

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

U.S. Army Corps of Engineers
c/o Bart J. Dearborn, Operations Project Manager
USACE Wappapello Lake Wastewater Treatment Facility
10992 Highway T
Wappapello, MO 63966

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.

December 16, 2022

Effective Date

December 15, 2024

Expiration Date

Chris Wieberg, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

Construction will include replacing the existing lagoon liner and installation of a passive lagoon liner ventilation system, along with sludge removal and other permit-exempt rehabilitation (replacing/reconfiguring the piping in the effluent pump station, replacing the pump and controller in the bulk recirculation tank, installing guiderails and floats in the bulk recirculation tank, and replacing the sprinkler irrigation field sprinkler piping and sprinkler heads).

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 Missouri 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 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 consistent with plans and specifications signed and sealed by Joseph Asher Leff, P.E., with U.S. Army Corps of Engineers - St. Louis District, and as described in this permit.
3. The Department must be contacted in writing prior to making any changes to the plans and specifications that would directly or indirectly have an impact on the capacity, flow, system layout, or reliability of the proposed wastewater treatment facilities or any design parameter that is addressed by 10 CSR 20-8, in accordance with 10 CSR 20-8.110(11).

4. State and federal law does not permit bypassing of raw wastewater, therefore steps must be taken to ensure that raw wastewater does not discharge during construction. If a sanitary sewer overflow or bypass occurs, report the appropriate information to the Department's Southeast Regional Office per 10 CSR 20-7.015(9)(G).
5. The wastewater 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.
6. 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.
7. 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 <https://dnr.mo.gov/water/business-industry-other-entities/permits-certification-engineering-fees/section-401-water-quality> for more information.
8. In accordance with Special Condition 20 of Missouri State Operating Permit MO-0124621, removal of sludge/septage from the earthen basin shall be conducted in accordance with Standard Condition Part III and shall be pre-approved by the Southeast Regional Office. Contact the Southeast Regional Office, 2155 N. Westwood Blvd., Poplar Bluff, MO 63901; 573-840-9750; SERO@dnr.mo.gov. See <https://dnrservices.mo.gov/env/wpp/permits/issued/docs/0124621.pdf>. At a minimum, gallons and percent solids must be tested in order to report total dry tons of solids removed. Once sludge is tested and removed from the earthen basin, submit to the eDMR system the appropriate Form S sections for sludge/septage removal. Go to <https://dnr.mo.gov/document-search> and search for "Form S". See additional guidance at <https://extension.missouri.edu/publications/eq422>.
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)
- Facilities shall be readily accessible by authorized personnel from a public right-of-way at all times. 10 CSR 20-8.140(2)(D)
- 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 1.0×10^{-7} cm/sec. 10 CSR 20-8.200(4)(C)1.
- 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.
- 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.

10. Upon completion of construction:

- A. The U.S. Army Corps of Engineers 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 Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(N). See <https://dnr.mo.gov/document-search/wastewater-construction-statement-work-completed-mo-780-2155>.

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

The project is to rehabilitate existing infrastructure permitted under MO-0124621, as a preemptive measure to enhance the longevity and operability of the lagoon. Rehabilitation includes lagoon liner, lagoon liner ventilation system, sprinkler piping, sprinkler heads, effluent pump station pipe, etc.

2. FACILITY DESCRIPTION

The replacement lagoon liner shall be HDPE with ~0.04-in thickness (40 mil). Underneath the lagoon liner shall be venting strips, 6-in collector pipes wrapped in geotextile fabric, with approximately 15-ft maximum spacing. Appropriate seep collars, as well as influent and effluent lines, shall be provided/replaced as needed. All other rehabilitation work appears to be exempt from construction permitting, including various pipe, pump, and irrigation system component replacements. See 10 CSR 20-6.010 (1)(B) and (5)(B), <https://www.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf>.

The USACE Wappapello Lake WWTF is located at 10992 Highway T, Wappapello, in Wayne County, Missouri. The facility has a design flow of 5,326 gpd (including 10-yr R-E) and serves a population equivalent of approximately 146 people. No changes in design flow are proposed with this project.

