

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

Jack Feldwisch, Manager
Almo Finn LLC
Century Business Park WWTF
Century Commerce Loop
Labadie, MO 63055

for the construction of (described facilities):

See attached.

Permit Conditions:

See attached.

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

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

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

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

April 13, 2021
Effective Date


Edward B. Galbraith, Director, Division of Environmental Quality

April 12, 2023
Expiration Date


Chris Wieberg, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

Century Business Park WWTF is constructing a chlorine/dechlorination disinfection system to meet final *E. coli* effluent limits. The facility will install two Norweco Bio-Dynamic[®] Model IT 2000 S feeders, or approved equal, to supply chlorine and dechlorination tablets. The feeders will have a flow range between 200 and 100,000 gpd. The WWTF has a design average flow of 2,000 gpd. The chlorine contact/reactor structure will be approximately 32 feet of eight-inch (8") SDR 35 PVC pipe providing a length-to-width ratio of approximately 47.9:1 and a treatment capacity of approximately 84 gallons, allowing at least 15 minutes of contact time at a peak flow of 8,000 gpd (assuming a default peaking factor of 4). A dechlorination contact pipe will be approximately two feet (2') of eight-inch (8") SDR 35 PVC pipe to provide at least 30 seconds of contact time. The facility's design average flow will remain at 2,000 gpd. The outfall structure will be moved approximately 16 feet to allow for installation of the reactor pipe and discharge into the same receiving stream.

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 Scheer Design Group, LLC, 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 St. Louis Regional Office per 10 CSR 20-7.015 (9) (G).
5. The wastewater treatment facility shall be located above the twenty-five (25)-year flood level.
6. The wastewater facility structures, electrical equipment, and mechanical equipment shall be protected from physical damage by not less than the one hundred- (100-) year flood elevation per 10 CSR 20-8.140 (2) (B). The minimum distance between wastewater treatment facilities and all potable water sources shall be at least three hundred feet (300') per 10 CSR 20-8.140 (2) (C) 1.
7. In addition to the requirements for a construction permit, 10 CSR 20-6.200 requires land disturbance activities of 1 acre or more to obtain a Missouri state operating permit to discharge stormwater. The permit requires best management practices sufficient to control runoff and sedimentation to protect waters of the state. Land disturbance permits will only be obtained by means of the Department's ePermitting system available online at dnr.mo.gov/env/wpp/epermit/help.htm. See dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm for more information.
8. 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/ for more information.
9. All construction must adhere to applicable 10 CSR 20-8 (Chapter 8) requirements listed below.
 - Flood protection shall apply to new construction and to existing facilities undergoing major modification. The wastewater facility structures, electrical equipment, and

mechanical equipment shall be protected from physical damage by not less than the one hundred- (100-) year flood elevation. 10 CSR 20-8.140 (2) (B)

- 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)
- The outfall shall be constructed and protected against the effects of flood water, ice, or other hazards as to reasonably ensure its structural stability and freedom from stoppage. 10 CSR 20-8.140 (6) (A)
- All sampling points shall be designed so that a representative and discrete twenty-four (24) hour automatic composite sample or grab sample of the effluent discharge can be obtained at a point after the final treatment process and before discharge to or mixing with the receiving waters. 10 CSR 20-8.140 (6) (B)
- All outfalls shall be posted with a permanent sign indicating the outfall number (i.e., Outfall #001). 10 CSR 20-8.140 (6) (C)
- All wastewater treatment facilities shall be provided with an alternate source of electric power or pumping capability to allow continuity of operation during power failures. 10 CSR 20-8.140 (7) (A) 1.
- Disinfection and dechlorination, when used, shall be provided during all power outages. 10 CSR 20-8.140 (7) (A) 2.
- 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.
- A means of flow measurement shall be provided at all wastewater treatment facilities. 10 CSR 20-8.140 (7) (E)
- Adequate provisions shall be made to effectively protect facility personnel and visitors from hazards. The following shall be provided to fulfill the particular needs of each wastewater treatment facility:
 - Fencing. Enclose the facility site with a fence designed to discourage the entrance of unauthorized persons and animals; 10 CSR 20-8.140 (8) (A)
 - First aid equipment; 10 CSR 20-8.140 (8) (C)
 - Posted “No Smoking” signs in hazardous areas; 10 CSR 20-8.140 (8) (D)
 - Appropriate personal protective equipment (PPE); 10 CSR 20-8.140 (8) (E)
- Contact period for Chlorine Disinfection. A minimum contact period of fifteen (15) minutes at design peak hourly flow or maximum rate of pumpage shall be provided after thorough mixing. 10 CSR 20-8.190 (3) (A)
- Dilution tanks and mixing tanks are required when using dry compounds and may be necessary when using liquid compounds to deliver the proper dosage. 10 CSR 20-8.190 (4) (A)
- Solid dechlorination systems shall not be located in the chlorine contact tank. 10 CSR 20-8.190 (4) (B) 1.

- Contact time. A minimum of thirty (30) seconds for mixing and contact time of dechlorination systems shall be provided at the design peak hourly flow or maximum rate of pumpage. 10 CSR 20-8.190 (4) (B) 2.

