

WATER RESOURCES RECEIVED

11:03

AUG 07 2024

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JUL 22 2024

13:45

KS Dept. of Agriculture

THE STATE OF KANSAS



KANSAS DEPARTMENT OF AGRICULTURE
Mike Beam, Secretary of Agriculture

DIVISION OF WATER RESOURCES
Earl D. Lewis Jr., Chief Engineer

51287

File Number _____
This item to be completed by the Division of Water Resources.

APPLICATION FOR PERMIT TO APPROPRIATE WATER FOR BENEFICIAL USE

Filing Fee Must Accompany the Application
(Please refer to Fee Schedule attached to this application form.)

To the Chief Engineer of the Division of Water Resources, Kansas Department of Agriculture,
1320 Research Park Drive, Manhattan, Kansas 66502:

1. Name of Applicant (Please Print): Martin S. Ternes
Address: 1068 N. West RD
City: Peck State KS Zip Code 67120
Telephone Number: (502) 906-4150

2. The source of water is: surface water in _____ (stream)
OR groundwater in Alluvial of Ninnescah River (drainage basin)

Certain streams in Kansas have minimum target flows established by law or may be subject to administration when water is released from storage for use by water assurance district members. If your application is subject to these regulations on the date we receive your application, you will be sent the appropriate form to complete and return to the Division of Water Resources.

3. The maximum quantity of water desired is 151.7 acre-feet OR _____ gallons per calendar year, to be diverted at a maximum rate of 800 gallons per minute OR _____ cubic feet per second.

Once your application has been assigned a priority, the requested maximum rate of diversion and maximum requested quantity of water under that priority number can **NOT** be increased. Please be certain your requested maximum rate of diversion and maximum quantity of water are appropriate and reasonable for your proposed project and are in agreement with the Division of Water Resources' requirements.

4. The water is intended to be appropriated for (Check use intended):

- (a) Artificial Recharge
- (b) Irrigation
- (c) Recreational
- (d) Water Power
- (e) Industrial
- (f) Municipal
- (g) Stockwatering
- (h) Sediment Control
- (i) Domestic
- (j) Dewatering
- (k) Hydraulic Dredging
- (l) Fire Protection
- (m) Thermal Exchange
- (n) Contamination Remediation

YOU **MUST** COMPLETE AND ATTACH ADDITIONAL DIVISION OF WATER RESOURCES FORM(S) PROVIDING INFORMATION TO SUBSTANTIATE YOUR REQUEST FOR THE AMOUNT OF WATER FOR THE INTENDED USE REFERENCED ABOVE.

| | | | | | | | |
|----------------------|------------|--------|------------|--------------------|---|----------------|------------|
| For Office Use Only: | | | | | | | |
| F.O. | <u>2</u> | GMD | <u>-</u> | Meets K.A.R. 5-3-1 | <input checked="" type="checkbox"/> YES / <input type="checkbox"/> NO | Use | <u>IRR</u> |
| Source | <u>G</u> | S | County | <u>SU</u> | By | <u>KJN</u> | Date |
| Code | <u>RE2</u> | Fee \$ | <u>300</u> | TR # | Receipt Date | <u>7-22-24</u> | Check # |
| | | | | | | <u>1558</u> | |

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5. The location of the proposed wells, pump sites or other works for diversion of water is:

Note: For the application to be accepted, the point of diversion location must be described to at least a 10 acre tract, unless you specifically request a 60 day period of time in which to locate the site within a specifically described, minimal legal quarter section of land.

(A) One in the SW quarter of the SW quarter of the NW quarter of Section 3, more particularly described as being near a point 1300 feet North and 2568 feet West of the Southeast corner of said section, in Township 30 South, Range 1 West, Sumner County, Kansas.

(B) One in the _____ quarter of the _____ quarter of the _____ quarter of Section _____, more particularly described as being near a point _____ feet North and _____ feet West of the Southeast corner of said section, in Township _____ South, Range _____ East/West (circle one), _____ County, Kansas.

