



Animal Confinement Feedlot Conditional Use Permit Application

www.co.redwood.mn.us

Proposed Location of Feedlot Operation:

Permit #: 7-26 Date: 5-19-26

Address: TBD 150th St City: Tracy State: MN Zip: 56175
House # Street Name

Parcel #: 66-005-4020 Township: Springdale Section: 5 Twp #: 109N Range: 39W

Information about the Operation:

General description of feedlot operation (including type and number of animal units, barns, and manure storage plan):

Total confinement swine facility capable of holding 3,300 wean to finish swine for a equivalent of 990 animal units, with a concrete underfloor manure storage. Engineering plans and Manure Management Plan has been provided.

Legal Description of Proposed Feedlot Location:

SW 1/4 of SE 1/4 Sec 5 Sprindale Twp. Redwood Co.

See attached.

Site / Plan Information: NOTICE: Change of land use may affect your property taxes.

Zoning District: Ag

Soil Type 1: L 198A North Twin- Walnut Grove complex, 0 to 2 percent slopes

Soil Type 2: _____

Water source for the site: Well

Drainage System: Natural

Estimated water use:

Animal 1

Animal Type: <u>Wean To Finish Swine</u>
<input type="text"/> .83 gallons/day/animal x <input type="text"/> 3300 number of animals on site x <input type="text"/> 360 number of days present
= <input type="text"/> 986,040 gallons/yr/site

Animal 2

Animal Type: _____
<input type="text"/> gallons/day/animal x <input type="text"/> number of animals on site x <input type="text"/> number of days present
= <input type="text"/> gallons/yr/site

Animal 3

Animal Type: _____
<input type="text"/> gallons/day/animal x <input type="text"/> number of animals on site x <input type="text"/> number of days present
= <input type="text"/> gallons/yr/site

Total Gallons: 986,040

Proposed Building(s) Information: (Please enter dimensions in feet)

Building 1: Width: 122'10" Length: 229

Building 3: Width: Length:

Building 2: Width: Length:

Building 4: Width: Length:

Setback from road right-of-way: 67 feet

Setback from center line of road: 150 feet

Estimated date for beginning construction: July 15th, 2026 Estimated completion date: Oct 15th, 2026

General Contractor:

Name: Ag Property Solutions City: Emmetsburg State: IA

Applicant Information:

Note: If the applicant is not one natural person, requested information and signature(s) must be provided for each partner/associate/co-applicant and must include documentation of each co-applicant's legal identity and the legal relationship between them. Each partner/associate/co-applicant must sign or affirm the application before it will be accepted for consideration.

First Name: Jeffrey Last Name: Knott

Business Name: Knott et al LLC

Address: 11656 170th City: Tracy State: MN Zip: 56175

Home Phone: Cell Phone: Email:

List any additional applicants:

Land Owner: Complete only if different from Applicant

First Name: Last Name:

Business Name:

Address: City: State: MN Zip:

Home Phone: Cell Phone: Email:

If the applicant is not the owner of the land, please specify the type of agreement the applicant has with the owner of the land at the proposed site:

Feedlot Operator: Complete only if different from Applicant

If the operator is not a natural person(s), you must also provide documentation of the operator's legal identity.

First Name: Last Name:

Business Name:

Address: City: State: MN Zip:

Home Phone: Cell Phone: Email:

I affirm that the forgoing information is true and accurate. I understand that if any portion of this information is false or materially misleading, any conditional use permit issued in reliance upon this information is voidable at the election of Redwood County.

Applicant(s) Signature(s): [Signature] Date: 5-19-26

Landowner Signature: [Signature] Date: 5-19-26

List of Required Documentation: (Application not complete until received)

- MPCA Application •Manure Spreading Agreements
- Pit Design •Manure Management Plan

Office Use Only * The section below is to be filled out by the Environmental Office Staff

Permit fee: \$700.00 Receipt #: 467263

Application Received: 5-19-2026

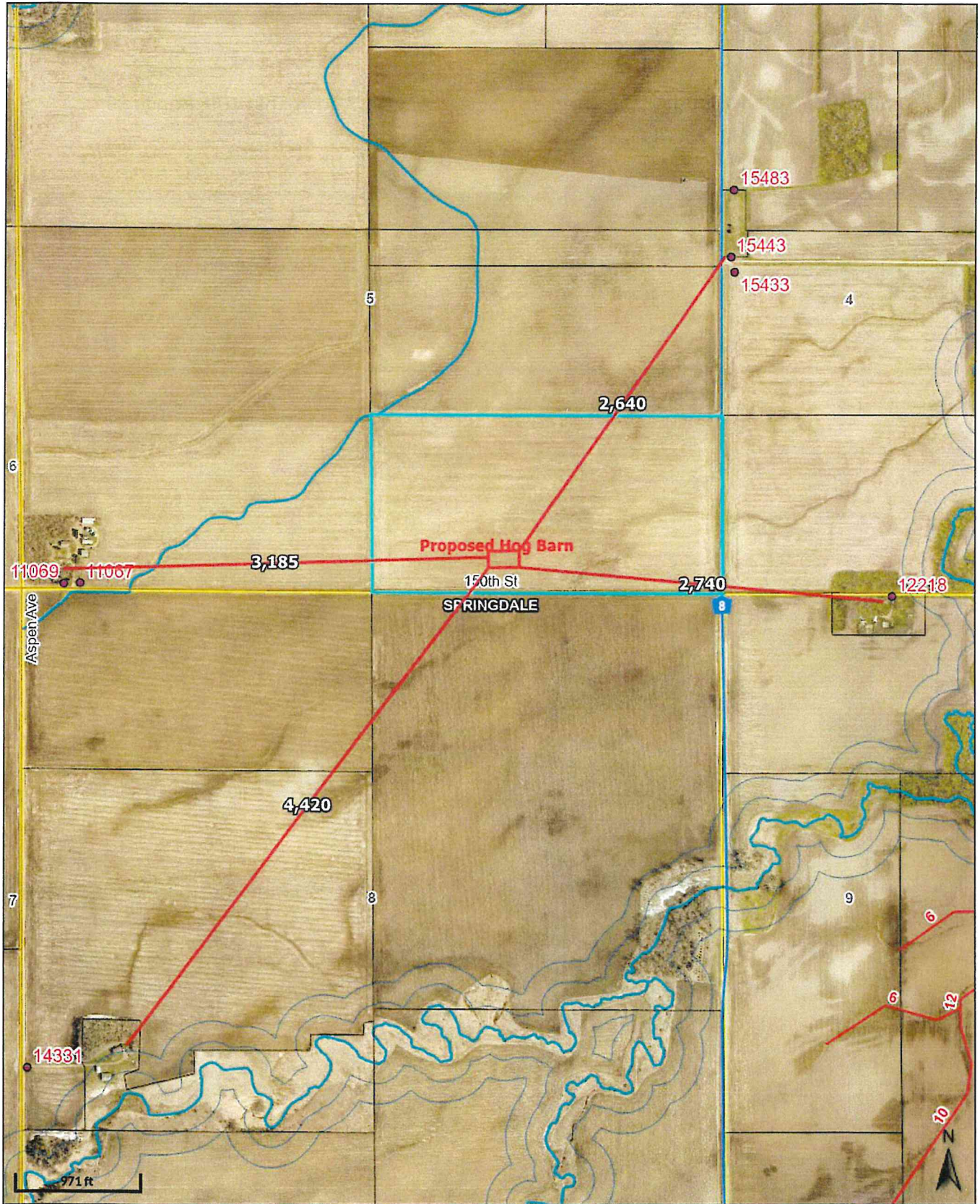
Commission Action: County Board Action:
Approved: Date: Approved: Date:
Disapproved: Date: Disapproved: Date:

CUP 7-26

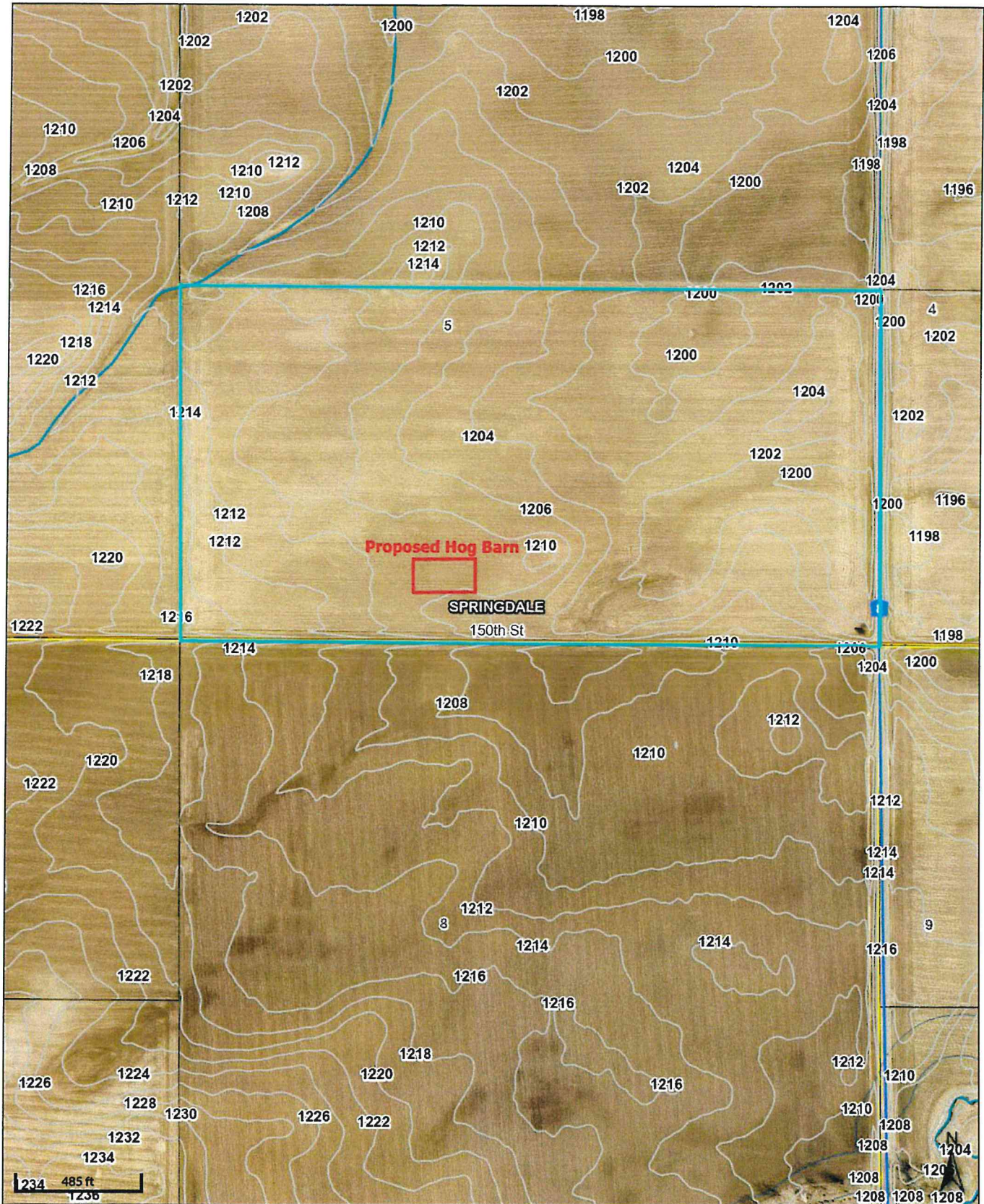
Legal Description

The South Half of the Southeast Quarter (S $\frac{1}{2}$ SE $\frac{1}{4}$), Section 5, Township 109, Range 39,
Redwood County, Minnesota.

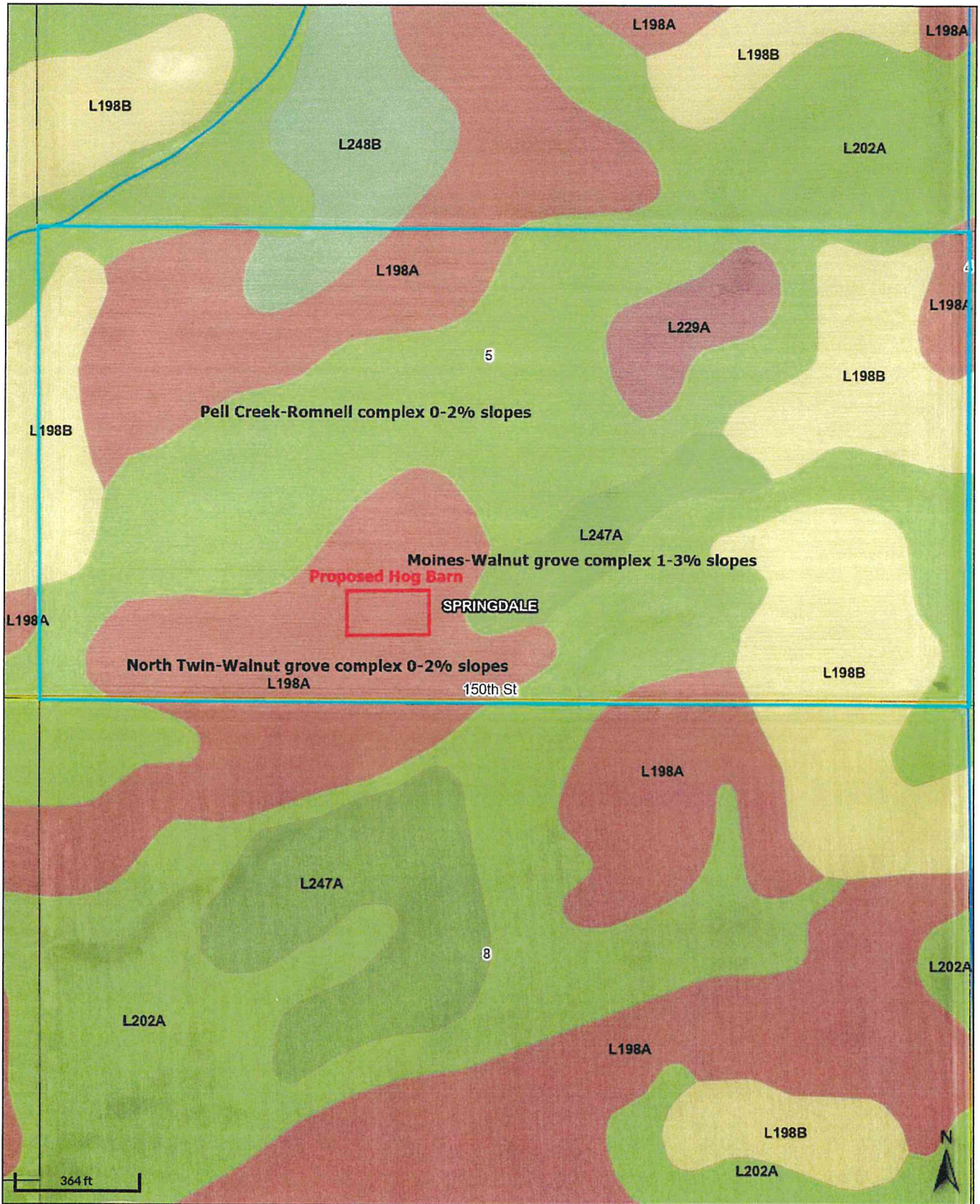
Area Map



Contours



Soils



Odors From Feedlots Setback Estimation Tool

OFFSET Ver 2.0
University of Minnesota
10/2017

Farm Name	Jeff Knott
Address or County	150th St., Springdale 5
Evaluator	Jeanette Pidde
Date	5/19/2026

Clear All

OFFSET
Annoyance-free
97%

Source Edge to Nearest Neighbor (ft)	2740
Source Edge to Property Line (ft)	1460

Building Sources

Building Type	Width (ft)	Length (ft)	# of Similar Sources	Total Area (sqft)	Control Technology	% air treated
Swine Finishing - deep pit	122	230	1	28060	None	
Dairy - free stall				0	None	
Dairy - loose housing				0	None	
None				0	None	
None				0	None	
None				0	None	
None				0	Biofilter	

AREA SOURCES

Source Description	Shape	Width (ft) (or Dia)	Length (ft)	Area (sqft)	Control Technology
Earthen manure storage	Rectangle			0	None
User added	Rectangle			0	None
None	Rectangle			0	None
None	Rectangle			0	None
None	Rectangle			0	None
None	Rectangle			0	None
None	Rectangle			0	None

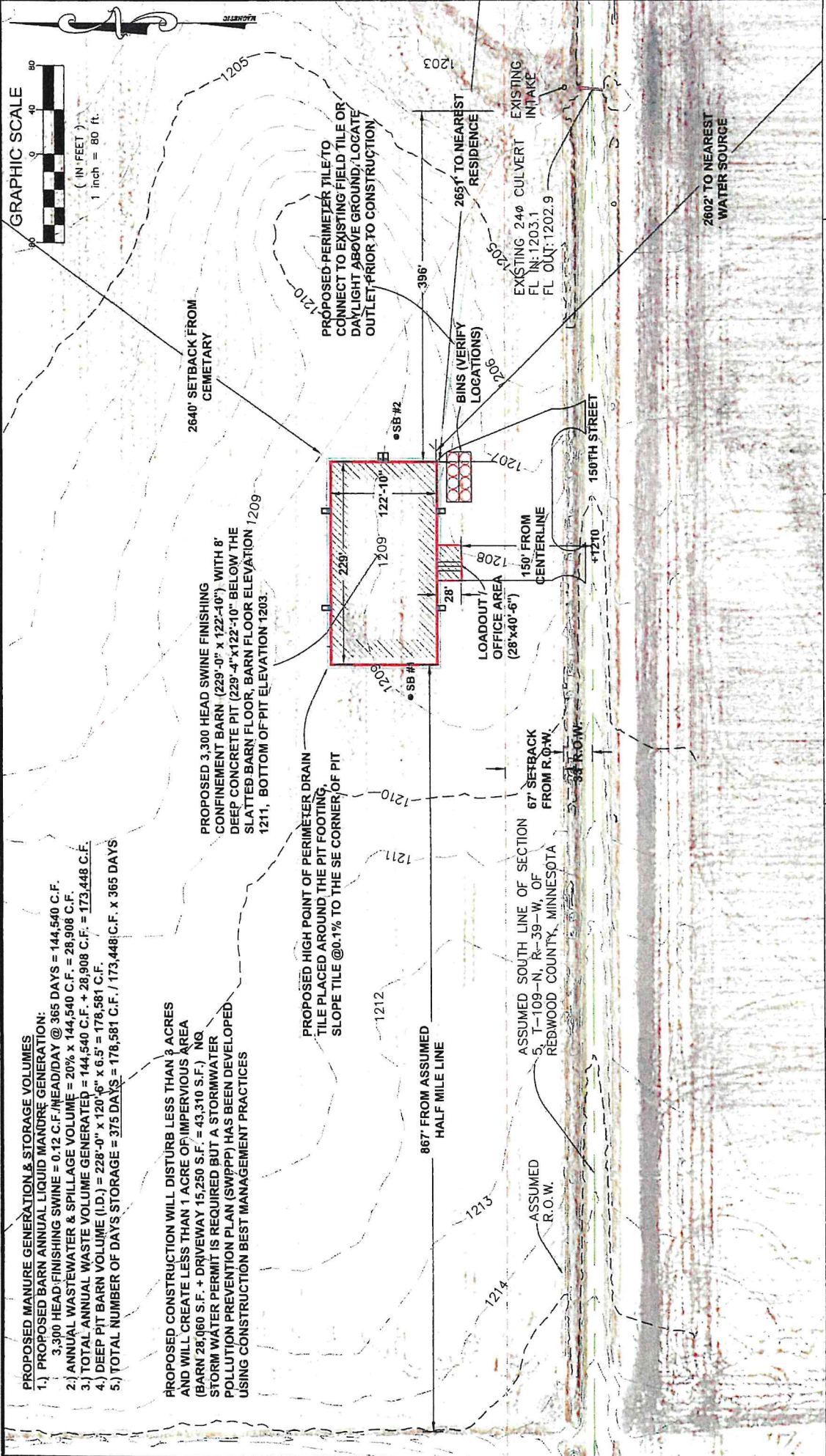
Building Sources	
Add Source Type	
Name of Source	
Odor Flux (ou/s/m2)	
H2S Flux (ug/s/m2)	
NH3 Flux (ug/s/m2)	
Documentation	
Add a Control Technology	
Name of technology	
Odor reduction (%)	
H2S reduction (%)	
NH3 Reduction (%)	
Documentation	

Area Sources	
Add a Source Type	
Name of Source	
Odor Flux (ou/s/m2)	
H2S Flux (ug/s/m2)	
NH3 Flux (ug/s/m2)	
Documentation	
Add Control Technology	
Name of technology	
Odor reduction (%)	
H2S reduction (%)	
NH3 Reduction (%)	
Documentation	

Conditions for Permit No. 7-26 (Knott Feedlot)

1. The permit holder shall comply with all applicable laws, rules, and regulations, including but not limited to Redwood County Zoning Ordinance, as hereafter amended from time to time.
2. The permit holder shall allow the Redwood County Environmental Office to inspect the site for all purposes permitted by law whenever deemed necessary by the Redwood County Environmental Office.
3. The permit holder shall contact all relevant local, state, and federal authorities/entities and inquire as to whether a permit and/or license is required. If a permit and/or license is required, the permit holder shall apply for and obtain any and all required permits and/or licenses. A copy of all such permits and/or licenses shall be provided to the Redwood County Environmental Office within thirty (30) days of the date the permit holder receives the same.
4. All waste, refuse, and the like generated by or from the conditional use must be disposed of in the manner provided by the applicable local, state, and federal statutes, rules, and regulations.
5. The permit holder shall take appropriate and reasonable measures to assure that all surface water runoff satisfies all applicable local, state, and federal discharge standards.
6. The permit holder shall not allow the conditional use to be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted. The permit holder shall not allow the conditional use to impede the normal and orderly development and improvement of surrounding vacant property for uses predominant to the area.
7. Adequate measures shall be taken on both the hog barn site and also on various haul roads used to prevent or control offensive odor, fumes, dust, and vibration, so that none of the foregoing will constitute a nuisance now or in the future.
8. Adequate access roads, drainage, and other necessary facilities shall be provided at all times and shall continue to be provided by the permit holder now and in the future.
9. The manner in which manure is stored and disposed of shall comply with all applicable local, state, and federal laws, rules, and regulations. If manure is applied to land, it shall be applied to land at agronomic rates. Applied manure shall be injected or incorporated within 24 hours. The permit holder shall retain a record of all locations where manure is applied to land. Such records shall be maintained for a period of no less than five (5) years, measured from the date the manure is applied to land. Such records shall be submitted to the Redwood County Environmental Office upon request. The permit holder shall report any changes in spread agreements or spread areas to the Redwood County Environmental Office within thirty (30) days subsequent to any such change.
10. The permit holder shall abide by the Odor Management Plan attached to the application, or by any amended plan approved by the Zoning Administrator.

11. The County Board of Commissioners may at any time impose additional conditions as necessary and appropriate including but not limited to: the planting of trees and shrubs for use as a windbreak for the feedlot operation; the furnishing and placing in a dedicated account, to be administered by the County, an annual payment for reclamation purposes based upon the number of Animal Units involved; and restrictions on the days on which a manure storage structure may be disturbed or manure may be transferred, applied, incorporated, or injected.
12. Dead livestock shall be stored in such a manner as to not create a nuisance. Disposal of dead livestock by burial is strictly prohibited. Dead hogs may be composted according to the Redwood County Swine Composting Protocol, which is attached hereto.
13. The permit holder shall construct the manure storage structure/concrete pit(s) to meet or exceed the minimum requirements set forth in the plans and specifications prepared by Nicholaus J. Rowe, P.E., dated May 7, 2026, attached to the permit holder's application.
14. A perimeter tile line shall be maintained around the outside of the base of the pit wall, and an inspection manhole shall be provided where the perimeter tile branches out into the local drain tile system.
15. The permit holder shall install a warning sign at all entrances to the concrete pits. These signs shall warn the reader of the dangers of entering the pit.
16. No construction on the pit shall be done between October 15th and April 15th, except by approval of the Zoning Administrator. The Environmental Office shall be contacted for inspection prior to pouring the pit floor and pit walls.
17. The Redwood County Planning Commission shall review the conditional use permit and shall be authorized to take any and all necessary action(s), including but not limited to revoking the conditional use permit and/or requiring the permit holder to reapply for a conditional use permit, if: 1) The Redwood County Environmental Office acquires information previously unavailable that indicates the terms and conditions of the permit do not accurately represent the actual circumstances of the permitted facility or the conditional use; 2) It is discovered subsequent to the issuance of the permit the permit holder failed to disclose all facts relevant to the issuance of the permit or submitted false or misleading information to the Redwood County Environmental Office, the Redwood County Planning Commission, or the Redwood County Board of Commissioners; 3) The Redwood County Environmental Office determines the permitted facility or conditional use endangers human health or the environment; and/or (4) The permit holder violates any of the herein described conditions, the Redwood County Ordinances, State statutes, or Federal laws.



