

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

Greenfield Sharpe WWTF
Northwest of Hwy BB and Hunter Street intersection
Greenfield, MO 65661

Greenfield Talburt WWTF
South terminus of Kings Hwy
Greenfield, MO 65661

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.

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

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

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

March 2, 2022

Effective Date

March 1, 2024

Expiration Date

A handwritten signature in black ink that reads 'Chris Wieberg'.

Chris Wieberg, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

This project consists of improvements to the irrigation system and rehabilitation and realignment of the collection system. This work will involve increasing the existing lagoon irrigation capacities through the installation of 2 new wet wells with valve vaults and irrigation pump equipment (1 for each of the 2 lagoons), approximately 4,390 of 6-inch irrigation line, and 5 new irrigation hook up stations (total, both lagoons). The work also includes the installation of approximately 1,220 linear feet of 12-inch gravity sewer line, 2 new manholes, and 4 existing manhole abandonments. Rehabilitation of the existing collection system will involve using mainly trenchless sewer rehabilitation techniques as well as additional cleaning and televising of collection system sewer mains to identify and potentially perform additional collection system repairs as funds allow. The work includes installing cured-in-place pipe (CIPP) in approximately 8,700 linear feet of existing 8-inch diameter clay sewer main piping; various cured-in-place sectional point repairs, open-cut point repairs, and pressure testing and grouting of service laterals.

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 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 determine Cost Analysis for Compliance because the permit contains no new conditions or requirements that convey a new cost to the facility.

III. CONSTRUCTION PERMIT CONDITIONS

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

1. This construction permit does not authorize discharge.

2. All construction shall be in accordance with the plans and specifications submitted by Olsson Associates on September 20, 2021, and signed and sealed by Jerry Jesky, P.E. on September 16, 2021, and approved by the Department on March 2, 2022.
3. Regulation 10 CSR 20-4.040(18)(B)1 requires that projects be publicly advertised, allowing sufficient time for bids to be prepared and submitted. Projects should be advertised at least 30 days prior to bid opening.
4. The Department must be contacted in writing prior to making any changes to the approved plans and specifications that would directly or indirectly have an impact on the capacity, flow, system layout, or reliability of the proposed wastewater treatment facilities or any design parameter that is addressed by 10 CSR 20-8, in accordance with 10 CSR 20-8.110(11).
5. As per 10 CSR 20-4.040, all changes in contract price or time within the approved scope of work must be by change order in accordance with Section 19 of this rule.
6. 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 electronic Sanitary Sewer Overflow/Bypass Reporting system at <https://dnr.mo.gov/mogem/> or to the Southwest Regional Office per 10 CSR 20-7.015(9)(G).
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 <https://dnr.mo.gov/data-e-services/missouri-gateway-environmental-management-mogem>. See <https://dnr.mo.gov/data-e-services/water/electronic-permitting-epermitting> for more information.
8. A United States Army Corps of Engineers (USACE) Section 404 Department of Army permit (§404) along with the Department's Section 401 Water Quality Certification or waiver (§401) may be required for the activities described in this permit. This permit is not valid until these requirements are satisfied. If construction activity will disturb any land below the ordinary high water mark of jurisdictional waters of the U.S., then a §404/§401 will likely be required. Since the USACE makes determinations on what is jurisdictional, you must contact the USACE to determine permitting requirements. See <https://dnr.mo.gov/water/business-industry-other-entities/permits-certification-engineering-fees/section-401-water-quality> for more information or you may contact the Department's Water Protection Program at 573-522-4502 or wpsc401cert@dnr.mo.gov.

9. Upon completion of construction:
 - a. The City of Greenfield will become the continuing authority for operation and maintenance of these facilities;
 - b. Submit an electronic copy of the as builts if the project was not constructed in accordance with previously submitted plans and specifications; and
 - c. Submit the enclosed form Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(N) and request the operating permit modification be issued.

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

This construction will mitigate emergency discharges during non-irrigation months through collection system rehabilitation, to reduce wet weather flows, and increase irrigation capacities at both lagoons to avoid discharging to the local tributaries during the recreational season.

2. FACILITY DESCRIPTION

Both the Sharpe and Talbert facilities consist of existing 2-cell lagoons with partial irrigation of wastewater to the surface with the sludge retained in the lagoon.

The Greenfield Sharpe WWTF is located northwest of Hwy BB and Hunter Street intersection, Greenfield, Missouri, in Dade County. The facility has a design average flow of 128,000 gpd and serves a hydraulic population equivalent of approximately 1,280 people.

The Greenfield Talbert WWTF is located at the south terminus of Kings Hwy, Greenfield, Missouri, in Dade County. The facility has a design average flow of 118,000 gpd and serves a hydraulic population equivalent of approximately 1,180 people.

3. COMPLIANCE PARAMETERS

This project addresses irrigation capacity to allow irrigation of all received wastewater during the recreational season to address *E. coli* limits. Ammonia will be monitored after construction is completed to determine if operational changes or facility additions will be required to meet the schedule of compliance for ammonia in the operating permit.

