permit. An MONX cannot be issued to any site where wastewater is discharged, or land applied in accordance with state and federal regulations. An approved MONX for any site cannot supersede the stormwater conditions and/or sampling requirements found in the permit.
✓ This facility has conditions which reflect there is no industrial stormwater exposure on site. This site must be maintained as no exposure; see special conditions. However, this site-specific permit must be kept for other activities requiring permit coverage.

SUFFICIENTLY SENSITIVE ANALYTICAL METHODS
Please review Standard Conditions Part 1, §A, No. 4. The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 or 40 CFR 136 unless alternates are approved by the department and incorporated within this permit. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure the selected methods are able to quantify the presence of pollutants in any given discharge at concentrations low enough to determine compliance with Water Quality Standards in 10 CSR 20-7.031 or effluent limitations unless provisions in the permit allow for other alternatives. The reporting limits established by the chosen laboratory must be below the lowest effluent limits established for the specified parameter (including any parameter's future limit after an SOC) in the permit unless the permit provides for an ML or if the facility provides a written rationale to the department. It is the facility's responsibility to ensure the laboratory has adequate equipment and controls in place to quantify the pollutant. Inflated reporting limits will not be accepted by the department if the reporting limit is above the parameter value stipulated in the permit. A method is "sufficiently sensitive" when; 1) the method quantifies the pollutant below the level of the applicable water quality criterion or; 2) the method minimum level is above the applicable water quality criterion, but the amount of pollutant in a facility's discharge is high enough the method detects and quantifies the level of pollutant in the discharge, or 3) the method has the lowest minimum level of the analytical methods approved under 10 CSR 20-7.015 and or 40 CFR 136. These methods are also required for parameters listed as monitoring only, as the data

collected may be used to determine if numeric limitations need to be established. A facility is responsible for working with their contractors to ensure the analysis performed is sufficiently sensitive.

PART IV. EFFLUENT LIMIT DETERMINATIONS

PERMITTED FEATURE #001 – NO-DISCHARGE WASTEWATER SUBSURFACE DISPERSAL SYSTEM

PARAMETERS	UNIT	DAILY MAXIMUM LIMIT	MONTHLY AVERAGE	MINIMUM SAMPLING FREQUENCY	REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL						
Dispersed Volume	gallons	2,266.8	1,813.44	once/day	monthly	24 hr. est.
Soil Assessment ♣	p/f	1	*	once/month	monthly	♣
Production Tank Cleaning Record ♦	count	3	* total	all	monthly	♦
CONVENTIONAL						
Biological Oxygen Demand (BOD5)	mg/L	*	*	once/quarter	quarterly	grab ♠
Oil & Grease	mg/L	*	*	once/quarter	quarterly	grab ♠
pH †	SU	6.0 to 9.0	-	once/week	quarterly	grab ♠
NUTRIENTS						
Kjeldahl Nitrogen, Total (TKN)	mg/L	*	*	once/quarter	quarterly	grab ♠
Nitrate as Nitrogen	mg/L	*	*	once/quarter	quarterly	grab ♠
Nitrogen, Total (TN)	mg/L	*	*	once/quarter	quarterly	grab ♠
Phosphorus, Total P (TP)	mg/L	*	*	once/quarter	quarterly	grab ♠
OTHER						
Chloride	mg/L	*	*	once/quarter	quarterly	grab ♠

See notes in permit

DERIVATION AND DISCUSSION OF LIMITS:
The permit limits derived below are requirements based on requirements for subsurface waters protection pursuant to 10 CSR 20-7.015(7)(A) through (D) and requirements to protect soils, crops, surface waters, groundwater, public health, and the environment pursuant to 10 CSR 20-6.015(4)(A).

PHYSICAL:

Dispersed Volume
This permit limits both the daily absorption rate, and the monthly absorption rate. The daily maximum volume allowed to be input into the subsurface distribution system is 2,266.8 gallons per day based on the application rate of 0.40 gallons per square foot; and 5,667 square feet available for absorption. (5667*0.4=2,266.8)

The monthly average was calculated using 80% of the maximum volume to protect for constant soils loading of fluids to the soil. 1,813.44 gallons is the monthly average. (2266.8*0.8=1813.44)

The facility may internally use more gallons per day than the dispersal limit because the holding tanks have additional volume for treatment. The water used at the site will need to be evaluated to ensure that appropriate treatment times are achieved in the dosing tanks.

Monitoring the volume dispersed (volume from the holding tanks into the soil) will allow the department to ensure saturated soils do not occur, and appropriate hydraulic loading is maintained within design levels. This will also help prevent ponding, runoff, and illicit discharges due to soil saturation.

The facility should consider installing a flow measurement device at the dispersal pump; or utilize a timed pumping mechanism to deliver the appropriate volume to the soils.

Soil Assessment
The facility shall, at least monthly, visually observe the soils covering the dispersal system to evaluate for ponding, soil moisture, or excessive water. Soil moisture continuing during dry conditions shall be reported to the regional office and may require a UIC dispersal redesign. The boot print test is designed to have a measurable reflection of saturated soils. See note ♣ in the permit. P/f is pass fail; signified by reporting "0" for a pass, and "1" for ponding moisture as a failed boot print test.

Production Tank Cleaning Record
The facility shall clean no more than three production tanks (tank systems) each day to protect for saturated soils. While tank cleans are not prohibited on the same days as events, the facility should determine if the total flow volume of dispersed wastewater limit can be met. The facility will keep a record of the number of tanks cleaned each day; electronic format is appropriate. The facility will note the **total** number of tank cleans occurring each month in the monthly average column.

CONVENTIONAL:

Biochemical Oxygen Demand (BOD_5).
Monitoring requirement only. Monitoring for BOD_5 is included to determine operation of treatment system prior to subsurface dispersal to prevent drain field clogging and system malfunctions.

Oil & Grease
Monitoring requirement only. Monitoring for oil & grease is included to determine application rates of oil and grease. Excessive application of oil and grease has the potential to kill or prevent the growth of vegetation, as well as clog drain fields, and cause system malfunctions. Oil & grease from this facility can also contain other potential pollutants of concern, such as chlorides and nitrogen. This monitoring requirement ensures that beneficial use of the land is maintained.

pH
Limited to the range of 6.0 to 9.0 to protect soil health and condition, plant growth and reproduction, as well as groundwater and surface water. Causing soil to move outside this pH range not only has the potential to damage crop production, it will also cause naturally occurring elements in the soil to become soluble or mobile, thereby creating the potential to pollute stormwater runoff and groundwater. Under this permit, acidic or caustic materials that fall outside this pH range must have their pH adjusted before introduction into the subsurface system because pH changes can negatively effect the biological treatment and may negatively impact soils.

NUTRIENTS:

Kjeldahl Nitrogen, Total (TKN)
Monitoring for Total Kjeldahl Nitrogen as N is included to determine nutrient loading rates on the dispersal field.

Nitrate as Nitrogen
Monitoring for Nitrate as N is included to determine nutrient loading rates on the dispersal field.

Nitrogen, Total (TN)
Monitoring for total nitrogen as N is included to determine nutrient loading rates on the dispersal field. This is a calculation and the calculation is described as a note in the permit.

Phosphorus, Total P (TP)
Monitoring for total phosphorus is included to determine nutrient loading rates on the dispersal field.

OTHER:

Chloride
Monitoring is included to determine chloride loading rates on the dispersal field.

APPENDIX A: GEOHYDROLOGICAL SURVEY

MISSOURI DEPARTMENT OF NATURAL RESOURCES

Michael L. Parson
Governor

Dru Buntin
Director

LWE24047
Ste. Genevieve County

December 20, 2023

Matthew Roth
701D Crown Industrial Ct
CHESTERFIELD, MO 63005

RE: Bloomsdale Winery

Dear Matthew Roth:

On December 01, 2023, the Missouri Geological Survey received a request to perform a geohydrologic evaluation for the above referenced project located in Ste. Genevieve County. Included with this letter is a report that details the geologic and hydrologic conditions at the site and the potential for groundwater contamination in the event of wastewater treatment failure.

Thank you for the evaluation request. If you are in need of further assistance or have questions regarding the report, please contact our office at P.O Box 250, Rolla, Mo 65402-0250, by telephone at 573-368-2100 or gspeg@dnr.mo.gov.

Sincerely,

MISSOURI GEOLOGICAL SURVEY

Fletcher N. Bone

Fletcher N. Bone
Geologist
Environmental Geology Section

STATE OF MISSOURI
FLETCHER N BONE
RG
2019001237
REGISTERED GEOLOGIST

12/20/2023

c: Matthew Roth
WPP
Southeast Regional Office

Missouri Department Of Natural Resources
Missouri Geological Survey
Geological Survey Program
Environmental Geology Section

Project ID Number
LWE24047
County
Ste. Genevieve County

Request Details

Project: Bloomsdale Winery

Legal Description:
Quadrangle:
Latitude:
Longitude:

Organization Official
Name: Matthew Roth
Address: 701D Crown Industrial Ct
City: CHESTERFIELD
State: MO Zip: 63005
Phone: 314-724-6518
Email: matt@onsitesoils.com

Preparer
Name: Matthew Roth
Address: 701D Crown Industrial Ct
City: CHESTERFIELD
State: MO Zip: 63005
Phone: 314-724-6518
Email: matt@onsitesoils.com

Project Details

Report Date: 12/20/2023
Date of Field Visit: 12/14/2023
Previous Reports: LWE20020

Facility Type
- [ ] Mechanical treatment plant
- [ ] Recirculating filter bed
- [ ] Land application
- [ ] Lagoon or storage basin
- [X] Subsurface soil absorption system
- [ ] Lagoon or storage basin W/Land App
- [ ] Lagoon or storage basin W/SSAS
- [ ] Other type of facility

Type of Waste
- [ ] Animal
- [X] Human
- [X] Process or Industrial
- [ ] Leachate
- [ ] Other waste type

Funding Source
- [X] IWT
- [ ] WWL-SRF

Additional Information
- [ ] Plans were submitted
- [ ] Site was investigated by NRCS
- [ ] Soil or geotechnical data were submitted

Geologic Stream Classification: [ ] Gaining [ ] Losing [X] No discharge

Overall Geologic Limitations
- [X] Slight
- [ ] Moderate
- [ ] Severe

Collapse Potential
- [X] Not applicable
- [ ] Slight
- [ ] Moderate
- [ ] Severe

Topography
- [X] <4%
- [ ] 4% to 8%
- [ ] 8% to 15%
- [ ] >15%

Landscape Position
- [ ] Broad uplands
- [ ] Ridgetop
- [ ] Hillslope
- [ ] Narrow ravine
- [X] Floodplain
- [X] Alluvial plain
- [ ] Terrace
- [ ] Sinkhole

Bedrock: The uppermost bedrock is Ordovician-age Gasconade Dolomite and Roubidoux Formation

Surficial Materials: The surficial materials are very fine, sandy, alluvium

Missouri Department Of Natural Resources
Missouri Geological Survey
Geological Survey Program
Environmental Geology Section

Project ID Number
LWE24047
County
Ste. Genevieve County

Recommended Construction Procedures for Earthen Facility	Determine Overburden Properties	Determine Hydrologic Conditions
☐ Installation of clay pad and Compaction	☐ Particle size analysis	☐ Groundwater elevation
☐ Diversion of subsurface flow	☐ Atterberg limits	☐ Direction of groundwater flow
☐ Artificial sealing	☐ 95% Max. dry density test method	☐ 25-Year flood level
☐ Rock excavation	☐ Overburden thickness	☒ 100-Year flood level
☐ Limit excavation depth	☐ Permeability coefficient-undisturbed	
	☐ Permeability coefficient-remolded	

Remarks:

On December 14, 2023, a geologist with the Missouri Geological Survey performed a geohydrologic evaluation for a proposed 0.82 acre subsurface soil absorption system (SSAS) for wastewater generated by Bloomsdale Winery. The proposed site is located at 8921 Jackson School Road, Bloomsdale, MO 63627. The purpose of the site visit is to observe geologic and hydrologic characteristics of the site and to determine the potential for groundwater contamination in the event of treatment failure.