3. COMPLIANCE PARAMETERS

The existing facility is a no-discharge facility. No changes to the site-specific permit limits are proposed or required. The permittee will be required to continue monitoring storage basin freeboard, daily precipitation, quarterly total Kjeldahl nitrogen, nitrate nitrogen, daily volume irrigated, irrigation period, irrigation area, and application rate

4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

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

- Single-Cell Lagoon – Influent is pumped into the lagoon cell by an existing pump station through a four-inch force main. The lagoon surface is trapezoidal, with its longest dimensions being approximately 352 ft by 187 ft at the bottom (394 by 229 (70,700 sq ft) at the inside top of berm). The total depth is seven feet, with a 3:1 inner-berm side slope. The existing lagoon seal is compacted clay with a synthetic liner. A pump station is used to pump lagoon wastewater either to a

five-acre irrigation field (through ~21 sprinklers) or to a 5,000-gallon recirculation tank (where wastewater is routed back to the lagoon cell). The design irrigation rate is 54 inches per year. The average dry weather design flow is 4,650 gpd; the 10-yr wet-weather design flow (with rainfall minus evaporation) is 5,326 gpd. The calculated storage volume is 737,430 gallons between min and max water levels (3 to 5 ft). Most recent sludge depth is reported as 1.6 ft.

Construction will cover the following items:

- Storage Lagoon – The lagoon will be resealed with a high-density polyethylene (HDPE) synthetic liner as a preemptive measure to enhance the longevity and operability of the lagoon and due to the geohydrologic evaluation finding on July 28, 2022, of moderate overall geologic limitations at the lagoon site. The geomembrane liner will have a minimum thickness of two-hundredths inch (0.02”; 20 mil) or equal quality (40 mil is proposed). Lagoon liner vent strips will be installed underneath the liner to prevent bubbles forming under the liner. The basin will continue to have 3:1 side slopes, a depth from the top of the berm to the lagoon floor of 7 ft, with 3 ft for sludge depth, and 2 ft of freeboard. The operating depth will continue to be 5 ft. The basin is non-aerated, has a water surface area of ~ 1.37 acres. No change in storage volume or operation is proposed.
- Irrigation Pump Station and Field – Minor station piping changes and other exempt rehabilitation upgrades are proposed for this project. The pump will be changed to a new Barnes 2 hp submersible grinder high-flow (sgvf) pump with 3" diameter impeller and associated upgrades. No change in irrigation flow or area is proposed.
- To ensure continued operation during construction, the contractor will install three temporary wastewater bladder-type holding tanks (minimum 20,000 gallons each) prior to the earthen basin, which will be pumped as needed to prevent overflows.

5. OPERATING PERMIT

These construction activities do not change the effluent limits or conditions of the current operating permit. Submit the Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(N).

Operating permit MO-0124621 will be expiring on September 30, 2023. A renewal application must be filed before **April 2, 2023**, regardless of the status of these construction activities. If you have questions on completing the renewal application, please contact the NPDES permitting section at 573-751-1300. See <https://dnr.mo.gov/document-search/form-b-application-operating-permit-facilities-receive-primarily-domestic-waste-have-design-flow-less-or-equal-100000-gallons-day-mo-780-1512>.

This facility appears to meet the applicability requirements of the MOG823 general permit issued on August 24, 2027. However, since no modification to the operating permit is needed at this time, conversion to the general permit will be reviewed at renewal.

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
scott.adams@dnr.mo.gov



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

FOR DEPARTMENT USE ONLY	
APP NO. AP40772	CP NO. CP0002337
FEE RECEIVED \$1,000	CHECK NO. 20037647
DATE RECEIVED 10/07/2022	

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: D.O.D. Project #: N/A
- 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: 07/2022 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 Wappapello Lake Wastewater Lagoon Rehabilitation	2.2 ESTIMATED PROJECT CONSTRUCTION COST \$ 1.4M
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2.3 PROJECT DESCRIPTION
 This project is to rehabilitate the existing infrastructure permitted under MO-0124621, as a preemptive measure to enhance the longevity and operability of the lagoon. This includes sprinkler piping, lagoon liner, lagoon ventilation, effluent pump station pipe, etc.