(C) One in the _____ quarter of the _____ quarter of the _____ quarter of Section _____, more particularly described as being near a point _____ feet North and _____ feet West of the Southeast corner of said section, in Township _____ South, Range _____ East/West (circle one), _____ County, Kansas.

(D) One in the _____ quarter of the _____ quarter of the _____ quarter of Section _____, more particularly described as being near a point _____ feet North and _____ feet West of the Southeast corner of said section, in Township _____ South, Range _____ East/West (circle one), _____ County, Kansas.

If the source of supply is groundwater, a separate application shall be filed for each proposed well or battery of wells, except that a single application may include up to four wells within a circle with a quarter (1/4) mile radius in the same local source of supply which do not exceed a maximum diversion rate of 20 gallons per minute per well.

A battery of wells is defined as two or more wells connected to a common pump by a manifold; or not more than four wells in the same local source of supply within a 300 foot radius circle which are being operated by pumps not to exceed a total maximum diversion rate of 800 gallons per minute and which supply water to a common distribution system.

6. The owner of the point of diversion, if other than the applicant is (please print):

W. Bruce and Janice M. Hopson, 8604 S 135th St West (name, address and telephone number)

Clearwater KS 67026 (name, address and telephone number)

You must provide evidence of legal access to, or control of, the point of diversion from the landowner or the landowner's authorized representative. Provide a copy of a recorded deed, lease, easement or other document with this application. In lieu thereof, you may sign the following sworn statement:

I have legal access to, or control of, the point of diversion described in this application from the landowner or the landowner's authorized representative. I declare under penalty of perjury that the foregoing is true and correct.

Executed on 7-17, 2024, [Signature] Applicant's Signature

The applicant must provide the required information or signature irrespective of whether they are the landowner. Failure to complete this portion of the application will cause it to be unacceptable for filing and the application will be returned to the applicant.

7. The proposed project for diversion of water will consist of a battery of up to 4 wells (number of wells, pumps or dams, etc.) and will be completed (by) 7/1/2025 (Month/Day/Year - each was or will be completed)

8. The first actual application of water for the proposed beneficial use was or is estimated to be (Mo/Day/Year)

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IRRIGATION USE SUPPLEMENTAL SHEET

File No. _____

Name of Applicant (Please Print): Martin S. Ternes

1. Please supply the name and address of each landowner, the legal description of the lands to be irrigated, and designate the actual number of acres to be irrigated in each forty acre tract or fractional portion thereof:

Landowner of Record NAME: W. Bruce & Janice M. Hopson
ADDRESS: 8604 S. 135th St. West Clearwater, KS 67026

| S | T | R | NE $\frac{1}{4}$ | | | | NW $\frac{1}{4}$ | | | | SW $\frac{1}{4}$ | | | | SE $\frac{1}{4}$ | | | | TOTAL |
|----|----|----|------------------|----|----|----|------------------|----|----|----|------------------|----|----|------|------------------|------|----|----|-------|
| | | | NE | NW | SW | SE | NE | NW | SW | SE | NE | NW | SW | SE | NE | NW | SW | SE | |
| 03 | 30 | 1W | | | | | | | | | 32.8 | | | 27.7 | 33.5 | 22.7 | | | 116.7 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |

Landowner of Record NAME: _____
ADDRESS: _____

| S | T | R | NE $\frac{1}{4}$ | | | | NW $\frac{1}{4}$ | | | | SW $\frac{1}{4}$ | | | | SE $\frac{1}{4}$ | | | | TOTAL |
|---|---|---|------------------|----|----|----|------------------|----|----|----|------------------|----|----|----|------------------|----|----|----|-------|
| | | | NE | NW | SW | SE | NE | NW | SW | SE | NE | NW | SW | SE | NE | NW | SW | SE | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |

