

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



**CONSTRUCTION PERMIT**

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

Melissa and Daniel Ingram  
Owner  
Ingram Winery Lagoon  
493 Highway Z  
Eldon, MO 65026

for the construction of (described facilities):

See attached.

Permit Conditions:

See attached.

Construction of such proposed facilities shall be in accordance with the provisions of the Missouri Clean Water Law, Chapter 644, RSMo, and regulation promulgated thereunder, or this permit may be revoked by the Department of Natural Resources (Department).

As the Department does not examine structural features of design or the efficiency of mechanical equipment, the issuance of this permit does not include approval of these features.

A representative of the Department may inspect the work covered by this permit during construction. Issuance of a permit to operate by the Department will be contingent on the work substantially adhering to the approved plans and specifications.

This permit applies only to the construction of water pollution control components; it does not apply to other environmentally regulated areas.

June 30, 2021  
Effective Date

June 29, 2023  
Expiration Date

Edward B. Galbraith, Director, Division of Environmental Quality

Chris Wieberg, Director, Water Protection Program

## **CONSTRUCTION PERMIT**

### **I. CONSTRUCTION DESCRIPTION**

The proposed project includes the construction of a new storage lagoon to receive flows from a winery tasting room. The storage lagoon will be pumped and hauled to Gravois Arm WWTP #2, MO-0134821. James Bresnahan, member of the Gravois Arm Sewer District Board of Trustees, provided an acceptance letter received May 18, 2021 to take the flows from the Ingram Winery.

This project will also include general site work appropriate to the scope and purpose of the project and all necessary appurtenances to make a complete and usable wastewater treatment facility.

### **II. COST ANALYSIS FOR COMPLIANCE**

Pursuant to Section 644.145, RSMo, when issuing permits under this chapter that incorporate a new requirement for discharges from publicly owned combined or separate sanitary or storm sewer systems or publicly owned treatment works, or when enforcing provisions of this chapter or the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq., pertaining to any portion of a publicly owned combined or separate sanitary or storm sewer system or [publicly owned] treatment works, the Department of Natural Resources shall make a “finding of affordability” on the costs to be incurred and the impact of any rate changes on ratepayers upon which to base such permits and decisions, to the extent allowable under this chapter and the Federal Water Pollution Control Act. This process is completed through a cost analysis for compliance. Permits that do not include new requirements may be deemed affordable.

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

### **III. CONSTRUCTION PERMIT CONDITIONS**

The permittee is authorized to construct subject to the following conditions:

1. This construction permit does not authorize discharge.
2. All construction shall be consistent with plans and specifications signed and sealed by Shoreline Surveying & Engineering and as described in this permit.
3. The Department must be contacted in writing prior to making any changes to the plans and specifications that would directly or indirectly have an impact on the capacity, flow, system layout, or reliability of the proposed wastewater treatment facilities or any design parameter that is addressed by 10 CSR 20-8, in accordance with 10 CSR 20-8.110(11).
4. State and federal law does not permit bypassing of raw wastewater, therefore steps must be taken to ensure that raw wastewater does not discharge during construction. If a

sanitary sewer overflow or bypass occurs, report the appropriate information to the Department's Central Field Office per 10 CSR 20-7.015(9)(G).

5. The wastewater storage lagoon shall be located at least two hundred feet (200') from any dwelling or establishment and 50 ft to property line.
6. The wastewater treatment facility shall be located above the twenty-five (25)-year flood level.
7. The wastewater facility structures, electrical equipment, and mechanical equipment shall be protected from physical damage by not less than the one hundred- (100-) year flood elevation per 10 CSR 20-8.140(2)(B). The minimum distance between wastewater treatment facilities and all potable water sources shall be at least three hundred feet (300') per 10 CSR 20-8.140(2)(C)1.
8. In addition to the requirements for a construction permit, 10 CSR 20-6.200 requires land disturbance activities of 1 acre or more to obtain a Missouri state operating permit to discharge stormwater. The permit requires best management practices sufficient to control runoff and sedimentation to protect waters of the state. Land disturbance permits will only be obtained by means of the Department's ePermitting system available online at [dnr.mo.gov/env/wpp/epermit/help.htm](http://dnr.mo.gov/env/wpp/epermit/help.htm). See [dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm](http://dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm) for more information.
9. A United States Army Corps of Engineers (USACE) Clean Water Act Section 404 Department of the Army permit and a Section 401 Water Quality Certification issued by the Department may be required for the activities described in this permit. This permit is not valid until these requirements are satisfied or notification is provided that no Section 404 permit is required by the USACE. You must contact your local USACE district since they determine what waters are jurisdictional and which permitting requirements may apply. You may call the Department's Water Protection Program, Operating Permits Section at 573-522-4502 for more information. See [dnr.mo.gov/env/wpp/401/](http://dnr.mo.gov/env/wpp/401/) for more information.
10. All construction must adhere to applicable 10 CSR 20-8 (Chapter 8) requirements listed below.
  - Flood protection shall apply to new construction and to existing facilities undergoing major modification. The wastewater facility structures, electrical equipment, and mechanical equipment shall be protected from physical damage by not less than the one hundred- (100-) year flood elevation. 10 CSR 20-8.140 (2) (B)
  - Unless another distance is determined by the Missouri Geological Survey or by the department's Public Drinking Water Branch, the minimum distance between wastewater treatment facilities and all potable water sources shall be at least three hundred feet (300'). 10 CSR 20-8.140 (2) (C) 1.
  - No treatment unit with a capacity of twenty-two thousand five hundred gallons per day (22,500 gpd) or less shall be located closer than the minimum distance of 200' to a