Bedrock was not observed on-site, however, according to previous geologic mapping and nearby geologic well logs, the uppermost bedrock is Ordovician-age Gasconade Dolomite and Roubidoux Formation. The bedrock typically exhibits moderate to high permeability. The surficial materials observed on-site consist of alluvial materials comprised of brownish-orange very fine grained sand with less than 2 percent gravels down to 24 inches. Below 24 inches, the very fine sand transitions to a mottled light to dark brown very fine sand. Additionally, the clay content increases at 32 inches with a possible clay lens approximately 2 inches thick. The total depth measured on-site was 40 inches. Surficial materials appear to be at least 4 feet thick and exhibit moderate to high permeability.

There are no known sinkholes, springs, or geologic structures located within 1 mile of the site. However, there is, at least, one domestic water well within 1/4 mile of the site.

Surface water will flow southeast towards Goose Creek. Goose Creek exhibits gaining characteristics. Additionally, the majority of the site is located on a terrace above the 100-year floodplain. However, there may be a portion of the site that lies within the 100-year floodplain.

Based on the geologic and hydrologic characteristics observed, the sites potential for contamination of groundwater by subsurface soil absorption of wastewater is minimal. In the event of treatment failure, local, alluvial groundwater and the surface waters of Goose Creek may be adversely impacted.

APPENDIX B: SOIL REPORT

ON-SITE SOILS

November 22, 2023

Ganey Engineering LLC
PO Box 308
Arnold, MO 63010

Telephone: 314-973-0377

RE: Soil Evaluation Report
Project Number: **23-M134**

Dear Client:

Please consider this letter and attachments as a Soil Evaluation Report for the following property:

Bloomsdale Winery - 8921 Jackson School Road
New Construction
Commercial
Ste. Genevieve County, Missouri

The following are additional comments concerning your future on-site treatment system:

1) The area represented by each sample site is defined by landscape position.
2) Overland water flow and runoff water from roofs needs to be diverted away from the absorption field.
3) Do not disturb absorption field prior to system installation.
4) The treatment system should be installed by a registered installer.
5) Installation should be done when soil conditions are dry.
6) Consult with your administrative authority.

The soil information contained in this report is intended to assist the administrative authority in their evaluation of your property for an on-site treatment system. Any other conclusions or interpretations will be outside the scope of this report. On-Site Soils does not represent nor warrant the operation or functionality of any installed system.

Sincerely,

Matthew W. Roth
Soil Scientist

DHSS Registration #10039

Client copy
County copy

Soil Evaluation Report **Project No. 23-M134**
8921 Jackson School Road November 22, 2023
Ste. Genevieve County, Missouri

Type of Sample: **Backhoe Soil Pit**

Site 1 Detailed Soil Description

Depth	Munsell Color (1)		Texture (2)		Structure (2)	Consistence (2)	Application Rate (gpd/sq.ft.)(3)		Soil Group (3)
(in.)	Matrix	Abundance/ Mottles & Coatings	Approx. percent Clay	Classification	grade size Type	Moist	Low Pressure Pipe System	Conventional System	
0 - 8	10YR4/3 brown	none noted	18	SILT LOAM	2fsbk moderate fine Subangular blocky	Firm	0.25	0.5	III
8 - 13	10YR5/4 yellowish brown	none noted	18	SILT LOAM	2fsbk moderate fine Subangular blocky	Firm	0.25	0.5	III
13 - 23	10YR 4/6 dark yellowish brown	none noted	24	SILT LOAM	2fsbk moderate fine Subangular blocky	Firm	0.25	0.5	III
23 - 48	10YR4/4 dark yellowish brown	none noted	22	SILT LOAM	2fsbk moderate fine Subangular blocky	Firm	0.25	0.5	III

Slope percent: *2%* **Seasonal high water @** *none noted*
Landscape position: *Toeslope* **Drainage Classification:** *Well*
Bedrock greater than *48* **inches**

(1) Soil color designations, Munsell Soil Color Charts, (1994).
(2) Soil texture and structure designation, Soil Survey Manual, (1993).
(3) MO Laws accompanied by DHSS Rules, Table 13 & 14, (Oct. 1995). Refer to local & State code for drip system rates

Soil Evaluation Report **Project No.23-M134**
8921 Jackson School Road November 22, 2023
Ste. Genevieve County, Missouri

Type of Sample: **Backhoe Soil Pit**

Site 2 Detailed Soil Description

Depth	Munsell Color (1)		Texture (2)		Structure (2)	Consistence (2)	Application Rate (gpd/sq.ft.)(3)		Soil Group (3)
(in.)	Matrix	Abundance/ Mottles & Coatings	Approx. percent Clay	Classification	grade size Type	Moist	Low Pressure Pipe System	Conventional System	
0 - 6	10YR4/3 brown	none noted	20	SILT LOAM	2fsbk moderate fine Subangular blocky	Firm	0.25	0.5	III
6 - 9	10YR4/4 dark yellowish brown	none noted	20	SILT LOAM	2fsbk moderate fine Subangular blocky	Firm	0.25	0.5	III
9 - 12	10YR4/4 dark yellowish brown	none noted	30	gravelly SILTY CLAY LOAM	2fsbk moderate fine Subangular blocky	Firm	0.2	0.4	III
12 - 22	10YR4/4 dark yellowish brown	none noted	30	SILTY CLAY LOAM	2fsbk moderate fine Subangular blocky	Firm	0.2	0.4	III
22 - 48	10YR4/3 brown	none noted	28	SILTY CLAY LOAM	2fsbk moderate fine Subangular blocky	Firm	0.2	0.4	III

Slope percent: *2%* **Seasonal high water @** *none noted*
Landscape position: *Toeslope* **Drainage Classification:** *Well*
Bedrock greater than *48* **inches**

(1) Soil color designations, Munsell Soil Color Charts, (1994).
(2) Soil texture and structure designation, Soil Survey Manual, (1993).
(3) MO Laws accompanied by DHSS Rules, Table 13 & 14, (Oct. 1995). Refer to local & State code for drip system rates

PART V. ADMINISTRATIVE REQUIREMENTS

PUBLIC NOTICE
On the basis of preliminary staff review and the application of applicable standards and regulations, the department, as administrative agent for the Missouri Clean Water Commission, proposes to issue this Missouri State Operating Permit. The proposed determinations are tentative pending public comment. The department shall give public notice when a draft permit has been prepared for renewals and major modifications. Additionally, a public notice will be posted if a public hearing is to be held because of a significant degree of interest in or with concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and facility must be notified of the denial in writing. https://dnr.mo.gov/water/what-were-doing/public-notices The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit. For persons wishing to submit comments regarding this proposed operating permit, please refer to the Public Notice page located at the front of this draft operating permit which gives direction on how and where to submit appropriate comments. All comments must be in written form.

- ✓ The Public Notice period for this operating permit began October 17, 2025, and ended November 17, 2025. No comments were received.

DATE OF FACT SHEET: NOVEMBER 19, 2025

COMPLETED BY:
PAM HACKLER, ENVIRONMENTAL SCIENTIST
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION - INDUSTRIAL UNIT
(573) 526.3386
pam.hackler@dnr.mo.gov

STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
REVISED
AUGUST 1, 2014

These Standard Conditions incorporate permit conditions as required by 40 CFR 122.41 or other applicable state statutes or regulations. These minimum conditions apply unless superseded by requirements specified in the permit.

Part I – General Conditions
Section A – Sampling, Monitoring, and Recording

1. **Sampling Requirements.**
   a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
   b. All samples shall be taken at the outfall(s) or Missouri Department of Natural Resources (Department) approved sampling location(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.

2. **Monitoring Requirements**.
   a. Records of monitoring information shall include:
      i. The date, exact place, and time of sampling or measurements;
      ii. The individual(s) who performed the sampling or measurements;
      iii. The date(s) analyses were performed;
      iv. The individual(s) who performed the analyses;
      v. The analytical techniques or methods used; and
      vi. The results of such analyses.
   b. If the permittee monitors any pollutant more frequently than required by the permit at the location specified in the permit using test procedures approved under 40 CFR Part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring shall be included in the calculation and reported to the Department with the discharge monitoring report data (DMR) submitted to the Department pursuant to Section B, paragraph 7.

3. **Sample and Monitoring Calculations.** Calculations for all sample and monitoring results which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in the permit.

4. **Test Procedures**. The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 unless alternates are approved by the Department. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure that the selected methods are able to quantify the presence of pollutants in a given discharge at concentrations that are low enough to determine compliance with Water Quality Standards in 10 CSR 20-7.031 or effluent limitations unless provisions in the permit allow for other alternatives. A method is "sufficiently sensitive" when; 1) the method minimum level is at or below the level of the applicable water quality criterion for the pollutant or, 2) the method minimum level is above the applicable water quality criterion, but the amount of pollutant in a facility's discharge is high enough that the method detects and quantifies the level of pollutant in the discharge, or 3) the method has the lowest minimum level of the analytical methods approved under 10 CSR 20-7.015. These methods are also required for parameters that are listed as monitoring only, as the data collected may be used to determine if limitations need to be established. A permittee is responsible for working with their contractors to ensure that the analysis performed is sufficiently sensitive.

5. **Record Retention.** Except for records of monitoring information required by the permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five (5) years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

6. **Illegal Activities.**
   a. The Federal Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under the permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two (2) years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four (4) years, or both.
   b. The Missouri Clean Water Law provides that any person or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than six (6) months, or by both. Second and successive convictions for violation under this paragraph by any person shall be punished by a fine of not more than $50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.

Section B – Reporting Requirements

1. **Planned Changes.**
   a. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility when:
      i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
      ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1);
      iii. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;
      iv. Any facility expansions, production increases, or process modifications which will result in a new or substantially different discharge or sludge characteristics must be reported to the Department 60 days before the facility or process modification begins. Notification may be accomplished by application for a new permit. If the discharge does not violate effluent limitations specified in the permit, the facility is to submit a notice to the Department of the changed discharge at least 30 days before such changes. The Department may require a construction permit and/or permit modification as a result of the proposed changes at the facility.