Landowner of Record NAME: _____
ADDRESS: _____

| S | T | R | NE $\frac{1}{4}$ | | | | NW $\frac{1}{4}$ | | | | SW $\frac{1}{4}$ | | | | SE $\frac{1}{4}$ | | | | TOTAL |
|---|---|---|------------------|----|----|----|------------------|----|----|----|------------------|----|----|----|------------------|----|----|----|-------|
| | | | NE | NW | SW | SE | NE | NW | SW | SE | NE | NW | SW | SE | NE | NW | SW | SE | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |

Map showing proposed PD, PU, 1/2 mile well ownership for New Application _____

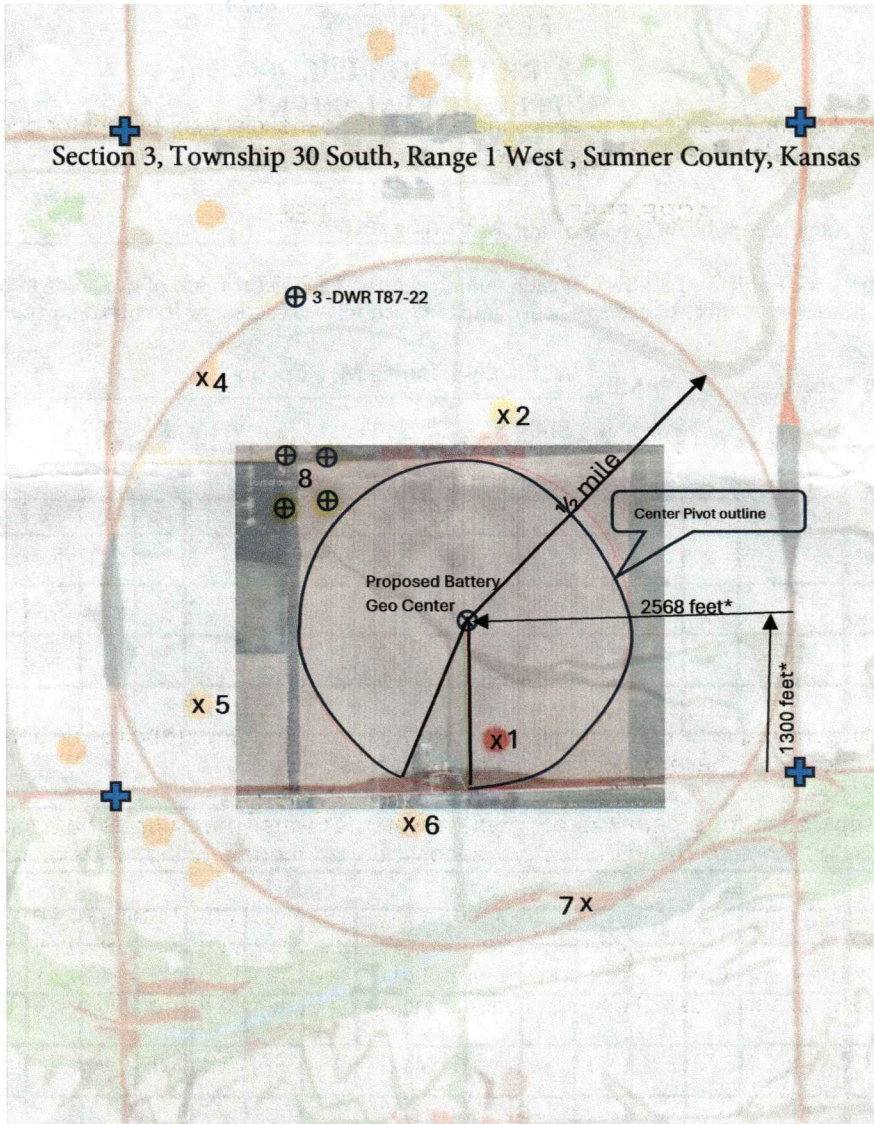
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Legend