PROPOSED MANURE GENERATION & STORAGE VOLUMES

1.) PROPOSED BARN ANNUAL LIQUID MANURE GENERATION:
 3,300 HEAD FINISHING SWINE @ 365 DAYS = 144,540 C.F.
 3,300 HEAD FINISHING SWINE = 0.12 C.F./HEAD/DAY @ 365 DAYS = 144,540 C.F. = 28,908 C.F.

2.) ANNUAL WASTEWATER & SPILLAGE VOLUME = 20% x 144,540 C.F. = 28,908 C.F.

3.) TOTAL ANNUAL WASTE VOLUME GENERATED = 144,540 C.F. + 28,908 C.F. = 173,448 C.F.

4.) DEEP PIT BARN VOLUME (I.D.) = 228'-0" x 120'-6" x 6.5' = 178,581 C.F.

5.) TOTAL NUMBER OF DAYS STORAGE = 375 DAYS = 178,581 C.F. / 173,448 C.F. x 365 DAYS

PROPOSED CONSTRUCTION WILL DISTURB LESS THAN 3 ACRES AND WILL CREATE LESS THAN 1 ACRE OF IMPERVIOUS AREA (BARN 28,060 S.F. + DRIVEWAY 15,250 S.F. = 43,310 S.F.) NO STORM WATER PERMIT IS REQUIRED BUT A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN DEVELOPED USING CONSTRUCTION BEST MANAGEMENT PRACTICES

PROPOSED HIGH POINT OF PERIMETER DRAIN TILE PLACED AROUND THE PIT FOOTING, SLOPE TILE @0.1% TO THE SE CORNER OF PIT

PROPOSED 3,300 HEAD SWINE FINISHING CONFINEMENT BARN (229'-0" x 122'-10") WITH 8' DEEP CONCRETE PIT (229'-4" x 122'-10") BELOW THE SLATED BARN FLOOR, BARN FLOOR ELEVATION 1209, 1211, BOTTOM OF PIT ELEVATION 1203.

PROPOSED PERIMETER TILE TO CONNECT TO EXISTING FIELD TILE OR DAYLIGHT ABOVE GROUND, LOCATE OUTLET PRIOR TO CONSTRUCTION

ProAg Engineering, Inc.
 77402 U.S. Highway 71, P.O. Box 181
 Jackson, MN 56143
 (507) 849-7200

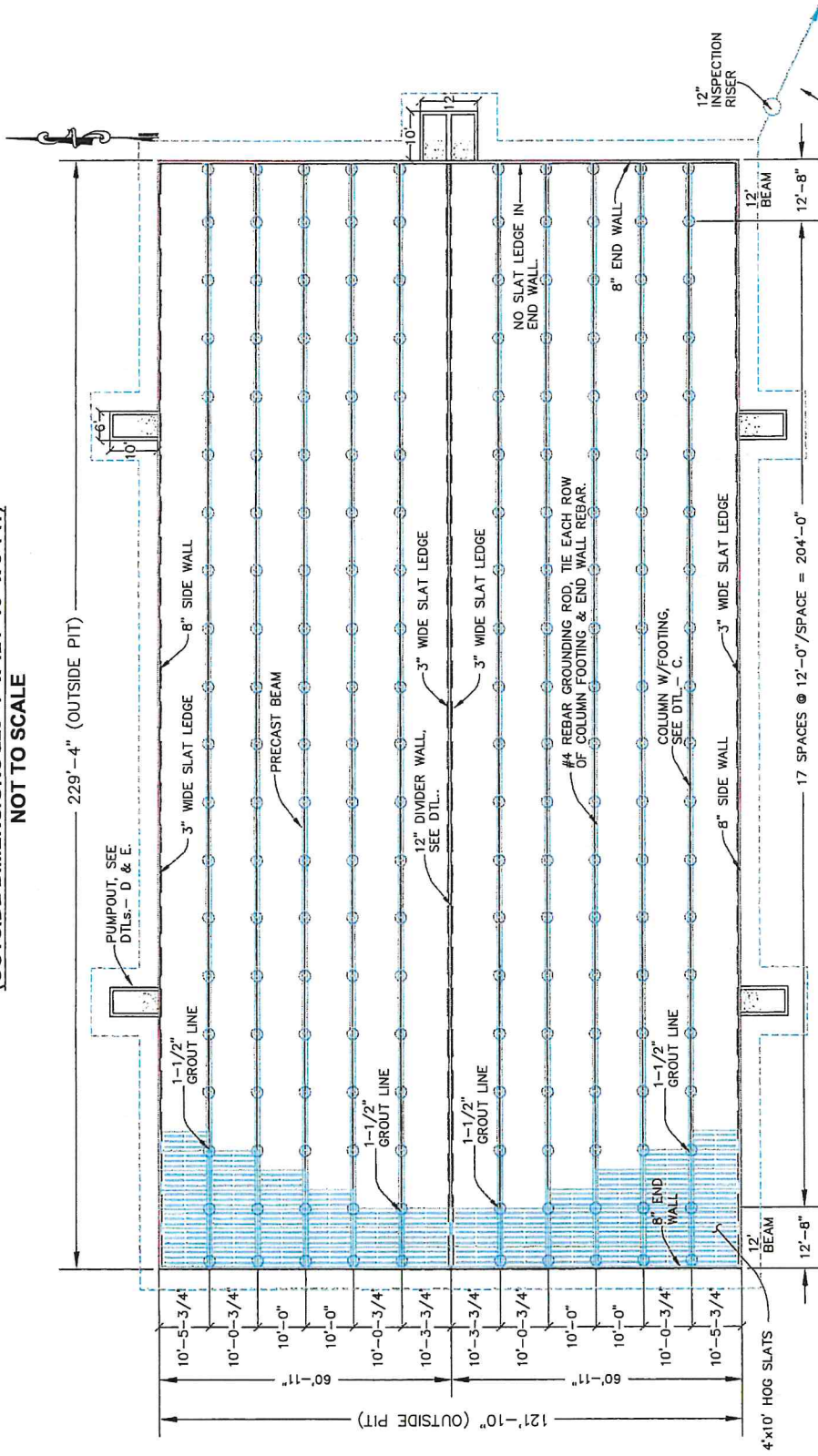
JEFF KNOTT
 PROPOSED SWINE CONFINEMENT BARN

SWINE CONFINEMENT BARN
 SE 1/4, SECTION 5, T-109-N, R-39-W
 REDWOOD COUNTY, MINNESOTA

SITE PLAN
 PROJECT NO. 26-070
 SHEET NO. 2 OF 7

REV	DATE	DESCRIPTION	DRN BY	CHK BY
#1	5/7/26	PLANS	T.J.A.	N.J.R.
#2	4/27/26	PLANS	T.J.A.	N.J.R.
#1	4/21/26	PRELIMINARY	T.J.A.	N.J.R.

PIT FLOOR PLAN
(OUTSIDE DIMENSIONS 229'-4" x 121'-10" x 8' PIT)
NOT TO SCALE



IF AN EXISTING FARM TILE IS FOUND, THE PERIMETER TILE OF THE PIT MAY BE CONNECTED. IF THE PERIMETER TILE IS CONNECTED TO AN EXISTING FARM TILE THAT DOES NOT HAVE A SURFACE OUTLET ON THE SAME PROPERTY, A DEVICE TO ALLOW MONITORING OF THE WATER IN THE TILE MUST BE INSTALLED.

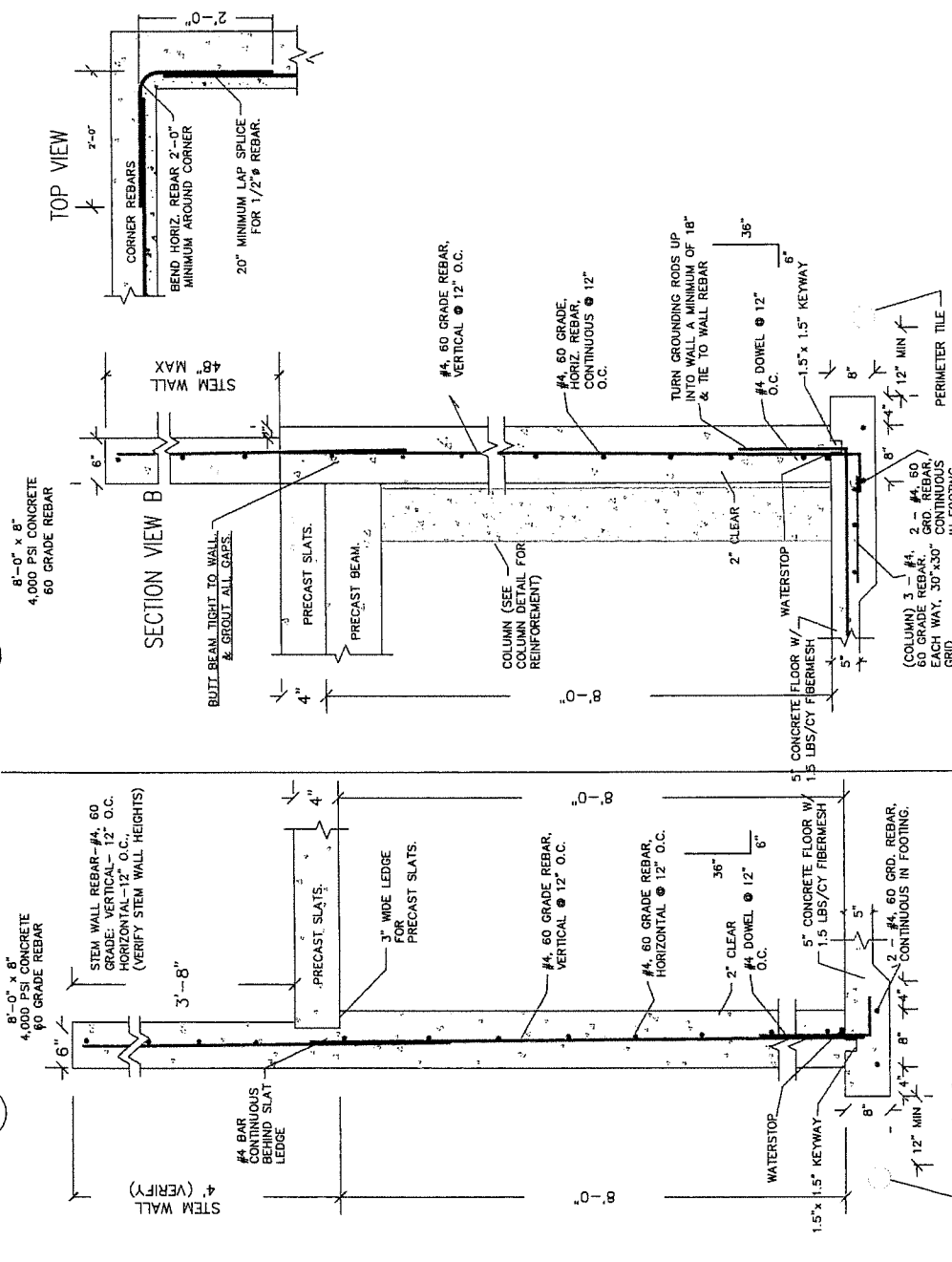
*IMPORTANT NOTE--NUMBER OF PUMPOUTS & LOCATIONS DETERMINED BY OWNERS DISCRETION. PRECAST DIMENSIONS CHANGE BETWEEN SUPPLIERS. PUMPOUT LOCATIONS AND PRECAST DIMENSIONS MUST BE VERIFIED WITH THE OWNER PRIOR TO CONSTRUCTION.

<table border="1"> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>DRN BY</th> <th>CHK BY</th> </tr> <tr> <td>#3</td> <td>5/7/26</td> <td>PERMIT PLAN</td> <td>T.J.A.</td> <td>N.J.R.</td> </tr> <tr> <td>#2</td> <td>4/27/26</td> <td>PERMIT PLAN</td> <td>T.J.A.</td> <td>N.J.R.</td> </tr> <tr> <td>#1</td> <td>4/21/26</td> <td>PRELIMINARY</td> <td>T.J.A.</td> <td>N.J.R.</td> </tr> </table>	REV	DATE	DESCRIPTION	DRN BY	CHK BY	#3	5/7/26	PERMIT PLAN	T.J.A.	N.J.R.	#2	4/27/26	PERMIT PLAN	T.J.A.	N.J.R.	#1	4/21/26	PRELIMINARY	T.J.A.	N.J.R.	<p>ProAg Engineering, Inc. 77402 U.S. Highway 71, P.O. Box 181 Jackson, MN 56143 (507) 849-7200</p>	<p>JEFF KNOTT PROPOSED SWINE CONFINEMENT BARN</p>	<p>SWINE CONFINEMENT BARN SE 1/4, SECTION 5, T-109-N, R-39-W REDWOOD COUNTY, MINNESOTA</p>	<p>PIT PLAN PROJECT NO. 26-070 SHEET NO. 3 OF 7</p>
REV	DATE	DESCRIPTION	DRN BY	CHK BY																				
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#2	4/27/26	PERMIT PLAN	T.J.A.	N.J.R.																				
#1	4/21/26	PRELIMINARY	T.J.A.	N.J.R.																				

IMPORTANT NOTE- PRECAST DIMENSIONS CHANGE BETWEEN SUPPLIERS. PRECAST DIMENSIONS MUST BE VERIFIED WITH THE OWNER PRIOR TO CONSTRUCTION.

(B) END WALL BRACING & BEAM POCKET

(A) SIDE WALL



REV	DATE	DESCRIPTION	DRN	CHK	BY
#1	5/7/26	PERMIT PLAN	T.J.A.	N.J.R.	
#2	5/27/26	PERMIT PLAN	T.J.A.	N.J.R.	
#3	5/27/26	PRELIMINARY	T.J.A.	N.J.R.	
#4	5/27/26	PRELIMINARY	T.J.A.	N.J.R.	

Pro Ag Engineering, Inc.
 77402 U.S. Highway 71, P.O. Box 181
 Jackson, MN 56143
 (507) 849-7200

JEFF KNOTT
 PROPOSED SWINE CONFINEMENT BARN

SWINE CONFINEMENT BARN
 SE 1/4, SECTION 5, T-109-N, R-39-W
 REDWOOD COUNTY, MINNESOTA

DETAILS
 PROJECT NO. 26-070
 SHEET NO. 4 OF 7

CONCRETE & STRUCTURAL NOTES:

- A. GENERAL AND DETAILS ON THE STRUCTURAL DRAWINGS TAKE PRECEDENCE OVER THESE STRUCTURAL NOTES.
- B. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, AND SITE CONDITIONS PRIOR TO STARTING WORK. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES.
- C. IN NO CASE SHALL DIMENSIONS BE SCALED FROM PLANS, SECTIONS, OR DETAILS ON THE STRUCTURAL DRAWINGS.
- D. DESIGN CHANGES MUST BE APPROVED IN WRITING BY BOTH THE OWNER AND ENGINEER BEFORE PROCEEDING WITH THE WORK. SOME DESIGN CHANGES MAY ALSO REQUIRE MPDA APPROVAL.
- E. ANCHOR BOLTS SHALL BE SET AS SPECIFIED BY BUILDING CONTRACTOR.
- F. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THE FOLLOWING CODES:
 - a. UNIFORM BUILDING CODE (UBC)
 - b. INTERNATIONAL BUILDING CODE
 - c. AMERICAN CONCRETE INSTITUTE (ACI)
 - d. AMERICAN CONCRETE INSTITUTE (ACI) MANUAL OF STANDARD PRACTICE

- B. DRAIN TILE
 1. BEFORE ANY PIT CONSTRUCTION, TRENCH AND INSTALL DRAIN AROUND THE PROPOSED PIT. THE DRAIN TILE FLOW LINE MUST BE A MINIMUM OF 12" BELOW THE TOP.
 2. THE DRAIN TILE SHALL BE HEAVY DUTY PERFORATED POLYETHYLENE TUBING 4" TILE WITH PFA ROCK COVER OR 4" TILE W/ FABRIC SLEEVES AND SAND/GRAVEL COVER.
 3. CONNECT THE DRAIN TILE TO AN EXISTING TIE TILE IF AVAILABLE; DISCHARGE TO SURFACE DRAINAGE; OR DRAIN TO A SUMP AND PUMP TO SURFACE.
- C. TEMPORARY BRACING AND BACKFILL
 1. PROVIDE TEMPORARY LATERAL SUPPORT FOR ALL WALLS WHERE GRADE VARIES ON THE TWO SIDES UNTIL THE PERMANENT STRUCTURAL SUPPORT SYSTEM IS IN PLACE.
 2. BRACING SHALL BE INSTALLED AGAINST WALL UNTIL SLATS ARE INSTALLED AND GROUTED.
 3. DO NOT BACKFILL AGAINST WALL UNTIL SLATS ARE INSTALLED AND GROUTED.
 4. CONCRETE IN ALL WALLS SHALL BE ALLOWED TO CURE FOR A MINIMUM OF 14 DAYS BEFORE BACKFILL IS PLACED AGAINST WALLS. EXERCISE CAUTION WHEN BACKFILLING TO BRING UP THE LEVEL UNIFORMLY ON ALL SIDES OF TANKS AND PITS.

- D. FOOTINGS, FOUNDATIONS & SUBGRADE
 1. SOIL BEARING DESIGN VALUE: 3000 PSF (ASSUMED ON VIRGIN SOIL OR COMPACTED FILL FOR FOOTINGS).
 2. PROTECT FOUNDATION FROM FROST DAMAGE BY INSTALLING 4" POLYETHYLENE TUBING WITH 4" SAND FILL TO 45" X OF STANDARD PROCTOR DENSITY.
 3. ALL FILL UNDER FOOTINGS AND SLAB SHALL BE COMPACTED TO A DRY DENSITY OF AT LEAST 95% OF MAXIMUM DRY DENSITY AS DETERMINED BY AASHTO T-180.
 5. SAND FILL AS REQUIRED FOR LEVELING SUBGRADES SHALL BE PROVIDED AT ALL SLAB ON GRADE AREAS.
- E. REINFORCED CONCRETE
 1. ALL CONCRETE AND REINFORCING WORK SHALL CONFORM TO AMERICAN CONCRETE INSTITUTE'S STANDARD BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE. (ACI 318-05)
 2. CONCRETE WORK SHALL CONFORM TO ALL THE REQUIREMENTS OF ACI 301.
 3. CONCRETE COMPRESSIVE STRENGTH OF FC-4000 PSI FLOOR, 4000 PSI WALLS
 4. COVER: MINIMUM COVER SHALL BE 1" FOR ALL REINFORCING.
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 15. COVER: MINIMUM COVER SHALL BE 1" FOR ALL REINFORCING.

- F. STEEL
 1. 1/2" PT - GRADE 60 (60,000 PSI) DEFORMED STEEL
 2. 1/2" WIRE FABRIC - GRADE 60 (60,000 PSI) DEFORMED STEEL
 3. 1/2" WIRE FABRIC - GRADE 60 (60,000 PSI) DEFORMED STEEL
 4. 1/2" WIRE FABRIC - GRADE 60 (60,000 PSI) DEFORMED STEEL
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- G. TOLERANCES & QUALITY CONTROL
 1. DIMENSIONS SHALL BE AS SHOWN UNLESS OTHERWISE NOTED.
 2. TOLERANCES SHALL BE AS SHOWN UNLESS OTHERWISE NOTED.
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 15. TOLERANCES SHALL BE AS SHOWN UNLESS OTHERWISE NOTED.

- H. ELECTRICAL REINFORCING BARS AS PER ELECTRICAL CODE
 1. WHEN FOR MORE THAN 3 CONSECUTIVE DAYS, THE MEAN DAILY TEMPERATURE DROPS BELOW 40° F., THE CONTRACTOR SHALL PLACE AND PROTECT THE CONCRETE IN ACCORDANCE WITH ACI 306.
 2. HOT WEATHER CONCRETING
 1. WHEN IT IS LIKELY THAT TEMPERATURE BETWEEN 75° F AND 100° F WILL BE APPROACHED OR EXCEEDED; THAT LOW RELATIVE HUMIDITY IS PRESENT; OR WIND VELOCITY WILL EXCEED 10 MPH, THE CONTRACTOR SHALL PLACE & PROTECT THE CONCRETE IN ACCORDANCE WITH CHAPTERS 9 & 9 OF ACI 306.
- I. WATERSTOPPING & SEALANTS
 1. WATERSTOP TO BE RIBBED PVC OR BENTONITE ROLL AT CONTRACTORS OPTION.
 2. WATERSTOP TO BE RIBBED PVC OR BENTONITE ROLL AT CONTRACTORS OPTION.
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***IMPORTANT NOTE: PRECAST DIMENSIONS CHANGE BETWEEN SUPPLIERS. PRECAST DIMENSIONS MUST BE VERIFIED WITH THE OWNER PRIOR TO CONSTRUCTION.**

SLAT LEDGES & STEM WALL CONCRETE NOTES

- 1.) ANY SLAB ON GRADE WHICH WILL HAVE A VERTICAL WALL ON TOP SHALL HAVE A KEYWAY AND WATERSTOP AT SLAB/WALL INTERFACE.
- 2.) WATERSTOP TO BE BENTONITE ROLL OR RIBBED PVC @ CONTRACTORS OPTION.
- 3.) SLAT LEDGES MUST BE 3" WIDE x 4" HIGH.
- 4.) 12" CENTER DIVIDER WALLS: THE 3" WIDE x 4" LEDGE ON BOTH SIDES OF THE 12" WALL MUST BE FORMED AND POURED WITH THE WALL.
- 5.) 8" OUTSIDE WALLS: THE 3" WIDE x 4" LEDGE ON INSIDE SIDE OF 8" WALL MUST BE FORMED AND POURED WITH WALL.
- 6.) A CONSTRUCTION JOINT IS PERMITTED BETWEEN THE PIT WALL AND STEM WALL, BUT THE CONSTRUCTION JOINT MUST BE EQUAL OR HIGHER THAN THE TOP OF THE PRE-CAST SLATS.

DO NOT POUR WALL AND SET SLATS ON TOP. DO NOT EVEN ASK. BECAUSE THE 5" HIGH STEM IS NEEDED FOR SLATS BRACING THE TOP OF WALL.