4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

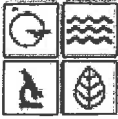
Construction activities for the irrigation system improvements and collection system rehabilitation and realignment for this project will include:

- Construction of one wetwell at the Sharpe Lagoon with one 75-HP vertical turbine pump capable of operating at 484 GPM at 372 feet TDH
- Construction of one wetwell at the Talbert Lagoon with one 60-HP vertical turbine pump capable of operating at 488 GPM at 339 feet TDH
- Approximately 4,390 linear feet of 6-inch, SDR21 CL200 PVC irrigation supply line
- Approximately 120 linear feet of 6-inch, DR9 HDPE irrigation supply line
- Approximately 100 linear feet of 12-inch, DR11 HDPE casing, horizontal directional drilling
- Approximately 1,220 linear feet of 12-inch, PVC gravity pipe
- Approximately 8,700 linear feet of 8-inch, cured-in-place 6mm lining
- Install one 4-foot diameter precast manhole 8 feet deep or less
- Install one 4-foot diameter precast manhole 14-16 feet deep
- Abandon four existing manholes

5. OPERATING PERMIT

Missouri State Operating Permit No. MO-0055603 (Talbert) and Missouri State Operating Permit No. MO-0055590 (Sharpe) will require a modification to reflect the construction activities. The modified Greenfield WWTF Operating Permits, MO-0055603 (Talbert) and MO-0055590 (Sharpe), were successfully public noticed from January 7, 2022 to February 7, 2022 with no comments received. Submit the Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(N) and request the operating permit modification be issued.

Patrick Anderson, P.E.
Financial Assistance Center
patrick.anderson@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 \$1000.00	CHECK NO. 26762
DATE RECEIVED 9-20-21	

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: CWSRF Project #: C295831-01
- 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: 6-21-21 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 <u>Wastewater System Improvements, Greenfield, MO</u>	2.2 ESTIMATED PROJECT CONSTRUCTION COST <u>\$ 500,000</u>
--	--

2.3 PROJECT DESCRIPTION
 This project consists of the installation of an influent flow meter at the Talburt Lagoon, along with a new wet well, pump, and irrigation supply line to 2 new hook-up stations for a rain reel to connect for irrigation purposes.

2.4 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION
 N/A

2.5 DESIGN INFORMATION

A. Current population: 668; Design population: 1,180

B. Actual Flow: 108,000 gpd; Design Average Flow: 118,000 gpd;
 Actual Peak Daily Flow: 2,800,000 gpd; Design Maximum Daily Flow: UNK gpd; Design Wet Weather Event: UNK

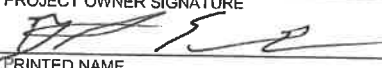
2.6 ADDITIONAL INFORMATION

A. Is a topographic map attached? YES NO

B. Is a process flow diagram attached? YES NO

RECEIVED

SEP 20 2021

3.0 WASTEWATER TREATMENT FACILITY				
NAME Greenfield Talburt WWTF		TELEPHONE NUMBER WITH AREA CODE (417)637-2532		E-MAIL ADDRESS city@greenfieldmo.org
ADDRESS (PHYSICAL) South terminus of Kings Hwy	CITY Greenfield	STATE MO	ZIP CODE 65661	COUNTY Dade
Wastewater Treatment Facility: Mo- 0055603 (Outfall 1 Of 1)				
3.1 Legal Description: <u>NW 1/4, NE 1/4, SW 1/4, Sec. 19, T 31, R 26</u> (Use additional pages if construction of more than one outfall is proposed.)				
3.2 UTM Coordinates Easting (X): <u>426751</u> Northing (Y): <u>4140234</u> For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)				
3.3 Name of receiving streams: <u>Tributary to Turnback Creek</u>				
4.0 PROJECT OWNER				
NAME City of Greenfield		TELEPHONE NUMBER WITH AREA CODE (417)637-2532		E-MAIL ADDRESS city@greenfieldmo.org
ADDRESS <u>105 S. Grand Ave.</u> 115 South Main Street	CITY Greenfield	STATE MO	ZIP CODE 65661	
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 City of Greenfield		TELEPHONE NUMBER WITH AREA CODE (417)637-2532		E-MAIL ADDRESS city@greenfieldmo.org
ADDRESS <u>105 S. Grand Ave.</u> 115 South Main Street	CITY Greenfield	STATE MO	ZIP CODE 65661	
5.1 A letter from the continuing authority, if different than the owner, is included with this application. <input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> N/A				
5.2 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHORITY IS A MISSOURI PUBLIC SERVICE COMMISSION REGULATED ENTITY.				
A. Is a copy of the certificate of convenience and necessity included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO				
5.3 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHORITY IS A PROPERTY OWNERS ASSOCIATION.				
A. Is a copy of the as-filed restrictions and covenants included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO				
B. Is a copy of the as-filed warranty deed, quitclaim deed or other legal instrument which transfers ownership of the land for the wastewater treatment facility to the association included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO				
C. Is a copy of the as-filed legal instrument (typically the plat) that provides the association with valid easements for all sewers included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO				
D. Is a copy of the Missouri Secretary of State's nonprofit corporation certificate included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO				
6.0 ENGINEER				
ENGINEER NAME / COMPANY NAME Jerry Jesky / Olsson		TELEPHONE NUMBER WITH AREA CODE (417)885-1746		E-MAIL ADDRESS jjesky@olsson.com
ADDRESS 550 E. St. Louis St.	CITY Springfield	STATE MO	ZIP CODE 65806	
7.0 APPLICATION FEE				
<input checked="" type="checkbox"/> CHECK NUMBER <u>026762</u> <input type="checkbox"/> 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 Dave Engroff			DATE <u>08/27/2021</u>	
TITLE OR CORPORATE POSITION Mayor		TELEPHONE NUMBER WITH AREA CODE (417)637-2532		E-MAIL ADDRESS city@greenfieldmo.org
Mail completed copy to: MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM P.O. BOX 176 JEFFERSON CITY, MO 65102-0176				

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

PART B – LAND APPLICATION ONLY

(Submit only if the proposed construction project includes land application of wastewater.)