10. Upon completion of construction:

- A. Almo Finn, LLC will become the continuing authority for operation and maintenance of these facilities;
- B. Submit an electronic copy of the as-built plans 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). The department intends to convert operating permit number MO-0115746 to the MO-GD general operating permit for this facility. When the facility applies for their next operating permit renewal, they will be expected to include an updated facility description on their application.

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

The facility is installing tablet chlorination and dechlorination to meet final *E.coli* effluent limits. The operating permit, MO-0115746, included a schedule of compliance to meet Ammonia as N and *E. coli* effluent limits by July 1, 2018. The discharge exceeded the permitted *E. coli* limits in almost every sample since limits became effective. Ammonia limits were also exceeded three times but has reported being in compliance since at least September 2019. The submitted facility plan stated that the maintenance provider is trying to improve the ammonia effluent concentrations through altering the operations of the WWTF. The proposed construction is only intended to resolve the *E. coli* problem by means of tablet chlorination and dechlorination disinfection units and related reactor units.

2. FACILITY DESCRIPTION

The Century Business Park WWTF is located on Century Business Loop, Labadie, in Franklin County, Missouri. The WWTF has a design flow of 2,000 gpd and services a design hydraulic population equivalent of approximately 30 people. The existing facility is a recirculating media filter with septic tanks, recirculation tank, and sludge disposed of by contract hauler. In review of the previous five years of discharge monitoring data, the facility has an average flow of approximately 1,009 gpd when discharging.

Construction will include new tablet chlorinator and dechlorinator units with a contact reactor pipe and a dechlorination reactor pipe. The WWTF’s outfall will be moved to the end of the dechlorination reactor pipe, approximately 16 feet south-southeast.

3. COMPLIANCE PARAMETERS

The proposed project is required to meet final effluent limits for *E. coli* as established in Missouri State Operating Permit #MO-0115746. The schedule of compliance expired on June 30, 2018. The operating permit expired March 31, 2021. At renewal, the department intends to issue the MOGD general permit to this facility, which is applicable to non-publically owned treatment works (non-POTW) discharging less than 50,000 gpd of domestic wastewater. The MOGD general permit includes appropriate limits for *E. coli* and Total Residual Chlorine (TRC). The proposed project will meet the applicable effluent limits contained in **Table C** of MOGD00551, which is set to expire June 30, 2024. Upon completion of the proposed construction, the WWTF’s discharge will be required to meet *E. coli* limits (206 colonies per 100 mL as a most probable number (MPN) as a monthly geometric mean during the recreational season and 1,030 colonies per 100 mL MPN as a daily maximum) and TRC limits (8 µg/L as a monthly average and 17 µg/L as a daily maximum with an effective permit limit of “non detect” assuming a minimum quantification level (ML) of less than 130 mL) as follows:

Parameter	Units	Daily Maximum	Weekly Average	Monthly average
Biochemical Oxygen Demands	mg/L		45	30
Total Suspended Solids	mg/L		45	30
Ammonia as N-summer	mg/L	3.6		1.4
Ammonia as N-winter	mg/L	7.5		2.9
Total Residual Chlorine	µg/L	17 (130 ML)		8 (130 ML)
<i>E.coli</i>	#/100mL	1,030		206
Parameter	Units	Daily Minimum		Daily Maximum
pH	Std pH units	6.5		9.0

4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

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

- Septic tanks
- Recirculation Tank
- Filter Media Bed

The Century Business Park WWTF was issued construction permit #22-4638 on December 4, 1994. On November 27, 1995, the construction permit was extended for one year to expire December 1, 1996. The WWTF was constructed at some point after 1995. It was placed in service at some unknown time. The department was not notified that construction was complete or that the WWTF was put in service. The owner did not apply for an operating permit, and, as a result, was operated without an operating permit for several years. The department inspected the WWTF in May 2007 and discovered the WWTF was in operation and discharging. The owner was then compelled to apply for an operating permit in 2007 as directed by the inspection report. Information of the sizing of the original equipment was not immediately found during the review.

Construction will cover the following items:

- Components are designed for a Population Equivalent of 30 people based on hydraulic loading to the system.
- Disinfection – Disinfection is the process of removal, deactivation, or killing of pathogenic microorganisms.
 - Tablet Chlorinator – Installation of a tablet chlorination chamber [Norweco Bio-Dynamic® Model IT 2000 (S) or approved equal] receiving clarified effluent and prior to the chlorine contact/reactor pipe. The tablet chlorinator shall be capable of disinfecting a design average flow of 2,000 gpd and a peak flow of 8,000 gpd (assuming a default peaking factor of 4). The system will dispense hypochlorite as the wastewater comes into contact with the tablets, which will contain at least 70% available chlorine.
 - Chlorine Contact/Reactor Pipe – Installation of an eight-inch (8”) diameter SDR 35 PVC pipe approximately 32 feet long with a serpentine flow pattern allowing for a length to width ratio of approximately 47.9:1. This tank will allow for at least 15 minutes of contact time during a peak flow of 8,000 gpd.
 - Tablet Dechlorinator – Installation of a tablet dechlorination chamber [Norweco Bio-Dynamic® Model IT 2000 (S) or approved equal] receiving the chlorinated effluent and prior to Outfall No. 001. The tablet dechlorinator shall be capable of neutralizing chlorine at a design average flow of 2,000 gpd and a peak flow of 8,000 gpd (assuming a default peaking factor of 4). The system will dispense sodium sulfite as the wastewater comes into contact with the tablets, which will contain at least 35 percent sodium sulfite.
 - The system will also include a chlorine neutralization contact/reactor pipe at least two-foot (2’) in length to allow for at least 30 seconds of contact time at a peak flow of 8,000 gpd.
- Relocated Outfall – The new outfall location is approximately 16 feet south/southeast of the current outfall location and will discharge into the same unclassified tributary to Browns Branch and flow into the newly classified “100K Extent–Remaining Streams.” The outfall consists of a discharge pipe at a concrete headwall. The WWTF must provide for a location to obtain discrete effluent samples.