<p>ProAg Engineering, Inc. 77402 U.S. Highway 71, P.O. Box 181 JOCKSON, MN 56145 (507) 849-7200</p>		<p>JEFF KNOTT PROPOSED SWINE CONFINEMENT BARN</p>		<p>SWINE CONFINEMENT BARN SE 1/4, SECTION 5.1-109-N, R-39-W REDWOOD COUNTY, MINNESOTA</p>		<p>DETAILS PROJECT NO. 26-070</p>		<p>SHEET NO. 7 OF 7</p>	
<p>REV</p>	<p>DATE</p>	<p>DESCRIPTION</p>	<p>DRN BY/CHK BY</p>	<p>T.A.A.</p>	<p>N.J.R.</p>	<p>T.A.A.</p>	<p>N.J.R.</p>	<p>PERMIT PLAN</p>	<p>4/27/26</p>
<p>REV</p>	<p>DATE</p>	<p>DESCRIPTION</p>	<p>DRN BY/CHK BY</p>	<p>T.A.A.</p>	<p>N.J.R.</p>	<p>T.A.A.</p>	<p>N.J.R.</p>	<p>PRELIMINARY</p>	<p>4/21/26</p>

SUBSURFACE SOIL LOG

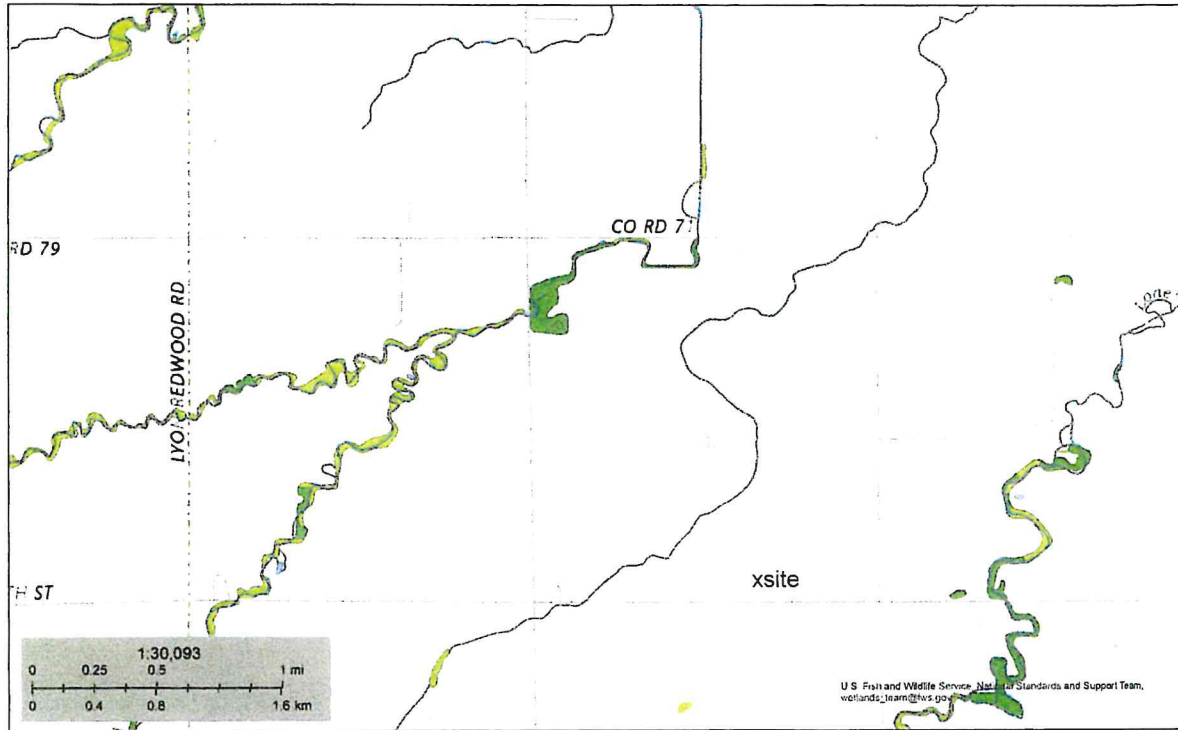
PROJECT: JEFF KNOTT BY BORING: 1
 DATE DRILLED: 4/23/2026
 ProAg Engineering, Inc.
 77402 U.S. Highway 71, Street P.O. Box 181
 Jackson, MN 56143 (507-849-7200)
 DRILLED BY: Pro Ag Engineering
 CLASSIFIED BY: Brad Buhl

ELEVATION (USGS)	DEPTH BELOW SURFACE	SOIL DESCRIPTION	USCS Symbol
1208.8	GRADE		
	0 --	(TOPSOIL) DARK BROWN SILTY CLAY LOAM, FRIABLE	CL
	2 --		
	4 --	LIGHT BROWN SILTY CLAY LOAM, TRACE Fe CONCRETIONS MEDIUM CONSISTENCY	CL
1203.0	PROPOSED BOTTOM OF PIT		
	6 --		
	8 --	BROWN SILTY CLAY LOAM, MEDIUM CONSISTENCY	CL
	10 --		
	12 --		
1196.8	BOTTOM OF BORING		
	14 --	*SOIL BORING DRILLED & FILLED TO PREVENT VERTICAL GROUNDWATER TRANSPORT, PER MN RULES*	
	16 --	*SOILS ARE SUITABLE FOR PROPOSED PIT FOUNDATION	
	18 --	**PERIMETER TILE REQUIRED**	
	20 --		
	22 --		
	24 --		
	26 --		
	28 --		
	30 --		
	32 --		

SUBSURFACE SOIL LOG

PROJECT: JEFF KNOTT BY BORING: 2
 DATE DRILLED: 4/23/2026
 ProAg Engineering, Inc.
 77402 U.S. Highway 71, Street P.O. Box 181
 Jackson, MN 56143 (507-849-7200)
 DRILLED BY: Pro Ag Engineering
 CLASSIFIED BY: Brad Buhl

ELEVATION (USGS)	DEPTH BELOW SURFACE	SOIL DESCRIPTION	USCS Symbol
1208.9	GRADE		
	0 --	(TOPSOIL) DARK BROWN SILTY CLAY LOAM, FRIABLE	CL
	2 --		
	4 --	LIGHT BROWN SILTY CLAY LOAM, TRACE Fe CONCRETIONS MEDIUM CONSISTENCY	CL
1203.0	PROPOSED BOTTOM OF PIT		
	6 --		
	8 --	BROWN SILTY CLAY LOAM, MEDIUM CONSISTENCY	CL
	10 --		
	12 --		
1196.9	BOTTOM OF BORING		
	14 --	*SOIL BORING DRILLED & FILLED TO PREVENT VERTICAL GROUNDWATER TRANSPORT, PER MN RULES*	
	16 --	*SOILS ARE SUITABLE FOR PROPOSED PIT FOUNDATION	
	18 --	**PERIMETER TILE REQUIRED**	
	20 --		
	22 --		
	24 --		
	26 --		
	28 --		
	30 --		
	32 --		



April 29, 2026

- Wetlands**
- Estuarine and Marine Deepwater
 - Estuarine and Marine Wetland
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Freshwater Pond
 - Lake
 - Other
 - Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
 This page was produced by the NWI mapper

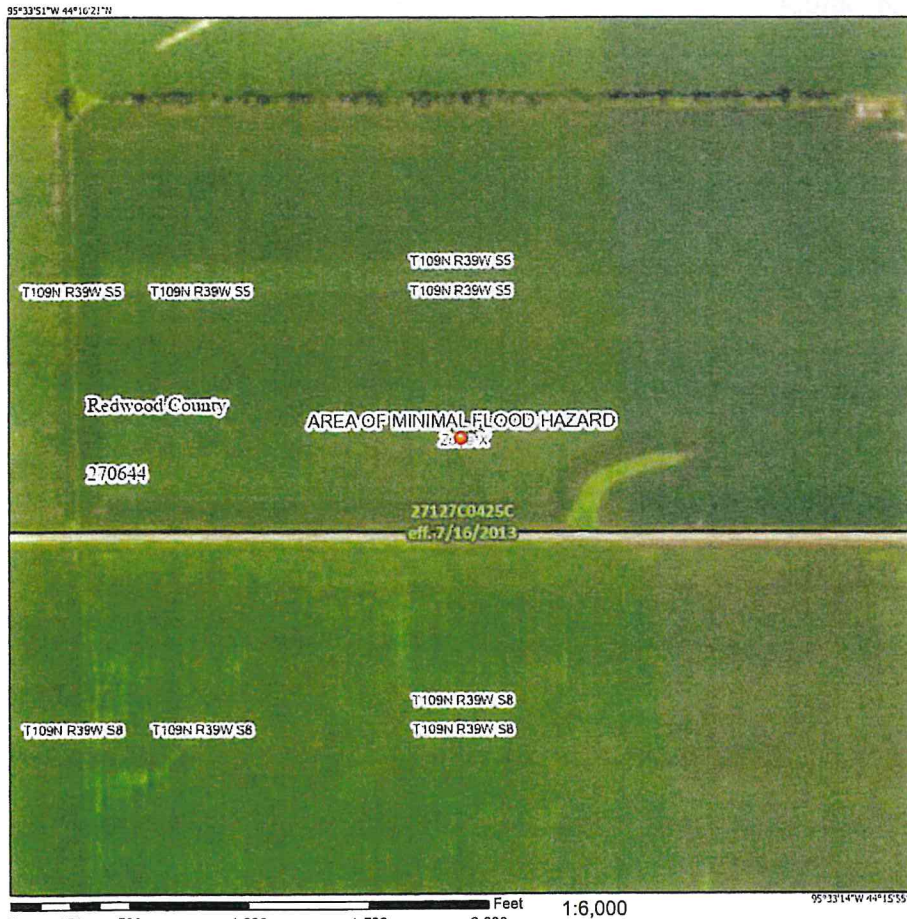
National Flood Hazard Layer FIRMette



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

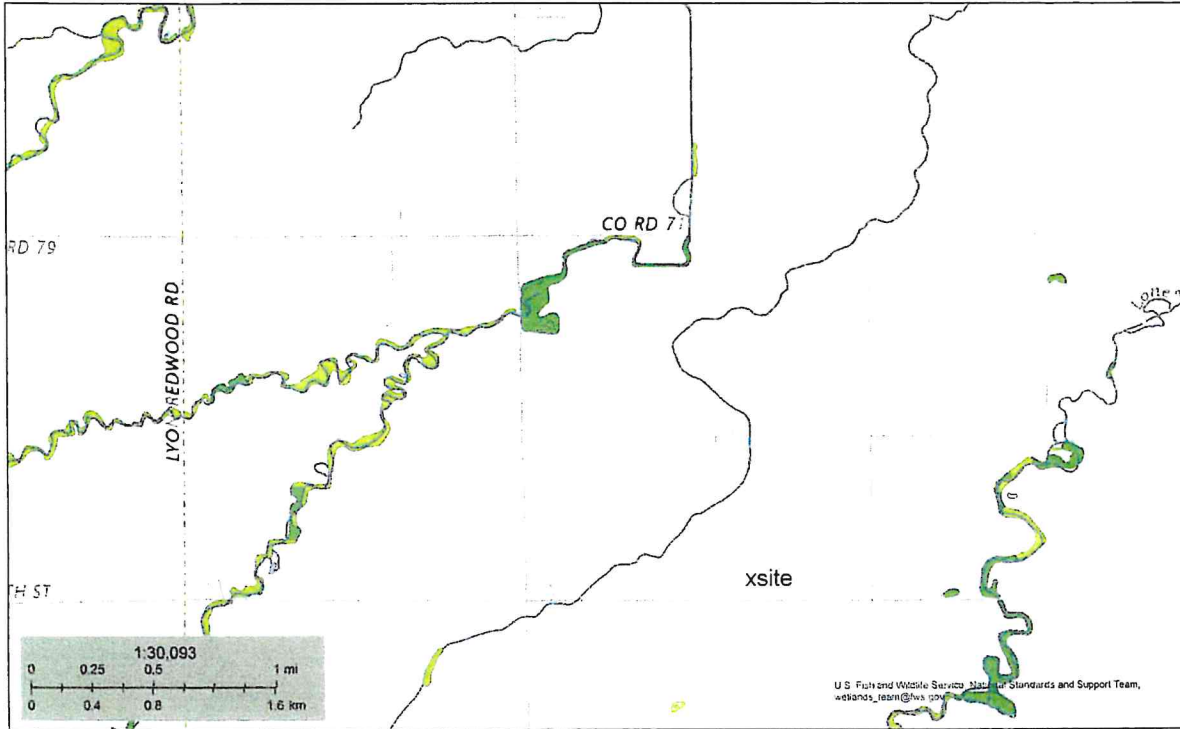
- SPECIAL FLOOD HAZARD AREAS**
- Without Base Flood Elevation (BFE)
 - With BFE or Depth
 - Regulatory Floodway
- OTHER AREAS OF FLOOD HAZARD**
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile
 - Future Conditions 1% Annual Chance Flood Hazard
 - Area with Reduced Flood Risk due to Levee
 - Area with Flood Risk due to Levee
 - Area of Minimal Flood Hazard
 - Effective LOMRMs
 - Area of Undetermined Flood Hazard
- GENERAL STRUCTURES**
- Channel, Culvert, or Storm Sewer
 - Levee, Dike, or Floodwall
- CROSS SECTIONS**
- Cross Sections with 1% Annual Chance Water Surface Elevation
 - Coastal Transect
 - Base Flood Elevation Line (BFE)
 - Limit of Study
 - Jurisdiction Boundary
- OTHER FEATURES**
- Coastal Transect Baseline
 - Profile Baseline
 - Hydrographic Feature
- MAP PANELS**
- Digital Data Available
 - No Digital Data Available
 - Unmapped



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/29/2026 at 2:31 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



April 29, 2026

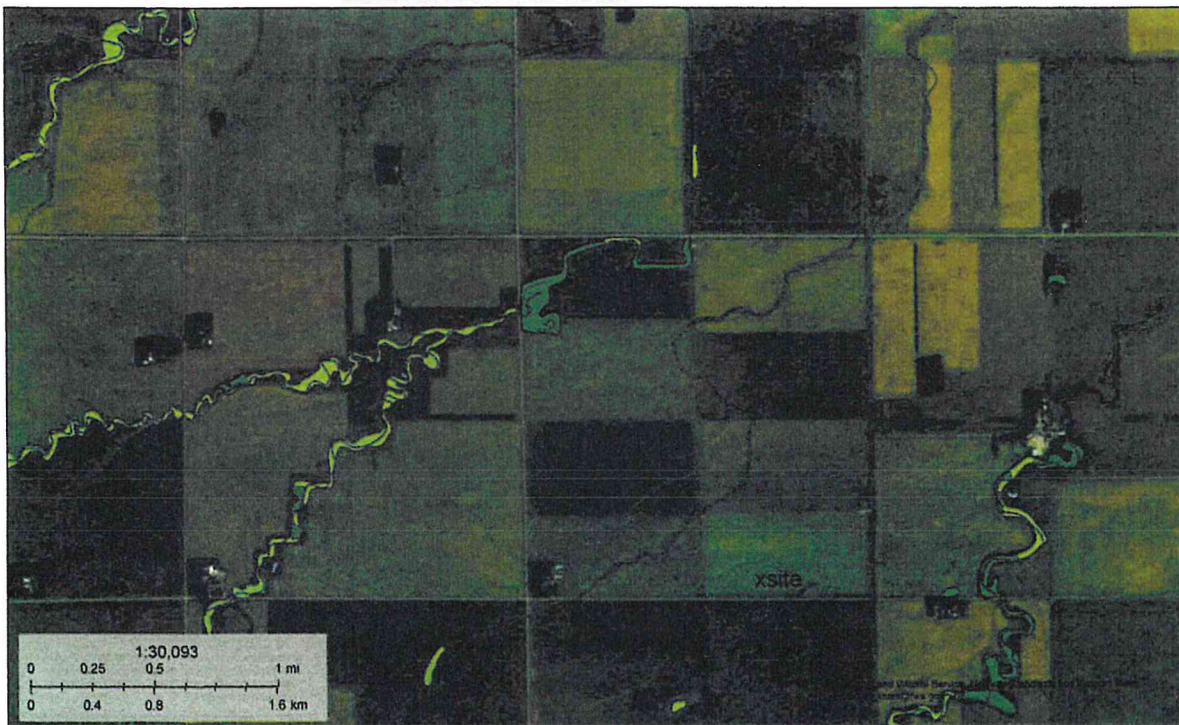
Wetlands

- | | | |
|--------------------------------|-----------------------------------|-------|
| Estuarine and Marine Deepwater | Freshwater Emergent Wetland | Lake |
| Estuarine and Marine Wetland | Freshwater Forested/Shrub Wetland | Other |
| Freshwater Pond | Riverine | |

U.S. Fish and Wildlife Service National Wetlands Inventory Standards and Support Team,
wetlands_team@fws.gov

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National Wetlands Inventory (NWI)
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April 29, 2026

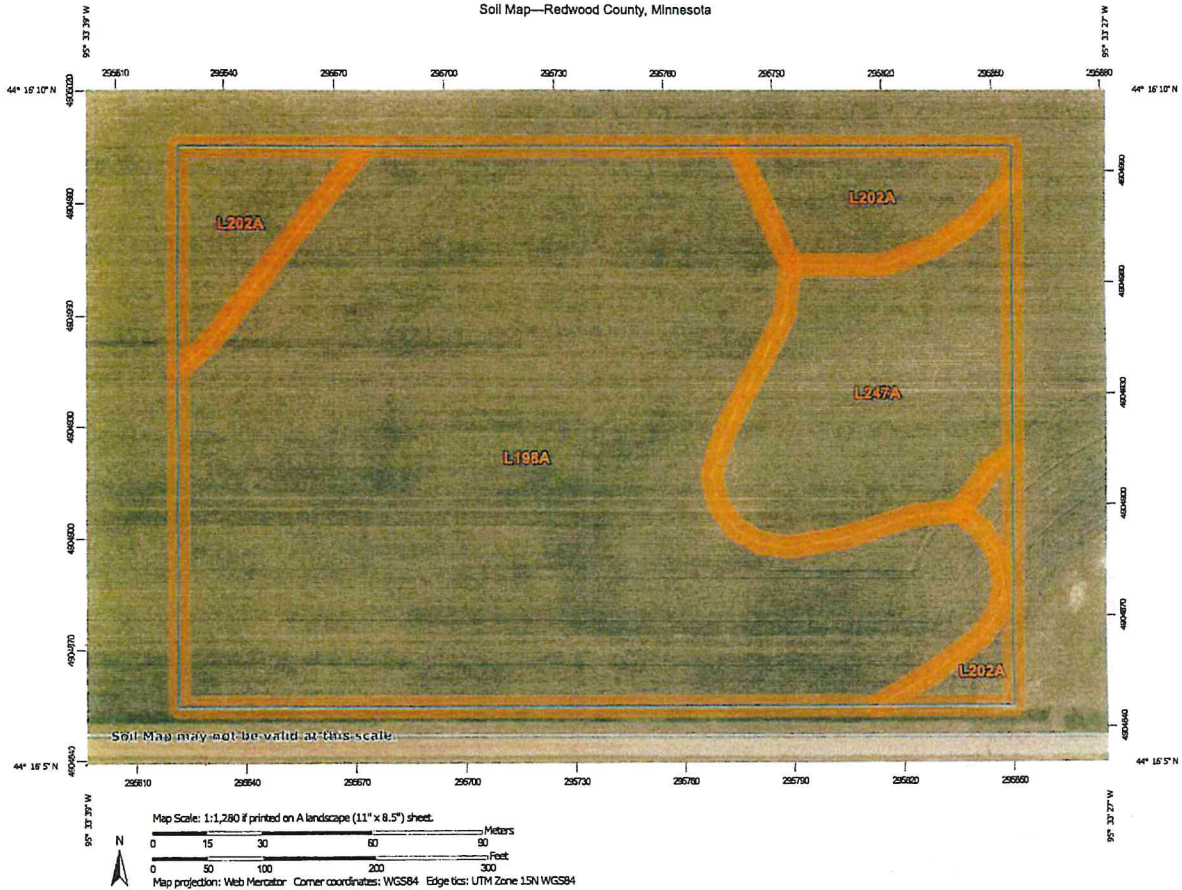
Wetlands

- | | | |
|--------------------------------|-----------------------------------|-------|
| Estuarine and Marine Deepwater | Freshwater Emergent Wetland | Lake |
| Estuarine and Marine Wetland | Freshwater Forested/Shrub Wetland | Other |
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This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Soil Map—Redwood County, Minnesota



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

4/29/2026
Page 1 of 3

Soil Map—Redwood County, Minnesota

Map Unit Legend

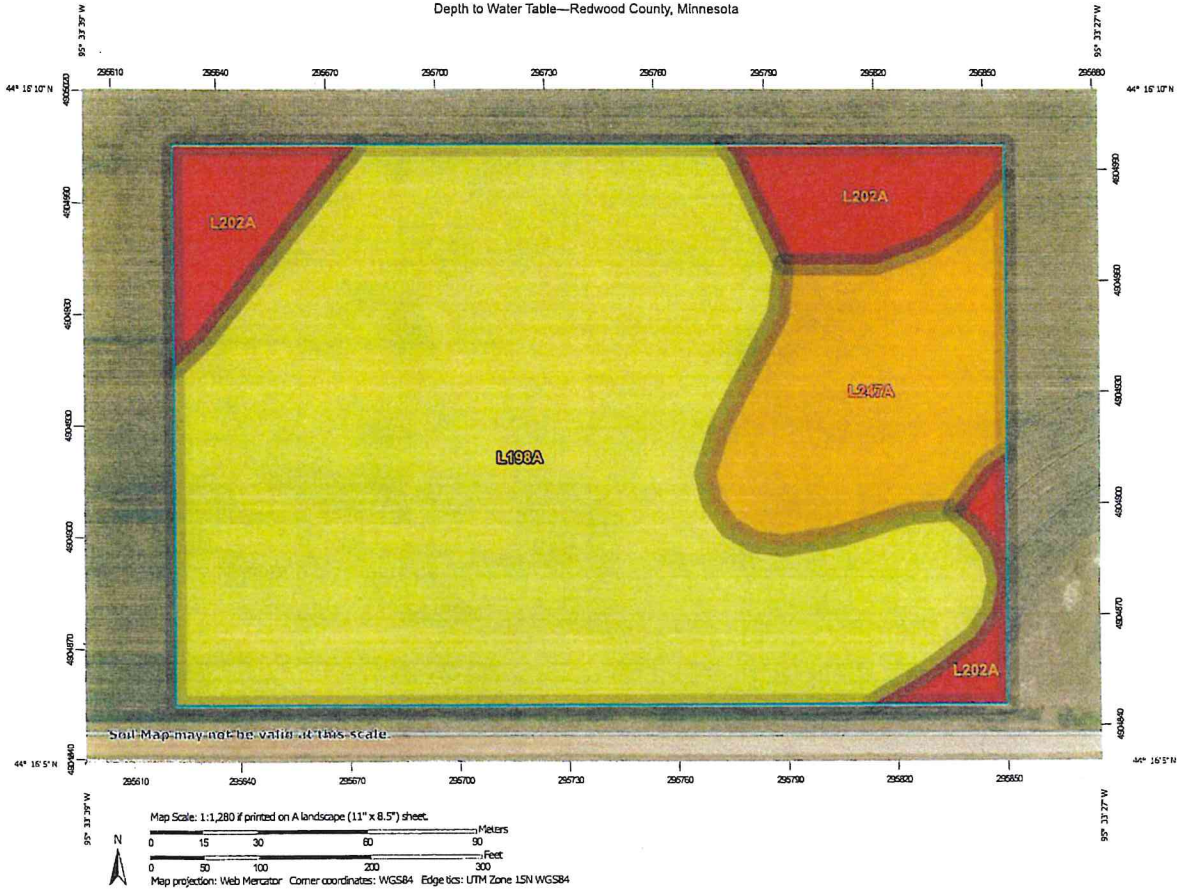
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
L198A	North Twin-Walnut grove complex, 0 to 2 percent slopes	6.2	72.4%
L202A	Pell Creek-Romell complex, 0 to 2 percent slopes	1.1	12.3%
L247A	Molnes-Walnut grove complex, 1 to 3 percent slopes	1.3	15.4%
Totals for Area of Interest		8.6	100.0%

Natural Resources
Conservation Service

Web Soil Survey/
National Cooperative Soil Survey

4/29/2026
Page 3 of 3

Depth to Water Table—Redwood County, Minnesota



Natural Resources Conservation Service

Web Soil Survey National Cooperative Soil Survey

4/29/2026 Page 1 of 3

Depth to Water Table—Redwood County, Minnesota

Depth to Water Table

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
L198A	North Twin-Walnut grove complex, 0 to 2 percent slopes	75	6.2	72.4%
L202A	Pell Creek-Romell complex, 0 to 2 percent slopes	15	1.1	12.3%
L247A	Moines-Walnut grove complex, 1 to 3 percent slopes	45	1.31	15.4%
Totals for Area of Interest			8.6	100.0%

Description

"Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Rating Options

- Units of Measure: centimeters
- Aggregation Method: Dominant Component
- Component Percent Cutoff: None Specified
- Tie-break Rule: Lower
- Interpret Nulls as Zero: No
- Beginning Month: January
- Ending Month: December

ProAg ENGINEERING, INC.
 77402 U.S. Hwy 71
 P.O. Box 181
 Jackson, MN 56143
 507-841-3269
 nic@proageng.com

TO: OWNER

**INSTRUCTIONS FOR OWNER TO FOLLOW
 BEFORE—DURING—AFTER
 CONSTRUCTION OF MANURE STORAGE**

1. Distribute only complete sets of plans and specifications; Keep a record of who gets plans because you may need to retrieve them later. Please call if you need more copies.
2. Ask your feedlot officer to send a copy of your feedlot permit to ProAg Engineering, Inc.. We need this so we know who issued the permit and where reports should be sent.
3. Each Contract for construction of the liquid manure storage (Concrete, tiling earthen basins) should include the following statement:
 10% of the contract amount will be held back until the MPCA Construction Inspection of Liquid Manure Area form has been signed by the Contractor and returned to the Engineer and Engineer certifies that the contract work is complete.
4. A Pre-Construction Meeting shall be held before you start construction. The pre-construction meeting must include the Owner, Engineer, Excavating Concrete Contractors, and County Feedlot Officer. If you start construction without a pre-construction meeting, we reserve the right to cancel our contract.
5. You must notify ProAg Engineering, Inc. and the Permitting Agency:
 1. Three days before you start construction.
 2. Three days before you backfill.
 3. Within three days of completion.
6. Pictures should be taken as the work progresses. This is good protection for you because if problems develop later, you will have a record of what was done. If the Engineer finds problems during inspection, he may request copies of the pictures. Close up pictures showing details are more important than panoramic views. Suggest using single use or digital cameras.
7. MPCA requires that the design engineer submit a written construction report. We cannot do our final inspection and impact hammer test until the concrete is at least 28 days old and all accessory details shown on plans and specs are completed. Then allow at least 2 weeks for us to inspect and write our report.
8. DO NOT make a final payment to contractor until the Engineer certifies that work is complete.
9. DO NOT put manure in the structure until you have received Engineer's Construction Report.