2. **Non-compliance Reporting.**
   a. The permittee shall report any noncompliance which may endanger health or the environment. Relevant information shall be provided orally or via the current electronic method approved by the Department, within 24 hours from the time the permittee becomes aware of the circumstances, and shall be reported to the appropriate Regional Office during normal business hours or the Environmental Emergency Response hotline at 573-634-2436 outside of normal business hours. A written submission shall also be provided within five (5) business days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

b. The following shall be included as information which must be reported within 24 hours under this paragraph.
   i. Any unanticipated bypass which exceeds any effluent limitation in the permit.
   ii. Any upset which exceeds any effluent limitation in the permit.
   iii. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit required to be reported within 24 hours.

c. The Department may waive the written report on a case-by-case basis for reports under paragraph 2. b. of this section if the oral report has been received within 24 hours.

3. **Anticipated Noncompliance**. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The notice shall be submitted to the Department 60 days prior to such changes or activity.

4. **Compliance Schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date. The report shall provide an explanation for the instance of noncompliance and a proposed schedule or anticipated date, for achieving compliance with the compliance schedule requirement.

5. **Other Noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs 2, 3, and 6 of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph 2. a. of this section.

6. **Other Information**. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

7. **Discharge Monitoring Reports.**
   a. Monitoring results shall be reported at the intervals specified in the permit.
   b. Monitoring results must be reported to the Department via the current method approved by the Department, unless the permittee has been granted a waiver from using the method. If the permittee has been granted a waiver, the permittee must use forms provided by the Department.
   c. Monitoring results shall be reported to the Department no later than the 28th day of the month following the end of the reporting period.

Section C – Bypass/Upset Requirements

1. **Definitions.**
   a. *Bypass*: the intentional diversion of waste streams from any portion of a treatment facility, except in the case of blending.
   b. *Severe Property Damage*: substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
   c. *Upset*: an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

2. **Bypass Requirements.**
   a. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2. b. and 2. c. of this section.
   b. Notice.
      i. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.
      ii. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Section B – Reporting Requirements, paragraph 5 (24-hour notice).
   c. Prohibition of bypass.
      i. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:
         1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
         2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
         3. The permittee submitted notices as required under paragraph 2. b. of this section.
      ii. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three (3) conditions listed above in paragraph 2. c. i. of this section.

3. **Upset Requirements.**
   a. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph 3. b. of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
   b. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
      i. An upset occurred and that the permittee can identify the cause(s) of the upset;
      ii. The permitted facility was at the time being properly operated; and
      iii. The permittee submitted notice of the upset as required in Section B – Reporting Requirements, paragraph 2. b. ii. (24-hour notice).
      iv. The permittee complied with any remedial measures required under Section D – Administrative Requirements, paragraph 4.
   c. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

Section D – Administrative Requirements

1. **Duty to Comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Missouri Clean Water Law and Federal Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.
   a. The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
   b. The Federal Clean Water Act provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation. The Federal Clean Water Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement

imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

c. Any person may be assessed an administrative penalty by the EPA Director for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

d. It is unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law, or any standard, rule or regulation promulgated by the commission. In the event the commission or the director determines that any provision of sections 644.006 to 644.141 of the Missouri Clean Water Law or standard, rules, limitations or regulations promulgated pursuant thereto, or permits issued by, or any final abatement order, other order, or determination made by the commission or the director, or any filing requirement pursuant to sections 644.006 to 644.141 of the Missouri Clean Water Law or any other provision which this state is required to enforce pursuant to any federal water pollution control act, is being, was, or is in imminent danger of being violated, the commission or director may cause to have instituted a civil action in any court of competent jurisdiction for the injunctive relief to prevent any such violation or further violation or for the assessment of a penalty not to exceed $10,000 per day for each day, or part thereof, the violation occurred and continues to occur, or both, as the court deems proper. Any person who willfully or negligently commits any violation in this paragraph shall, upon conviction, be punished by a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than one year, or both. Second and successive convictions for violation of the same provision of this paragraph by any person shall be punished by a fine of not more than $50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.

2. **Duty to Reapply.**
   a. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.
   b. A permittee with a currently effective site-specific permit shall submit an application for renewal at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Department. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)
   c. A permittees with currently effective general permit shall submit an application for renewal at least 30 days before the existing permit expires, unless the permittee has been notified by the Department that an earlier application must be made. The Department may grant permission for a later submission date. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

3. **Need to Halt or Reduce Activity Not a Defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

4. **Duty to Mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

5. **Proper Operation and Maintenance**. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

6. **Permit Actions.**
   a. Subject to compliance with statutory requirements of the Law and Regulations and applicable Court Order, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:
      i. Violations of any terms or conditions of this permit or the law;
      ii. Having obtained this permit by misrepresentation or failure to disclose fully any relevant facts;
      iii. A change in any circumstances or conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
      iv. Any reason set forth in the Law or Regulations.
   b. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

7. **Permit Transfer.**
   a. Subject to 10 CSR 20-6.010, an operating permit may be transferred upon submission to the Department of an application to transfer signed by the existing owner and the new owner, unless prohibited by the terms of the permit. Until such time the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.
   b. The Department may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Missouri Clean Water Law or the Federal Clean Water Act.
   c. The Department, within 30 days of receipt of the application, shall notify the new permittee of its intent to revoke or reissue or transfer the permit.

8. **Toxic Pollutants.** The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the Federal Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

9. **Property Rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.

10. **Duty to Provide Information.** The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

11. **Inspection and Entry.** The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the Department), upon presentation of credentials and other documents as may be required by law, to:
    a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
    b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
    c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
    d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Federal Clean Water Act or Missouri Clean Water Law, any substances or parameters at any location.

12. **Closure of Treatment Facilities.**
    a. Persons who cease operation or plan to cease operation of waste, wastewater, and sludge handling and treatment facilities shall close the facilities in accordance with a closure plan approved by the Department.
    b. Operating Permits under 10 CSR 20-6.010 or under 10 CSR 20-6.015 are required until all waste, wastewater, and sludges have been disposed of in accordance with the closure plan approved by the Department and any disturbed areas have been properly stabilized. Disturbed areas will be considered stabilized when perennial vegetation, pavement, or structures using permanent materials cover all areas that have been disturbed. Vegetative cover, if used, shall be at least 70% plant density over 100% of the disturbed area.

13. **Signatory Requirement.**
    a. All permit applications, reports required by the permit, or information requested by the Department shall be signed and certified. (See 40 CFR 122.22 and 10 CSR 20-6.010)
    b. The Federal Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six (6) months per violation, or by both.
    c. The Missouri Clean Water Law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan, or other document filed or required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than ten thousand dollars, or by imprisonment for not more than six months, or by both.

14. **Severability.** The provisions of the permit are severable, and if any provision of the permit, or the application of any provision of the permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of the permit, shall not be affected thereby.

STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
August 1, 2019

PART III – BIOSOLIDS AND SLUDGE FROM DOMESTIC TREATMENT FACILITIES

SECTION A – GENERAL REQUIREMENTS

1. PART III Standard Conditions pertain to biosolids and sludge requirements under the Missouri Clean Water Law and regulations for domestic and municipal wastewater and also incorporates federal sludge disposal requirements under 40 CFR Part 503 for domestic wastewater. The Environmental Protection Agency (EPA) has principal authority for permitting and enforcement of the federal sludge regulations under 40 CFR Part 503 for domestic biosolids and sludge.
2. PART III Standard Conditions apply only to biosolids and sludge generated at domestic wastewater treatment facilities, including public owned treatment works (POTW) and privately owned facilities.
3. Biosolids and Sludge Use and Disposal Practices:
    a. The permittee is authorized to operate the biosolids and sludge generating, treatment, storage, use, and disposal facilities listed in the facility description of this permit.
    b. The permittee shall not exceed the design sludge/biosolids volume listed in the facility description and shall not use biosolids or sludge disposal methods that are not listed in the facility description, without prior approval of the permitting authority.
    c. For facilities operating under general operating permits that incorporate Standard Conditions PART III, the facility is authorized to operate the biosolids and sludge generating, treatment, storage, use and disposal facilities identified in the original operating permit application, subsequent renewal applications or subsequent written approval by the department.
4. Biosolids or Sludge Received from other Facilities:
    a. Permittees may accept domestic wastewater biosolids or sludge from other facilities as long as the permittee's design sludge capacity is not exceeded and the treatment facility performance is not impaired.
    b. The permittee shall obtain a signed statement from the biosolids or sludge generator or hauler that certifies the type and source of the sludge
5. Nothing in this permit precludes the initiation of legal action under local laws, except to the extent local laws are preempted by state law.
6. This permit does not preclude the enforcement of other applicable environmental regulations such as odor emissions under the Missouri Air Pollution Control Law and regulations.
7. This permit may (after due process) be modified, or alternatively revoked and reissued, to comply with any applicable biosolids or sludge disposal standard or limitation issued or approved under Section 405(d) of the Clean Water Act or under Chapter 644 RSMo.
8. In addition to Standard Conditions PART III, the Department may include biosolids and sludge limitations in the special conditions portion or other sections of a site specific permit.
9. Exceptions to Standard Conditions PART III may be authorized on a case-by-case basis by the Department, as follows:
    a. The Department may modify a site-specific permit following permit notice provisions as applicable under 10 CSR 20-6.020, 40 CFR § 124.10, and 40 CFR § 501.15(a)(2)(ix)(E).
    b. Exceptions cannot be granted where prohibited by the federal sludge regulations under 40 CFR Part 503.

SECTION B – DEFINITIONS

1. Best Management Practices are practices to prevent or reduce the pollution of waters of the state and include agronomic loading rates (nitrogen based), soil conservation practices, spill prevention and maintenance procedures and other site restrictions.
2. Biosolids means organic fertilizer or soil amendment produced by the treatment of domestic wastewater sludge.
3. Biosolids land application facility is a facility where biosolids are spread onto the land at agronomic rates for production of food, feed or fiber. The facility includes any structures necessary to store the biosolids until soil, weather, and crop conditions are favorable for land application.
4. Class A biosolids means a material that has met the Class A pathogen reduction requirements or equivalent treatment by a Process to Further Reduce Pathogens (PFRP) in accordance with 40 CFR Part 503.
5. Class B biosolids means a material that has met the Class B pathogen reduction requirements or equivalent treatment by a Process to Significantly Reduce Pathogens (PSRP) in accordance with 40 CFR Part 503.
6. Domestic wastewater means wastewater originating from the sanitary conveniences of residences, commercial buildings, factories and institutions; or co-mingled sanitary and industrial wastewater processed by a (POTW) or a privately owned facility.
7. Feed crops are crops produced primarily for consumption by animals.
8. Fiber crops are crops such as flax and cotton.
9. Food crops are crops consumed by humans which include, but is not limted to, fruits, vegetables and tobacco.
10. Industrial wastewater means any wastewater, also known as process wastewater, not defined as domestic wastewater. Per 40 CFR Part 122.2, process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. Land application of industrial wastewater, residuals or sludge is not authorized by Standard Conditions PART III.
11. Mechanical treatment plants are wastewater treatment facilities that use mechanical devices to treat wastewater, including, sand filters, extended aeration, activated sludge, contact stabilization, trickling filters, rotating biological contact systems, and other similar facilities. It does not include wastewater treatment lagoons or constructed wetlands for wastewater treatment.
12. Plant Available Nitrogen (PAN) is nitrogen that will be available to plants during the growing seasons after biosolids application.
13. Public contact site is land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.
14. Sludge is the solid, semisolid, or liquid residue removed during the treatment of wastewater. Sludge includes septage removed from septic tanks or equivalent facilities. Sludge does not include carbon coal byproducts (CCBs), sewage sludge incinerator ash, or grit/screenings generated during preliminary treatment of domestic sewage.
15. Sludge lagoon is part of a mechanical wastewater treatment facility. A sludge lagoon is an earthen or concrete lined basin that receives sludge that has been removed from a wastewater treatment facility. It does not include a wastewater treatment lagoon or sludge treatment units that are not a part of a mechanical wastewater treatment facility.
16. Septage is the sludge pumped from residential septic tanks, cesspools, portable toilets, Type III marine sanitation devices, or similar treatment works such as sludge holding structures from residential wastewater treatment facilities with design populations of less than 150 people. Septage does not include grease removed from grease traps at a restaurant or material removed from septic tanks and other similar treatment works that have received industrial wastewater. The standard for biosolids from septage is different from other sludges. See Section H for more information.