8.0 FACILITY INFORMATION

8.1 Type of wastewater to be irrigated: Domestic State/National Park Seasonal business
 Municipal Municipal with a pretreatment program or significant industrial users
 Other (explain) _____

8.2 Months when the business or enterprise will operate or generate wastewater:
 12 months per year Part of the year (list months): _____

8.3 This system is designed for:
 No-discharge.
 Partial irrigation when feasible and discharge rest of time.
 Irrigation during recreational season, April – October, and discharge during November – March. (After proposed system improvements.)
 Other (explain) _____.

9.0 STORAGE BASINS

9.1 Number of storage basins: 2 (Use additional pages if greater than three basins.)

9.2 Type of basins: Steel Concrete Fiberglass Earthen Earthen with membrane liner

9.3 Storage basin dimensions at inside top of berm (feet). Report freeboard as feet from top of berm to emergency spillway or overflow pipe. **Both basins have irregular dimensions. See facility permit history for surface areas.**
Basin #1: Length _____ Width _____ Depth 8 Freeboard 2 Depth _____ Safety 1 % Slope 33%
Basin #2: Length _____ Width _____ Depth 8 Freeboard 2 Depth _____ Safety 1 % Slope 33%
Basin #3: Length _____ Width _____ Depth _____ Freeboard _____ Depth _____ Safety _____ % Slope _____

9.4 Storage Basin operating levels (report as feet below emergency overflow level).
Basin #1: Maximum operating water level 5 ft Minimum operating water level 2 ft
Basin #2: Maximum operating water level 5 ft Minimum operating water level 2 ft
Basin #3: Maximum operating water level _____ ft Minimum operating water level _____ ft

9.5 Design depth of sludge in storage basins.
Basin #1: 2 ft Basin #2: 2 ft Basin #3: _____ ft

9.6 Existing sludge depth, if the basins are currently in operation.
Basin #1: UNK ft Basin #2: UNK ft Basin #3: _____ ft

9.7 Total design sludge storage: 2289 dry tons and 366,530 cubic feet ←(wet cubic feet)

10.0 LAND APPLICATION SYSTEM Total acreage includes proposed irrigation areas. See additional page for proposed areas.

10.1 Number of irrigation sites 4 Total Acres 95 Maximum % field slopes <20%
Location: SW 1/4, SW 1/4, NE 1/4, 19 Sec. 31 T 26 R Dade County 21 Acres
Location: NW 1/4, NW 1/4, SE 1/4, 19 Sec. 31 T 26 R Dade County 19 Acres
Location: _____ 1/4, _____ 1/4, _____ 1/4, _____ Sec. _____ T _____ R _____ County _____ Acres
(Use additional pages if greater than three irrigation sites.)

Existing Irrigation Areas 1 & 2

10.2 Type of vegetation: Grass hay Pasture Timber Row crops
 Other (describe) _____

10.3 Wastewater flow (dry weather) gallons per day: Average annual 24,454,000 gal Seasonal 14,337,000 gal Off-season 10,117,000 gal

10.4 Land application rate (design flow including 1-in-10 year storm water flows):
Design: 24 inches/year 0.2 inches/hour 1.0 inches/day 3.0 inches/week
Actual: 24 inches/year 0.15 inches/hour 0.8 inches/day 2.8 inches/week

10.5 Total irrigation per year (gallons): Design: 33,700,000 gal Actual: 2,000,000 gal Design volume includes proposed irrigation areas.

10.6 Actual months used for irrigation (check all that apply):
 Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

10.7 Land application rate is based on:
 Hydraulic Loading Other (describe) _____
 Nutrient Management Plan (N&P) If N&P is selected, is the plan included? YES NO

PART B – LAND APPLICATION ONLY

(Submit only if the proposed construction project includes land application of wastewater.)

8.0 FACILITY INFORMATION

8.1 Type of wastewater to be irrigated: Domestic State/National Park Seasonal business
 Municipal Municipal with a pretreatment program or significant industrial users
 Other (explain) _____

8.2 Months when the business or enterprise will operate or generate wastewater:
 12 months per year Part of the year (list months): _____

8.3 This system is designed for:
 No-discharge.
 Partial irrigation when feasible and discharge rest of time.
 Irrigation during recreational season, April – October, and discharge during November – March.
 Other (explain) _____.

9.0 STORAGE BASINS

9.1 Number of storage basins: _____ (Use additional pages if greater than three basins.)

9.2 Type of basins: Steel Concrete Fiberglass Earthen Earthen with membrane liner

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

Basin #1: Length _____ Width _____ Depth _____ Freeboard _____ Depth _____ Safety _____ % Slope _____
Basin #2: Length _____ Width _____ Depth _____ Freeboard _____ Depth _____ Safety _____ % Slope _____
Basin #3: Length _____ Width _____ Depth _____ Freeboard _____ Depth _____ Safety _____ % Slope _____

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

Basin #1: Maximum operating water level _____ ft Minimum operating water level _____ ft
Basin #2: Maximum operating water level _____ ft Minimum operating water level _____ ft
Basin #3: Maximum operating water level _____ ft Minimum operating water level _____ ft

9.5 Design depth of sludge in storage basins.

Basin #1: _____ ft Basin #2: _____ ft Basin #3: _____ ft

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

Basin #1: _____ ft Basin #2: _____ ft Basin #3: _____ ft

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

10.0 LAND APPLICATION SYSTEM

10.1 Number of irrigation sites 4 Total Acres 95 Maximum % field slopes <20%

Location: SE 1/4, SE 1/4, SE 1/4, 19 Sec. 31 T 26 R Dade County 37 Acres
Location: SW 1/4, SW 1/4, SE 1/4, 19 Sec. 31 T 26 R Dade County 18 Acres
Location: _____ 1/4, _____ 1/4, _____ 1/4, _____ Sec. _____ T _____ R _____ County _____ Acres

Proposed Irrigation Areas 3 & 4

(Use additional pages if greater than three irrigation sites.)