INSPECTIONS: ProAg Engineering, Inc. must inspect before pouring concrete

Owner: _____

Location: _____

Barn or Tank Identification: _____ Comment: _____ Initials: _____

Date: _____

Subgrade (No standing water or mud, forms set for proper floor thickness) _____

Floor Reinforcement (Grade, size, clean, location) _____

*Pouring Floor (Concrete, quality, lake test cylinder) _____

Floor (Cracks sealed) _____

Perimeter Tile, Monitoring Port or Sump & Pump, Tile Outlet (Functional before forming walls) _____

Wall Forms and Reinforcement (Grade of steel, spacing, vertical reinforcement secured) _____

*Pouring Walls (Concrete quality, lake test cylinders) _____

Water Supply Lines (None permitted through pit floor or walls below the HW line) _____

Outside of Walls (Honeycomb patched prior to backfilling) _____

Inside of Walls (Honeycomb patched) _____

Walls (Do impact hammer test) _____

Columns (Honeycomb patched) _____

Beams Grouted (First 3 beams at end walls and each side of solid divider walls) _____

Slabs Grouted (Prior to backfilling) _____

Backfill (Height and slope to drain roof away from barns) _____

Finish Grading (Roads, drives, storm water catch basins & drainage) _____

ProAg
ENGINEERING, INC.
 Nicholas J. Rowe, P.E.
 77402 U.S. Hwy 71
 P.O. Box 181
 Jackson, MN 56143
 507-841-3269
njr@proageng.com

PRE-CONSTRUCTION MEETING

PROJECT: _____ **DATE:** _____

LOCATION: _____ /4, SECTION _____ TWP _____ CTY _____

OWNER: _____ **PHONE:** _____
 Owner's Representative _____ **PHONE:** _____ (to
 conduct weekly inspections for SWPPP and notify Engineer and Feedlot Officer.)

GENERAL CONTRACTOR _____ **PHONE:** _____
 Contact _____

EXCAVATION CONTRACTOR _____ **PHONE:** _____
 Contact _____
 Date to start excavation work _____

CONCRETE CONTRACTOR _____ **PHONE:** _____
 Contact _____
 Date to start concrete work _____

CONCRETE READY MIX _____ **PHONE:** _____
 Contact _____

PRE-CAST CONCRETE _____ **PHONE:** _____
 Contact _____

GROUTS, BEAMS AND SLATS _____ **PHONE:** _____
 Contact _____

FEEDLOT OFFICER _____ **PHONE:** _____

ELECTRICAL INSPECTOR _____ **PHONE:** _____

ENGINEER _____ **PHONE:** _____

PRE-CONSTRUCTION MEETING CHECK LIST
 OW-Owner, OR-Owner's Representative, CC-Concrete Contractor,
 EC-Electrical Contractor, EN-Engineer, EX-Excavator, PC-Precast Supplier
 ITEM RESPONSIBILITY

- 1) Telephone directory _____
- 2) Port-a-potty or Johnny-on-the-spot _____
- 3) Storm Water Pollution Prevention Plan, SWPPP, weekly inspections. _____
- 4) Stake out buildings and pits _____
- 5) Locate underground utilities _____
- 6) Call UTILITIES CALL CENTER _____
- 7) Notify Engineer three days before starting _____
- 8) Notify Engineer three days before backfilling _____
- 9) Notify Electrical Inspector for grounding inspections _____
- 10) Notify Engineer four hours before each concrete pour _____
- 11) Temporary electrical power _____
- 12) Temporary Water _____
- 13) Telephone service _____
- 14) Layout worksite, limits of worksite _____
- 15) Equipment and employee parking _____
- 16) Dirt stockpile area _____
- 17) Construction materials stockpile area(s) _____
- 18) Keep traffic off septic drainfield area(s) _____
- 19) Security (daytime, night time) _____
- 20) Bio-security _____
- 21) Refuse disposal dumpster/burn pit _____
- 22) Concrete truck wash-out area _____
- 23) Does everyone have correct plans? _____
- 24) At completion of construction, notify Engineer for final inspection _____
- 25) Contractor sign MPCA Construction Report _____

SPECIFICATIONS for Concrete Lined Manure Storage Areas

01001 QUALITY ASSURANCE AND CONTROL PLAN

Work under these specifications is subject to County and MPCA inspection and review.

- A. BEFORE STARTING CONSTRUCTION, Owner shall:**
1. Consult the feedlot permit for required submittals, notifications and approvals.
 2. Arrange for pre-construction meeting with engineer, owner and contractors.
 3. Notify engineer, 3 days before starting construction.
 4. Notify permitting agency (MPCA or County) 3 days before starting construction.

B. DURING CONSTRUCTION, Concrete Contractor shall:

1. Notify Engineer, minimum 4 hrs before each concrete pour.
2. Wait for Engineer's inspection before pouring concrete.
3. Concrete testing will occur at a minimum of one sample per 100 yards of placed concrete. Testing will include: Air/Slump/Strength per ASTM standards. Sampled concrete will be later tested at a certified testing facility to determine PSI strength requirements and quality assurance.
4. If concrete is provided by different supplier or with different mixes, additional testing will be done on the first truck according to ASTM standards. Engineer must be notified immediately if any change does occur.

C. BEFORE POURING CONCRETE PIT FLOORS; the following must be completed:

1. Contractor give Engineer & Electrical Inspector advance notice.
2. Engineer inspect subgrade and floor slab thickness (full 5" thick).
3. Engineer inspect grade and placement of reinforcing steel.
Steel shall be supported on chairs and tied.
4. Perimeter tile shall be laid at least 12 inches from pit wall and covered with pea rock or 1/4" - 1/2" crushed rock.
5. Grounding inspection by Electrical Inspector.

Placement of the perimeter tile and rock cover shall be done by the Concrete Contractor. Tile and rock provided by Owner.

D. BEFORE POURING CONCRETE PIT WALLS; the following must be completed:

1. Contractor give Engineer & Electrical Inspector advance notice.
2. Engineer inspect forms, reinforcing steel, waterstop and tile.
3. Tile system shall be working with (temporary or permanent) automatic sump pump or daylight outlet.
4. Grounding inspection by Electrical Inspector.

E. BEFORE BACKFILLING; Items 1 thru 4 must be complete, then Owner notify Engineer, and MPCA or CFO and allow 3 work days for inspection.

1. Concrete contractor shall have patched all cracks and honeycomb.
2. Pre-cast concrete beams, slabs and slabs in place and grouted.
3. Permanent tile sump pump or inspection port set in-place, (braced if necessary) and ready for backfilling.
4. All organic debris shall be removed from the overdig area.
5. Engineer must inspect items 1 thru 4 and approve before backfilling.

SPECIFICATIONS for Concrete Lined Manure Storage Areas

F. UPON COMPLETION, Owner shall notify Engineer when all of these items are done.

1. Backfilling and finish grading completed.
2. Pumpout covers and safety signs installed.
3. Concrete Contractor sign MPCA Construction Inspection Form.

G. ENGINEER shall conduct inspections as specified in Section 03001.B. and submit construction report to Owner and Permitting agency.

01301 DESIGN CHANGES

Design changes must be approved in writing by both the Owner and the Engineer before proceeding with the work. Some design changes may also require MPCA, COUNTY and/or NRCS approval.

01401 SITE SURVEY

The Contractor shall be responsible for layout of the work. Bidders must visit the site and acquaint themselves with existing conditions. Contractor shall CALL GOPHER-1 and be responsible for location of existing utilities in areas of work.

01501 SUBSURFACE INFORMATION

All available data relating to the subsurface material and conditions that are based upon test borings has been obtained by the Engineer for his/her own use in designing the project. Its accuracy or completeness is not guaranteed by the Owner or Engineer and in no event is it to be considered a part of the contract plans or specifications.

02101 EARTHWORK

- A. This section applies to earthwork (excavation and backfill) for concrete lined manure storage pits and tanks.
- B. Remove one foot (1') of topsoil under all concrete lined manure tanks. Save topsoil for finish grading.
- C. Removal of water: All excavations, fill, grading and embankments shall be maintained in a well drained condition at all times. The Contractor shall have temporary pumping equipment on site to remove water from trenches and excavations until the perimeter tile system is working.
- D. Any over-excavation for concrete footings and slabs on grade shall be backfilled with compacted sand/gravel.
- E. WARNING Engineer must inspect outside of wall and tile and give approval before backfilling. See Section 01001.
- F. **CLEAN BACKFILL TRENCH.** All organic material, cardboard, wood, paper, straw, etc. shall be removed from trench before backfilling. These materials will decay and contaminate the perimeter tile system.

SPECIFICATIONS for Concrete Lined Manure Storage Areas

- G. Do not backfill against concrete walls until the concrete has cured at least 7 days and all silt and slab floors and beams are in place and grouted to properly brace the walls. Exercise caution when backfilling to bring up the level uniformly on all sides of tanks and pits. Keep all heavy equipment back from the pit and tank walls a distance equal to the depth of the fill. Top off backfill with one foot (1') of topsoil, disk and leave smooth for planting grass.

02401 PERIMETER TILE SYSTEM

MPCA Rules: Where a perimeter tile system is required to control the elevation of the water table or saturated soils, it must lower the water table or saturated soils to below the bottom of the storage liner. Perimeter drainage tile shall be located at least one foot outside of the footing of the concrete-lined manure storage areas. Each manure storage area shall have a dedicated drain tile system with a dedicated riser, manhole or other access for collection of tile-water samples.

- A. PERIMETER TILE shall be 4 inch (unless otherwise shown on plans) heavy duty perforated corrugated polyethylene plastic agricultural drain pipe. Tile shall be bedded and covered with pea rock or 1/4" - 1/2" crushed rock.
- B. EXISTING TILE LINES intercepted during trenching for the perimeter tile system shall be removed back 10 feet from the tank wall. Existing tiles shall be connected to a suitable by-pass tile system. Do NOT connect existing area tile lines to the perimeter tile system, unless authorized by the Engineer.

- C. GRAVITY OUTLET FOR PERIMETER TILE shall not be used where flood water may backup into the tile and contaminate the dedicated sampling port. The tile outlet shall have a rodent guard. The tile outlet may serve as dedicated sampling port, when it is easily accessible and will never be inundated and contaminated by flood water.

- D. SUMP PUMPS shall be required whenever a gravity outlet is not available. On siles with more than one below ground manure storage structure, only one common sump pump system is required, but each structure must have an individual sampling port.

- E. PUMP shall be submersible type with 20 feet heavy duty electrical cord. Pump shall have an adjustable piggy back float switch. Pump shall be capable of 25 GPM at 15 feet head. Pump shall be fitted with a discharge hose or pipe equal or larger than the discharge of the pump. Furnish and install fused weatherproof disconnect switch, plug and receptacle for each pump. Plug type connections should be used for quick exchange of pumps by farm workers.

- F. ALTERNATE PLAN to dewater the site in advance of general excavation shall be decided by the owner, engineer and contractor at time of the pre-construction meeting. If the tile is installed in advance of excavation, it should be installed 4 feet out from the pit wall and at least 2 feet below the top of the pit floor. Slope the tile at 0.2 feet per 100 feet to the sump or daylight outlet. Plow type machines shall NOT be used when installing perimeter tile around concrete manure storage structures prior to general excavation, because it will loosen soil under wall footing. Use only a backhoe or trencher.

- G. CLEAN BACKFILL TRENCH. All organic material, cardboard, wood, paper, straw, etc. shall be removed from trench before backfilling. These materials will decay and contaminate the perimeter tile system.

SPECIFICATIONS for Concrete Lined Manure Storage Areas

02601 SEWER SYSTEM

- A. Sewer system consists of drains from the barns, cleanouts, sewer main, sewer outlet into concrete tanks and earthen basins, and level control between lagoon cells.
- B. Gravity sewer pipe (non-pressurized) shall be PVC SDR-35 with gasket or glued joints. Sewer cleanouts (CO) shall be located as shown on the plan.
- C. All holes for pipes passing through floors and walls shall be sealed water tight.

02701 FENCE AND GATES

All open top concrete tanks less than 4 feet of wall above ground and earthen manure storage basins shall be fenced. Fence and gates shall be child and livestock proof to prevent unsupervised access.

02801 SIGNS

The Owner shall post warning signs every 100-150 feet around open top tanks and earthen basins: "DANGER, DEEP WATER, KEEP OUT". Post warning sign at each manure pit, reception pit, pumping station and manhole where a "confined space" may contain manure gases: "DANGER, POISONOUS GAS IN PIT, KEEP OUT".

02901 OTHER WORK

The Owner shall be responsible for putting child-proof fences around open top tanks and child-proof covers on all sumps, pump out ports and providing and utilizing safety guard fences around pump outs when open.

03000 PRECAST CONCRETE

- A. The Precast manufacturer shall submit design data for checking load capacity of the precast system or an Engineer's Certification that the pre-cast components meet the following design loads. For design of beams, slabs and slats refer to Concrete Manure Storages Handbook, MWPS-36, by Midwest Plan Service.

Type of barn	Solid slabs & beams	Slats
Hog nursery barns	35 psf	50 pif
Hog finishing barns	60 psf	125 pif
Sow & boar barns	65 psf	150 pif
Add an additional 160 pif on the edges(s) of slabs that support farrowing stalls.		
Dairy free-stall barns	100 psf	250 pif
Dairy holding & handling pens	125 psf	312 pif

- B. To properly brace pit or tank walls, space between ends of beams, slats and slabs shall be filled with grout and allowed to set 3 days before backfilling.

03001 CAST IN PLACE CONCRETE

SPECIFICATIONS for Concrete Lined Manure Storage Areas

A. READY MIX CONCRETE shall meet requirements of ASTM C-94

CONTRACTOR shall give copy of this page to Ready Mix Plant prior to bidding.

Concrete 28 day compressive strength, f _c , psi	Aggregate, max.	Fibermesh
4,000	2"	1.5 lb/cuyd
Walls	1.5"	none
Columns	1.5"	none
Slump	3" - 6"	
Air entrained	5% - 7%	
Water:cement ratio	0.5	

Fly Ash, maximum 20% of cementitious material. Silica Fume, maximum 20% of cementitious material. The combination of fly ash and silica fume shall not exceed 35% of total cementitious materials. Fly ash and silica fume will increase resistance to sulfates and reduce permeability. CAUTION: fly ash slows curing, especially in cold weather.

To minimize shrinkage cracks in floors, minimize the amount of cement-water paste and maximize the amount of large aggregate. The use of water reducing plasticizers is encouraged. Contractor may order water reducing or other admixtures, except calcium chloride shall not be used.

B. INSPECTIONS AND TESTING.

1. Inspection before each concrete pour shall include evaluation of subgrade, forms, waterstop, placement and grade of reinforcing steel.
2. Concrete shall be sampled and tested for temperature, entrained air, slump and strength (test cylinders) as per ASTM C-94. Minimum of one sample per 100 yards placed.
3. The Inspector shall forward the inspection report including results of the ASTM tests to the Engineer.
4. The Engineer may request core samples be taken for any concrete of questionable strength or quality. All such concrete found to be defective shall be removed and replaced by the Contractor. If concrete is provided by different supplier or with different mixes, additional testing will be done on the first truck according to ASTM standards. Engineer must be notified immediately if any change does occur.

C. WATERSTOP shall be 3/4" x 3/8" Waterstop RX; 3/4" x 1" Swellstop; Synko-Flex; Hydro-Flex waterstop; Green-streak; Con-Seal CS-231, 220 or 102, or approved equal. These materials come in paper-backed coil or strips and shall be applied as per manufacturer's instructions.

D. All steel in the concrete floors and walls in livestock buildings must form an EQUIPOTENTIAL PLANE and be bonded to the electrical system. This must be coordinated with the Electrical Contractor and will require inspection by the Electrical Inspector prior to each pour of concrete.

E. REINFORCING STEEL shall be deformed bars, f_y = 60,000 psi (Grade 60)

Steel details for deformed rebar	#4 bars	#5 bars
Bar bending radius, minimum 603"	4"	
Lap splices, minimum 40d	20"	25"
Bend around corner, minimum	24"	30"

SPECIFICATIONS for Concrete Lined Manure Storage Areas

Rods through construction joints 30" 36"

F. Steel reinforcement shall be tied and supported on chairs, bolsters, spacers and other devices. Dowels and rods extending through construction joints shall be secured in positions against displacement before concrete is placed and shall be cleaned before subsequent pouring.

G. Preparation of Forms and Subgrade: Prior to placement of concrete, the forms and subgrade shall be free of wood chips, sawdust, debris, standing water, ice, snow, extraneous oil, mortar and other harmful substances or coatings. Placement of concrete on mud, dried earth, un-compacted fill or frozen subgrade will not be permitted.

H. Excavations shall be made to the dimensions and elevations indicated on the drawings. Should excavation through error be carried to a greater depth or size than indicated or required, such additional depth or size shall be filled with concrete at the CONTRACTOR'S EXPENSE.

I. Tolerances: Elevations of floor slabs, top of walls, silt ledges, beam pockets and top of columns ± 1/4". Horizontal length and width of top of wall, location of beam pockets and columns ± 1/2". Straightness of top of wall ± 1/4". Anchor bolt spacing ± 1", centered in stem wall ± 1/2". Thickness of floor slab shall not be less than 5 inches at any point.

J. Shrinkage cracks and honeycomb areas shall be filled with a mixture of masonry cement and water of medium consistency and brushed into the cracks with a stiff brush. Honeycomb areas shall: 1) have loose stones hammered out, 2) be wetted by brushing in a watery paste of masonry cement, 3) and filled and sealed with mixture of masonry cement with sand.

K. COLD WEATHER. When for more than 3 consecutive days the mean daily temperature drops below 40°F, the contractor shall place and protect the concrete in accordance with ACI 306.

L. HOT WEATHER CONSTRUCTION. When it is likely that temperature between 80°F and 100°F will be approached or exceeded; that low relative humidity is present; or wind velocity will exceed 10 mph, the contractor shall place and protect the concrete in accordance with Chapters 4 & 5 of ACI 305.

M. Freeze/Thaw & Non-Use Protection, Long & Short Term After Construction: After the concrete pit is constructed and prior to its use or during non-use, the concrete floor and subgrade must be protected from freezing. If the pit is empty when the ground surface around the pit begins to freeze, a minimum liquid depth of 2 feet must be added to the pit to prevent freezing the subgrade below the floor. If the barn and pit are not being used for any extended period of time throughout the year (minimum of 60 days), a minimum liquid depth of 2 feet must be maintained in the pit to prevent freezing. Groundwater pressure heaving, etc. The barn can also be heated during non-use times during cold weather to prevent freezing in the bottom of the pit instead of placing or leaving additional liquid in the pit.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

*These are recommendations and are not intended to meet the requirements of a site specific SWPPP for an NPDES Storm Water Discharge Permit.

Description of the site:

The site is currently cropland. The project consists of construction of a swine confinement operation with multiple deep pits. After construction, the area surrounding pit will be planted to grass.

Construction Sequence and Best Management Practices (BMP's)

1. The construction site shall be planted to grass (or cover crop) prior to commencement of construction. See Grass Seeding Guidelines.
2. Areas not to be disturbed during construction shall be staked and marked. Considerable rain water and sediment can be trapped on areas planned to grass and not compacted by construction traffic.
3. Install silt fence as shown on the site plan as needed to prevent erosion.
4. All drive entrances shall be protected with rock. Install road culvert(s) as per highway department specifications.
5. Build a berm to prevent field water from entering the construction site. Make berm 18-24" high with 3:1 side slopes. Use loose top soil from the barn area. A berm is an alternative to using silt fence. The loose soil will absorb a lot of water. Construct the berm on the contour with no channel on the up-hill side of the berm.
6. Temporary stockpiles shall have silt fence or other effective sediment controls and cannot be placed in stormwater conveyances, ditches or grass waterways.
7. Dewatering of pits and basins shall be done in a manner that does not cause nuisance conditions or discharge onto down-slope property. Rain and ground water in pit excavations shall not be allowed to flow direct into open tile, unless the tile inlet has silt fence or other protection or the perimeter tile is installed and covered with pea rock or crushed rock.
8. After backfilling and final grading is done, those areas shall be planted to grass. Slopes steeper than 5:1 shall be mulched. All seeding and mulching operations shall commence within 1 week after completion of each portion of the construction or as soon as soil conditions permit. See Grass Seeding Guidelines.
9. After berms are removed and backfill around barns is re-graded (the following spring) those areas shall be re-seeded to grass.
10. Final stabilization is achieved when soils have been stabilized by a uniform perennial vegetative cover over at least 70% of the pervious area, and all drainage ditches and grass waterways have been stabilized, then the silt fence may be removed.
11. The Owner shall keep the plans and records on file for a minimum of six (6) years.

Maintenance of BMP's

1. Owner shall inspect all BMP's weekly and within 24 hours after each rain event of 1/2" or more in 24 hours.
2. Silt shall be removed from behind silt fences within 24 hours of when the depth reaches 1/3 the height of the fence.
3. Mud and crushed rock are tracked onto public roads, it shall be removed within 24 hours.
4. If sediment escapes the site, off-site accumulations must be removed in a manner and frequency sufficient to minimize off-site impacts.

Assignment of Responsibilities for Execution of the SWPPP

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

1. Owner shall be responsible for execution, inspection, record keeping and up-dating The SWPPP as required in Appendix C of the NPDES Feedlot Permit. See form for the Storm Water Pollution Prevention Plan Record.
2. Owner shall inspect all BMP's weekly and within 24 hours after each rain event of 1/2" or more in 24 hours and supervise proper maintenance of erosion and sediment control practices.
3. Earthwork Contractor shall be responsible for implement, manage and maintain both temporary and permanent erosion and sediment control BMP's (except seeding) until final grading has been completed on site.
4. Owner shall be responsible for seedbed preparation, planting and mulching operations prescribed by the SWPPP.
5. Changes to the SWPPP shall be approved and recorded by Owner prior to implementation.

Grass Seeding Guidelines

All in place topsoil shall be salvaged to the maximum extent possible. It is ideal to place 6 inches of top soil in areas to be seeded. Harrowing before and packing with roller after planting will help germination, make the ground smoother and easier to mow. Seeding mixture and rates are recommendations based on DOT specs. Fertilizer is important for quick growth. Mixtures 250 and 280 can be mowed.

Temporary seeding: Fertilizer 10-10-20 at 200 lbs/acre.

- Oats at 100 lbs/ac for spring/summer seeding of areas that will be left undisturbed for 21 days or more.
- Winter wheat at 100 lbs/ac for fall seeding of areas that will be disturbed again in the spring, such as backfill around barns.

Turf and agricultural grasses: Fertilizer 20-10-20 at 350 lbs/acre.