SECTION C – MECHANICAL WASTEWATER TREATMENT FACILITIES

1. Biosolids or sludge shall be routinely removed from wastewater treatment facilities and handled according to the permit facility description and the requirements of Standard Conditions PART III or in accordance with Section A.3.c., above.
2. The permittee shall operate storage and treatment facilities, as defined by Section 644.016(23), RSMo, so that there is no biosolids or sludge discharged to waters of the state. Agricultural storm water discharges are exempt under the provisions of Section 644.059, RSMo.
3. Mechanical treatment plants shall have separate biosolids or sludge storage compartments in accordance with 10 CSR 20, Chapter 8. Failure to remove biosolids or sludge from these storage compartments on the required design schedule is a violation of this permit.

SECTION D – BIOSOLIDS OR SLUDGE DISPOSED AT OTHER TREATMENT FACILITY OR BY CONTRACT HAULER

1. Permittees that use contract haulers, under the authority of their operating permit, to dispose of biosolids or sludge, are responsible for compliance with all the terms of this permit. Contract haulers that assume the responsibility of the final disposal of biosolids or sludge, including biosolids land application, must obtain a Missouri State Operating Permit unless the hauler transports the biosolids or sludge to another permitted treatment facility.
2. Testing of biosolids or sludge, other than total solids content, is not required if biosolids or sludge are hauled to a permitted wastewater treatment facility, unless it is required by the accepting facility.

SECTION E – INCINERATION OF SLUDGE

1. Please be aware that sludge incineration facilities may be subject to the requirements of 40 CFR Part 503 Subpart E, Missouri Air Conservation Commission regulations under 10 CSR 10, and solid waste management regulations under 10 CSR 80, as applicable.
2. Permittee may be authorized under the facility description of this permit to store incineration ash in lagoons or ash ponds. This permit does not authorize the disposal of incineration ash. Incineration ash shall be disposed in accordance with 10 CSR 80; or, if the ash is determined to be hazardous, with 10 CSR 25.
3. In addition to normal sludge monitoring, incineration facilities shall report the following as part of the annual report, mass of sludge incinerated and mass of ash generated. Permittee shall also provide the name of the ash disposal facility and permit number if applicable.

SECTION F – SURFACE DISPOSAL SITES AND BIOSOLIDS AND SLUDGE LAGOONS

1. Please be aware that surface disposal sites of biosolids or sludge from wastewater treatment facilities may be subject to other laws including the requirements in 40 CFR Part 503 Subpart C, Missouri Air Conservation Commission regulations under 10 CSR 10, and solid waste management regulations under 10 CSR 80, as applicable.
2. Biosolids or sludge storage lagoons are temporary facilities and are not required to obtain a permit as a solid waste management facility under 10 CSR 80. In order to maintain biosolids or sludge storage lagoons as storage facilities, accumulated biosolids or sludge must be removed routinely, but not less than once every two years unless an alternate schedule is approved in the permit. The amount of biosolids or sludge removed will be dependent on biosolids or sludge generation and accumulation in the facility. Enough biosolids or sludge must be removed to maintain adequate storage capacity in the facility.
    a. In order to avoid damage to the lagoon seal during cleaning, the permittee may leave a layer of biosolids or sludge on the bottom of the lagoon, upon prior approval of the Department; or
    b. Permittee shall close the lagoon in accordance with Section I.

SECTION G – LAND APPLICATION OF BIOSOLIDS

1. The permittee shall not land apply biosolids unless land application is authorized in the facility description, the special conditions of the issued NPDES permit, or in accordance with Section A.3.c., above.
2. This permit only authorizes "Class A" or "Class B" biosolids derived from domestic wastewater to be land applied onto grass land, crop land, timber, or other similar agricultural or silviculture lands at rates suitable for beneficial use as organic fertilizer and soil conditioner.
3. Class A Biosolids Requirements: Biosolids shall meet Class A requirements for application to public contact sites, residential lawns, home gardens or sold and/or given away in a bag or other container.
4. Class B biosolids that are land applied to agricultural and public contact sites shall comply with the following restrictions:
    a. Food crops that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of biosolids.
    b. Food crops below the surface of the land shall not be harvested for 20 months after application of biosolids when the biosolids remain on the land surface for four months or longer prior to incorporation into the soil.
    c. Food crops below the surface of the land shall not be harvested for 38 months after application of biosolids when the biosolids remain on the land surface for less than four months prior to incorporation into the soil.
    d. Animal grazing shall not be allowed for 30 days after application of biosolids.
    e. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of biosolids.
    f. Turf shall not be harvested for one year after application of biosolids if used for lawns or high public contact sites in close proximity to populated areas such as city parks or golf courses.
    g. After Class B biosolids have been land applied to public contact sites with high potential for public exposure, as defined in 40 CFR § 503.31, such as city parks or golf courses, access must be restricted for 12 months.
    h. After Class B biosolids have been land applied public contact sites with low potential for public exposure as defined in 40 CFR § 503.31, such as a rural land application or reclamation sites, access must be restricted for 30 days.

5. Pollutant limits
    a. Biosolids shall be monitored to determine the quality for regulated pollutants listed in Table 1, below. Limits for any pollutants not listed below may be established in the permit.
    b. The number of samples taken is directly related to the amount of biosolids or sludge produced by the facility (See Section J, below). Samples should be taken only during land application periods. When necessary, it is permissible to mix biosolids with lower concentrations of biosolids as well as other suitable Department approved material to achieve pollutant concentration below those identified in Table 1, below.
    c. Table 1 gives the ceiling concentration for biosolids. Biosolids which exceed the concentrations in Table 1 may not be land applied.

TABLE 1

Biosolids ceiling concentration	
Pollutant	Milligrams per kilogram dry weight
Arsenic	75
Cadmium	85
Copper	4,300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7,500

d. Table 2 below gives the low metal concentration for biosolids. Because of its higher quality, biosolids with pollutant concentrations below those listed in Table 2 can safely be applied to agricultural land, forest, public contact sites, lawns, home gardens or be given away without further analysis. Biosolids containing metals in concentrations above the low metals concentrations but below the ceiling concentration limits may be land applied but shall not exceed the annual loading rates in Table 3 and the cumulative loading rates in Table 4. The permittee is required to track polluntant loading onto application sites for parameters that have exceeded the low metal concentration limits.

TABLE 2

Biosolids Low Metal Concentration	
Pollutant	Milligrams per kilogram dry weight
Arsenic	41
Cadmium	39
Copper	1,500
Lead	300
Mercury	17
Nickel	420
Selenium	100
Zinc	2,800

e. Annual pollutant loading rate.

Table 3

Biosolids Annual Loading Rate	
Pollutant	Kg/ha (lbs./ac) per year
Arsenic	2.0 (1.79)
Cadmium	1.9 (1.70)
Copper	75 (66.94)
Lead	15 (13.39)
Mercury	0.85 (0.76)
Nickel	21 (18.74)
Selenium	5.0 (4.46)
Zinc	140 (124.96)

f. Cumulative pollutant loading rates.

Table 4

Biosolids Cumulative Pollutant Loading Rate	
Pollutant	Kg/ha (lbs./ac)
Arsenic	41 (37)
Cadmium	39 (35)
Copper	1500 (1339)
Lead	300 (268)
Mercury	17 (15)
Nickel	420 (375)
Selenium	100 (89)
Zinc	2800 (2499)

6. Best Management Practices. The permittee shall use the following best management practices during land application activities to prevent the discharge of biosolids to waters of the state.
   a. Biosolids shall not be applied to the land if it is likely to adversely affect a threatened or endangered species listed under § 4 of the Endangered Species Act or its designated critical habitat.
   b. Apply biosolids only at the agronomic rate of nitrogen needed (see 5.c. of this section).
   c. The applicator must document the Plant Available Nitrogen (PAN) loadings, available nitrogen in the soil, and crop

nitrogen removal when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kgTN; or 2) When biosolids are land applied at an application rate greater than two dry tons per acre per year.

i. PAN can be determined as follows:

(Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization factor[1]).

[1] Volatilization factor is 0.7 for surface application and 1 for subsurface application. Alternative volitalization factors and mineralization rates can be utilized on a case-by-case basis.

ii. Crop nutrient production/removal to be based on crop specific nitrogen needs and realistic yield goals. **NOTE:** There are a number of reference documents on the Missouri Department of Natural Resources website that are informative to implement best management practices in the proper management of biosolids, including crop specific nitrogen needs, realistic yields on a county by county basis and other supporting references.

iii. Biosolids that are applied at agronomic rates shall not cause the annual pollutant loading rates identified in Table 3 to be exceeded.

d. Buffer zones are as follows:

i. 300 feet of a water supply well, sinkhole, water supply reservoir or water supply intake in a stream;

ii. 300 feet of a losing stream, no discharge stream, stream stretches designated for whole body contact recreation, wild and scenic rivers, Ozark National Scenic Riverways or outstandingstate resource waters as listed in the Water Quality Standards, 10 CSR 20-7.031;

iii. 150 feet of dwellings or public use areas;

iv. 100 feet (35 feet if biosolids application is down-gradient or the buffer zone is entirely vegetated) of lake, pond, wetlands or gaining streams (perennial or intermittent);

v. 50 feet of a property line. Buffer distances from property lines may be waived with written permission from neighboring property owner.

vi. For the application of dry, cake or liquid biosolids that are subsurface injected, buffer zones identified in 5.d.i. through 5.d.iii above, may be reduced to 100 feet. The buffer zone may be reduced to 35 feet if the buffer zone is permanently vegetated. Subsurface injection does not include methods or technology reflective of combination surface/shallow soil incorporation.

e. Slope limitation for application sites are as follows:

i. For slopes less than or equal to 6 percent, no rate limitation;

ii. Applied to a slope 7 to 12 percent, the applicator may apply biosolids when soil conservation practices are used to meet the minimum erosion levels;

iii. Slopes > 12 percent, apply biosolids only when grass is vegetated and maintained with at least 80 percent ground cover at a rate of two dry tons per acre per year or less.

iv. Dry, cake or liquid biosolids that are subsurface injected, may be applied on slopes not to exceed 20 percent. Subsurface injection does not include the use of methods or technology reflective of combination surface/shallow soil incorporation.

f. No biosolids may be land applied in an area that it is reasonably certain that pollutants will be transported into waters of the state.

g. Biosolids may be land applied to sites with soil that are snow covered, frozen, or saturated with liquid when site restrictions or other controls are provided to prevent pollutants from being discharged to waters of the state during snowmelt or stormwater runoff. During inclement weather or unfavorable soil conditions use the following management practices:

i. A maximum field slope of 6% and a minimum 300 feet grass buffer between the application site and waters of the state. A 35 feet grass buffer may be utilized for the application of dry, cake or liquid biosolids that are subsurface injected. Subsurface injection does not include the use of mthods or technology refletive of combination surface/shallow soil incorporation;

ii. A maximum field slope of 2% and 100 feet grass buffer between the application site and waters of the state. A 35 feet grass buffer may be used for the application of dry, cake or liquid biosolids that are subsurface injected. Subsurface injection does not included the use of methods or technology refletive of combination surface/shallow soil incorporation;

iii. Other best management practices approved by the Department.