neighboring residence and 50' to property line for lagoons; 200' to a neighboring residence for open recirculating media filters following primary treatment; and 50' to a neighboring residence for all other discharging facilities. See 10 CSR 20-2.010(68) for the definition of a residence. 10 CSR 20-8.140 (2) (C) 2

- Facilities shall be readily accessible by authorized personnel from a public right-of-way at all times. 10 CSR 20-8.140 (2) (D)
- Enclose the pump and haul facility site with a fence designed to discourage the entrance of unauthorized persons and animals; 10 CSR 20-8.140 (4) (A) 2
- The alarm for pump and haul systems shall be activated in cases of high water levels. Follow the provisions in subsection (7)(C) of this rule for alarm systems. 10 CSR 20-8.140 (4) (D)
  - An audiovisual alarm or a more advanced alert system, with a self-contained power supply, capable of monitoring the condition of equipment whose failure could result in a violation of the operating permit, shall be provided for all wastewater treatment facilities. 10 CSR 20-8.140 (7) (C)
- No piping or other connections shall exist in any part of the wastewater treatment facility that might cause the contamination of a potable water supply. 10 CSR 20-8.140 (7) (D) 1.
- Hot water for any direct connections shall not be taken directly from a boiler used for supplying hot water to a digester heating unit or heat exchanger. 10 CSR 20-8.140 (7) (D) 2.
- Where a potable water supply is to be used for any purpose in a wastewater treatment facility other than direct connections, a break tank, pressure pump, and pressure tank or a reduced pressure backflow preventer consistent with the department's Public Drinking Water Branch shall be provided. 10 CSR 20-8.140 (7) (D) 3. A.
- For indirect connections, a sign shall be permanently posted at every hose bib, faucet, hydrant, or sill cock located on the water system beyond the break tank or backflow preventer to indicate that the water is not safe for drinking. 10 CSR 20-8.140 (7) (D) 3. B.
- Adequate provisions shall be made to effectively protect facility personnel and visitors from hazards. The following shall be provided to fulfill the particular needs of each wastewater treatment facility:
  - Fencing. Enclose the facility site with a fence designed to discourage the entrance of unauthorized persons and animals; 10 CSR 20-8.140 (8) (A)
- Lagoon berms shall be constructed of relatively impervious material and compacted to at least ninety-five percent (95%) maximum dry density test method to form a stable structure. 10 CSR 20-8.200(4)(A)1.
- The minimum berm width shall be eight feet (8') to permit access of maintenance vehicles. 10 CSR 20-8.200(4)(A)2.

- Minimum freeboard shall be two feet (2'). 10 CSR 20-8.200(4)(A)3.
- An emergency spillway shall be provided that—
  - Prevents the overtopping and cutting of berms; 10 CSR 20-8.200(4)(A)4.A.
  - Is compacted and vegetated or otherwise constructed to prevent erosion; 10 CSR 20-8.200(4)(A)4.B. and
  - Has the ability for a representative sample to be collected, if discharging. 10 CSR 20-8.200(4)(A)4.C.
- The soil of the lagoon bottom shall be compacted with the moisture content between two percent (2%) below and four percent (4%) above the optimum water content and compacted to at least ninety-five percent (95%) maximum dry density test method. 10 CSR 20-8.200(4)(B)
- The lagoon shall be sealed to ensure that seepage loss is as low as possible and has a design permeability not exceeding  $1.0 \times 10^{-7}$  cm/sec. 10 CSR 20-8.200(4)(C)1.
- The minimum thickness of the compacted clay liner must be twelve inches (12"). For permeability coefficients greater than  $1.0 \times 10^{-7}$  cm/sec or for heads over five feet (5') such as an aerated lagoon system, the following formula shall be used to determine minimum seal thickness, Equation 200-1 per 10 CSR 20-8.200(4)(C)2.:

Equation 200-1

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

where:

K = the permeability coefficient of the soil in question;

H = the head of water in the lagoon; and

t = the thickness of the soil seal.