General Roadside mix		
Brome grass, smooth	9.8 lb/ac	14.0%
Bluegrass, Kentucky "Certified Park"	20.3	29.0
Bluegrass, Canada	9.8	14.0
Switch grass	2.1	3.0
Wheat-grass, slender	2.8	4.0
Rye-grass, perennial	14.7	21.0
Timothy	2.1	3.0
Redtop	2.1	3.0
Alfalfa, creeping	4.2	6.0
White clover	2.1	3.0
Total		

Agricultural Roadside mix		
Alfalfa, creeping	70 lb/ac	30.0%
Brome grass, smooth	15 lb/ac	20.0
Redtop	3	6.0
Rye-grass, perennial	15	30.0
Switch grass	2	4.0
Timothy	2	4.0
Wheat-grass, slender	3	6.0
Total	50 lb/ac	

OPERATION, INSPECTION AND MAINTENANCE PLAN

NEED FOR OPERATION, INSPECTION AND MAINTENANCE PLAN

Although this Waste Storage Structure has been designed in accordance with MPCA recommendations and its based upon the best available technical knowledge, it must be recognized that any Waste Storage Structure needs to be properly maintained, including periodic inspection. You, the Owner, are responsible for this Waste Storage Structure. The following guidelines for safe operation and maintenance are recommended.

- (1) routine inspections, maintenance and record keeping to be completed to identify and document damage to the liner.
- (2) methods to be used to repair areas of damaged liner;
- (3) methods used to monitor the liquid level in the basin to evaluate proper operation and adequate available storage capacity; and
- (4) routine inspections of perimeter tile line outlets and inspection manholes to ensure proper operation of the system.

Annually, the liquid will be mixed and removed for land application. Liquid level in the pit(s) shall be monitored quarterly (4 times per year) and after any water line breaks or abnormal additions to the pit. The level shall be measured using a rod or wood stick and the depth recorded.

SEMI-ANNUAL INSPECTION OF LIQUID STORAGE AND HANDLING SYSTEMS

Establish a time each spring and fall for a thorough inspection of the liquid storage and handling systems. DO NOT ENTER COVERED PITS & TANKS.

All concrete storage tanks and reception pits shall be inspected to evaluate the outside of structures for cracks and deterioration of concrete. Any cracks showing discharge of liquid shall be inspected by an engineer and repairs done as prescribed by the engineer.

Maintain the following in proper working order:

- 1) Finish earthwork around the structure should be designed to carry runoff away from the foundation. Rainwater diversions to direct 'clean' water away and 'dirty' water into storage facilities. Grass should be established in those areas not covered by concrete and gravel.
- 2) Childproof covers must be placed upon the pumpouts. Open pumpouts should never be left unattended.
- 3) Warning signs shall be posted to prevent children and others from using the pit other than the intended use.
- 4) Animal wastes shall be handled and utilized as specified in the Manure Management Plan.
- 5) The Waste Storage Structure requires continuous ventilation to safely remove poisonous and noxious gases. Manure agitation will release large amounts of gas and may create a hazardous situation. Ensure that the ventilation fans are operating before agitation and, if possible, evacuate the building.
- 6) Manure pits that contain bearing divider walls should be emptied using a modified pumping plan. All manure sections should be partially emptied to prevent possible divider wall failure. Removal of about 3' of manure is recommended from each section before complete emptying of any one section is undertaken.
- 7) No person should enter a Waste Storage Structure without proper training and without wearing a self-contained breathing device. A second person should remain outside of the structure and should have an immediate means of removing the person inside the structure in an emergency.
- 8) Regular quarterly inspections should be made of the structure and its surroundings for leaks, concrete deterioration and pumpout cover conditions. Inspection of the slats for signs of deterioration is advised.
- 9) Concrete should be inspected for large cracks and exposed reinforcing steel. Joints should be checked for unusual openings.
- 10) Concrete surfaces should be quarterly inspected for erosion, scaling and exposed reinforcing steel.

- 11) Perimeter tile, sump pumps, sampling ports and rodent guards at outlets.
- 12) The structure walls are designed to resist earth loads only. Do not operate any equipment on this surface.
- 13) The beam and flooring system is designed for animal loads only. Do not operate any equipment on this surface.
- 14) If, during the inspection, serious defects are discovered, remedial actions may be required. The County Feedlot Officer and Engineer should be contacted and possible the MPCA.

RECORDS

Record the inspections, evaluations and maintenance done in a spiral bound notebook. Also take and date pictures before and after any maintenance work is done on cover and liquid storage and handling facilities.

PERIMETER TILE MONITORING AND CONTINGENCY PLAN

INSPECT PERIMETER TILE AT LEAST ONE WEEK BEFORE EMPTYING STORAGE

All below ground waste storage structures require perimeter tile to relieve the hydrostatic pressures which would otherwise damage the sides of the concrete tanks and manure storage pits under barns. There is a serious problem if the water level in the sump or inspection port is above the pit floor.

It is very important that the ground water level be lowered prior to emptying the manure storage pit. It may take a week or more for the system to lower the ground water pressure once the problem has been corrected.

BASE LINE SAMPLING

It is recommended that base line sampling be done before manure is put in the storage facility to document any pre-existing contamination that may be in the soil. This is especially important if the site is in an old barn-yard area or has received heavy applications of manure for many years.

Base line samples should be collected at least two (2) times prior to the addition of manure into the waste storage structure. If there is no flow from the tile, sampling shall begin as soon as water is available for sampling. Each 'base line' sampling event shall be scheduled at least two (2) weeks apart.

1. The Owner shall contract with an independent laboratory to collect and analyze the samples. The laboratory must be certified. The laboratory report shall include: Chain of custody record, date, parameter, method used, results, units.

2. The water quality parameters to be monitored are:

Total Kjeldahl Nitrogen	Nitrate Nitrogen
Nitrite Nitrogen	Ammonium Nitrogen
Dissolved Oxygen	Chloride
Sulfate	Total Phosphorus
Fecal Coliform	pH
Temperature	Specific Conductivity
Flow (as determined by time to fill 5 gallon pail)	

CHANGE IN TILE WATER COLOR OR ODOR

If visual observation of the tile water indicates a change in color or odor, then a more urgent response is necessary. A change in color or odor may be caused by either soil and/or manure water. If this should occur, immediately stop all discharge to field tile. Notify the MPCA or Engineer immediately.

Install a sump pump and discharge the tile water onto a vegetated filter strip area. If necessary, plug the line going to field tile with bentonite 'chips'. Bentonite chips may be obtained from your well driller.

Submittal Information

Facility Name: IDR#2
 Agency Interest ID: 266814
 Permit ID: NEW
 Service Type: Feedlot Permitting - Construction Short Form Issuance
 Transaction ID: 201842
 Submitted On: 2026-05-08 16:47:36

Permit Application Selection

Does your facility exceed any federal large CAFO thresholds? Yes
 Does your facility discharge to US Waters? No
 Do you want to apply for NPDES Permit? No
 Does your facility currently or after proposed expansion have a capacity to house 1,000 or more animal units? No
 Do you want to apply for an SDS Permit? No
 Has a part of your facility been identified as a pollution hazard by the Minnesota Pollution Control Agency (MPCA) or your County Feedlot Officer? No
 Are you proposing construction or expansion of a facility? Yes
 Will the construction or expansion result in your facility having a capacity to house 300 or more animal units, or are you proposing to construct a manure storage area at a facility that has the capacity to house 300 or more animal units? Yes

Application Readiness

Based on your previous answers, you are applying for a Construction Short Form Permit.

Are you constructing new or expanding an existing feedlot or manure storage area (MSA)? Yes
 Is the ultimate capacity of the feedlot 500 or more animal units, or will the MSA hold manure produced by 500 or more animal units? Yes
 Acres Disturbed 3
 Is the facility Minnesota Agricultural Water Quality Certified? No
 Is the feedlot in a non-delegated county? Yes

Acknowledgements

I have notified all government authorities and local zoning authorities about the proposed construction or expansion, in accordance with Minn. R. 7020.2000 subp. 5.

I agree to comply with the requirements of the current Construction Stormwater(CSW) NPDES general permit(Minn.R. 7090.2020 provides permit coverage even though no application has been made.)

Feedlot Information

Feedlot Name: IDR#2
 Physical Address: TBD 150th St
 Tracy MN 56175
 Mailing Address: 11656 170th St
 Tracy MN 56175-1922
 Location Description:

Feedlot Location

Collection Method: Digitized - MPCA internal map
 Coordinate System: Lat Long - decimal degrees
 Latitude: 44.26842
 Longitude: -95.55875
 Point of Reference: General Location
 County: Redwood
 Is the site located in Indian country?: No
 Parcel(s) County and ID:
 Township: 109
 Range: 39W
 Section: 5
 Quarter 160: SE
 Quarter 40: SE
 Quarter 10:
 Quarter 2.5:

Contacts

Contact Name: Jeff Knott
 Contact Type: Feedlot Contact
 Organization Name:
 Organization Type:
 Address: 11656 170th St
 Tracy MN 56175-1922
 Email: jeff.knott@feedideal.com
 Phone: 5076265829

Contact Name: Jeff Knott
 Contact Type: Owner
 Organization Name: Knott et al LLC
 Organization Type: Private (Non-Government)
 Address: 11656 170th St
 Tracy MN 56175-1922
 Email: jeff.knott@feedideal.com
 Phone: 5076265829

Prevention Opportunities

Have you implemented any prevention activities in the past year? No
 Why not? Other
 Would you like to be contacted to discuss prevention opportunities? No

Animal Holding & Numbers

Animal Holding Areas

Does the facility have pasture access? No
 Are there animal holding areas at this facility? Yes
 Is there a well within 1000 feet? No

Total Confinement with Underfloor Liquid Storage	Animal Type	Capacity	Animal Units
Status: New	Swine 55-300 lbs	3,300	990
Structure Name: Finishing Barn			
Length: 221 feet			
Width: 123 feet			
Surface Area: 27,183 square feet			
Coordinate System: Lat Long - decimal degrees			
Latitude: 44.26842			
Longitude: -95.55875			
Collection Method: Digitized - MPCA internal map			
Reference Point: General Location			

LMSA-Underfloor Storage

Length: 221 feet
 Width: 123 feet
 Depth: 8 feet
 Volume: 1,289,006 gallons

Total Animal Headcount

Animal Type	Capacity	Units
Swine 55-300 lbs	3,300	990
Totals:	3,300	990

Manure Storage Areas

Are there manure storage or treatment areas at this feedlot? Yes
 Is there a well within 1000 feet? No

This manure storage or treatment area is co-located with a Total Confinement with Underfloor Liquid Storage area.

LMSA - Underfloor Storage
 Structure Name: Finishing Barn
 Status: New

Sensitive Areas

Is any part of the facility located within 1,000 feet of surface waters or tile intakes? Yes
 Surface Water Types:
 Is any part of the facility located within a delineated flood plain (100 year flood)? No
 Is any part of the facility located within designated shoreland? No
 Are there four or more sinkholes within 1,000 feet of the facility? No
 Is any part of the facility located within 300 feet of a known sinkhole? No
 Is any part of the facility located within 1,000 feet of any of the following types of wells? No
 -a community water supply well,
 -a well serving a public school as defined under Minn.Stat. 120A. 05,
 -a well serving a private school excluding home school sites
 -a well serving a licensed child care center where the well is vulnerable(Minn.R. 4720.5550, subp. 2)

Environmental Review

Are you only applying for reissuance of an existing permit? (no construction projects, physical alteration, or operational changes to the facility or process)?	No
Are you required to prepare, are you preparing, or have you completed any of the following items for any responsible governmental unit (RGU) other than the MPCA (e.g. City, Township, County, State or Federal Agency) as part of this project? Environmental Assessment Worksheet(EAW), Environmental Impact Statement(EIS), Alternative Urban Areawide Review(AUAR), Federal Environmental Assessment(EA)	No
Has this project been petitioned for an environmental review?	No
Subp. 2 - Construction or expansion of a nuclear fuel or nuclear waste processing facility?	No
Subp. 3 - Construction of an electric power generating plant and associated facilities designed for or capable of operating at a capacity of 25 megawatts or more but less than 50 megawatts and for which an air permit from MPCA is required?	No
Subp. 4 - Construction of a new or expansion of an existing petroleum refinery?	No
Subp. 5A - Construction of a facility for the conversion of coal, peat, or other biomass sources to a gaseous, liquid, or solid fuel (this includes anaerobic digesters)?	No
Subp. 5B - Construction of a facility for the production of alcohol fuels?	No
Subp. 8A - Construction or expansion of a coal transfer facility?	No
Subp. 8B - Construction or expansion of a hazardous materials transfer facility?	No
Subp. 10A - Construction or expansion of a storage facility for coal?	No
Subp. 10B - Construction of a facility for the storage of hazardous materials?	No
Subp. 10C & Subp. 10D - Expansion of a facility for the storage of hazardous materials?	No
Subp. 10H- Construction or expansion of a facility that will store silica sand?	No
Subp. 13 - Construction or expansion of a paper or pulp processing facility?	No
Subp. 15 - Construction or modification of a stationary source of air emissions resulting in an increase in air emissions or greenhouse gases?	No
Subp. 16 - Construction or expansion of a hazardous waste disposal facility?	No
Subp. 17 - Construction or expansion of a mixed municipal solid waste disposal, transfer, energy recovery, or compost facility?	No
Subp. 18A & Subp. 18B - Expansion, modification or replacement of a municipal sewage collection system?	No
Subp. 18C - Expansion or reconstruction of an existing municipal or domestic wastewater treatment facility?	No
Subp. 18D - Construction of a new municipal or domestic wastewater treatment facility?	No
Subp. 18E - Expansion or modification of an existing industrial process wastewater treatment facility?	No
Subp. 18F - Construction of a new industrial process wastewater treatment facility?	No
Subp. 25 - Incineration of wastes containing Polychlorinated Biphenyls (PCBs)?	No
Subp. 29 - Construction or expansion of an animal feedlot facility?	Yes
Subp. 29.1 - Are you constructing an animal feedlot facility with a capacity of 1,000 animal units or more?	No
Subp. 29.2 - Are you expanding an animal feedlot by 1,000 animal units or more?	No
Subp. 29.3 - Are you constructing or expanding an animal feedlot facility by more than 500 animal units?	Yes
Subp. 29.4 - Is the existing or proposed facility located wholly or partially in any of the following sensitive locations:	
• Shoreland or delineated floodplain	No
• A state or federally designated wild and scenic river district	No
• The Minnesota River Project Riverbend Area	No
• The Mississippi Headwaters Area	No
• A drinking water supply management area	No
• Within 1000 feet of a sinkhole, cave, resurgent spring, disappearing spring, Karst window, blind valley or dry valley	No
A - Has a previous phase of this project been conducted in the last 3 years?	No
B - Are you planning an expansion or another phase of this project within the next 3 years?	No
C - Do you have other existing facilities or proposed projects that may affect the same geographic area as this project?	No

Nutrient Management Plan

A copy of the NutrientManagementPlanfor2026-2027.pdf generated on 5/8/2026 9:03:19 AM is included in the submittal.

Attachments

Permit Application Documents:

Attachment Type	File Name	Document Date
Verification of Good Neighbor Notice	DOC050826-05082026140505.pdf	5/8/2026

Manure Storage Documents:

Attachment Type	File Name	Document Date
Construction Plans and Specifications	Knott Plans 5726.pdf	5/8/2026

Other Documents:

Attachment Type	File Name	Document Date
Supporting Application Documents	Jeff Knott Soil Samples.pdf	5/8/2026

Certification

I hereby certify that the design, construction, and operation of the facility will be in accordance with this application and plans, specifications, reports, and related communications approved by the MPCA, and in accordance with applicable permit conditions or regulations/standards of the MPCA. I also certify under penalty of law that this document and all attachments were prepared under my direction or supervision and 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.

The person that signs this application must be one of the following:

- A. For a corporation, a principal executive officer of at least the level of vice president
- B. For a partnership, a general partner
- C. For a sole proprietorship, the proprietor

Name of Signing Party:	Jeff Knott
Username of Signing Party:	jeff.knott@feedideal.com
Challenge Question:	Where have you always wanted to visit, but haven't?
Challenge Question Answer:	*****

Certification Date and Time: 5/8/2026 4:47:31 PM

Nutrient Management Plan for 2026-2027
Created: 05/18/2026 03:09:18 PM

Feedlot Information

Feedlot name: Jeff Knott -IDR#2

Permit type:

Permit ID:

Registration ID: 127-128332

This is a Nutrient Management Plan for a Construction Short Form permit type.

The facility does not have less than 300 animal units.

If any manure is transferred I will provide a Manure Transfer Tracking Form to each recipient.

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Manure Source Summary

Description	Primary animal Head count	Storage type	Date last analyzed	Amount applied	Amount remaining	Manure transferred
IDR 2	Swine - Wean/Finish (wet/dry) Head count: 3,300	Liquid	04/21/2026	0 gal	1,050,000 gal	Yes

Manure source: IDR 2

Source information

Type of manure: animal waste

	Animal	Average weight	Number of animals	Time in facility
Primary animal	Swine - Wean/Finish (wet/dry)	160 lbs	3,300	300 day/year

Storage information

Storage type	Capacity	Storage length
Liquid	1,335,964 gal	375 day

Application

Spreader type	Determine load volume or tonnage	Method of application rate calibration
Liquid tanker	Commercial applicator	Flow meter

Analysis

Sampling frequency	Sampling method	Basis for analysis	Date last analyzed
once per year	Well-agitated composite	Book value	04/21/2026

Nutrient content

	Total nitrogen (N)	Inorganic nitrogen (N)	Organic nitrogen (N)	Total phosphorus (P2O5)	Total potassium (K2O)
Expected	65 lb/1000gal	34 lb/1000gal	31 lb/1000gal	47 lb/1000gal	36 lb/1000gal

Annual generation

Estimated manure produced: 1,047,024 gal/yr

	Annual production	Manure received	Total nitrogen (N)	Annual inorganic nitrogen (N) produced	Annual organic nitrogen (N) produced	Annual phosphorus (P2O5) produced	Annual potassium (K2O) produced
Anticipated	1,050,000 gal/yr	--	68,250 lb	35,700 lb	32,550 lb	49,350 lb	37,800 lb

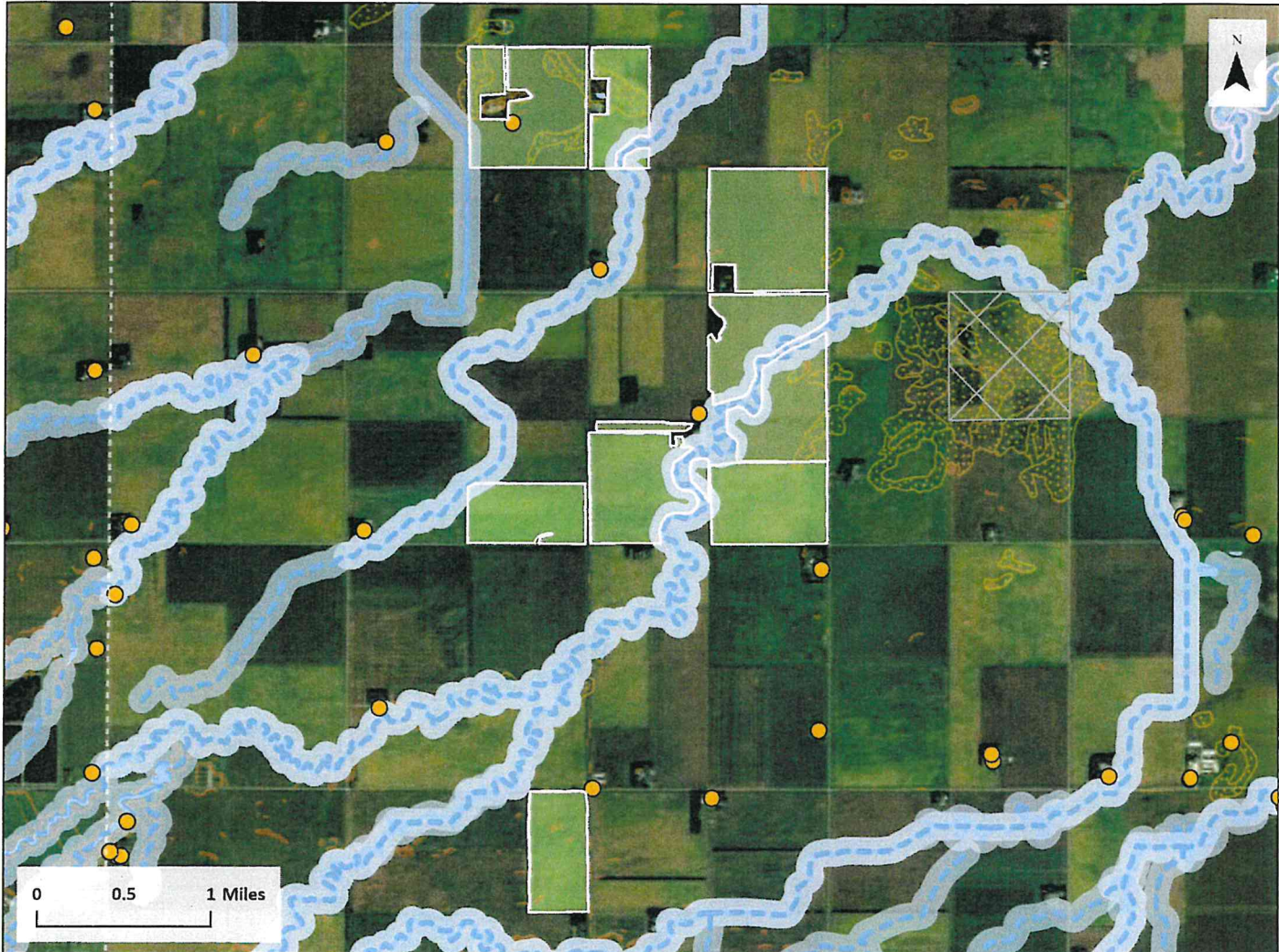
Manure transfer plan

	Amount transferred	Available transfer acres
Expected	1,050,000 gal	2,500 acre

Notes

Field Map Summary

Total Farmable Acreage: 920.3 acre
 Fields with Manure applied: acre



Basemap Credits: Source: Esri, Vantor, Earthstar Geographics, and the GIS User Community, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Map legend

<p>Drinking Water Features</p> <ul style="list-style-type: none"> ● Domestic Wells, Verified and Unverified Locations Drinking Water Supply Management Areas Domestic Well Buffers, Verified and Unverified Locations 	<p>Groundwater Features</p> <ul style="list-style-type: none"> ● Karst Sinkholes ● Springs Karst Sinkhole Buffers Vulnerable Groundwater Area <p>Floodplain</p> <ul style="list-style-type: none"> DFIRM, Modernized and Unmodernized Data 	<p>Water Bodies</p> <ul style="list-style-type: none"> NWI (Class 3, 4, 5) and Public Water Inventory, Wetlands NWI (Class 3, 4, 5) and Public Water Inventory, Wetlands Buffer Public Water Inventory, Lakes Public Water Inventory, Lakes Buffer 	<p>Water Ways</p> <ul style="list-style-type: none"> NHD, Intermittent Streams NHD, Intermittent Stream Buffers NHD and Public Drainage Systems, Ditches NHD and Public Drainage Systems, Ditch Buffers Public Water Inventory Streams 	<p>Public Water Inventory, Stream Buffers</p> <p>Soils</p> <ul style="list-style-type: none"> Coarse Textured Soils Shallow Bedrock Soils Slope greater than 6% less than 6% greater than 6% Field
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See Sensitive Features Appendix for more information.