SECTION H – SEPTAGE

1. Haulers that land apply septage must obtain a state permit. An operating permit is not required for septage haulers who transport septage to another permitted treatment facility for disposal.
2. Do not apply more than 30,000 gallons of septage per acre per year or the volume otherwise stipulated in the operating permit.
3. Septic tanks are designed to retain sludge for one to three years which will allow for a larger reduction in pathogens and vectors, as compared to mechanical treatment facilities.
4. Septage must comply with Class B biosolids regarding pathogen and vector attraction reduction requirements before it may be applied to crops, pastures or timberland. To meet required pathogen and vector reduction requirements, mix 50 pounds of hydrated lime for every 1,000 gallons of septage and maintain a septage pH of at least 12 pH standard units for 30 minutes or more prior to application.
5. Lime is to be added to the pump truck and not directly to the septic tanks, as lime would harm the beneficial bacteria of the septic tank.
6. As residential septage contains relatively low levels of metals, the testing of metals in septage is not required.

SECTION I– CLOSURE REQUIREMENTS

1. This section applies to all wastewater facilities (mechanical and lagoons) and sludge or biosolids storage and treatment facilities. It does not apply to land application sites.
2. Permittees of a domestic wastewater facility who plan to cease operation must obtain Department approval of a closure plan which addresses proper removal and disposal of all sludges and/or biosolids. Permittee must maintain this permit until the facility is closed in accordance with the approved closure plan per 10 CSR 20 – 6. 010 and 10 CSR 20 – 6.015.
3. Biosolids or sludge that are left in place during closure of a lagoon or earthen structure or ash pond shall not exceed the agricultural loading rates as follows:
    a. Biosolids and sludge shall meet the monitoring and land application limits for agricultural rates as referenced in Section G, above.
    b. If a wastewater treatment lagoon has been in operation for 15 years or more without sludge removal, the sludge in the lagoon qualifies as a Class B biosolids with respect to pathogens due to anaerobic digestion, and testing for fecal coliform is not required. For other lagoons, testing for fecal coliform is required to show compliance with Class B biosolids limitations. In order to reach Class B biosolids requirements, fecal coliform must be less than 2,000,000 colony forming units or 2,000,000 most probable number. All fecal samples must be presented as geometric mean per gram.
    c. The allowable nitrogen loading that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. For a grass cover crop, the allowable PAN is 300 pounds/acre. Alternative, site-specific application rates may be included in the closure plan for department consideration.
        i. PAN can be determined as follows:
        (Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization factor[1]).
        [1] Volatilization factor is 0.7 for surface application and 1 for subsurface application. Alternative volitalization factors and mineralization rates can be utilized on a case-by-case basis
4. Domestic wastewater treatment lagoons with a design treatment capacity less than or equal to 150 persons, are "similar treatment works" under the definition of septage. Therefore the sludge within the lagoons may be treated as septage during closure activities. See Section B, above. Under the septage category, residuals may be left in place as follows:
    a. Testing for metals or fecal coliform is not required.
    b. If the wastewater treatment lagoon has been in use for less than 15 years, mix lime with the sludge at a rate of 50 pounds of hydrated lime per 1000 gallons (134 cubic feet) of sludge.
    c. The amount of sludge that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. 100 dry tons/acre of sludge may be left in the basin without testing for nitrogen. If 100 dry tons/acre or more will be left in the lagoon, test for nitrogen and determine the PAN using the calculation above. Allowable PAN loading is 300 pounds/acre.
5. Biosolids or sludge left within the domestic lagoon shall be mixed with soil on at least a 1 to 1 ratio, and unless otherwise approved, the lagoon berm shall be demolished, and the site shall be graded and contain ≥70% vegetative density over 100% of the site so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion. Alternative biosolids or sludge and soil mixing ratios may be included in the closure plan for department consideration.
6. Lagoon and earthen structure closure activities shall obtain a storm water permit for land disturbance activities that equal or exceed one acre in accordance with 10 CSR 20-6.200.
7. When closing a mechanical wastewater plant, all biosolids or sludge must be cleaned out and disposed of in accordance with the Department approved closure plan before the permit for the facility can be terminated.
    a. Land must be stabilized which includes any grading, alternate use or fate upon approval by the Department, remediation, or other work that exposes sediment to stormwater per 10 CSR 20-6.200. The site shall be graded and contain ≥70% vegetative density over 100% of the site, so as to avoid ponding of storm water and provide adequate

surface water drainage without creating erosion.

b. Hazardous Waste shall not be land applied or disposed during mechanical plant closures unless in accordance with Missouri Hazardous Waste Management Law and Regulations pursuant to 10 CSR 25.

c. After demolition of the mechanical plant, the site must only contain clean fill defined in Section 260.200.1(6) RSMo as uncontaminated soil, rock, sand, gravel, concrete, asphaltic concrete, cinderblocks, brick, minimal amounts of wood and metal, and inert solids as approved by rule or policy of the Department for fill, reclamation, or other beneficial use. Other solid wastes must be removed.

8. If biosolids or sludge from the domestic lagoon or mechanical treatment plant exceeds agricultural rates under Section G and/or I, a landfill permit or solid waste disposal permit must be obtained if the permittee chooses to seek authorization for on-site sludge disposal under the Missouri Solid Waste Management Law and regulations per 10 CSR 80, and the permittee must comply with the surface disposal requirements under 40 CFR Part 503, Subpart C.

SECTION J – MONITORING FREQUENCY

1. At a minimum, biosolids or sludge shall be tested for volume and percent total solids on a frequency that will accurately represent sludge quantities produced and disposed. Please see the table below.

TABLE 5

Biosolids or Sludge produced and disposed (Dry Tons per Year)	Monitoring Frequency (See Notes 1, and 2)		
	Metals, Pathogens and Vectors, Total Phosphorus, Total Potassium	Nitrogen TKN, Nitrogen PAN[1]	Priority Pollutants[2]
319 or less	1/year	1 per month	1/year
320 to 1650	4/year	1 per month	1/year
1651 to 16,500	6/year	1 per month	1/year
16,501+	12/year	1 per month	1/year

[1] Calculate plant available nitrogen (PAN) when either of the following occurs: 1) when biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.

[2] Priority pollutants (40 CFR 122.21, Appendix D, Tables II and III) are required only for permit holders that must have a pre-treatment program. Monitoring requirements may be modified and incorporated into the operating permit by the Department on a case-by-case basis.

Note 1: Total solids: A grab sample of sludge shall be tested one per day during land application periods for percent total solids. This data shall be used to calculate the dry tons of sludge applied per acre.
Note 2: Table 5 is not applicable for incineration and permit holders that landfill their sludge.

2. Permittees that operate wastewater treatment lagoons, peak flow equalization basins, combined sewer overflow basins or biosolids or sludge lagoons that are cleaned out once a year or less, may choose to sample only when the biosolids or sludge is removed or the lagoon is closed. Test one composite sample for each 319 dry tons of biosolids or sludge removed from the lagoon during the reporting year or during lagoon closure. Composite sample must represent various areas at one-foot depth.
3. Additional testing may be required in the special conditions or other sections of the permit.
4. Biosolids and sludge monitoring shall be conducted in accordance with federal regulation 40 CFR § 503.8, Sampling and analysis.

SECTION K – RECORD KEEPING AND REPORTING REQUIREMENTS

1. The permittee shall maintain records on file at the facility for at least five years for the items listed in Standard Conditions PART III and any additional items in the Special Conditions section of this permit. This shall include dates when the biosolids or sludge facility is checked for proper operation, records of maintenance and repairs and other relevant information.
2. Reporting period
   a. By February 19th of each year, applicable facilities shall submit an annual report for the previous calendar year period for all mechanical wastewater treatment facilities, sludge lagoons, and biosolids or sludge disposal facilities.
   b. Permittees with wastewater treatment lagoons shall submit the above annual report only when biosolids or sludge are removed from the lagoon during the report period or when the lagoon is closed.
3. Report Form. The annual report shall be prepared on report forms provided by the Department or equivalent forms approved by the Department.
4. Reports shall be submitted as follows:
   Major facilities, which are those serving 10,000 persons or more or with a design flow equal to or greater than 1 million gallons per day or that are required to have an approved pretreatment program, shall report to both the Department and EPA if the facility land applied, disposed of biosolids by surface disposal, or operated a sewage sludge incinerator. All other facilities shall maintain their biosolids or sludge records and keep them available to Department personnel upon request. State reports shall be submitted to the address listed as follows:

   DNR regional or other applicable office listed in the
   permit (see cover letter of permit)
   ATTN: Sludge Coordinator

Reports to EPA must be electronically submitted online via the Central Data Exchange at: https://cdx.epa.gov/ Additional information is available at: https://www.epa.gov/biosolids/compliance-and-annual-reporting-guidance-about-clean-water-act-laws

5. Annual report contents. The annual report shall include the following:
    a. Biosolids and sludge testing performed. If testing was conducted at a greater frequency than what is required by the permit, all test results must be included in the report.
    b. Biosolids or sludge quantity shall be reported as dry tons for the quantity produced and/or disposed.
    c. Gallons and % solids data used to calculate the dry ton amounts.
    d. Description of any unusual operating conditions.
    e. Final disposal method, dates, and location, and person responsible for hauling and disposal.
        i. This must include the name and address for the hauler and sludge facility. If hauled to a municipal wastewater treatment facility, sanitary landfill, or other approved treatment facility, give the name of that facility.
        ii. Include a description of the type of hauling equipment used and the capacity in tons, gallons, or cubic feet.
    f. Contract Hauler Activities:
    If using a contract hauler, provide a copy of a signed contract from the contractor. Permittee shall require the contractor to supply information required under this permit for which the contractor is responsible. The permittee shall submit a signed statement from the contractor that he has complied with the standards contained in this permit, unless the contract hauler has a separate biosolids or sludge use permit.
    g. Land Application Sites:
        i. Report the location of each application site, the annual and cumulative dry tons/acre for each site, and the landowners name and address. The location for each spreading site shall be given as a legal description for nearest ¼, ¼, Section, Township, Range, and county, or UTM coordinates. The facility shall report PAN when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.
        ii. If the "Low Metals" criteria are exceeded, report the annual and cumulative pollutant loading rates in pounds per acre for each applicable pollutant, and report the percent of cumulative pollutant loading which has been reached at each site.
        iii. Report the method used for compliance with pathogen and vector attraction requirements.
        iv. Report soil test results for pH and phosphorus. If no soil was tested during the year, report the last date when tested and the results.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
FORM A – APPLICATION FOR NONDOMESTIC PERMIT UNDER MISSOURI CLEAN WATER LAW

FOR AGENCY USE ONLY	
CHECK NUMBER	
DATE RECEIVED	FEE SUBMITTED
JET PAY CONFIRMATION NUMBER	

PLEASE READ ALL THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM.
SUBMITTAL OF AN INCOMPLETE APPLICATION MAY RESULT IN THE APPLICATION BEING RETURNED.