10.2 Type of vegetation: Grass hay Pasture Timber Row crops
 Other (describe) _____

10.3 Wastewater flow (dry weather) gallons per day: Average annual _____ Seasonal _____ Off-season _____

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

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

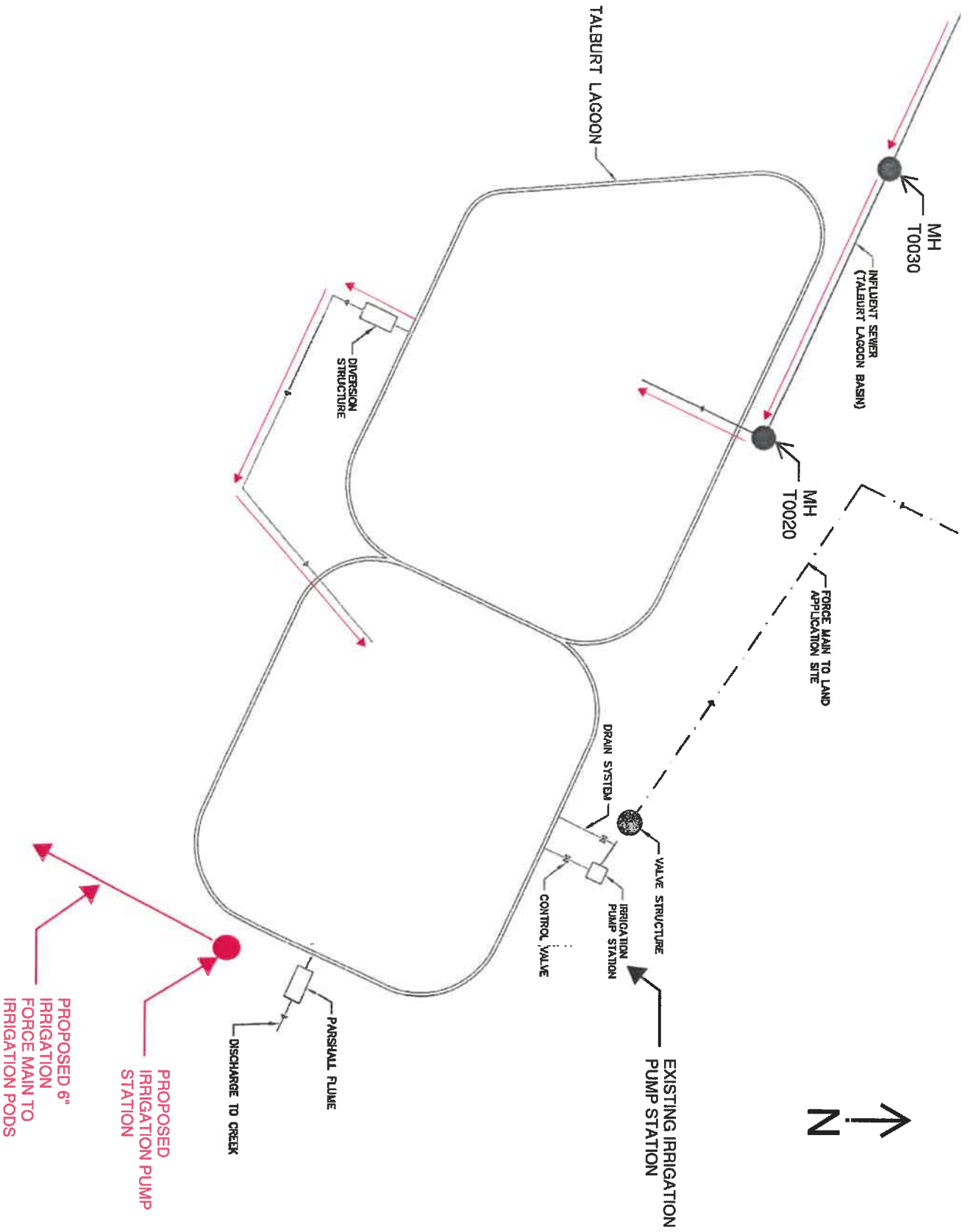
10.5 Total irrigation per year (gallons): Design: _____ gal Actual: _____ gal

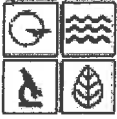
10.6 Actual months used for irrigation (check all that apply):

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

10.7 Land application rate is based on:

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





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: CWSRF Project #: C295831-01
- 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: 6-21-21 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 Wastewater System Improvements, Greenfield, MO	2.2 ESTIMATED PROJECT CONSTRUCTION COST \$ 500,000
--	--

2.3 PROJECT DESCRIPTION
 This project consists of the installation of an influent flow meter at the Sharpe Lagoon, along with a new wet well, pump, and irrigation supply line to 4 new hook-up station locations for a rain reel to connect for irrigation purposes.