- X - Domestic well
- 4 - Well Owner #
- ⊕ - Irrigation well or other
- ⊕ - Section Corner

*Distances are the result of GIS measurements



1. Domestic HOPSON, W BRUCE & JANICE M; REV TR 8604 S 135TH ST W CLEARWATER, KS 67026
2. Domestic SCHMEISSNER, PAUL E & HELEN F 10715 S RIDGE RD CLEARWATER, KS 67026
3. Oil Field Supply well DWR T87-22 SCHMEISSNER, PAUL E & HELEN F 10715 S RIDGE RD CLEARWATER, KS 67026
4. Domestic HEITMAN, RAYLENE L; LIV TR 7206 W 148TH ST OVERLAND PARK, KS 66223
5. Domestic H HEITMAN, RAYLENE L; LIV TR 7206 W 148TH ST OVERLAND PARK, KS 66223
6. Domestic RUMSEY, ROBB W 2831 ORIOLE DR WICHITA, KS 67204
7. Domestic MATTHEWS, CARL WILLIAM II 313 E 119TH ST CLEARWATER, KS 67026
8. Irrigation DWR 50398 MARTIN TERNES, 1068 N. WEST RD, PECK, KS 67120 & HOPSON, W BRUCE & JANICE M; REV TR 8604 S 135TH ST W CLEARWATER, KS 67026

All wells of any kind within 1/2 mile of the requested point of diversion have been plotted

Signed Mark Scott Zewer Date: 7/17/24

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14. The owner(s) of the property where the water is used, if other than the applicant, is KS Dept. of Agriculture

BRUCE & Janice HOPSON 8604 South 135TH STREET WEST
CLEAR WATER, KS 67026

(name, address, and phone)

620-584-6924 CEI 949 680 0948

(name, address, and phone)

15. The relationship of the applicant to the proposed place where the water will be used is that of (please use checkmark):

Owner Agent Tenant Other:

16. A water use correspondent (WUC) must be designated. The WUC will be mailed the annual water use report, which must be filed with the Division by March 1 of each year. Failure to timely file an accurate water use report will subject the owner(s) to a civil fine of up to \$1,000 and potential suspension of the water appropriation or right. By signing this application, I verify that the owner(s) of the water right or permit have confirmed that the following person or agent should be designated as the WUC:

Martin Scott Zerner 1068 N. WEST RD Peck, KS 67120 316-772-1023

(name, address, and phone)

17. I understand that if this application is approved, there could be times, as determined by the Division of Water Resources, when I would not be allowed to divert water. This could affect the economics of my decision to appropriate water. Situations where this might occur may include times when minimum desirable streamflow (MDS) requirements are not met, when Assurance District or Water Marketing releases are made from storage in federal reservoirs, when a Water Reservation Right upstream of a federal reservoir is administered, or when water rights administration becomes necessary to prevent impairment.

I declare, under penalty of perjury, that I have legal access to or control of, the point(s) of diversion described in this application from the landowner or the landowner's authorized representative.

By signing below, I verify that the information set forth above is true to the best of my knowledge, I agree with all statements made above, and that this application is submitted in good faith.

Martin Scott Zerner 8/3/24

(Applicant Signature)

(Date)

MARTIN SCOTT ZERNES

(Applicant Name - please print)

(Applicant Title, if applicable - please print)

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FEE SCHEDULE

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- 1. The fee for an application for a permit to appropriate water for beneficial use, except for domestic use, shall be (see paragraph No. 2 below if requesting storage):

| ACRE-FEET | FEE |
|---------------|--|
| 0-100 | \$200.00 |
| 101-320 | \$300.00 |
| More than 320 | \$300.00 plus \$20.00 for each additional 100 acre-feet or any part thereof. |

- 2. The fee for an application in which storage is requested, except for domestic use, shall be:

| ACRE-FEET | FEE |
|---------------|---|
| 0-250 | \$200.00 |
| More than 250 | \$200.00 plus \$20.00 for each additional 250 acre-feet of storage or any part thereof. |

Note: If an application requests both direct use *and* storage, the fee charged shall be as determined under No. 1 or No. 2 above, whichever is greater, but not both fees.