- Synthetic seals thickness may vary due to liner material but the liner thickness shall be no less than two-hundredths inch (.02") or twenty (20) mil and be the appropriate material to perform under existing conditions. 10 CSR 20-8.200(4)(C)3.
- Seep collars shall be provided on drainpipes where they pass through the lagoon seal. 10 CSR 20-8.200(4)(C)4.
- Unlined corrugated metal pipe shall not be used for influent lines due to corrosion problems. 10 CSR 20-8.200 (4) (D) 1.
- A manhole shall be installed with its invert at least six inches (6") above the maximum operating level of the lagoon, prior to the entrance into the primary cell, and provide sufficient hydraulic head without surcharging the manhole. 10 CSR 20-8.200 (4) (D) 2.
- The influent line(s) shall be located along the bottom of the lagoon so that the top of the pipe is just below the average elevation of the lagoon seal; however, there shall be an adequate seal below the pipe. 10 CSR 20-8.200 (4) (D) 3.

11. Upon completion of construction:

- A. Melissa and Daniel Ingram will become the continuing authority for operation and maintenance of these facilities;
- B. Submit an electronic copy of the as built's if the project was not constructed in accordance with previously submitted plans and specifications; and
- C. Submit the enclosed form Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(N). This facility **is exempt** from operating permit requirements for a no-discharge, pump and haul, per 10 CSR 20-6.015(3)(B)12.

**IV. REVIEW SUMMARY**

**1. CONSTRUCTION PURPOSE**

The proposed no-discharge, pump & haul, storage lagoon is to serve the Ingram Winery. The flows are based on estimating 100 customers per day assuming 5 gpd/customer primarily for weekend usage.

**2. FACILITY DESCRIPTION**

This is a new wastewater storage facility that will include sewer line with necessary cleanouts and influent manhole. The wastewater flows are pumped and hauled.

The Ingram WWTF is located at 493 Highway Z, City of Eldon, in Miller County, Missouri. The facility has a design average flow of 500 gpd and serves a hydraulic population equivalent of approximately 100 people.

**3. REVIEW of MAJOR TREATMENT DESIGN CRITERIA**

Storage Lagoon – Lagoon will be constructed and sealed with a clay liner. The basin will have 3:1 side slopes, a depth from the top of the berm to the lagoon floor of 9.5 ft, with 2 ft for sludge depth, and 2 ft of freeboard plus 0.5 feet above emergency spillway. The operating depth is 6.5 ft. The basin is non-aerated, has a surface area of 7,040 sq ft, and a volume of 152,446 gallons. This provides approximately 304 days of retention at the proposed design flow and 90 days at the 1 in 10-year rainfall minus evaporation for the proposed storage period. The storage lagoon is designed to be pumped to the minimum operating level of 2 feet as needed. The berm width will be 8 ft. This lagoon site is going to be fenced with warning signs posted on the fence. The basin will be equipped with a high water alarm, Tank Alert Solar Alarm 10 Watt solar panel powered unit. High level float will be set at 12 inches below the emergency spillway. The service line will be equipped with a manhole prior to the lagoon berm.

#### **4. OPERATING PERMIT**

This facility is exempt from the operating permit requirements of the MO-G822 in accordance with 10 CSR 20-6.015(3)(B)12 and 13. Gravois Arm Sewer District provided an acceptance letter for the flows.

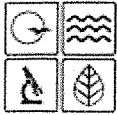
#### **V. NOTICE OF RIGHT TO APPEAL**

If you were adversely affected by this decision, you may be entitled to an appeal before the Administrative Hearing Commission (AHC) pursuant to Section 621.250 RSMo. To appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Any appeal should be directed to:

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

Aaron Sawyer  
Engineering Section  
[aaron.sawyer@dnr.mo.gov](mailto:aaron.sawyer@dnr.mo.gov)

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



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
 WATER PROTECTION PROGRAM  
**APPLICATION FOR CONSTRUCTION PERMIT –  
 WASTEWATER TREATMENT FACILITY**