2.4 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION
 N/A

2.5 DESIGN INFORMATION


A. Current population: 767; Design population: 1,280

B. Actual Flow: 72,000 gpd; Design Average Flow: 128,000 gpd;
 Actual Peak Daily Flow: 2,400,000 gpd; Design Maximum Daily Flow: UNK gpd; Design Wet Weather Event: UNK

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 Sharpe Talbot WWTF		TELEPHONE NUMBER WITH AREA CODE (417)637-2532		E-MAIL ADDRESS city@greenfieldmo.org
ADDRESS (PHYSICAL) West State Highway BB		CITY Greenfield	STATE MO	ZIP CODE 65661
COUNTY Dade				
Wastewater Treatment Facility: Mo- 0055590 (Outfall 1 Of 1)				
3.1 Legal Description: <u>NE</u> ¼, <u>SW</u> ¼, <u>SW</u> ¼, Sec. 13, T 31, R 27 (Use additional pages if construction of more than one outfall is proposed.)				
3.2 UTM Coordinates Easting (X): 424134 Northing (Y): 4141930 For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)				
3.3 Name of receiving streams: <u>Tributary to Wetzal Branch</u>				
4.0 PROJECT OWNER				
NAME City of Greenfield		TELEPHONE NUMBER WITH AREA CODE (417)637-2532		E-MAIL ADDRESS city@greenfieldmo.org
ADDRESS <u>105 S. Grand Ave.</u> 115 South Main Street		CITY Greenfield	STATE MO	ZIP CODE 65661
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 City of Greenfield		TELEPHONE NUMBER WITH AREA CODE (417)637-2532		E-MAIL ADDRESS city@greenfieldmo.org
ADDRESS <u>105 S. Grand Ave.</u> 115 South Main Street		CITY Greenfield	STATE MO	ZIP CODE 65661
5.1 A letter from the continuing authority, if different than the owner, is included with this application. <input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> N/A				
5.2 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHORITY IS A MISSOURI PUBLIC SERVICE COMMISSION REGULATED ENTITY.				
A. Is a copy of the certificate of convenience and necessity included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO				
5.3 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHORITY IS A PROPERTY OWNERS ASSOCIATION.				
A. Is a copy of the as-filed restrictions and covenants included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO				
B. Is a copy of the as-filed warranty deed, quitclaim deed or other legal instrument which transfers ownership of the land for the wastewater treatment facility to the association included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO				
C. Is a copy of the as-filed legal instrument (typically the plat) that provides the association with valid easements for all sewers included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO				
D. Is a copy of the Missouri Secretary of State's nonprofit corporation certificate included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO				
6.0 ENGINEER				
ENGINEER NAME / COMPANY NAME Jerry Jesky / Olsson		TELEPHONE NUMBER WITH AREA CODE (417)885-1746		E-MAIL ADDRESS jjesky@olsson.com
ADDRESS 550 E. St. Louis St.		CITY Springfield	STATE MO	ZIP CODE 65806
7.0 APPLICATION FEE				
<input checked="" type="checkbox"/> CHECK NUMBER <u>026762</u> <input type="checkbox"/> 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 Dave Engroff			DATE <u>08/27/2021</u>	
TITLE OR CORPORATE POSITION Mayor		TELEPHONE NUMBER WITH AREA CODE (417)637-2532		E-MAIL ADDRESS city@greenfieldmo.org
Mail completed copy to: MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM P.O. BOX 176 JEFFERSON CITY, MO 65102-0176				
END OF PART A.				
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHETHER PART B NEEDS TO BE COMPLETE.				

PART B – LAND APPLICATION ONLY

(Submit only if the proposed construction project includes land application of wastewater.)

8.0 FACILITY INFORMATION

8.1 Type of wastewater to be irrigated: Domestic State/National Park Seasonal business
 Municipal Municipal with a pretreatment program or significant industrial users
 Other (explain) _____

8.2 Months when the business or enterprise will operate or generate wastewater:
 12 months per year Part of the year (list months): _____

8.3 This system is designed for:
 No-discharge.
 Partial irrigation when feasible and discharge rest of time.
 Irrigation during recreational season, April – October, and discharge during November – March. (After proposed system improvements.)
 Other (explain) _____.

9.0 STORAGE BASINS

9.1 Number of storage basins: 2 (Use additional pages if greater than three basins.)

9.2 Type of basins: Steel Concrete Fiberglass Earthen Earthen with membrane liner

9.3 Storage basin dimensions at inside top of berm (feet). Report freeboard as feet from top of berm to emergency spillway or overflow pipe. **Both basins have irregular dimensions. See facility permit history for surface areas.**
Basin #1: Length _____ Width _____ Depth 8 Freeboard 2 Depth _____ Safety 1 % Slope 33%
Basin #2: Length _____ Width _____ Depth 8 Freeboard 2 Depth _____ Safety 1 % Slope 33%
Basin #3: Length _____ Width _____ Depth _____ Freeboard _____ Depth _____ Safety _____ % Slope _____

9.4 Storage Basin operating levels (report as feet below emergency overflow level).
Basin #1: Maximum operating water level 5 ft Minimum operating water level 2 ft
Basin #2: Maximum operating water level 5 ft Minimum operating water level 2 ft
Basin #3: Maximum operating water level _____ ft Minimum operating water level _____ ft

9.5 Design depth of sludge in storage basins.
Basin #1: 2 ft Basin #2: 2 ft Basin #3: _____ ft

9.6 Existing sludge depth, if the basins are currently in operation.
Basin #1: UNK ft Basin #2: UNK ft Basin #3: _____ ft

9.7 Total design sludge storage: 5473 dry tons and 876,320 cubic feet ←(wet cubic feet)

10.0 LAND APPLICATION SYSTEM Total acreage includes proposed irrigation areas. See additional page for proposed areas.

10.1 Number of irrigation sites 4 Total Acres 89 Maximum % field slopes <8%
Location: NW ¼, SW ¼, SW ¼, 13 Sec. 31 T 27 R Dade County 8 Acres ← Existing Irrigation Areas 1 & 2
Location: SW ¼, NW ¼, SW ¼, 13 Sec. 31 T 27 R Dade County 16 Acres
Location: _____ ¼, _____ ¼, _____ ¼, _____ Sec. _____ T _____ R _____ County _____ Acres
(Use additional pages if greater than three irrigation sites.)