Field Summary

Total farmable acreage: 920.3

Field name/ID *over application	Crop grown	Crop most recently harvested	Manure application planned	Winter application	Sensitive features	Second year manure N credit (lb/ac)	Max N to apply after all credits (lb/ac)	Total N applied (lb/ac)	Year of most recent soil test Test method	P field average (ppm)	Max Phosphorus Allowable (lb/ac)
Booth	Corn-Field	Soybeans	No	No	Yes	--	150	150	2025 Olsen	19	312
East Andrews	Soybeans	Corn-Field	No	No	Yes	--	--	0	2024 Olsen	27	192
Gales 33	Soybeans	Corn-Field	No	No	Yes	--	--	0	2022 Olsen	18	--
Gravel Pit	Corn-Field	Soybeans	No	No	Yes	--	150	150	2023 Olsen	20	252
Lavoy	Corn-Field	Soybeans	No	Yes	No	--	150	150	2025 Olsen	14	--
Marvin	Soybeans	Corn-Field	No	No	Yes	--	--	0	--	--	226
North Patch	Soybeans	Corn-Field	No	No	No	--	--	0	2022 Olsen	24	--
Quigley East	Soybeans	Corn-Field	No	No	Yes	--	--	0	2022 Olsen	19	192
South Andrews	Corn-Field	Soybeans	No	No	Yes	--	150	150	2025 Olsen	29	192
South Dads	Soybeans	Corn-Field	No	No	Yes	--	--	0	2024 Olsen	22	192
South Drive Quigley	Corn-Field	Soybeans	No	No	Yes	--	150	150	2025 Olsen	22	252

Field name/ID: Booth

Field group name:
 Farmable acreage: 76.5
 Irrigated: No

Methodology information

Sensitive features	Planned manure application timing	Planned application methods	Crops grown
See Sensitive Feature Appendix for management techniques			
River, Stream Intermittent Stream	April May June July August September October 1-14 October 15-31 November	Injection - coulter Injection - knife Injection - sweep	Alfalfa Alsike Clover Barley Barley with straw removal Birdsfoot Trefoil Buckwheat Buckwheat with straw removal Canola Corn-Field Corn-Silage Corn-Sweet Edible Beans Hay-Legume-Grass Hay-Grass Millet Oats Oats with straw removal Peas Potatoes Radish Red Clover Rye Rye with straw removal Rye-Forage Sorghum Soybeans Sudan Sugarbeets Sunflowers Triticale Wheat Wheat with straw removal

Winter application

Application w/in 1000 ft of water	Shortest distance to water	Field slope	Emergency application site	Snow-manure application site	MN Phosphorus Index result
--	27 feet	--	No	--	--

Planning

Irrigation
 The field is not irrigated

Soil
 A phosphorus application plan is required.

Year of most recent soil test	Test method	Phosphorus (P) field average (ppm)	Organic matter level
2025	Olsen	19	Med/high (3% and greater)

Phosphorus application plan

Crop year	Crop grown	Yield	Phosphorus removed	Manure application	Phosphorus from manure	Fertilizer application	Phosphorus from fertilizer	Excess phosphorus
2025	--	--	49 lb/ac	no	--	no	--	-49 lb/ac
2024	--	--	75 lb/ac	no	--	no	--	-75 lb/ac
2023	--	--	49 lb/ac	no	--	no	--	-49 lb/ac
2022	--	--	75 lb/ac	no	--	yes	60 lb/ac	-15 lb/ac
2021	--	--	49 lb/ac	no	--	no	--	-49 lb/ac

Phosphorus applied over 5 years	Phosphorus removed over 5 years	Excess phosphorus over 5 years

Phosphorus applied over 5 years	Phosphorus removed over 5 years	Excess phosphorus over 5 years
60 lb/ac	297 lb/ac	-237 lb/ac

Crop info

Crop grown to utilize nutrients	Yield	Cover crop	Crop recently harvested	Crop grown 2 years ago	Crop grown 3 years ago
Corn-Field	220 bu	--	Soybeans	Corn-Field	Soybeans

Past nutrient application

No manure applied

Nutrient recommendations/credits

Nitrogen

Max nitrogen recommendation	Min legume-nitrogen credit	Nitrogen credit from manure	Nitrogen credit from irrigation	Max N to apply	Nitrogen removal
150 lb/ac	--	--	--	150 lb/ac	--

Phosphorus

Phosphorus needs	Phosphorus removal	Maximum phosphorus allowable
0 lb/ac	75 lb/ac	312 lb/ac Calculated according to your phosphorus application plan.

Nutrient application

Acreage after setback: 76.5

No manure applied.

Fertilizer applied

Fertilizer brand	Fertilizer timing	Application rate	Nitrogen from fertilizer	Phosphorus from fertilizer	Potassium from fertilizer
Urea (46% N)	Supplemental	325 lb/ac	150 lb/ac	0 lb/ac	0 lb/ac
Total nutrients from fertilizer			150 lb/ac	0 lb/ac	0 lb/ac

Total nutrients applied

Nitrogen	Phosphorus
Total nitrogen applied: 150 lb/ac	Total phosphorus applied: 0 lb/ac
Nitrogen needs/removal: 150 lb/ac	Phosphorus removed: 75 lb/ac
Balance: 0 lb/ac	Balance: -75 lb/ac (deficit)

Notes

There are no notes.

Field name: Booth



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Map legend

Township and range	Groundwater Features	Water Bodies	Water Ways	Public Water Inventory, Stream Buffers
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Drinking Water Features	Springs	NWI (Class 3, 4, 5) and Public Water Inventory, Wetlands Buffer	NHD, Intermittent Stream Buffers	Coarse Textured Soils
Domestic Wells, Verified and Unverified Locations	Karst Sinkhole Buffers	Public Water Inventory, Lakes	NHD and Public Drainage Systems, Ditches	Shallow Bedrock Soils
Drinking Water Supply Management Areas	Vulnerable Groundwater Area	Public Water Inventory, Lakes Buffer	NHD and Public Drainage Systems, Ditch Buffers	Slope greater than 6%
Domestic Well Buffers, Verified and Unverified Locations	Floodplain	Public Water Inventory, Lakes Buffer	Public Water Inventory Streams	less than 6%
	DFIRM, Modernized and Unmodernized Data			greater than 6%
				Field

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Sensitive features (See Sensitive Features Appendix for more information.)

River, Stream Intermittent Stream

Field name/ID: East Andrews

Field group name:
 Farmable acreage: 96.1
 Irrigated: No

Methodology information

Sensitive features	Planned manure application timing	Planned application methods	Crops grown
See Sensitive Feature Appendix for management techniques			
River, Stream Intermittent Stream Coarse-Textured Soil	April May June July August September October 1-14 October 15-31 November	Injection - coulter Injection - knife Injection - sweep	Alfalfa Alsike Clover Barley Barley with straw removal Birdsfoot Trefoil Buckwheat Buckwheat with straw removal Canola Corn-Field Corn-Silage Corn-Sweet Edible Beans Hay-Legume-Grass Hay-Grass Millet Oats Oats with straw removal Peas Potatoes Radish Red Clover Rye Rye with straw removal Rye-Forage Sorghum Soybeans Sudan Sugarbeets Sunflowers Triticale Wheat Wheat with straw removal

Winter application

Application w/in 1000 ft of water	Shortest distance to water	Field slope	Emergency application site	Snow-manure application site	MN Phosphorus Index result
--	0 feet	--	No	--	--

Planning

Irrigation
 The field is not irrigated

Soil
 A phosphorus application plan is required.

Year of most recent soil test	Test method	Phosphorus (P) field average (ppm)	Organic matter level
2024	Olsen	27	Med/high (3% and greater)

Phosphorus application plan

Crop year	Crop grown	Yield	Phosphorus removed	Manure application	Phosphorus from manure	Fertilizer application	Phosphorus from fertilizer	Excess phosphorus
2025	--	--	75 lb/ac	no	--	yes	60 lb/ac	-15 lb/ac
2024	--	--	49 lb/ac	no	--	no	--	-49 lb/ac
2023	--	--	75 lb/ac	no	--	yes	60 lb/ac	-15 lb/ac
2022	--	--	49 lb/ac	no	--	no	--	-49 lb/ac
2021	--	--	75 lb/ac	no	--	yes	60 lb/ac	-15 lb/ac

Phosphorus applied over 5 years	Phosphorus removed over 5 years	Excess phosphorus over 5 years

Phosphorus applied over 5 years	Phosphorus removed over 5 years	Excess phosphorus over 5 years
180 lb/ac	323 lb/ac	-143 lb/ac

Crop info

Crop grown to utilize nutrients	Yield	Cover crop	Crop recently harvested	Crop grown 2 years ago	Crop grown 3 years ago
Soybeans	60 bu	--	Corn-Field	Soybeans	Corn-Field

Past nutrient application

No manure applied

Nutrient recommendations/credits

Nitrogen

Max nitrogen recommendation	Min legume-nitrogen credit	Nitrogen credit from manure	Nitrogen credit from irrigation	Max N to apply	Nitrogen removal
--	--	--	--	--	210 lb/ac

Phosphorus

Phosphorus needs	Phosphorus removal	Maximum phosphorus allowable
0 lb/ac	49 lb/ac	192 lb/ac Calculated according to your phosphorus application plan.

Nutrient application

Acreage after setback: 96.1

No manure applied.

No fertilizer applied.

Notes

There are no notes.

Field name: East Andrews



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Map legend

Township and range	Groundwater Features	Water Bodies	Water Ways	Public Water Inventory, Stream Buffers
Section	Karst Sinkholes	NWI (Class 3, 4, 5) and Public Water Inventory, Wetlands	NHD, Intermittent Streams	Soils
Drinking Water Features	Springs	NWI (Class 3, 4, 5) and Public Water Inventory, Wetlands Buffer	NHD, Intermittent Stream Buffers	Coarse Textured Soils
Domestic Wells, Verified and Unverified Locations	Karst Sinkhole Buffers	Public Water Inventory, Lakes	NHD and Public Drainage Systems, Ditches	Shallow Bedrock Soils
Drinking Water Supply Management Areas	Vulnerable Groundwater Area	Public Water Inventory, Lakes Buffer	NHD and Public Drainage Systems, Ditch Buffers	Slope greater than 6%
Domestic Well Buffers, Verified and Unverified Locations	Floodplain		Public Water Inventory Streams	less than 6%
	DFIRM, Modernized and Unmodernized Data			greater than 6%
				Field

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Sensitive features (See Sensitive Features Appendix for more information.)

River, Stream Intermittent Stream Coarse-Textured Soil

Field name/ID: Gales 33

Field group name:
 Farmable acreage: 151.4
 Irrigated: No

Methodology information

Sensitive features	Planned manure application timing	Planned application methods	Crops grown
See Sensitive Feature Appendix for management techniques			
Coarse-Textured Soil	April May June July August September October 1-14 October 15-31 November	Injection - coulter Injection - knife Injection - sweep	Alfalfa Alsike Clover Barley Barley with straw removal Birdsfoot Trefoil Buckwheat Buckwheat with straw removal Canola Corn-Field Corn-Silage Corn-Sweet Edible Beans Hay-Legume-Grass Hay-Grass Millet Oats Oats with straw removal Peas Potatoes Radish Red Clover Rye Rye with straw removal Rye-Forage Sorghum Soybeans Sudan Sugarbeets Sunflowers Triticale Wheat Wheat with straw removal

Winter application

Application w/in 1000 ft of water	Shortest distance to water	Field slope	Emergency application site	Snow-manure application site	MN Phosphorus Index result
--	590 feet	--	No	--	--

Planning

Irrigation

The field is not irrigated

Soil

Year of most recent soil test	Test method	Phosphorus (P) field average (ppm)	Organic matter level
2022	Olsen	18	Med/high (3% and greater)

Crop info

Crop grown to utilize nutrients	Yield	Cover crop	Crop recently harvested	Crop grown 2 years ago	Crop grown 3 years ago
Soybeans	60 bu	--	Corn-Field	Soybeans	Corn-Field

Past nutrient application

No manure applied

Nutrient recommendations/credits

Nitrogen

Max nitrogen recommendation	Min legume-nitrogen credit	Nitrogen credit from manure	Nitrogen credit from irrigation	Max N to apply	Nitrogen removal
--	--	--	--	--	210 lb/ac

Phosphorus

Phosphorus needs	Phosphorus removal	Maximum phosphorus allowable
0 lb/ac	49 lb/ac	--

Nutrient application

Acreage after setback: 151.4

No manure applied.

No fertilizer applied.

Notes

There are no notes.

Field name: Gales 33



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Map legend

Township and range	Groundwater Features	Water Bodies	Water Ways	Public Water Inventory, Stream Buffers
Section	Karst Sinkholes	NWI (Class 3, 4, 5) and Public Water Inventory, Wetlands	NHD, Intermittent Streams	Soils
Drinking Water Features	Springs	NWI (Class 3, 4, 5) and Public Water Inventory, Wetlands Buffer	NHD, Intermittent Stream Buffers	Coarse Textured Soils
Domestic Wells, Verified and Unverified Locations	Karst Sinkhole Buffers	Public Water Inventory, Lakes	NHD and Public Drainage Systems, Ditches	Shallow Bedrock Soils
Drinking Water Supply Management Areas	Vulnerable Groundwater Area	Public Water Inventory, Lakes Buffer	NHD and Public Drainage Systems, Ditch Buffers	Slope greater than 6%
Domestic Well Buffers, Verified and Unverified Locations	Floodplain	Public Water Inventory, Lakes Buffer	Public Water Inventory Streams	less than 6%
	DFIRM, Modernized and Unmodernized Data			greater than 6%
				Field

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Sensitive features (See Sensitive Features Appendix for more information.)

Coarse-Textured Soil

Field name/ID: Gravel Pit

Field group name:
 Farmable acreage: 65.26
 Irrigated: No

Methodology information

Sensitive features	Planned manure application timing	Planned application methods	Crops grown
See Sensitive Feature Appendix for management techniques			
River, Stream Intermittent Stream Coarse-Textured Soil Non-Public Waters Wetland (uncultivated)	April May June July August September October 1-14 October 15-31 November	Injection - coulter Injection - knife Injection - sweep	Alfalfa Alsike Clover Barley Barley with straw removal Birdsfoot Trefoil Buckwheat Buckwheat with straw removal Canola Corn-Field Corn-Silage Corn-Sweet Edible Beans Hay-Legume-Grass Hay-Grass Millet Oats Oats with straw removal Peas Potatoes Radish Red Clover Rye Rye with straw removal Rye-Forage Sorghum Soybeans Sudan Sugarbeets Sunflowers Triticale Wheat Wheat with straw removal

Winter application

Application w/in 1000 ft of water	Shortest distance to water	Field slope	Emergency application site	Snow-manure application site	MN Phosphorus Index result
--	0 feet	--	No	--	--

Planning

Irrigation

The field is not irrigated

Soil

A phosphorus application plan is required.

Year of most recent soil test	Test method	Phosphorus (P) field average (ppm)	Organic matter level
2023	Olsen	20	Med/high (3% and greater)

Phosphorus application plan

Crop year	Crop grown	Yield	Phosphorus removed	Manure application	Phosphorus from manure	Fertilizer application	Phosphorus from fertilizer	Excess phosphorus
2025	--	--	49 lb/ac	no	--	no	--	-49 lb/ac
2024	--	--	75 lb/ac	no	--	yes	60 lb/ac	-15 lb/ac
2023	--	--	49 lb/ac	no	--	no	--	-49 lb/ac
2022	--	--	75 lb/ac	no	--	yes	60 lb/ac	-15 lb/ac
2021	--	--	49 lb/ac	no	--	yes	0 lb/ac	-49 lb/ac

Phosphorus applied over 5 years	Phosphorus removed over 5 years	Excess phosphorus over 5 years

Phosphorus applied over 5 years	Phosphorus removed over 5 years	Excess phosphorus over 5 years
120 lb/ac	297 lb/ac	-177 lb/ac

Crop info

Crop grown to utilize nutrients	Yield	Cover crop	Crop recently harvested	Crop grown 2 years ago	Crop grown 3 years ago
Corn-Field	220 bu	--	Soybeans	Corn-Field	Soybeans

Past nutrient application

No manure applied

Nutrient recommendations/credits

Nitrogen

Max nitrogen recommendation	Min legume-nitrogen credit	Nitrogen credit from manure	Nitrogen credit from irrigation	Max N to apply	Nitrogen removal
150 lb/ac	--	--	--	150 lb/ac	--

Phosphorus

Phosphorus needs	Phosphorus removal	Maximum phosphorus allowable
0 lb/ac	75 lb/ac	252 lb/ac Calculated according to your phosphorus application plan.

Nutrient application

Acreage after setback: 65.26

No manure applied.

Fertilizer applied

Fertilizer brand	Fertilizer timing	Application rate	Nitrogen from fertilizer	Phosphorus from fertilizer	Potassium from fertilizer
Urea (46% N)	Supplemental	325 lb/ac	150 lb/ac	0 lb/ac	0 lb/ac
Total nutrients from fertilizer			150 lb/ac	0 lb/ac	0 lb/ac

Total nutrients applied

Nitrogen	Phosphorus
Total nitrogen applied: 150 lb/ac	Total phosphorus applied: 0 lb/ac
Nitrogen needs/removal: 150 lb/ac	Phosphorus removed: 75 lb/ac
Balance: 0 lb/ac	Balance: -75 lb/ac (deficit)

Notes

There are no notes.

Field name: Gravel Pit



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Map legend

Township and range	Groundwater Features	Water Bodies	Water Ways	Public Water Inventory, Stream Buffers
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Drinking Water Features	Springs	NWI (Class 3, 4, 5) and Public Water Inventory, Wetlands Buffer	NHD, Intermittent Stream Buffers	Coarse Textured Soils
Domestic Wells, Verified and Unverified Locations	Karst Sinkhole Buffers	Public Water Inventory, Lakes Buffer	NHD and Public Drainage Systems, Ditches	Shallow Bedrock Soils
Drinking Water Supply Management Areas	Vulnerable Groundwater Area	Public Water Inventory, Lakes	NHD and Public Drainage Systems, Ditch Buffers	Slope greater than 6%
Domestic Well Buffers, Verified and Unverified Locations	Floodplain	Public Water Inventory, Lakes Buffer	Public Water Inventory Streams	less than 6%
	DFIRM, Modernized and Unmodernized Data			greater than 6%
				Field

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Sensitive features (See Sensitive Features Appendix for more information.)

River, Stream Intermittent Stream Coarse-Textured Soil Non-Public Waters Wetland (uncultivated)

Field name/ID: Lavoy

Field group name:
 Farmable acreage: 75.64
 Irrigated: No

Methodology information

Sensitive features	Planned manure application timing	Planned application methods	Crops grown
See Sensitive Feature Appendix for management techniques			
No sensitive features were identified.	March April May June July August September October 1-14 October 15-31 November	Injection - coulter Injection - knife Injection - sweep	Alfalfa Alsike Clover Barley Barley with straw removal Birdsfoot Trefoil Buckwheat Buckwheat with straw removal Canola Corn-Field Corn-Silage Corn-Sweet Edible Beans Hay-Legume-Grass Hay-Grass Millet Oats Oats with straw removal Peas Potatoes Radish Red Clover Rye Rye with straw removal Rye-Forage Sorghum Soybeans Sudan Sugarbeets Sunflowers Triticale Wheat Wheat with straw removal

Winter application

Application w/in 1000 ft of water	Shortest distance to water	Field slope	Emergency application site	Snow-manure application site	MN Phosphorus Index result
Yes	323 feet	2%	Yes	--	--

Planning

Irrigation

The field is not irrigated

Soil

Year of most recent soil test	Test method	Phosphorus (P) field average (ppm)	Organic matter level
2025	Olsen	14	Med/high (3% and greater)

Crop info

Crop grown to utilize nutrients	Yield	Cover crop	Crop recently harvested	Crop grown 2 years ago	Crop grown 3 years ago
Corn-Field	220 bu	--	Soybeans	Corn-Field	Soybeans

Past nutrient application

No manure applied

Nutrient recommendations/credits

Nitrogen

Max nitrogen recommendation	Min legume-nitrogen credit	Nitrogen credit from manure	Nitrogen credit from irrigation	Max N to apply	Nitrogen removal
150 lb/ac	--	--	--	150 lb/ac	--

Phosphorus

Phosphorus needs	Phosphorus removal	Maximum phosphorus allowable
------------------	--------------------	------------------------------

19 lb/ac	75 lb/ac	--
----------	----------	----

Nutrient application

Acreeage after setback: 75.64

No manure applied.

Fertilizer applied

Fertilizer brand	Fertilizer timing	Application rate	Nitrogen from fertilizer	Phosphorus from fertilizer	Potassium from fertilizer
Urea (46% N)	Supplemental	325 lb/ac	150 lb/ac	0 lb/ac	0 lb/ac
Total nutrients from fertilizer			150 lb/ac	0 lb/ac	0 lb/ac

Total nutrients applied

Nitrogen	Phosphorus
Total nitrogen applied: 150 lb/ac	Total phosphorus applied: 0 lb/ac
Nitrogen needs/removal: 150 lb/ac	Phosphorus removed: 75 lb/ac
Balance: 0 lb/ac	Balance: -75 lb/ac (deficit)

Notes

There are no notes.

Field name: Lavoy



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Map legend

Township and range	Groundwater Features	Water Bodies	Water Ways	Public Water Inventory, Stream Buffers
Section	Karst Sinkholes	NWI (Class 3, 4, 5) and Public Water Inventory, Wetlands	NHD, Intermittent Streams	Soils
Drinking Water Features	Springs	NWI (Class 3, 4, 5) and Public Water Inventory, Wetlands Buffer	NHD, Intermittent Stream Buffers	Coarse Textured Soils
Domestic Wells, Verified and Unverified Locations	Karst Sinkhole Buffers	Public Water Inventory, Lakes	NHD and Public Drainage Systems, Ditches	Shallow Bedrock Soils
Drinking Water Supply Management Areas	Vulnerable Groundwater Area	Public Water Inventory, Lakes Buffer	NHD and Public Drainage Systems, Ditch Buffers	Slope greater than 6%
Domestic Well Buffers, Verified and Unverified Locations	Floodplain	Public Water Inventory, Lakes Buffer	Public Water Inventory Streams	less than 6%
	DFIRM, Modernized and Unmodernized Data			greater than 6%
				Field

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Sensitive features (See Sensitive Features Appendix for more information.)
 No sensitive features were identified.

Field name/ID: Marvin

Field group name:
 Farmable acreage: 143.1
 Irrigated: No

Methodology information

Sensitive features	Planned manure application timing	Planned application methods	Crops grown
See Sensitive Feature Appendix for management techniques			
River, Stream Coarse-Textured Soil	April May June July August September October 1-14 October 15-31 November	Injection - coulter Injection - knife Injection - sweep	Alfalfa Alsike Clover Barley Barley with straw removal Birdsfoot Trefoil Buckwheat Buckwheat with straw removal Canola Corn-Field Corn-Silage Corn-Sweet Edible Beans Hay-Legume-Grass Hay-Grass Millet Oats Oats with straw removal Peas Potatoes Radish Red Clover Rye Rye with straw removal Rye-Forage Sorghum Soybeans Sudan Sugarbeets Sunflowers Triticale Wheat Wheat with straw removal

Winter application

Application w/in 1000 ft of water	Shortest distance to water	Field slope	Emergency application site	Snow-manure application site	MN Phosphorus Index result
--	708 feet	--	--	--	--

Planning

Irrigation

The field is not irrigated

Soil

No soil sample. Organic matter level: Med/high (3% and greater)

A phosphorus application plan is required.

Phosphorus application plan

Crop year	Crop grown	Yield	Phosphorus removed	Manure application	Phosphorus from manure	Fertilizer application	Phosphorus from fertilizer	Excess phosphorus
2025	--	--	49 lb/ac	no	--	no	--	-49 lb/ac
2024	--	--	75 lb/ac	no	--	yes	60 lb/ac	-15 lb/ac
2023	--	--	49 lb/ac	no	--	no	--	-49 lb/ac
2022	--	--	75 lb/ac	no	--	yes	60 lb/ac	-15 lb/ac
2021	--	--	49 lb/ac	no	--	no	--	-49 lb/ac

Phosphorus applied over 5 years	Phosphorus removed over 5 years	Excess phosphorus over 5 years
120 lb/ac	297 lb/ac	-177 lb/ac

Crop info

Crop grown to utilize nutrients	Yield	Cover crop	Crop recently harvested	Crop grown 2 years ago	Crop grown 3 years ago
Soybeans	60 bu	--	Corn-Field	Soybeans	Corn-Field

Past nutrient application

No manure applied

Nutrient recommendations/credits

Nitrogen

Max nitrogen recommendation	Min legume-nitrogen credit	Nitrogen credit from manure	Nitrogen credit from irrigation	Max N to apply	Nitrogen removal
--	--	--	--	--	210 lb/ac

Phosphorus

Phosphorus needs	Phosphorus removal	Maximum phosphorus allowable
0 lb/ac	49 lb/ac	226 lb/ac Calculated according to your phosphorus application plan.

Nutrient application

Acreage after setback: 143.1

No manure applied.

No fertilizer applied.

Notes

There are no notes.