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

**APPLICATION OVERVIEW**

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

**PART A – BASIC INFORMATION**

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

- 1.1 Is this a Federal/State funded project?  YES  N/A Funding Agency: \_\_\_\_\_ Project #: \_\_\_\_\_
- 1.2 Has the Missouri Department of Natural Resources approved the proposed project's antidegradation review?  
 YES Date of Approval: \_\_\_\_\_  N/A
- 1.3 Has the department approved the proposed project's facility plan\*?  
 YES Date of Approval: \_\_\_\_\_  NO (If No, complete No. 1.4.)
- 1.4 [Complete only if answered No on No. 1.3.] Is a copy of the facility plan\* for wastewater treatment facilities included with this application?  
 YES  NO  Exempt because \_\_\_\_\_
- 1.5 Is a copy of the appropriate plans\* and specifications\* included with this application?  
 YES Denote which form is submitted:  Hard copy  Electronic copy (See instructions.)  NO
- 1.6 Is a summary of design\* included with this application?  YES  NO
- 1.7 Has the appropriate operating permit application (A, B, or B2) been submitted to the department?  
 YES Date of submittal: \_\_\_\_\_  
 Enclosed is the appropriate operating permit application and fee submittal. Denote which form:  A  B  B2  
 N/A: However, In the event the department believes that my operating permit requires revision to permit limitation such as changing equivalent to secondary limits to secondary limits or adding total residual chlorine limits, please share a draft copy prior to public notice?  YES  NO
- 1.8 Is the facility currently under enforcement with the department or the Environmental Protection Agency?  YES  NO
- 1.9 Is the appropriate fee or JetPay confirmation included with this application?  YES  NO  
 See Section 7.0

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

**2.0 PROJECT INFORMATION**

2.1 NAME OF PROJECT Ingram Non-Discharge Lagoon	2.2 ESTIMATED PROJECT CONSTRUCTION COST \$ 30,000
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2.3 PROJECT DESCRIPTION  
Lagoon & Land Application System For 500gpd Winery to operate seasonally from March - October.

2.4 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION  
N/A

2.5 DESIGN INFORMATION

A. Current population: \_\_\_\_\_; Design population: 100

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

2.6 ADDITIONAL INFORMATION

A. Is a topographic map attached?  YES  NO

B. Is a process flow diagram attached?  YES  NO



**3.0 WASTEWATER TREATMENT FACILITY**

NAME Ingram Non-Discharge Lagoon		TELEPHONE NUMBER WITH AREA CODE 573-378-0172	E-MAIL ADDRESS lissalou74@gmail.com	
ADDRESS (PHYSICAL) 493 Highway Z	CITY Eldon	STATE MO	ZIP CODE 65026	COUNTY Miller

Wastewater Treatment Facility: Mo- (Outfall Of )

3.1 Legal Description: SE ¼, SW ¼, SE ¼, Sec. 26, T 41, R 16  
(Use additional pages if construction of more than one outfall is proposed.)3.2 UTM Coordinates Easting (X): 1593985 Northing (Y): 889118  
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

3.3 Name of receiving streams: Unnamed Tributary

**4.0 PROJECT OWNER**

NAME Melissa and Daniel Ingram		TELEPHONE NUMBER WITH AREA CODE 573-378-0172	E-MAIL ADDRESS lissalou74@gmail.com	
ADDRESS 493 Hwy. Z	CITY Eldon	STATE MO	ZIP CODE 65026	

**5.0 CONTINUING AUTHORITY:** A continuing authority is a company, business, entity or person(s) that will be operating the facility and/or ensuring compliance with the permit requirements.

NAME Same As Owner		TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS	
ADDRESS	CITY	STATE	ZIP CODE	

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

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

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

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

A. Is a copy of the as-filed restrictions and covenants included with this application?  YES  NOB. Is a copy of the as-filed warranty deed, quitclaim deed or other legal instrument which transfers ownership of the land for the wastewater treatment facility to the association included with this application?  YES  NOC. Is a copy of the as-filed legal instrument (typically the plat) that provides the association with valid easements for all sewers included with this application?  YES  NOD. Is a copy of the Missouri Secretary of State's nonprofit corporation certificate included with this application?  YES  NO**6.0 ENGINEER**

ENGINEER NAME / COMPANY NAME Jared Wheaton/Shoreline Surveying & Engineering		TELEPHONE NUMBER WITH AREA CODE 573-392-3312	E-MAIL ADDRESS jared@shorelinese.com	
ADDRESS 3048 Hwy 52	CITY Eldon	STATE MO	ZIP CODE 65026	

**7.0 APPLICATION FEE** CHECK NUMBER  JETPAY CONFIRMATION NUMBER**8.0 PROJECT OWNER:** I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

PROJECT OWNER SIGNATURE

*Melissa Ingram*

PRINTED NAME

Melissa Ingram

DATE

2/22/21

TITLE OR CORPORATE POSITION

owner

TELEPHONE NUMBER WITH AREA CODE

573 378 0172

E-MAIL ADDRESS

lissalou74@gmail.com

Mail completed copy to:

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

END OF PART A.

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