10.2 Type of vegetation: Grass hay Pasture Timber Row crops
 Other (describe) _____

10.3 Wastewater flow (dry weather) gallons per day: Average annual 25,936,000 gal Seasonal 15,205,800 gal Off-season 10,730,200 gal

10.4 Land application rate (design flow including 1-in-10 year storm water flows):
Design: 24 inches/year 0.2 inches/hour 1.0 inches/day 3.0 inches/week
Actual: 24 inches/year 0.2 inches/hour 1.0 inches/day 3.0 inches/week

10.5 Total irrigation per year (gallons): Design: 32,400,000 gal Actual: 1,300,000 gal Design volume includes proposed irrigation areas.

10.6 Actual months used for irrigation (check all that apply):
 Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

10.7 Land application rate is based on:
 Hydraulic Loading Other (describe) _____
 Nutrient Management Plan (N&P) If N&P is selected, is the plan included? YES NO

PART B – LAND APPLICATION ONLY

(Submit only if the proposed construction project includes land application of wastewater.)

8.0 FACILITY INFORMATION

8.1 Type of wastewater to be irrigated: Domestic State/National Park Seasonal business
 Municipal Municipal with a pretreatment program or significant industrial users
 Other (explain) _____

8.2 Months when the business or enterprise will operate or generate wastewater:
 12 months per year Part of the year (list months): _____

8.3 This system is designed for:
 No-discharge.
 Partial irrigation when feasible and discharge rest of time.
 Irrigation during recreational season, April – October, and discharge during November – March.
 Other (explain) _____.

9.0 STORAGE BASINS

9.1 Number of storage basins: _____ (Use additional pages if greater than three basins.)

9.2 Type of basins: Steel Concrete Fiberglass Earthen Earthen with membrane liner

9.3 Storage basin dimensions at inside top of berm (feet). Report freeboard as feet from top of berm to emergency spillway or overflow pipe.
Basin #1: Length _____ Width _____ Depth _____ Freeboard _____ Depth _____ Safety _____ % Slope _____
Basin #2: Length _____ Width _____ Depth _____ Freeboard _____ Depth _____ Safety _____ % Slope _____
Basin #3: Length _____ Width _____ Depth _____ Freeboard _____ Depth _____ Safety _____ % Slope _____

9.4 Storage Basin operating levels (report as feet below emergency overflow level).
Basin #1: Maximum operating water level _____ ft Minimum operating water level _____ ft
Basin #2: Maximum operating water level _____ ft Minimum operating water level _____ ft
Basin #3: Maximum operating water level _____ ft Minimum operating water level _____ ft

9.5 Design depth of sludge in storage basins.
Basin #1: _____ ft Basin #2: _____ ft Basin #3: _____ ft

9.6 Existing sludge depth, if the basins are currently in operation.
Basin #1: _____ ft Basin #2: _____ ft Basin #3: _____ ft

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

10.0 LAND APPLICATION SYSTEM

10.1 Number of irrigation sites 4 Total Acres 89 Maximum % field slopes <8%
Location: NE 1/4, NE 1/4, SW 1/4, 14 Sec. 31 T 26 R Dade County 20 Acres
Location: NW 1/4, SW 1/4, SE 1/4, 14 Sec. 31 T 26 R Dade County 25 Acres
Location: SE 1/4, SE 1/4, SW 1/4, 14 Sec. 31 T 26 R Dade County 20 Acres
(Use additional pages if greater than three irrigation sites.)