IF YOUR FACILITY IS ELIGIBLE FOR A NO EXPOSURE EXEMPTION:
Fill out the No Exposure Certification Form (Mo 780-2828): https://dnr.mo.gov/forms/780-2828-f.pdf

1. REASON FOR APPLICATION:

- ☐ a. This facility is now in operation under Missouri State Operating Permit (permit) MO – _____, is submitting an application for renewal, and there is no proposed increase in design wastewater flow. Annual fees will be paid when invoiced and there is no additional permit fee required for renewal.
- ☐ b. This facility is now in operation under permit MO – _____, is submitting an application for renewal, and there is a proposed increase in design wastewater flow. Antidegradation Review may be required. Annual fees will be paid when invoiced and there is no additional permit fee required for renewal.
- ☑ c. This is a facility submitting an application for a new permit (for a new facility). Antidegradation Review may be required. New permit fee is required.
- ☐ d. This facility is now in operation under Missouri State Operating Permit (permit) MO – _____ and is requesting a modification to the permit. Antidegradation Review may be required. Modification fee is required.

2. FACILITY

NAME		TELEPHONE NUMBER WITH AREA CODE	
Bloomsdale Winery		3146074040	
ADDRESS (PHYSICAL)	CITY	STATE	ZIP CODE
8921 Jackson School Road	Bloomsdale	MO	63627

3. OWNER

NAME		TELEPHONE NUMBER WITH AREA CODE	
Bartek Family Winery, LLC		3146074040	
EMAIL ADDRESS			
joe.bartek@chateaustegen.com			
ADDRESS (MAILING)	CITY	STATE	ZIP CODE
8921 Jackson School Road	Bloomsdale	MO	63627

4. CONTINUING AUTHORITY

NAME		TELEPHONE NUMBER WITH AREA CODE	
Bartek Family Winery, LLC		3146074040	
EMAIL ADDRESS			
joe.bartek@chateaustegen.com			
ADDRESS (MAILING)	CITY	STATE	ZIP CODE
8921 Jackson School Road	Bloomsdale	MO	63627

5. OPERATOR CERTIFICATION

NAME	CERTIFICATE NUMBER	TELEPHONE NUMBER WITH AREA CODE	
ADDRESS (MAILING)	CITY	STATE	ZIP CODE

6. FACILITY CONTACT

NAME	TITLE	TELEPHONE NUMBER WITH AREA CODE
Joe Bartek	Owner	3146074040
E-MAIL ADDRESS		
joe.bartek@chateaustegen.com		

7. DOWNSTREAM LANDOWNER(S) Attach additional sheets as necessary.

NAME			
ADDRESS	CITY	STATE	ZIP CODE

8. ADDITIONAL FACILITY INFORMATION

8.1 Legal Description of Outfalls. (Attach additional sheets if necessary.)
For Universal Transverse Mercator (UTM), use Zone 15 North referenced to North American Datum 1983 (NAD83)

001 _____¼ _____¼ Sec _____ T _____ R _____ _____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____

002 _____¼ _____¼ Sec _____ T _____ R _____ _____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____

003 _____¼ _____¼ Sec _____ T _____ R _____ _____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____

004 _____¼ _____¼ Sec _____ T _____ R _____ _____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____

Include all subsurface discharges and underground injection systems for permit consideration.

8.2 Primary Standard Industrial Classification (SIC) and Facility North American Industrial Classification System (NAICS) Codes.
Primary SIC 2081-01 and NAICS _____ SIC _____ and NAICS _____
SIC _____ and NAICS _____ SIC _____ and NAICS _____

9. ADDITIONAL FORMS AND MAPS NECESSARY TO COMPLETE THIS APPLICATION

A. Is this permit for a manufacturing, commercial, mining, solid/hazardous waste, or silviculture facility? YES ☐ NO ☑
If yes, complete Form C.

B. Is the facility considered a "Primary Industry" under EPA guidelines (40 CFR Part 122, Appendix A) : YES ☐ NO ☑
If yes, complete Forms C and D.

C. Is wastewater land applied? YES ☑ NO ☐
If yes, complete Form I.

D. Are sludge, biosolids, ash, or residuals generated, treated, stored, or land applied? YES ☑ NO ☐
If yes, complete Form R.

E. Have you received or applied for any permit or construction approval under the CWA or any other environmental regulatory authority? YES ☐ NO ☑
If yes, please include a list of all permits or approvals for this facility:
Environmental Permits for this facility:_____

F. Do you use cooling water in your operations at this facility? YES ☐ NO ☑
If yes, please indicate the source of the water: _____

G. Attach a map showing all outfalls and the receiving stream at 1" = 2,000' scale.

10. ELECTRONIC DISCHARGE MONITORING REPORT (eDMR) SUBMISSION SYSTEM

Per 40 CFR Part 127 National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, reporting of effluent limits and monitoring shall be submitted by the permittee via an electronic system to ensure timely, complete, accurate, and nationally consistent set of data. **One of the following must be checked in order for this application to be considered complete.** Please visit https://dnr.mo.gov/env/wpp/edmr.htmfor information on the Department's eDMR system and how to register.

☐ - I will register an account online to participate in the Department's eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before any reporting is due, in compliance with the Electronic Reporting Rule.

☐ - I have already registered an account online to participate in the Department's eDMR system through MoGEM.

☐ - I have submitted a written request for a waiver from electronic reporting. See instructions for further information regarding waivers.

☑ - The permit I am applying for does not require the submission of discharge monitoring reports.

11. FEES

Permit fees may be paid by attaching a check, or online by credit card or eCheck through the JetPay system. Use the URL provided to access JetPay and make an online payment:
For new permits: https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/591

For modifications: https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/596

12. CERTIFICATION

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.

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE NUMBER WITH AREA CODE
Joe Bartek - Owner	3146074040
SIGNATURE	DATE SIGNED
	6/18/24

BEFORE SUBMITTING, PLEASE ENSURE ALL SECTIONS ARE COMPLETED AND ADDITIONAL FORMS, IF APPLICABLE, ARE INCLUDED.

INSTRUCTIONS FOR COMPLETING FORM A - APPLICATION FOR NONDOMESTIC PERMIT

1. Check which option is applicable. **Do not check more than one item.** Nondomestic permit refers to permits issued by the Department of Natural Resources' Water Protection Program for all **nondomestic** wastewater treatment facilities, including all industry, stormwater, and Class IA Concentrated Animal Feeding Operations (CAFO). **This includes all nondomestic wastewater treatment facilities that incorporate domestic wastewater into the operating permit.**

   For some new or modified permits, a construction permit is required prior to beginning construction at the facility. For other permits, an exemption is provided from construction permit requirements. Please review the requirements at http://dnr.mo.gov/env/wpp/permits/ww-construction-permitting.htm. If the facility is for wastewater treatment and is designed for greater than 22,500 gallons per day, the engineering report must be submitted and approved prior to submittal of the application, fee, plans, and specifications. A summary of design data must be submitted with the engineering plans and specifications.

   For new wastewater facilities, some wastewater permit modifications, and some permit renewals with proposed increase in design wastewater flow, an antidegradation review may be required. Please visit https://dnr.mo.gov/env/wpp/permits/antideg-implementation.htm for more information

2. Facility - Provide the name by which this facility is known locally. Example: Southwest Sewage Treatment Plant, Country Club Mobile Home Park, etc. Also include the street address or location of the facility. If the facility lacks a street name or route number, give the names of the closest intersection, highway, county road, etc.

3. Owner - Provide the legal name and address of owner or company.

4. Continuing Authority – A continuing authority is a company, business, entity, or person(s) operating the facility and/or ensuring compliance with the permit requirements. A continuing authority is not, however, an entity or individual that is contractually hired by the permittee to sample or operate and maintain the system for a defined time period, such as a certified operator or analytical laboratory. To access the regulatory requirement regarding continuing authority, 10 CSR 20-6.010(2), please visit https://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf. A continuing authority's name must be listed **exactly** as it appears on the Missouri Secretary of State's (SoS's) webpage: https://bsd.sos.mo.gov/BusinessEntity/BESearch.aspx?SearchType=0, unless the continuing authority is an individual(s), government, or otherwise not required to register with the SoS.

5. Operator - Provide the name, certificate number, mailing address and telephone number of the person operating the facility, if required by regulation (10 CSR 20-9.020(2)). Most industrial facilities will not be required to have a certified wastewater operator.

6. Provide the name, title, and work telephone number of a person who is thoroughly familiar with the operation of the facility, with the facts reported in this application, and who can be contacted by the department, if necessary. This person will need to be available to respond to emails which will include pre-public notice drafts of permits.

7. Please provide the name and address of the first downstream landowner, different from that of the permitted facility, through whose property the discharge will flow. Also, please indicate the location on the map. For discharges that leave the permitted facility and flow under a road or highway, or along the right-of-way, the downstream property owner is the landowner that the discharge flows to after leaving the right-of-way. For no discharge facilities, provide this information for the location where discharge would flow if there was one. For land application sites, include the owners of the land application sites and all adjacent landowners.

8.1 An outfall is the point at which wastewater or stormwater is discharged. Outfalls should be given in terms of the legal description of the facility. Global Positioning System, or GPS, is a satellite-based navigation system. The department prefers a GPS receiver is used at the outfall pipe and the displayed coordinates submitted. If access to a GPS receiver is not available, please use a mapping system to approximate the coordinates. This section also needs to include any subsurface discharges, discharges to groundwater, sinkholes or subsurface seepage from storage basins. This section also needs to include underground injection into wells, conduits to groundwater and shallow subsurface dispersal fields (leach fields).

8.2 List only your primary Standard Industrial Classification (SIC), and North American Industry Classification System (NAICS) code for each outfall. The SIC system was devised by the U.S. Office of Management and Budget to cover all economic activities. To find the correct SIC code, an applicant may check his or her unemployment insurance forms or contact the Missouri Division of Employment Security, 573-751-3215. The primary SIC code is that of the operation that generates the most revenue. If this information is not available, the number of employees or, secondly, production rate may be used to determine your SIC code. Additional information for Standard Industrial Codes can be found at www.osha.gov/pls/imis/sicsearch.html and for the North American Industry Classification System at www.census.gov/naics or contact the appropriate Department of Natural Resources regional office.

INSTRUCTIONS FOR COMPLETING FORM A - APPLICATION FOR NONDOMESTIC PERMIT (CONTINUED)

9. If you answer yes to A, B, C, D, or E, then you must complete and file the supplementary form(s) indicated. 40 CFR 122.21(f) and (g) requires the facility to submit the information requested herein. For 9.E., please include all permits or approvals, including construction, issued under the Hazardous Waste Management Program (RCRA), the Safe Drinking Water Act, Clean Air Act, or any other permits issued under the Clean Water Act.