5. OPERATING PERMIT

The existing facility was operating under Missouri State Operating Permit #MO-0115746, issued July 1, 2016. Operating permit #MO-0115746 expired during review of the construction-permit application. At renewal, the department intends to issue the MOGD general permit to this facility, which is applicable to non-publically owned treatment works (non-POTW) discharging less than 50,000 gpd of domestic wastewater. The MOGD general permit includes appropriate limits for *E. coli* and total residual chlorine (TRC).

If the MOGD general operating permit is issued for this facility, no modification of the operating permit will be required due to these construction activities. It is expected that the facility owner will include a new facility description and process flow diagram in their next operating-permit renewal application to reflect the installation of the chlorination/dechlorination system. After completion of construction project submit: (1) a statement of work completed and (2) as-built engineering plans if the project was not constructed in accordance with previously submitted plans and specifications. Until the statement of work completed is submitted, report "AG – Conditional Monitoring Not Required for this Period" for TRC and dissolved oxygen (DO) as stated in Note 4 on page 12 of the MOGD operating permit. Once the disinfection system is complete, the statement of work completed is submitted, and the WWTF begin disinfecting, the owner must ensure testing for and reporting of both TRC and DO.

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>

Scott Adams, P.E.
Engineering Section



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

RECEIVED

APPLICATION FOR CONSTRUCTION PERMIT –
WASTEWATER TREATMENT FACILITY

MAR 12 2021

FOR DEPARTMENT USE ONLY	
APP NO.	CP NO.
FEES PAID \$1000.00	CHECK NO. 1158
DATE RECEIVED 3-12-21	

SB

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 Addition of disinfection to existing system
- 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 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 Disinfection system for Century Business Park WWTF	2.2 ESTIMATED PROJECT CONSTRUCTION COST \$ 14,000
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2.3 PROJECT DESCRIPTION
Addition of chlorine contact disinfection system to provide disinfection to the WWTF effluent prior to discharge.

2.4 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION
Contract Hauler

2.5 DESIGN INFORMATION

A. Current population: _____; Design population: 30

B. Actual Flow: 243 gpd; Design Average Flow: 2000 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 Century Business Park		TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS	
ADDRESS (PHYSICAL) Century Commerce Loop	CITY Labadie	STATE MO	ZIP CODE 63055	COUNTY Franklin
Wastewater Treatment Facility: Mo- 0115746 (Outfall 1 Of 1)				
3.1 Legal Description: _____ ¼, _____ ¼, _____ ¼, Sec. _____, T _____, R _____ (Use additional pages if construction of more than one outfall is proposed.)				
3.2 UTM Coordinates Easting (X): 681577 Northing (Y): 4265010 For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)				
3.3 Name of receiving streams: Tributary to Browns Branch				

4.0 PROJECT OWNER

NAME Almo Finn LLC		TELEPHONE NUMBER WITH AREA CODE 727-656-9659	E-MAIL ADDRESS	
ADDRESS 212 OOSTANAU WAY	CITY LADODON	STATE TN	ZIP CODE 37774	

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 See Above		TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS	
ADDRESS	CITY	STATE	ZIP CODE	

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

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

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

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

- A. Is a copy of the as-filed restrictions and covenants included with this application? YES NO
- B. Is a copy of the as-filed warranty deed, quitclaim deed or other legal instrument which transfers ownership of the land for the wastewater treatment facility to the association included with this application? YES NO
- C. Is a copy of the as-filed legal instrument (typically the plat) that provides the association with valid easements for all sewers included with this application? YES NO
- D. 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 Kirby Scheer / Scheer Design Group, LLC		TELEPHONE NUMBER WITH AREA CODE 573 459-2611	E-MAIL ADDRESS kirbs@fidnet.com	
ADDRESS 8584 HWY YY	CITY New Haven	STATE MO	ZIP CODE 63068	

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


PRINTED NAME
JACK FELDWISCH

DATE
3/2/2021

TITLE OR CORPORATE POSITION MANAGER ALMO FINN, LLC	TELEPHONE NUMBER WITH AREA CODE 727-656-9659	E-MAIL ADDRESS
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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.