Proposed Irrigation Areas 3, 4, & 5

10.2 Type of vegetation: Grass hay Pasture Timber Row crops
 Other (describe) _____

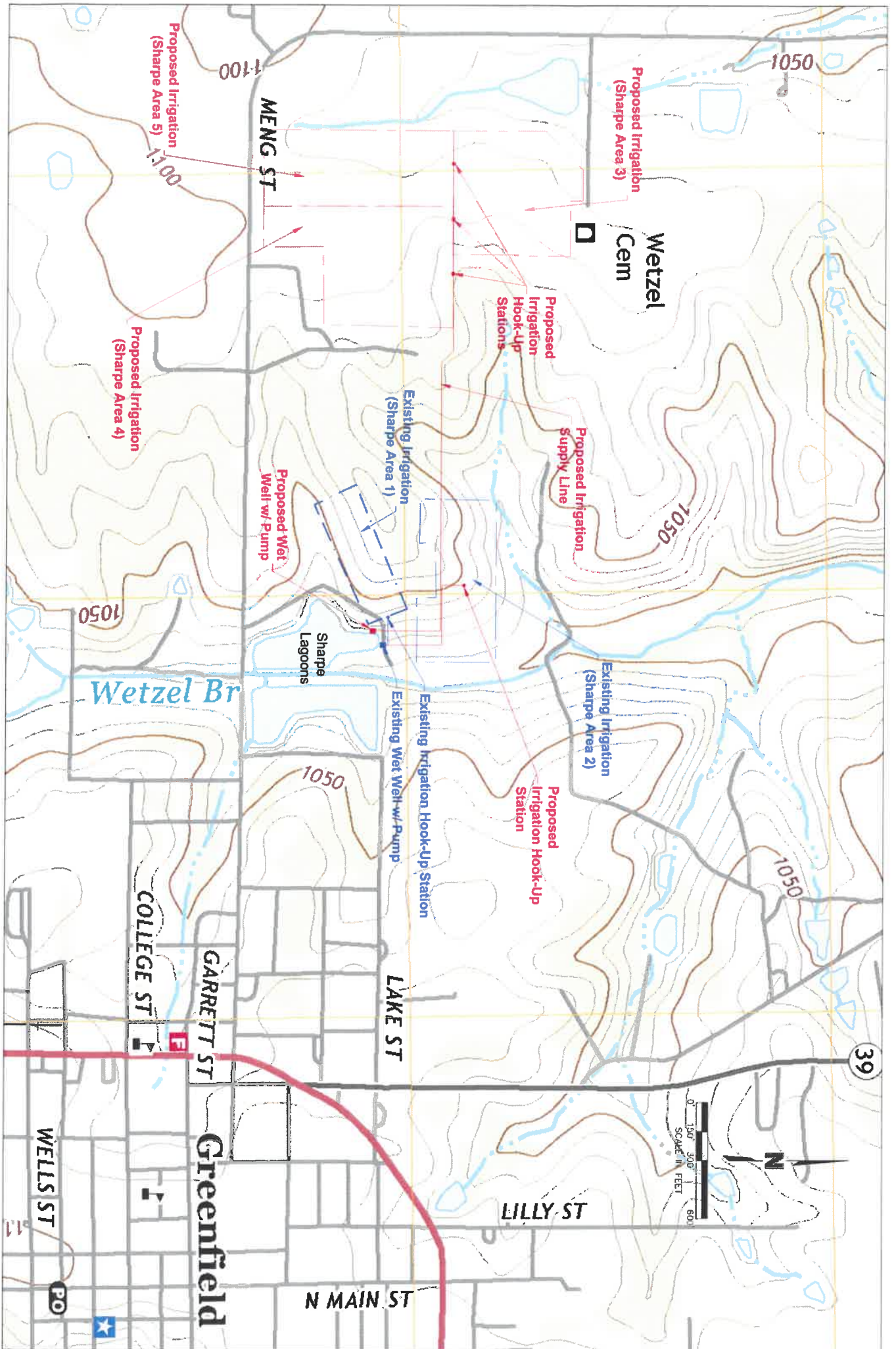
10.3 Wastewater flow (dry weather) gallons per day: Average annual _____ Seasonal _____ Off-season _____

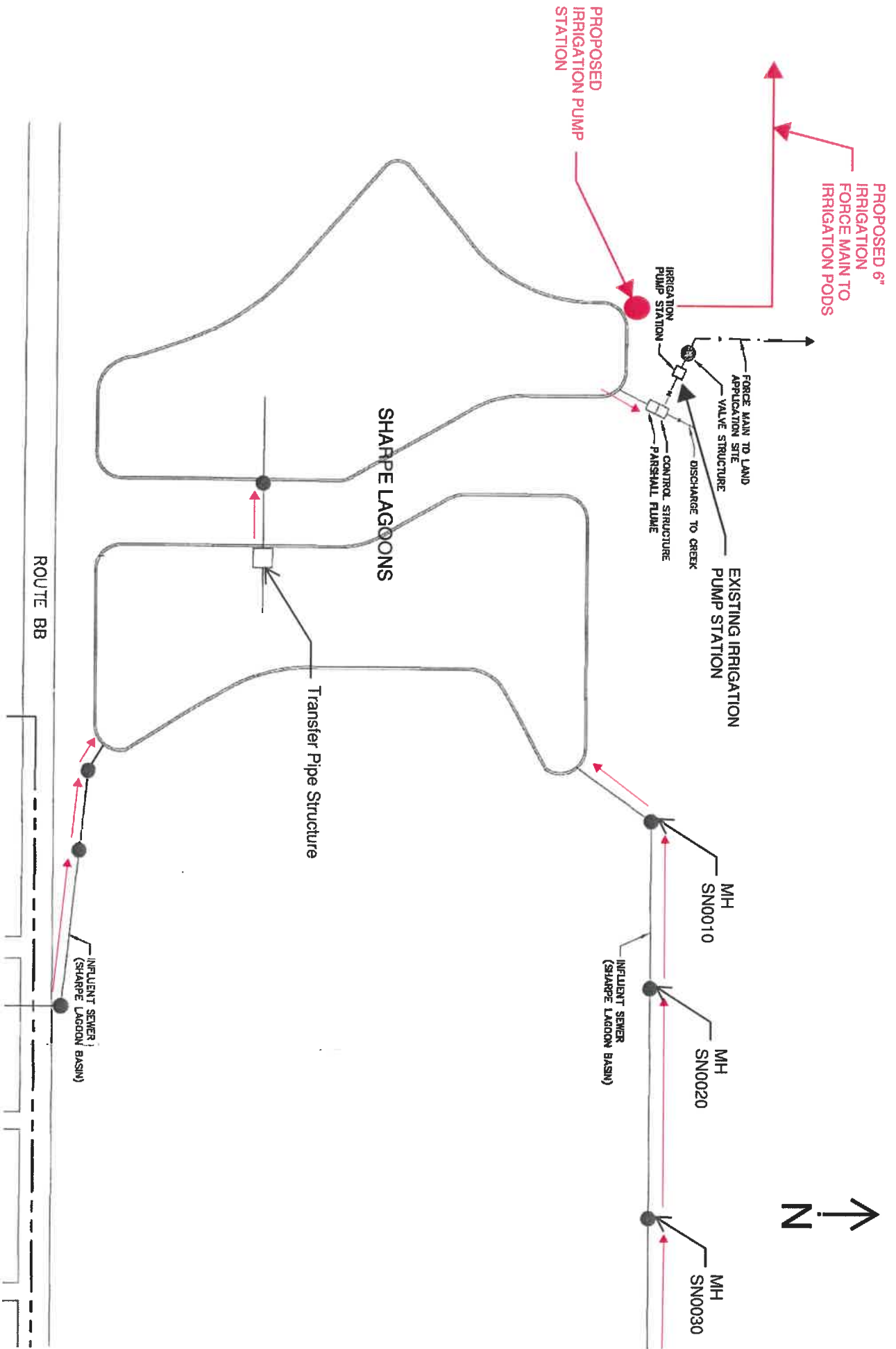
10.4 Land application rate (design flow including 1-in-10 year storm water flows):
Design: _____ inches/year _____ inches/hour _____ inches/day _____ inches/week
Actual: _____ inches/year _____ inches/hour _____ inches/day _____ inches/week