   A U.S. Geological Survey 1" = 2,000' scale map must be submitted with the permit application showing all outfalls, the receiving stream and the location of the downstream property owners. This type of map can be obtained from the Missouri Department of Natural Resources' Geological Survey in Rolla at 573-368-2100 or various online mapping applications.

10. Electronic Discharge Monitoring Report (eDMR) Submission System – Visit the eDMR site at http://dnr.mo.gov/env/wpp/edmr.htm and click on the "Facility Participation Package" link. The eDMR Permit Holder and Certifier Registration Form and information about the eDMR system can be found in the Facility Participation Package.

    Waivers from electronic reporting may be granted by the Department per 40 CFR 127.15 under certain, special circumstances. A written request must be submitted to the Department for approval. Waivers may be granted to facilities owned or operated by:
    A. Members of religious communities that choose not to use certain technologies.
    B. Permittees located in areas with limited broadband access. The National Telecommunications and Information Administration (NTIA) in collaboration with the Federal Communications Commission (FCC) have created a broadband internet availability map: http://www.broadbandmap.gov/. Please contact the department if you need assistance.

11. Please visit https://dnr.mo.gov/pubs/pub2564.htm for permit fees. This form must be submitted with the application fee if requesting a new permit, permit modification or permit transfer.

    Fee schedules are listed in regulation at 10 CSR 20-6.011, https://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf.

    Incomplete permit applications and/or related engineering documents will be returned by the department if they are not completed in the time frame established in a comment letter from the department to the owner. Permit fees for returned applications shall be forfeited. Permit fees for applications being processed by the department that are withdrawn by the applicant shall be forfeited.

12. Certification/Signature - All applications must be signed as follows and the signature must be **original**:
    A. For a corporation, by an officer having responsibility for the overall operation of the regulated facility or activity or for environmental matters.
    B. For a partnership or sole proprietorship, by a general partner or the proprietor.
    C. For a municipal, state, federal or other public facility, by either a principal executive officer or by an individual having overall responsibility for environmental matters at the facility.

Send completed form and fees (if not submitted electronically) to: :
cleanwaterpermits@dnr.mo.gov or Missouri Department Of Natural Resources Water Protection Program Water Pollution Control Branch ATTN: Operating Permits Section P.O. BOX 176 JEFFERSON CITY, MO 65102-0176

If there are any questions concerning this form, contact the Department of Natural Resources' Water Protection Program, Operating Permits Section at 800-361-4827 or 573-522-4502.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

FORM I – PERMIT APPLICATION FOR OPERATION OF WASTEWATER IRRIGATION SYSTEMS

FOR AGENCY USE ONLY
PERMIT NUMBER MO -
DATE RECEIVED

INSTRUCTIONS: The following forms must be submitted with Form I: FORM B or B2 for domestic wastewater.
FORM A for industrial wastewater.

1. FACILITY INFORMATION

1.1 Facility Name
Bloomsdale Winery

1.2 Permit Number
MO- _____

1.3 Type of wastewater to be irrigated. ☐ Domestic ☐ Municipal ☐ State/National Park ☐ Seasonal business
☐ Municipal with Pretreatment Program or Significant Industrial Users ☑ Other (explain) winery/domestic
SIC Codes (list all that apply, in order of importance) _____

1.4 Months when the business or enterprise will operate or generate wastewater:
☑ 12 months per year ☐ Part of year (list Months): ___

1.5 This system is designed for:
☐ No-discharge ☐ Partial irrigation when feasible and discharge rest of time.
☐ Irrigation during recreation season (April – October) and discharge during November – March.
☑ Other (explain) subsurface landapplication

1.6 List the Facility outfalls which will be applicable to the irrigation system.
Outfall Numbers: 1

2. STORAGE BASINS

2.1 Number of storage basins: _____
Type of basin: ☐ Steel ☐ Concrete ☐ Fiberglass ☐ Earthen
☐ Earthen with membrane liner

3. LAND APPLICATION SYSTEM

3.1 Number of irrigation sites 1 Total Acres 0.50
Location: ___ ¼, ___ ¼, ___ ¼, Sec ___ T ___ R ___ _____ County _____ Acres
Location: ___ ¼, ___ ¼, ___ ¼, Sec ___ T ___ R ___ _____ County _____ Acres
Attach pages as needed.

3.2 Attach a site map showing topography, storage basins, irrigation sites, property boundary, streams, wells, roads, dwellings, and other pertinent features.

3.3 Type of vegetation: ☑ Grass hay ☐ Pasture ☐ Timber ☐ Row crops ☐ Other (describe) _____

3.4 Wastewater flow (dry weather) gallons/day:
Average annual: 2250 Seasonal _____ Off-season _____
Months of seasonal flow: _____

3. LAND APPLICATION SYSTEM (continued)

3.5 Land Application rate per acre (design flow including 1 in 10 year stormwater flows):

Design: _____ inches/year _____ inches/hour _____ inches/day _____ inches/week

Actual: _____ inches/year _____ inches/hour _____ inches/day _____ inches/week

Total Irrigation per year (gallons): _____ Design _____ Actual

Actual months used for Irrigation (check all that apply):

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

3.6 Land Application Rate is based on:

☐ Nutrient Management Plan (N&P)

☑ Hydraulic Loading

☐ Other (describe) _____

3.7 Equipment type: ☐ Sprinklers ☐ Gated pipe ☐ Center pivot ☐ Traveling gun ☑ Other (describe) pump subsurf

Equipment Flow Capacity: _____ Gallons per hour _____ Total hours of operation per year

3.8 **Public Use Areas**. Public access shall not be allowed to public use area irrigation sites when application is occurring. Method of Public Access Restriction:

☐ Site is Fenced ☐ Wastewater disinfection prior to irrigation ☐ Site is not for public use

☑ Other (describe): subsurface field blocked off by concrete blocks

3.9 Separation distance (in feet) from the outside edge of the wetted irrigation area to nearby down gradient features:

____ Permanent flowing stream ____ Losing Stream ____ Intermittent (wet weather) stream ____ Lake or pond

____ Property boundary ____ Dwellings ____ Water supply well ____ Other (describe) _____

3.10 The facility must develop and retain an Operation and Maintenance (O&M) Plan for the irrigation system.

Date of O&M Plan: _____

4. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine or imprisonment.

OWNER OR AUTHORIZED REPRESENTATIVE	OFFICIAL TITLE
Joe Bartek	Owner
EMAIL ADDRESS joe.bartek@chateaustegen.com	**TELEPHONE NUMBER WITH AREA CODE** (314) 607-4040
SIGNATURE	**DATE SIGNED** 6/18/24

780-1665 (08-14)

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH
(SEE MAP FOR APPROPRIATE REGIONAL OFFICE)

FORM R – PERMIT APPLICATION FOR LAND APPLICATION OF INDUSTRIAL WASTEWATER BIOSOLIDS AND RESIDUALS

FOR AGENCY USE ONLY
PERMIT NUMBER
MO -
DATE RECEIVED

INSTRUCTIONS: FORMS A and C or F (CAFOs) (and D where applicable) must also be submitted for land application of industrial wastewater sludge biosolids or residuals. **Submit FORMS E and G** for land disturbance permit if construction areas total five acres or more.

Attach **FORM I**, if wastewater will be land applied or irrigated.

1.00 FACILITY INFORMATION

1.1 FACILITY NAME
Bloomsdale Winery

1.2 Application for:
- ☑ Construction Permit (attach Engineering report, Plans and Specifications per 10 CSR 20-8.020)
- ☐ Operating Permit (if no construction permit, attach engineering documents)
  Date Land Application System Began Operation: _____
- ☐ Operating Permit Renewal

1.3 Months when the business or enterprise will operate or generate sludge or residuals:
☑ 12 months per year ☐ Part of year (list Months): _____

1.4 List the Facility outfalls which will be applicable to the land application system from outfalls listed on Form A, C, D and F.
Outfall Nos. 1 ___ ___ ___ ___ ___ ___

2.00 STORAGE BASINS

2.1 Number of storage basins: ____ Type of basin: ☐ Steel ☐ Concrete ☐ Fiberglass ☐ Earthen ☐ Earthen with membrane liner

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

(Complete Attachment A: Profile Sketch)

Basin #1: Length _____ Width ___ Depth ___ Freeboard ___ Berm Width ___ % Slope ___
Basin #2: Length ___ Width ___ Depth ___ Freeboard ___ Berm Width ___ % Slope ___

2.2.1 Storage basin volumes (gallons): Permanent volume means two foot water depth for seal protection, and any required treatment volume capacity.

Basin #1: Gallons: _____ Permanent Volume + _____ Storage = _____ Total volume (gallons)
Basin #2: Gallons: _____ Permanent Volume + _____ Storage = _____ Total volume (gallons)

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

Basin #1: Maximum water level _____ ft. Minimum operating water level _____ ft.
Basin #2: Maximum water level ___ ft. Minimum operating water level _____ ft.

2.4 Storage Basin design storage capacity: (storage between minimum and maximum operating levels for 1-in-10 year stormwater flows.)

Basin #1: ____ days Basin #2: ____ days Basin #3: ____ days

2.5 Attach Water Balance Test results to verify earthen basin seal in accordance with 10 CSR 20-8.020(13) and (16), when required by the department.

2.6 Attach a sludge management plan for materials that are not land applied.

2.7 Attach a closure plan for lagoons, storage basins and treatment units.

3.00 LAND APPLICATION SYSTEM

3.1 Number of application sites 1 Total Available Acres 0.50 Minimum & Maximum % field slopes 2

Location: ___ ¼ ___ ¼ ___ ¼ ___ Sec. ___ T ___ R ___ County ___ Acres
Location: ___ ¼ ___ ¼ ___ ¼ ___ Sec. ___ T ___ R ___ County ___ Acres

Attach extra sheets as necessary.