Field name: Marvin



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Map legend

Township and range	Groundwater Features	Water Bodies	Water Ways	Public Water Inventory, Stream Buffers
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Drinking Water Features	Springs	NWI (Class 3, 4, 5) and Public Water Inventory, Wetlands Buffer	NHD, Intermittent Stream Buffers	Coarse Textured Soils
Domestic Wells, Verified and Unverified Locations	Karst Sinkhole Buffers	Public Water Inventory, Lakes	NHD and Public Drainage Systems, Ditches	Shallow Bedrock Soils
Drinking Water Supply Management Areas	Vulnerable Groundwater Area	Public Water Inventory, Lakes Buffer	NHD and Public Drainage Systems, Ditch Buffers	Slope greater than 6%
Domestic Well Buffers, Verified and Unverified Locations	Floodplain		Public Water Inventory Streams	less than 6%
	DFIRM, Modernized and Unmodernized Data			greater than 6%
				Field

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Sensitive features (See Sensitive Features Appendix for more information.)

River, Stream Coarse-Textured Soil

Field name/ID: North Patch

Field group name:
 Farmable acreage: 9.9
 Irrigated: No

Methodology information

Sensitive features	Planned manure application timing	Planned application methods	Crops grown
See Sensitive Feature Appendix for management techniques			
No sensitive features were identified.	April May June July August September October 1-14 October 15-31 November	Injection - coulter Injection - knife Injection - sweep	Alfalfa Alsike Clover Barley Barley with straw removal Birdsfoot Trefoil Buckwheat Buckwheat with straw removal Canola Corn-Field Corn-Silage Corn-Sweet Edible Beans Hay-Legume-Grass Hay-Grass Millet Oats Oats with straw removal Peas Potatoes Radish Red Clover Rye Rye with straw removal Rye-Forage Sorghum Soybeans Sudan Sugarbeets Sunflowers Triticale Wheat Wheat with straw removal

Winter application

Application w/in 1000 ft of water	Shortest distance to water	Field slope	Emergency application site	Snow-manure application site	MN Phosphorus Index result
--	433 feet	--	--	--	--

Planning

Irrigation
 The field is not irrigated

Soil

Year of most recent soil test	Test method	Phosphorus (P) field average (ppm)	Organic matter level
2022	Olsen	24	Med/high (3% and greater)

Crop info

Crop grown to utilize nutrients	Yield	Cover crop	Crop recently harvested	Crop grown 2 years ago	Crop grown 3 years ago
Soybeans	60 bu	--	Corn-Field	Soybeans	Corn-Field

Past nutrient application
 No manure applied

Nutrient recommendations/credits

Nitrogen

Max nitrogen recommendation	Min legume-nitrogen credit	Nitrogen credit from manure	Nitrogen credit from irrigation	Max N to apply	Nitrogen removal
--	--	--	--	--	210 lb/ac

Phosphorus

Phosphorus needs	Phosphorus removal	Maximum phosphorus allowable

0 lb/ac	49 lb/ac	--
---------	----------	----

Nutrient application

Acreage after setback: 9.9

No manure applied.

No fertilizer applied.

Notes

There are no notes.

Field name: North Patch



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Map legend

Township and range	Groundwater Features	Water Bodies	Water Ways	Public Water Inventory, Stream Buffers
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Drinking Water Features	Springs	NWI (Class 3, 4, 5) and Public Water Inventory, Wetlands Buffer	NHD, Intermittent Stream Buffers	Coarse Textured Soils
Domestic Wells, Verified and Unverified Locations	Karst Sinkhole Buffers	Public Water Inventory, Lakes	NHD and Public Drainage Systems, Ditches	Shallow Bedrock Soils
Drinking Water Supply Management Areas	Vulnerable Groundwater Area	Public Water Inventory, Lakes Buffer	NHD and Public Drainage Systems, Ditch Buffers	Slope greater than 6%
Domestic Well Buffers, Verified and Unverified Locations	Floodplain		Public Water Inventory Streams	less than 6%
	DFIRM, Modernized and Unmodernized Data			greater than 6%
				Field

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Sensitive features (See Sensitive Features Appendix for more information.)
 No sensitive features were identified.

Field name/ID: Quigley East

Field group name:
 Farmable acreage: 6.7
 Irrigated: No

Methodology information

Sensitive features	Planned manure application timing	Planned application methods	Crops grown
See Sensitive Feature Appendix for management techniques			
River, Stream Intermittent Stream	April May June July August September October 1-14 October 15-31 November	Injection - coulter Injection - knife Injection - sweep	Alfalfa Alsike Clover Barley Barley with straw removal Birdsfoot Trefoil Buckwheat Buckwheat with straw removal Canola Corn-Field Corn-Silage Corn-Sweet Edible Beans Hay-Legume-Grass Hay-Grass Millet Oats Oats with straw removal Peas Potatoes Radish Red Clover Rye Rye with straw removal Rye-Forage Sorghum Soybeans Sudan Sugarbeets Sunflowers Triticale Wheat Wheat with straw removal

Winter application

Application w/in 1000 ft of water	Shortest distance to water	Field slope	Emergency application site	Snow-manure application site	MN Phosphorus Index result
--	31 feet	--	--	--	--

Planning

Irrigation

The field is not irrigated

Soil

A phosphorus application plan is required.

Year of most recent soil test	Test method	Phosphorus (P) field average (ppm)	Organic matter level
2022	Olsen	19	Med/high (3% and greater)

Phosphorus application plan

Crop year	Crop grown	Yield	Phosphorus removed	Manure application	Phosphorus from manure	Fertilizer application	Phosphorus from fertilizer	Excess phosphorus
2025	--	--	75 lb/ac	no	--	yes	60 lb/ac	-15 lb/ac
2024	--	--	49 lb/ac	no	--	no	--	-49 lb/ac
2023	--	--	75 lb/ac	no	--	yes	60 lb/ac	-15 lb/ac
2022	--	--	49 lb/ac	no	--	no	--	-49 lb/ac
2021	--	--	75 lb/ac	no	--	yes	60 lb/ac	-15 lb/ac

Phosphorus applied over 5 years	Phosphorus removed over 5 years	Excess phosphorus over 5 years

Phosphorus applied over 5 years	Phosphorus removed over 5 years	Excess phosphorus over 5 years
180 lb/ac	323 lb/ac	-143 lb/ac

Crop info

Crop grown to utilize nutrients	Yield	Cover crop	Crop recently harvested	Crop grown 2 years ago	Crop grown 3 years ago
Soybeans	60 bu	--	Corn-Field	Soybeans	Corn-Field

Past nutrient application

No manure applied

Nutrient recommendations/credits

Nitrogen

Max nitrogen recommendation	Min legume-nitrogen credit	Nitrogen credit from manure	Nitrogen credit from irrigation	Max N to apply	Nitrogen removal
--	--	--	--	--	210 lb/ac

Phosphorus

Phosphorus needs	Phosphorus removal	Maximum phosphorus allowable
0 lb/ac	49 lb/ac	192 lb/ac Calculated according to your phosphorus application plan.

Nutrient application

Acreage after setback: 6.7

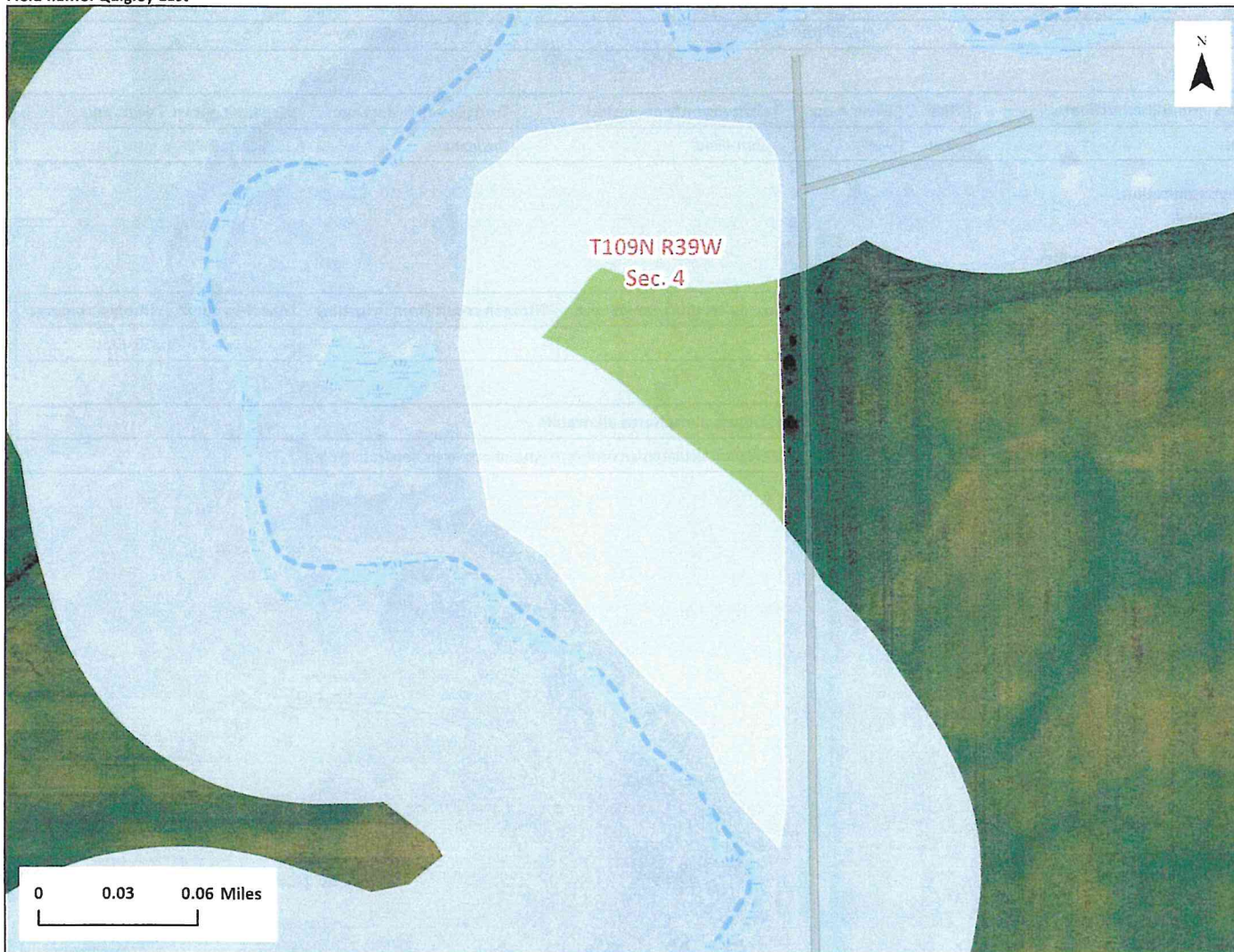
No manure applied.

No fertilizer applied.

Notes

There are no notes.

Field name: Quigley East



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Map legend

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Drinking Water Features	Springs	NWI (Class 3, 4, 5) and Public Water Inventory, Wetlands Buffer	NHD, Intermittent Stream Buffers	Coarse Textured Soils
Domestic Wells, Verified and Unverified Locations	Karst Sinkhole Buffers	Public Water Inventory, Lakes	NHD and Public Drainage Systems, Ditches	Shallow Bedrock Soils
Drinking Water Supply Management Areas	Vulnerable Groundwater Area	Public Water Inventory, Lakes Buffer	NHD and Public Drainage Systems, Ditch Buffers	Slope greater than 6%
Domestic Well Buffers, Verified and Unverified Locations	Floodplain	Public Water Inventory, Lakes Buffer	Public Water Inventory Streams	less than 6%
	DFIRM, Modernized and Unmodernized Data			greater than 6%
				Field

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Sensitive features (See Sensitive Features Appendix for more information.)

River, Stream Intermittent Stream

Field name/ID: South Andrews

Field group name:
 Farmable acreage: 104.5
 Irrigated: No

Methodology information

Sensitive features	Planned manure application timing	Planned application methods	Crops grown
See Sensitive Feature Appendix for management techniques			
River, Stream Intermittent Stream Coarse-Textured Soil	April May June July August September October 1-14 October 15-31 November	Injection - coulter Injection - knife Injection - sweep	Alfalfa Alsike Clover Barley Barley with straw removal Birdsfoot Trefoil Buckwheat Buckwheat with straw removal Canola Corn-Field Corn-Silage Corn-Sweet Edible Beans Hay-Legume-Grass Hay-Grass Millet Oats Oats with straw removal Peas Potatoes Radish Red Clover Rye Rye with straw removal Rye-Forage Sorghum Soybeans Sudan Sugarbeets Sunflowers Triticale Wheat Wheat with straw removal

Winter application

Application w/in 1000 ft of water	Shortest distance to water	Field slope	Emergency application site	Snow-manure application site	MN Phosphorus Index result
--	91 feet	--	No	--	--

Planning

Irrigation

The field is not irrigated

Soil

A phosphorus application plan is required.

Year of most recent soil test	Test method	Phosphorus (P) field average (ppm)	Organic matter level
2025	Olsen	29	Med/high (3% and greater)

Phosphorus application plan

Crop year	Crop grown	Yield	Phosphorus removed	Manure application	Phosphorus from manure	Fertilizer application	Phosphorus from fertilizer	Excess phosphorus
2025	--	--	49 lb/ac	no	--	no	--	-49 lb/ac
2024	--	--	75 lb/ac	no	--	yes	60 lb/ac	-15 lb/ac
2023	--	--	49 lb/ac	no	--	no	--	-49 lb/ac
2022	--	--	49 lb/ac	no	--	yes	60 lb/ac	11 lb/ac
2021	--	--	75 lb/ac	no	--	yes	60 lb/ac	-15 lb/ac

Phosphorus applied over 5 years	Phosphorus removed over 5 years	Excess phosphorus over 5 years

Phosphorus applied over 5 years	Phosphorus removed over 5 years	Excess phosphorus over 5 years
180 lb/ac	297 lb/ac	-117 lb/ac

Crop info

Crop grown to utilize nutrients	Yield	Cover crop	Crop recently harvested	Crop grown 2 years ago	Crop grown 3 years ago
Corn-Field	220 bu	--	Soybeans	Corn-Field	Soybeans

Past nutrient application

No manure applied

Nutrient recommendations/credits

Nitrogen

Max nitrogen recommendation	Min legume-nitrogen credit	Nitrogen credit from manure	Nitrogen credit from irrigation	Max N to apply	Nitrogen removal
150 lb/ac	--	--	--	150 lb/ac	--

Phosphorus

Phosphorus needs	Phosphorus removal	Maximum phosphorus allowable
0 lb/ac	75 lb/ac	192 lb/ac Calculated according to your phosphorus application plan.

Nutrient application

Acreage after setback: 104.5

No manure applied.

Fertilizer applied

Fertilizer brand	Fertilizer timing	Application rate	Nitrogen from fertilizer	Phosphorus from fertilizer	Potassium from fertilizer
Urea (46% N)	Supplemental	325 lb/ac	150 lb/ac	0 lb/ac	0 lb/ac
Total nutrients from fertilizer			150 lb/ac	0 lb/ac	0 lb/ac

Total nutrients applied

Nitrogen	Phosphorus
Total nitrogen applied: 150 lb/ac	Total phosphorus applied: 0 lb/ac
Nitrogen needs/removal: 150 lb/ac	Phosphorus removed: 75 lb/ac
Balance: 0 lb/ac	Balance: -75 lb/ac (deficit)

Notes

There are no notes.

Field name: South Andrews



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Map legend

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Drinking Water Features	Springs	NWI (Class 3, 4, 5) and Public Water Inventory, Wetlands Buffer	NHD, Intermittent Stream Buffers	Coarse Textured Soils
Domestic Wells, Verified and Unverified Locations	Karst Sinkhole Buffers	Public Water Inventory, Lakes	NHD and Public Drainage Systems, Ditches	Shallow Bedrock Soils
Drinking Water Supply Management Areas	Vulnerable Groundwater Area	Public Water Inventory, Lakes Buffer	NHD and Public Drainage Systems, Ditch Buffers	Slope greater than 6%
Domestic Well Buffers, Verified and Unverified Locations	Floodplain	Public Water Inventory, Lakes Buffer	Public Water Inventory Streams	less than 6%
	DFIRM, Modernized and Unmodernized Data			greater than 6%
				Field

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Sensitive features (See Sensitive Features Appendix for more information.)

River, Stream Intermittent Stream Coarse-Textured Soil

Field name/ID: South Dads

Field group name:
 Farmable acreage: 85.7
 Irrigated: No

Methodology information

Sensitive features	Planned manure application timing	Planned application methods	Crops grown
See Sensitive Feature Appendix for management techniques			
River, Stream Intermittent Stream Coarse-Textured Soil	April May June July August September October 1-14 October 15-31 November	Injection - coulter Injection - knife Injection - sweep	Alfalfa Alsike Clover Barley Barley with straw removal Birdsfoot Trefoil Buckwheat Buckwheat with straw removal Canola Corn-Field Corn-Silage Corn-Sweet Edible Beans Hay-Legume-Grass Hay-Grass Millet Oats Oats with straw removal Peas Potatoes Radish Red Clover Rye Rye with straw removal Rye-Forage Sorghum Soybeans Sudan Sugarbeets Sunflowers Triticale Wheat Wheat with straw removal

Winter application

Application w/in 1000 ft of water	Shortest distance to water	Field slope	Emergency application site	Snow-manure application site	MN Phosphorus Index result
--	0 feet	--	No	--	--

Planning

Irrigation

The field is not irrigated

Soil

A phosphorus application plan is required.

Year of most recent soil test	Test method	Phosphorus (P) field average (ppm)	Organic matter level
2024	Olsen	22	Med/high (3% and greater)

Phosphorus application plan

Crop year	Crop grown	Yield	Phosphorus removed	Manure application	Phosphorus from manure	Fertilizer application	Phosphorus from fertilizer	Excess phosphorus
2025	--	--	75 lb/ac	no	--	yes	60 lb/ac	-15 lb/ac
2024	--	--	49 lb/ac	no	--	no	--	-49 lb/ac
2023	--	--	75 lb/ac	no	--	yes	60 lb/ac	-15 lb/ac
2022	--	--	49 lb/ac	no	--	no	--	-49 lb/ac
2021	--	--	75 lb/ac	no	--	yes	60 lb/ac	-15 lb/ac

Phosphorus applied over 5 years	Phosphorus removed over 5 years	Excess phosphorus over 5 years

Phosphorus applied over 5 years	Phosphorus removed over 5 years	Excess phosphorus over 5 years
180 lb/ac	323 lb/ac	-143 lb/ac

Crop info

Crop grown to utilize nutrients	Yield	Cover crop	Crop recently harvested	Crop grown 2 years ago	Crop grown 3 years ago
Soybeans	60 bu	--	Corn-Field	Soybeans	Corn-Field

Past nutrient application

No manure applied

Nutrient recommendations/credits

Nitrogen

Max nitrogen recommendation	Min legume-nitrogen credit	Nitrogen credit from manure	Nitrogen credit from irrigation	Max N to apply	Nitrogen removal
--	--	--	--	--	210 lb/ac

Phosphorus

Phosphorus needs	Phosphorus removal	Maximum phosphorus allowable
0 lb/ac	49 lb/ac	192 lb/ac Calculated according to your phosphorus application plan.

Nutrient application

Acreage after setback: 85.7

No manure applied.

No fertilizer applied.

Notes

There are no notes.

Field name: South Dads



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Map legend

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Domestic Wells, Verified and Unverified Locations	Karst Sinkhole Buffers	Public Water Inventory, Lakes	NHD and Public Drainage Systems, Ditches	Shallow Bedrock Soils
Drinking Water Supply Management Areas	Vulnerable Groundwater Area	Public Water Inventory, Lakes Buffer	NHD and Public Drainage Systems, Ditch Buffers	Slope greater than 6%
Domestic Well Buffers, Verified and Unverified Locations	Floodplain	Public Water Inventory, Lakes Buffer	Public Water Inventory Streams	less than 6%
	DFIRM, Modernized and Unmodernized Data			greater than 6%
				Field

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Sensitive features (See Sensitive Features Appendix for more information.)

River, Stream Intermittent Stream Coarse-Textured Soil

Field name/ID: South Drive Quigley

Field group name:
 Farmable acreage: 105.5
 Irrigated: No

Methodology information

Sensitive features	Planned manure application timing	Planned application methods	Crops grown
See Sensitive Feature Appendix for management techniques			
River, Stream Intermittent Stream Coarse-Textured Soil	April May June July August September October 1-14 October 15-31 November	Injection - coulter Injection - knife Injection - sweep	Alfalfa Alsike Clover Barley Barley with straw removal Birdsfoot Trefoil Buckwheat Buckwheat with straw removal Canola Corn-Field Corn-Silage Corn-Sweet Edible Beans Hay-Legume-Grass Hay-Grass Millet Oats Oats with straw removal Peas Potatoes Radish Red Clover Rye Rye with straw removal Rye-Forage Sorghum Soybeans Sudan Sugarbeets Sunflowers Triticale Wheat Wheat with straw removal

Winter application

Application w/in 1000 ft of water	Shortest distance to water	Field slope	Emergency application site	Snow-manure application site	MN Phosphorus Index result
--	40 feet	--	--	--	--

Planning

Irrigation
 The field is not irrigated

Soil
 A phosphorus application plan is required.

Year of most recent soil test	Test method	Phosphorus (P) field average (ppm)	Organic matter level
2025	Olsen	22	Med/high (3% and greater)

Phosphorus application plan

Crop year	Crop grown	Yield	Phosphorus removed	Manure application	Phosphorus from manure	Fertilizer application	Phosphorus from fertilizer	Excess phosphorus
2025	--	--	49 lb/ac	no	--	no	--	-49 lb/ac
2024	--	--	75 lb/ac	no	--	yes	60 lb/ac	-15 lb/ac
2023	--	--	49 lb/ac	no	--	no	--	-49 lb/ac
2022	--	--	75 lb/ac	no	--	yes	60 lb/ac	-15 lb/ac
2021	--	--	49 lb/ac	no	--	no	--	-49 lb/ac

Phosphorus applied over 5 years	Phosphorus removed over 5 years	Excess phosphorus over 5 years

Phosphorus applied over 5 years	Phosphorus removed over 5 years	Excess phosphorus over 5 years
120 lb/ac	297 lb/ac	-177 lb/ac

Crop info

Crop grown to utilize nutrients	Yield	Cover crop	Crop recently harvested	Crop grown 2 years ago	Crop grown 3 years ago
Corn-Field	220 bu	--	Soybeans	Corn-Field	Soybeans

Past nutrient application

No manure applied

Nutrient recommendations/credits

Nitrogen

Max nitrogen recommendation	Min legume-nitrogen credit	Nitrogen credit from manure	Nitrogen credit from irrigation	Max N to apply	Nitrogen removal
150 lb/ac	--	--	--	150 lb/ac	--

Phosphorus

Phosphorus needs	Phosphorus removal	Maximum phosphorus allowable
0 lb/ac	75 lb/ac	252 lb/ac Calculated according to your phosphorus application plan.

Nutrient application

Acreage after setback: 105.5

No manure applied.

Fertilizer applied

Fertilizer brand	Fertilizer timing	Application rate	Nitrogen from fertilizer	Phosphorus from fertilizer	Potassium from fertilizer
Urea (46% N)	Supplemental	325 lb/ac	150 lb/ac	0 lb/ac	0 lb/ac
Total nutrients from fertilizer			150 lb/ac	0 lb/ac	0 lb/ac

Total nutrients applied

Nitrogen	Phosphorus
Total nitrogen applied: 150 lb/ac	Total phosphorus applied: 0 lb/ac
Nitrogen needs/removal: 150 lb/ac	Phosphorus removed: 75 lb/ac
Balance: 0 lb/ac	Balance: -75 lb/ac (deficit)

Notes

There are no notes.

Field name: South Drive Quigley



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Domestic Wells, Verified and Unverified Locations	Karst Sinkhole Buffers	Public Water Inventory, Lakes	NHD and Public Drainage Systems, Ditches	Shallow Bedrock Soils
Drinking Water Supply Management Areas	Vulnerable Groundwater Area	Public Water Inventory, Lakes Buffer	NHD and Public Drainage Systems, Ditch Buffers	Slope greater than 6%
Domestic Well Buffers, Verified and Unverified Locations	Floodplain	Public Water Inventory, Lakes Buffer	Public Water Inventory Streams	less than 6%
	DFIRM, Modernized and Unmodernized Data			greater than 6%
				Field

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Sensitive features (See Sensitive Features Appendix for more information.)