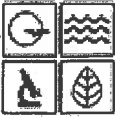
10.5 Total irrigation per year (gallons): Design: _____ gal Actual: _____ gal

10.6 Actual months used for irrigation (check all that apply):
 Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

10.7 Land application rate is based on:
 Hydraulic Loading Other (describe) _____
 Nutrient Management Plan (N&P) If N&P is selected, is the plan included? YES NO







MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM
**APPLICATION FOR CONSTRUCTION PERMIT –
 SEWER EXTENSION**

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

NOTE ► PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM

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: CWSRF Project #: C295831-01
- 1.2 Has the Department of Natural Resources approved the proposed project's engineering report*?
 YES Date of Approval: 6/21/2021 NO N/A
- 1.3 Is a copy of the appropriate plans* and specifications* included with this application? YES NO
- 1.4 Is a summary of design* included with this application? YES NO
- 1.5 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

Wastewater System Improvements, Greenfield, MO

ADDRESS	CITY	STATE	ZIP CODE	COUNTY
105 South Grand Ave.	Greenfield	MO	65661	Dade

2.2 Legal Description: NW ¼, NE ¼, SW ¼, Sec. 19 , T 31N , R 26W

2.3 Project Components (check all that apply):

- Gravity sewers Pumping stations Force mains Alternative sewer system Other (Describe below.)

2.4 PROJECT DESCRIPTION

This project consists of replacement of an existing 8" gravity main with 12" SDR-26 PVC pipe. Approximately 1,190 LF of 12" PVC will be installed along with 2 new 4' ID Manholes.

Receiving Sewer Capacity assumes slope of 0.15% and n of 0.01.

2.5 DESIGN INFORMATION

- A. Population or number of lots to be served by this extension: N/A
- B. Estimated flow to be contributed by this extension: Design Average Flow: N/A gpd Design Peak Hourly Flow: N/A gph
- C. Industrial Wastes: Type: N/A Flow: N/A gpd
- D. Receiving Sewer: Size: 15 inches Capacity: 1,459 gpm

3.0 PROJECT OWNER

NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
City of Greenfield	(417)637-2532	city@greenfieldmo.org

ADDRESS	CITY	STATE	ZIP CODE
105 South Grand Ave.	Greenfield	MO	65661

4.0 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. 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.

NAME	TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
City of Greenfield	(417)637-2532	city@greenfieldmo.org

ADDRESS	CITY	STATE	ZIP CODE
105 South Grand Ave.	Greenfield	MO	65661

4.1 A letter from the continuing authority or the Continuing Authority and Receiving Wastewater Treatment Facility Acceptance form, if different than the owner, is included with this application. YES NO N/A

5.0 ENGINEER			
ENGINEER NAME / COMPANY NAME Jerry Jesky / Olsson		TELEPHONE NUMBER WITH AREA CODE (417)885-1746	E-MAIL ADDRESS jjesky@olsson.com
ADDRESS 550 E. St. Louis St.	CITY Springfield	STATE MO	ZIP CODE 65806
6.0 RECEIVING WASTEWATER TREATMENT FACILITY			
NAME Greenfield Talburt WWTF		TELEPHONE NUMBER WITH AREA CODE (417)637-2532	E-MAIL ADDRESS city@greenfieldmo.org
MISSOURI STATE OPERATING PERMIT # MO-0055603		REMAINING CAPACITY (GPD) N/A (line replacement)	
6.1 Has the receiving treatment facility agreed to accept the additional wastewater flow?		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
6.2 A letter from the receiving wastewater treatment facility, if different than the continuing authority, is included with this application.		<input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> N/A	
7.0 Application Fee			
<input checked="" type="checkbox"/> Check Number <i>026762</i>		<input type="checkbox"/> 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 Dave Engroff		DATE <i>08/27/2021</i>	
TITLE OR COPORATE POSITION Mayor		TELEPHONE NUMBER WITH AREA CODE (417)637-2532	E-MAIL ADDRESS city@greenfieldmo.org
Mail completed copy to:		MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM P.O. BOX 176 JEFFERSON CITY, MO 65102-0176	