3.1.1 Type of vegetation: ☑ Grass hay ☐ Pasture ☐ Timber ☐ Row crops ☐ Other (describe) _____

Specific Crops and Yields/acre: Goal: _____ Actual for last five years: ___

3.2 Annual sludge production (gallons per year): _____ Actual _____ Design
(dry tons per year): ___ Actual _____ Design
Human Population Equivalent: ___ Actual ___ Design

3.2.1 Land Application rate per acre:
Design: _____ dry ton/year ____ dry ton/application ____ No. applications/year
Actual: ___ dry ton/year ___ dry ton/application ____ No. applications/year
Total amount land applied each year (total all sites) Design ___ dry ton/year Actual ___ dry ton/year
Actual months used for land application: ☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec

3.2.2 Land Application Rate is based on:
☐ Nutrient Management Plan (N&P) ☐ PAN ☐ Conservative
☑ Hydraulic Loading ☐ Limiting Pollutant (Specify) _____
☐ Other (describe) ___

3.3 Equipment type: ☐ Tank wagon ☐ Tank truck ☐ Subsurface injection ☐ Slinger spreader ☐ Dry spreader
☑ Other (describe) subsurface pump
Equipment Capacity: ___ Gallons (cubic feet) per hour ___ Total hours of operation per year

3.4 Public Use/Access Sites: If public use or access to land application site, describe pathogen treatment and site access restrictions. If human, animal, or organic wastes, refer to 40 CFR 503.32 for pathogen treatment methods. Attach extra sheets as necessary.
concrete blocks will block the field over the subsurface area _____

3.5 Separation distance (in feet) from the outside edge of the biosolids application area to down gradient features:
___ Permanent flowing stream ___ Losing Stream ___ Intermittent (wet weather) stream ___Lake or pond
___ Property boundary ___ Dwellings ___ Water supply well ___ Other (describe) ___

3.6 Soils Information: Use information from the County Soil Survey, NRCS, or professional soil scientist.
Note: On-site soils classification by a professional soil scientist may be required by the department where appropriate.
Soil Series Name _____ Depth of bedrock ____ Feet Depth to water table ____ Feet
Soil infiltration rate in inches/hour (in/hr) for most restrictive layer within the following soil depth ranges:
___ In/hr for 0-12 inch soil depth ___ In/hr for 12-24 inch soil depth _____ In/hr for 24-60 inch soil depth

3.7 Attach Nutrient Management Plan (NMP) including calculations for plant available nitrogen (PAN) and other nutrients, crop requirements, crop yields and other management factors. Include USDA/NRCS phosphorus recommendations.

3.8 Geologic Investigation: 12/20/23 Date of most recent geologic report by the department's Missouri Geological Survey.

3.8.1 Groundwater Monitoring Wells: (Attach Groundwater Monitoring Plan when required by department)
☐ None ☐ Existing ☐ Planned Number: ____ Monitoring Wells ___ Lysimeters

3.9 Attach a current copy of the Operation and Maintenance (O&M) Plan for the land application system. Date of O&M Plan:

3.9.1 Attach a site map showing topography, storage basins, land application sites, property boundary, streams, wells, roads, dwellings and other pertinent features.

3.9.2 Attach a facility sketch showing treatment units, storage basins, pipelines, application sites and other features.

4.00 INDUSTRIAL PROCESS INFORMATION

4.1 Brief description of treatment processes prior to land application and note any changes made in last five years. (Attach extra sheets as necessary.)

4.2 Detailed description of industrial production processes. Also indicate any changes made in last five years. (Attach extra sheets as necessary.)

4.3 List of raw materials, chemicals, additives, products and by-products (Attach extra sheets as necessary)

4.3.1 Attach the following forms for wastewater to be land applied.

FORM C or F is required for all applicants. Use Form F for CAFOs.

FORM D is required for those industries listed in the Form D instructions or when required by the department.

Use actual testing results within last 12 months. For new operations use testing results from other similar operations or from published literature.

4.3.2 Are there any listed hazardous wastes in the material to be land applied: ☐ YES ☑ NO (If YES, attach testing results)

4.4 A. Are any Pollutants listed in 40 CFR 268.40 believed to be present in detectable concentrations: ☐ YES ✔ NO

B. Are any Pollutants listed in 10 CSR 20-7.031 believed to be present in detectable concentrations: ☐ YES ✔ NO

C. Are any Pollutants listed in EPA Process Design Manual for Land Treatment of Municipal Wastewater publication EPA-625/1-81-013, Table 4-5 and Table 4-16 believed present in detectable concentrations: ☐ YES ✔ NO

(Attach a copy of testing results for any pollutants that may be present in detectable concentrations.)

4.5 Environmental Assessment. Do any of the pollutants detected exceed the criteria for pollutant concentrations of limitations contained in the publications referenced in Section 4.40 of this form?: ☐ YES ✔ NO

If YES, attach a copy of the Environmental Assessment as required in 10 CSR 20-8.020(3)(D).

5.00 SOIL TESTING RESULTS: Complete information for each pollutant listed and each land application site. Attach results of any other soil testing performed in the last 12 months. Soil sampling and testing should conform to University publication G9110, Sampling Your Soil for Testing; Soil Test Procedures for North Central Region (North Dakota Agricultural Experiment Bulleting 499-Revised); Methods of Soil Analysis, American Society of Agronomy, Inc.; Soil Testing and Plant Analysis, Soil Science Society of America; EPA Methods; or other methods approved by the department. Attach extra sheets as necessary.

Total area sampled is ____ acres. Each composite sample covers ____ acres. Each composite consists of ____ subsamples.

Sample depth: ☐ 0-6 inches ☐ 0-12 inches ☐ Other (describe) ___

Pollutant	Concentration (mg/kg or ppm)			Pounds/ Acre	No. Composite Samples	Sample Period
	Minimum	Maximum	Average			
Organic Nitrogen as N						
Ammonia Nitrogen as N						
Nitrate Nitrogen as N						
Phosphorus as P (Bray 1P)						
Exchangeable Sodium %						
Organic Matter (percent)						
Cation Exchange Capacity						
pH (standard units)						
Other pollutants present in the material to be land applied: (Attach extra sheets as necessary)						

6.00 LAND LIMITING CONSTITUENTS FOR LAND APPLICATION

6.1 Metals of Concern for Land Application. Complete information for each pollutant listed.
Analysis results must be for "Total Metals". (Do **not** use TCLP, dissolved, total recoverable or other extraction methods.
Include all test results for the last five years and a minimum of four separate samples.

Pollutant (total metals)	Concentration (mg/kg dry weight)			Design LBS/ Acre/Year	Type of Samples	Number Samples	Sample Location	Sample Period
	Minimum	Maximum	Average					
Aluminum								
Arsenic								
Beryllium								
Cadium								
Chromium								
Copper								
Fluoride								
Lead								
Manganese								
Mercury								
Molybdenum								
Nickel								
Selenium								
Silver								
Tin								
Zinc								

6.2 Major Pollutants of Concern for Land Application. Complete information for each pollutant listed. Include any other pollutants that are most limiting for determining land application rates. Attach extra sheets as necessary.

Organic Nitrogen as N								
Ammonia Nitrogen as N								
Nitrate Nitrogen as N								
Total Nitrogen as N								
Plant Available Nitrogen (PAN)								
Total Phosphorus as P								
Boron								
Chlorides								
Sodium								
COD								
TPH								
Total Suspended Solids								
Oil and Grease								
Sodium Absorption Ration (SAR)								
pH (standard units)								

6.3 Other Limiting Pollutants for Land Application Rates. Specify any other pollutants that are most limiting for determining land application rates. Include any additional significant pollutants from Section 4 that is not already listed in Section 6.00. Attach extra sheets as necessary.

Pollutant	Concentration (mg/kg dry weight)			Design LBS/ Acre/Year	Type of Samples	Number Samples	Sample Location	Sample Period
	Minimum	Maximum	Average					

6.4 Requirements for Public Use Sites. Complete this if land application onto public use or public access sites or if material will be distributed for general public use. Fecal Coliform, Salmonella and Entric Virus must be tested if the biosolids include waste material from humans, animals, vegetables or organic matter.

Pollutant		Concentration (mg/kg dry weight)			Type of Samples	Number Samples	Sample Location	Sample Period
		Minimum	Maximum	Average				
Total Dioxin TEQ*								
* Required Only for public access sites. TEQ = Toxicity Equivalents for CDD and CDF isomers per EPA Publication EPA/625/3-89/016 and EPA method 1613. Detection limits must be less than 1.0 ppt.								
Fecal Coliform								
Salmonella								
Enteric Virus								
Other (specify)								

7.00 CERTIFICATION

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.

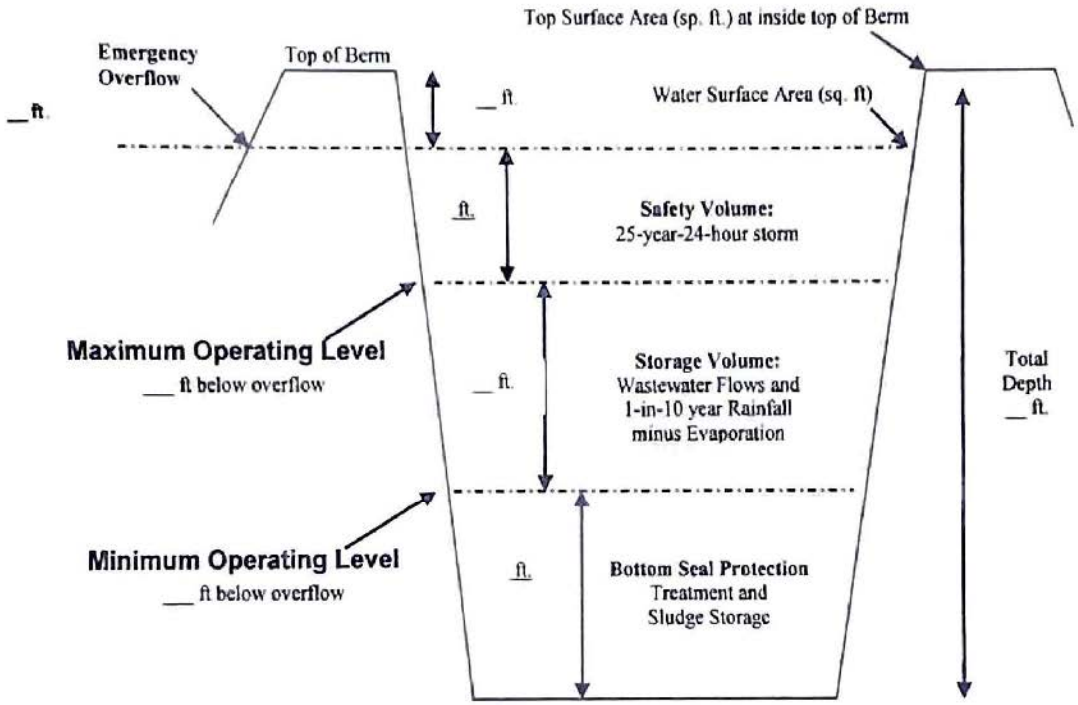
CONSULTING ENGINEER – Name, Official Title and Engineering Firm (TYPE OR PRINT)	TELEPHONE NUMBER WITH AREA CODE
Paul Ganey Owner - Ganey Engineering LLC	3149730377
SIGNATURE Paul Ganey	DATE SIGNED 6-19-24
OWNER OR AUTHORIZED REPRESENTATIVE – Name and Official Title (TYPE OR PRINT)	TELEPHONE NUMBER WITH AREA CODE
Joe Bartek - Owner	3146074040
SIGNATURE [signature]	DATE SIGNED 6/18/24

ATTACHMENT A

(To be included with Form I and Form R)

Lagoon or Storage Basin

PROFILE SKETCH



Definition of Terms (Refer to the profile sketch above.)

a. Freeboard is depth from top of berm to emergency spillway (minimum 1 foot).
b. Safety Volume is depth for 25-year, 24-hour storm (minimum of 1 foot).
c. Maximum Operating Level is at bottom of the safety volume (minimum of 2 feet below top of berm).
d. Minimum Operating Level is 2 feet above bottom of lagoon for seal protection per 10 CSR 20-8.
   The minimum operating level may be greater than 2 feet when additional treatment volume is included.
e. Storage Volume and days storage are based on the volume between Minimum and Maximum Operating Levels.
f. Total Depth is from top of berm to bottom of basin including freeboard.