River, Stream Intermittent Stream Coarse-Textured Soil

End Materials

If you transfer manure you must provide the Manure Transfer Tracking form to each manure recipient. Create this form from the Nutrient Management Tool report feature.

Methodology Nutrient Information

Nitrogen (N) Management

- Based on the crop rotation, nutrient application rates will not exceed the N needs/removal of the crops as derived from the most recent MN Extension Service (MES) publications and MPCA fact sheets "Manure Nitrogen Rates For Corn Production (wq-f8-18)" and "Manure Management For Corn On Irrigated Sandy Soils (wq-f8-52)"
 - Any deviation will follow the standards allowed in Minn. Rule 7020.2225, subp. 3(A)(2) and any issued permit.
- Manure application rates will be calculated using the following factors:
 - N needs for non-legumes and N removal for legumes
 - Actual manure analysis test results, when available (most recent or historical average)
 - Soil test results (where applicable)
 - First year N availability will be based on MES guidance
 - If applicable, N credits for previous crops and/or manure applications will be accounted for according to MES guidance.
 - If applicable, N credits from irrigation will be accounted for in the calculations.
 - If applicable, any fertilizer N applied will be accounted for in the calculations.
- Feedlot permits may have additional restrictions for N application.

Phosphorus (P) Management

- In the instances described below, the rate and frequency of manure applications must not allow soil P build-up over any 6 year period.
 - Soil test levels exceed 150 Bray or 120 Olsen
 - Soil test levels exceed 75 Bray or 60 Olsen and the field is within 300 feet of an open tile intake
 - Soil test levels exceed 21 Bray or 16 Olsen and the field is within 300 feet of a lake, stream, intermittent stream, drainage ditch without protective berms, or public waters wetland
- Manure application rates will be calculated using the following factors:
 - Crop P needs and removal rates will be based on the most recent MN Extension Service (MES) publications
 - Actual manure analysis test results, when available (most recent or historical average)
 - Soil test results (where applicable)
 - An availability factor of 80 percent
 - If applicable, any fertilizer P will be accounted for in the calculations
 - P application for the previous 5 years will be used to determine the maximum amount to apply in the 6th year to avoid P build-up.
- Feedlot permits may have additional restrictions for P application.

Soil Erosion Conservation Measures

All winter application fields and all fields at NPDES permitted sites – You are required to employ one or more soil erosion conservation measures.

- Establish grassed waterways
- Contour stripcropping
- No-Till cropping
- Terracing
- Meet tolerable soil erosion rates ("T") as defined by NRCS
- Use rotations that include other than row crops (alfalfa, grass, etc)
- Chisel or disk tillage with residue
- Field edge buffers
- Contour buffer strip
- Sediment control basin
- Plant a cover crop on bare ground

Mortality Management

- Rendering BMPs
 - Kept in an animal-proof, enclosed area
 - At least 200 feet from a neighbor's buildings
 - Picked up within 72 hours (7 days if refrigerated to less than 45 degrees)
- Composting BMPs
 - Built on an impervious, weight-bearing pad that is large enough to allow equipment to maneuver. Note: Class V gravel material is not considered to be impervious.
 - Covered with a roof to prevent excessive moisture on the composting material, but if sawdust or other water-repelling material is used as the bulking agent, a roof may not be necessary.
 - Built of non-resistant material that is strong enough to withstand the force exerted by equipment.
 - Large enough to handle each day's normal mortality through the endpoint of the composting which consists of a minimum of two (2) heat cycles.
- Burial BMPs
 - Stay 5 feet above seasonal high water table.
 - Stay 1000 feet away from lakes and 300 feet away from rivers, streams, ditches, etc.
 - Be covered immediately with enough soil to keep scavengers out (three feet is sufficient)
 - Not be placed in sandy or gravelly soil types.
 - Maintain at least 10 feet vertical separation between dead animals and bedrock.
- Incineration BMPs

- Capable of producing emissions not to exceed 20 percent opacity.
- Fitted with an afterburner that maintains flue gasses at 1,200 degrees Fahrenheit for at least 0.3 seconds.
- Ash from the incinerator must be handled in such a manner as to prevent particulate matter from becoming airborne.
- Other methods
 - As approved by BAH and MPCA

Timing Information

Summer

Cover crops are required for manure applications in June, July and August.

Fall

The MPCA encourages the use of the following BMPs to mitigate potential nitrate leaching from manure applied during the fall.

- Cover crops
- Delaying application until soil temps are 50°F or less
- Nitrogen stabilizing agent/product

NPDES permit requirements

From September 1 to September 30

- All manure applications must use one of the following BMPs:
 - Cover crop or other crop planted within 14 days of application
 - Application to an actively growing crop expected to utilize the N applied

From October 1 to October 14

- Manure applications in vulnerable groundwater areas must use one of the following BMPs:
 - Until 2026 follow the requirements for non-vulnerable groundwater areas
 - Starting in 2026 follow the requirements for September application
- Manure applications in non-vulnerable groundwater areas must use one of the following BMPs:
 - Soil temps are 50°F or less for 2 consecutive days
 - Use a nitrapyrin-based nitrogen stabilizing agent/product at the recommended rate
 - Use one of the BMPs for September application
 - Split application with no more than 50% of N applied October 1 - 14

From October 15 to October 31 (starting in 2027)

- Manure applications in vulnerable groundwater areas must use one of the following BMPs:
 - Use one of the BMPs for September application
 - Soil temps are 50°F or less for 2 consecutive days and a perennial crop is grown 2 out of 5 years
 - For liquid manure - Soil temps are 50°F or less for 2 consecutive days and a nitrapyrin-based nitrogen stabilizing agent/product is added at the recommended rate
 - For solid manure - Soil temps are 50°F or less for 2 consecutive days and a split application with no more than 50% of N applied October 15 – 31.
- Manure applications in non-vulnerable groundwater areas are encouraged, but not required, to utilize nitrogen BMPs.

From November 1 to November 30 (starting in 2027)

- Liquid manure applications in vulnerable groundwater areas are required to use one of the following BMPs:
 - Use one of the BMPs for September application
 - A perennial crop is grown 2 out of 5 years
 - A nitrapyrin-based nitrogen stabilizing agent/product at the recommended rate
- Solid manure applications in vulnerable groundwater areas are encouraged, but not required, to utilize nitrogen BMPs.
- Manure applications in non-vulnerable groundwater areas are encouraged, but not required, to utilize nitrogen BMPs.

SDS permit requirements

From September 1 to September 30

- All manure applications must use one of the following BMPs:
 - Cover crop or other crop planted within 14 days of application
 - Application to an actively growing crop expected to utilize the N applied

From October 1 to October 14

- Manure applications in vulnerable groundwater areas must follow the requirements for September application
- Manure applications in non-vulnerable groundwater areas must use one of the following BMPs:
 - Soil temps are 50°F or less for 2 consecutive days
 - Use a nitrapyrin-based nitrogen stabilizing agent/product at the recommended rate
 - Use one of the BMPs for September application
 - Split application with no more than 50% of N applied October 1 - 14

From October 15 to October 31 (starting in 2027)

- Manure applications in vulnerable groundwater areas must use one of the following BMPs:
 - Use one of the BMPs for September application
 - Soil temps are 50°F or less for 2 consecutive days and a perennial crop is grown 2 out of 5 years
 - For liquid manure - Soil temps are 50°F or less for 2 consecutive days and a nitrapyrin-based nitrogen stabilizing agent/product is added at the recommended rate
 - For solid manure - Soil temps are 50°F or less for 2 consecutive days and a split application with no more than 50% of N applied October 15 – 31.
- Manure applications in non-vulnerable groundwater areas are encouraged, but not required, to utilize nitrogen BMPs.

From November 1 to November 30 (starting in 2027)

- Liquid manure applications in vulnerable groundwater areas are required to use one of the following BMPs:
 - Use one of the BMPs for September application
 - A perennial crop is grown 2 out of 5 years
 - A nitrapyrin-based nitrogen stabilizing agent/product at the recommended rate
- Solid manure applications in vulnerable groundwater areas are encouraged, but not required, to utilize nitrogen BMPs.
- Manure applications in non-vulnerable groundwater areas are encouraged, but not required, to utilize nitrogen BMPs.

Winter
When fields are frozen or snow-covered, manure application is prohibited within 300 feet of lakes, streams, intermittent streams, drainage ditches without berms, open tile intakes, wells, wetlands, and sinkholes.

The MPCA encourages the user of the following BMPs to mitigate potential issues with runoff from manure applied to frozen or snow covered fields.

- Stockpile solid manure for application when manure can be incorporated
- Avoid application during the month of March (70% of winter runoff events happen in March)
- Avoid application when ice/water completely fills furrows or depressional areas
- Avoid application when 2+ inches of snowcover and temps 40°F+ within 24 hours
- Avoid application when 1/4+ inch rainfall is likely within 24 hours (50%+ chance)
- Only apply manure to areas of the field with slopes less than or equal to 6%

NPDES permit requirements for application of manure to frozen or snow-covered fields
No application of liquid manure to frozen or snow-covered fields (December - March)

No application of manure to frozen or snow-covered fields during the month of March

Application of solid manure to frozen or snow-covered fields December - February:

- No application in vulnerable groundwater areas of the field
- No application within 300 feet of lakes, streams, intermittent streams, drainage ditches without berms, open tile intakes, wells, wetlands, and sinkholes
- No application when ice/water completely fills furrows or depressional areas
- All fields must meet phosphorus loss risk index number of 2 or less
- No application when 2+ inches of snowcover and temps 40°F+ within 24 hours
 - During the month of February the 24-hour timeframe is lengthened to 5 days
- No application when 1/4+ inch rainfall is likely within 24 hours (50%+ chance)
 - During the month of February the 24-hour timeframe is lengthened to 5 days
- Only apply to areas of the field with slopes less than or equal to 6%
 - During the month of February the slope must be less then or equal to 2%

SDS permit requirements for application of manure to frozen or snow-covered fields
No application of liquid manure to frozen or snow-covered fields (after Nov 30)

No application of manure to frozen or snow-covered fields during the month of March

Application of solid manure to frozen or snow-covered fields at other times:

- No application within 300 feet of lakes, streams, intermittent streams, drainage ditches without berms, open tile intakes, wells, wetlands, and sinkholes
- No application when ice/water completely fills furrows or depressional areas
- All fields must meet phosphorus loss risk index number of 2 or less
- No application when 2+ inches of snowcover and temps 40°F+ within 24 hours
 - During the month of February the 24-hour timeframe is lengthened to 5 days
- No application when 1/4+ inch rainfall is likely within 24 hours (50%+ chance)
 - During the month of February the 24-hour timeframe is lengthened to 5 days
- Only apply manure to areas of the field with slopes less than or equal to 6%
 - During the month of February the slope must be less then or equal to 2%

Land Application Site Inspection Frequency

All manure applications:

- At least once each day manure is applied to the field
- At the end of manure application to the field

When manure is not injected or incorporated:

- Within 24 hours of any ½ inch or greater rainfall within 14 days of application

Sensitive Feature Appendix

Sensitive feature	Definition	Management techniques
River, Stream	Rivers and streams flow continuously and are identified on the DNR protected waters maps.	<p>For each sensitive feature, one of the listed techniques will be used to provide protection to this sensitive feature, as required in Minnesota Rules and/or permit conditions.</p> <ol style="list-style-type: none"> 1. Observe a 25 ft non-manured setback, inject or incorporate within 24 hours and prior to rainfall within 300 ft, and avoid long term soil phosphorus build-up. 2. 100 ft wide grassed buffer. 3. 100 ft setback with at least 16.5 ft as grassed buffer.
Intermittent Stream	Intermittent streams typically only flow after a major storm event or snowmelt. They are denoted by dashed lines on USGS topo maps, even if they are farmed through. Some road ditches are mapped and considered an intermittent stream.	<ol style="list-style-type: none"> 1. Observe a 25 ft non-manured setback, inject or incorporate within 24 hours and prior to rainfall within 300 ft, and avoid long term soil phosphorus build-up. 2. 50 ft wide grassed buffer. 3. 100 ft setback with at least 16.5 ft as grassed buffer.
Coarse-Textured Soil	1/3 or more of the field area has a soil type (at the surface, or within 3 ft of the surface) that ends in "sand". Soil types considered to be coarse-textured include: sand, loamy sand, loamy coarse sand, loamy very fine sand, fine sand, loamy fine sand, coarse sand, or very fine sand.	<ol style="list-style-type: none"> 1. Follow the BMPs for vulnerable groundwater areas included in the NPDES or SDS permit (required if NPDES or SDS permitted). 2. Delay fall application until soil temperatures are less than 50°F. 3. Use nitrogen BMPs recommended by U of MN.
Non-Public Waters Wetland (uncultivated)	Transitional land between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is covered by shallow water. Only included non-farmed wetlands.	<ol style="list-style-type: none"> 1. Observe a non-manured setback. 2. Maintain a grass buffer. 3. Incorporate manure near the wetland. 4. Prevent long term soil P buildup. 5. Utilize soil conservation practices.

AFFIDAVIT OF SERVICE VIA U.S. MAIL

STATE OF MINNESOTA)
) ss
COUNTY OF REDWOOD)

RE: *Application for Animal Confinement Feedlot Conditional Use Permit* submitted by Jeffrey Knott; Permit Application No. 7-26

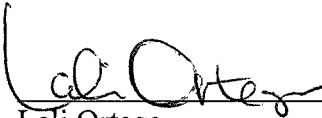
I, Lali Ortega, a person not less than eighteen (18) years of age, being first duly sworn upon oath, hereby state a copy of the following:

- 1. *Written Notice of Public Hearing on Application for Animal Confinement Feedlot Conditional Use Permit; and*
- 2. *Notice of Public Hearing*

was duly served upon:

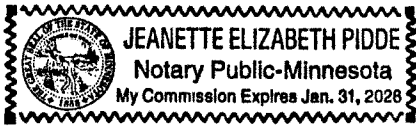
SEE ATTACHED

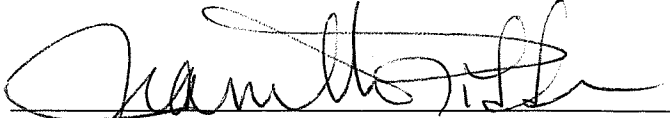
by enclosing a copy of the same in an envelope, with postage prepaid, and depositing said envelope in a United States Postal Service mailbox located at Redwood Falls, Minnesota on the 3rd day of June 2026.



Lali Ortega
Environmental Administrative Assistant

Subscribed and sworn to before me, a Notary Public, on this 3rd day of June 2026, by Lali Ortega.






Notary Public

PID	OWNER	OWNER2	ADDRESS	CITY	STATE	ZIP
660092060	FULTZ/DENNIS O/RLT ETAL		2 OWANKA LN	TRACY	MIN	56175
660092030	PETERSON/OWEN K & LAMONT V		PO BOX 4	WENDELL	MIN	56590-0004
660082040	QUIGLEY/JAMES & MAE/ETAL		65 ROWLAND ST	TRACY	MIN	56175
660092020	FULTZ/ERIC/RLT		10061 150 ST	TRACY	MIN	56175
660082020	COOREMAN/JOSEPH A & CAROL A	REVOCABLE TRUSTS	1121 GRANDVIEW DR	BALATON	MIN	56115
660043020						
660043060	KNOTT/STEVEN R & JOANN V/ETAL		24 SANDBAR RD	TRACY	MIN	56175
660054020	KNOTT/JEFFREY S & JEANNE M		11656 170 AVE	TRACY	MIN	56175-2164
660042040	NORWEGIAN EVAN CHURCH	% MYRON TOFTING	17416 N STONE HAVEN DR	SURPRISE	AZ	85374-6377
660042020	DRACKLEY/DORIS M/TRUST		412 UNION ST	TRACY	MIN	56175
660051040						
660054010	VANDENDRIESSCHE/DAVID/RLT	% DAVID & CAROLYN VANDENDRIESSCHE	19118 ASPEN AVE	TRACY	MIN	56175
660052020						
660053040	MUENCHOW/LARRY & WENDY SUE		11067 150 ST	TRACY	MIN	56175
660054040	HOLLAND FAMILY TRUST UTA	GREGORY D & JANET R HOLLAND	2388 160 AVE	GARVIN	MIN	56132
	SPRINGDALE TOWNSHIP BOARD OF SUPERVISORS	% MERNA S MALMBERG, CLERK	11834 BUNKER AVE	WALNUT GROVE	MIN	56180

APPLICANT

TO: Whom It May Concern

FROM: Jeanette Pidde 
Land Use and Zoning Supervisor
Redwood County Environmental Office

DATE: June 3rd, 2026

RE: Notice of Public Hearing on Animal Confinement
Feedlot Conditional Use Permit Application



Please find enclosed a Notice of Public Hearing regarding an Animal Confinement Feedlot Conditional Use Permit Application submitted by Jeffrey Knott, pursuant to Redwood County Code of Ordinances, Title XV, Sections 153.142 and 153.290, for the construction of a swine feedlot. The feedlot would consist of one total confinement barn capable of housing 3,300 head of finishing swine weighing between 55-300 pounds (990 total animal units), on the following described real property in Springdale Township:

The South Half of the Southeast Quarter (S½SE¼), Section 5, Township 109, Range 39, Redwood County, Minnesota. PID 66-005-4020

A public hearing thereon will be held before the Redwood County Planning Commission at a special Planning Commission meeting starting at 1:00 p.m. on Thursday, the 18th day of June, 2026. The meeting will be held in the Board Room of the Redwood County Government Center, 403 South Mill Street, Redwood Falls, MN 56283.

Pursuant to Redwood County Code of Ordinances, all property owners of record within five hundred (500) feet of the incorporated areas and/or one-quarter (1/4) of a mile of the affected property or the ten (10) properties nearest to the affected property, whichever would provide notice to the greatest number of landowners in the unincorporated areas, the township in which the affected property is located, and all municipalities within two (2) miles of the property are required to be notified in writing of the time and place of the public hearing.

If you have any comments or questions regarding this matter, please contact the Redwood County Environmental Office by telephone at (507) 637-4023, via email at Environmental@redwoodcounty-mn.gov, or by mail at *Redwood County Environmental Office, P.O. Box 130, Redwood Falls, MN 56283*, and/or attend the public hearing at the time and date set forth in the Notice of Public Hearing.

enclosure



NOTICE OF PUBLIC HEARING

An *Animal Confinement Feedlot Conditional Use Permit Application* has been filed by Jeffrey Knott, pursuant to Redwood County Code of Ordinances, Title XV, Sections 153.142 and 153.290 for the construction of a swine feedlot. The feedlot would consist of one total confinement barn capable of housing 3,300 head of finishing swine weighing between 55-300 pounds (990 total animal units), on the following described real property in Springdale Township:

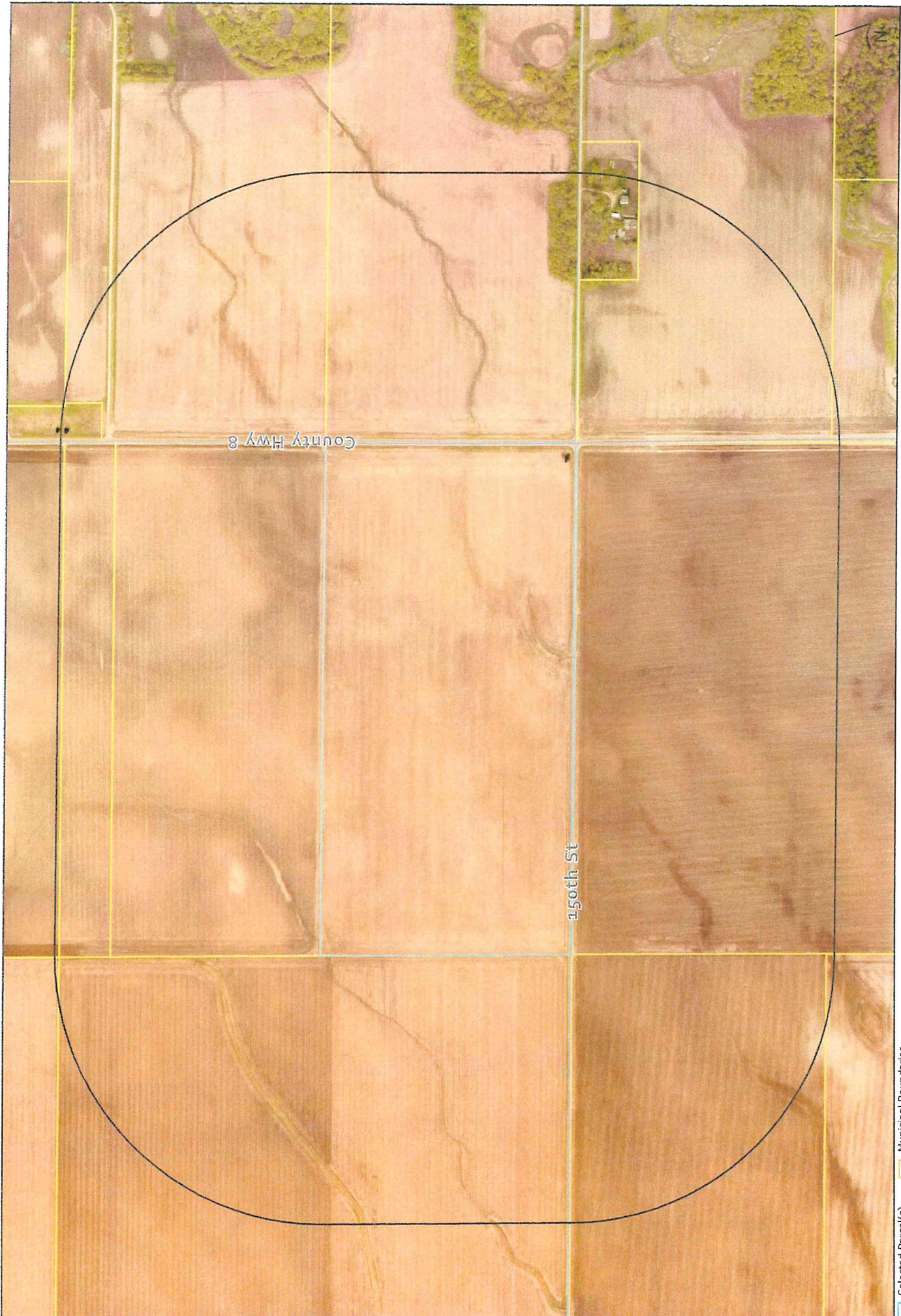
The South Half of the Southeast Quarter (S $\frac{1}{2}$ SE $\frac{1}{4}$), Section 5, Township 109, Range 39, Redwood County, Minnesota. PID 66-005-4020

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DATED: May 27, 2026

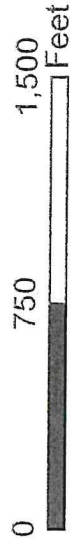
Jeanette Pidde
Land Use & Zoning Supervisor
Redwood County Environmental Office



Parcel ID: 66-025-4020

-  Selected Parcel(s)
-  Notification Area
-  Municipal Boundaries
-  Sections
-  Roads
-  County Boundary

CUP Notification Area:
0.26 miles from selected parcel



REDWOOD COUNTY PLANNING COMMISSION

Jeffrey Knott

Animal Confinement Feedlot Conditional Use Permit

Application #7-26

June 18th, 2026



FINDINGS OF FACT

ORDINANCE CRITERIA – The Planning Commission may recommend the granting of a Conditional Use Permit in any district provided the proposed use is listed as a conditional use for the district and upon a showing that the standards and criteria stated in this Ordinance will be satisfied and that the use is in harmony with the general purposes and intent of this Ordinance and the Comprehensive Plan.

In determining whether the proposed use is in harmony with the general purposes and intent of the Ordinance and the Comprehensive Plan, the Planning Commission shall consider and make findings on the following questions:

- 1) What potential health safety and welfare impacts were raised at the hearing and why will they, or why won't they, impact the neighboring residents?

- 2) What potential impacts on area property uses were raised at the hearing and why will they, or why won't they, impact the use and enjoyment of other property in the area?

3) What potential impacts on property values or future development were raised at the hearing, and why will they, or why won't they, impact the neighboring properties?

4) What infrastructure is needed to support the proposed use and how will it be provided?

5) How do the goals, purpose and policies of the Zoning Ordinance and Comprehensive Plan apply to the proposed project?

NAME: _____

DATE: _____