2.4 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION
 Wappapello lake is not permitted to land apply biosolids. Sludge/biosolids are stored in the lagoon. As part of this project the construction contractor will be required to obtain all permits, including FORM S – SECTION 4. SLUDGE HAULING

2.5 DESIGN INFORMATION
 A. Current population: 100; Design population: 146
 B. Actual Flow: 4,935 gpd; Design Average Flow: 5,999 gpd;
 Actual Peak Daily Flow: N/A gpd; Design Maximum Daily Flow: 16,788 gpd; Design Wet Weather Event: 4650

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 U.S. Army Corps of Engineers		TELEPHONE NUMBER WITH AREA CODE (573) 222-8562		E-MAIL ADDRESS Tyler.W.Stahl@usace.army.mil
ADDRESS (PHYSICAL) 10992 Highway T		CITY Wappapello	STATE MO	ZIP CODE 63966
COUNTY Wayne				
Wastewater Treatment Facility: Mo- 0124621 (Outfall Of)				
3.1 Legal Description: <u>NW ¼, NW ¼, SW ¼, Sec. 2, T 26N, R 7W</u> (Use additional pages if construction of more than one outfall is proposed.)				
3.2 UTM Coordinates Easting (X): <u>742825</u> Northing (Y): <u>4090516</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 St. Francois River</u>				
4.0 PROJECT OWNER				
NAME U.S. Army Corps of Engineers		TELEPHONE NUMBER WITH AREA CODE (573) 222-8562		E-MAIL ADDRESS Tyler.W.Stahl@usace.army.mil
ADDRESS 10992 Highway T		CITY Wappapello	STATE MO	ZIP CODE 63966
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 U.S. Army Corps of Engineers		TELEPHONE NUMBER WITH AREA CODE (573) 222-8562		E-MAIL ADDRESS Tyler.W.Stahl@usace.army.mil
ADDRESS 10992 Highway T		CITY Wappapello	STATE MO	ZIP CODE 63966
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 Austin Forwood		TELEPHONE NUMBER WITH AREA CODE (251) 690-2784		E-MAIL ADDRESS austin.b.forwood@usace.army.mil
ADDRESS 109 Saint Joseph Street		CITY Mobile	STATE AL	ZIP CODE 36602
7.0 APPLICATION FEE				
<input type="checkbox"/> CHECK NUMBER <input checked="" type="checkbox"/> JETPAY CONFIRMATION NUMBER 20037647				
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 DEARBORN.BART.JAN.116246 4007		Digitally signed by DEARBORN.BART.JAN.1162464007 Date: 2022.10.07 11:09:49 -05'00'		
PRINTED NAME US Army Corps of Engineers, C/O Bart J. Dearborn				DATE 10/07/2022
TITLE OR CORPORATE POSITION Operations Manager		TELEPHONE NUMBER WITH AREA CODE (573) 222-8562		E-MAIL ADDRESS bart.j.dearborn@usace.army.mil
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.
 Other (explain) _____.

9.0 STORAGE BASINS

9.1 Number of storage basins: 1 (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 394 Width 229 Depth 7 Freeboard 1 Depth 1 Safety 1 % Slope 33
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 2 ft Minimum operating water level 4 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: 3 ft Basin #2: _____ ft Basin #3: _____ ft

9.6 Existing sludge depth, if the basins are currently in operation.
Basin #1: 1.6 ft Basin #2: _____ ft Basin #3: _____ ft

9.7 Total design sludge storage: N/A dry tons and N/A cubic feet

10.0 LAND APPLICATION SYSTEM

10.1 Number of irrigation sites 1 Total Acres 5 Maximum % field slopes 0.5
Location: NW 1/4, NW 1/4, SW 1/4, 2 Sec. 26N T 7W R Wayn County 5 Acres
Location: _____ 1/4, _____ 1/4, _____ 1/4, _____ Sec. _____ T _____ R _____ County _____ Acres
Location: _____ 1/4, _____ 1/4, _____ 1/4, _____ 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 1.8M Seasonal 1.7M Off-season 100k

10.4 Land application rate (design flow including 1-in-10 year storm water flows):
Design: 54 inches/year .17 inches/hour N/A inches/day 3.0 inches/week
Actual: 29.52 inches/year .002 inches/hour 0.08 inches/day 0.56 inches/week

10.5 Total irrigation per year (gallons): Design: 4.9M gal Actual: 1.9M 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