- 3. The fee for an application for a permit to appropriate water for water power or dewatering purposes shall be \$100.00 plus \$200.00 for each 100 cubic feet per second, or part thereof, of the diversion rate requested.

Note: The applicant shall notify the Chief Engineer and pay the statutorily required field inspection fee of \$400.00 when construction of the works for diversion has been completed, except that for applications filed on or after July 1, 2009, for works constructed for sediment control use and for evaporation from a groundwater pit for industrial use shall be accompanied by a field inspection fee of \$200.00.

MAKE CHECKS PAYABLE TO THE KANSAS DEPARTMENT OF AGRICULTURE

ATTENTION

A Water Conservation Plan may be required per K.S.A. 82a-733. A statement that your application for permit to appropriate water may be subject to the minimum desirable streamflow requirements per K.S.A. 82a-703a, b, and c may also be required from you. After the Division of Water Resources has had the opportunity to review your application, you will be notified whether or not you will need to submit a Water Conservation Plan. You also may be required to install a water flow meter or water stage measuring device on your diversion works prior to diverting water. There may be other special conditions or Groundwater Management District regulations that you will need to comply with if this application is approved.

CONVERSION FACTORS

1 acre-foot equals 325,851 gallons

1 million gallons equal 3.07 acre-feet

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9. Will pesticide, fertilizer, or other foreign substance be injected into the water pumped from the diversion works?
 Yes No If "yes", a check valve shall be required.

All chemigation safety requirements must be met including a chemigation permit and reporting requirements.

10. If you are planning to impound water, please contact the Division of Water Resources for assistance, prior to submitting the application. Please attach a reservoir area capacity table and inform us of the total acres of surface drainage area above the reservoir.

Have you also made an application for a permit for construction of this dam and reservoir with the Division of Water Resources? Yes No

- If yes, show the Water Structures permit number here _____
- If no, explain here why a Water Structures permit is not required a. No structure identified as a dam or reservoir will be built

b. groundwater well

11. The application must be supplemented by a U.S.G.S. topographic map, aerial photograph or a detailed plat showing the following information. On the topographic map, aerial photograph, or plat, identify the center of the section, the section lines or the section corners and show the appropriate section, township and range numbers. Also, please show the following information:

- (a) The location of the proposed point(s) of diversion (wells, stream-bank installations, dams, or other diversion works) should be plotted as described in Paragraph No. 5 of the application, showing the North-South distance and the East-West distance from a section line or southeast corner of section.
- (b) If the application is for groundwater, please show the location of any existing water wells of any kind within 1/2 mile of the proposed well or wells. Identify each existing well as to its use and furnish the name and mailing address of the property owner or owners. If there are no wells within 1/2 mile, please advise us.
- (c) If the application is for surface water, the names and addresses of the landowner(s) 1/2 mile downstream and 1/2 mile upstream from your property lines must be shown.
- (d) The location of the proposed place of use should be shown by crosshatching on the topographic map, aerial photograph or plat.
- (e) Show the location of the pipelines, canals, reservoirs or other facilities for conveying water from the point of diversion to the place of use.

A 7.5 minute U.S.G.S. topographic map may be obtained by providing the section, township and range numbers to: Kansas Geological Survey, 1930 Constant, Campus West, University of Kansas, Lawrence, Kansas 66047.

12. List any application, appropriation of water, water right, or vested right file number that covers the same diversion points or any of the same place of use described in this application. Also list any other recent modifications made to existing permits or water rights in conjunction with the filing of this application.

Appropriation of Water #50398 (PU)

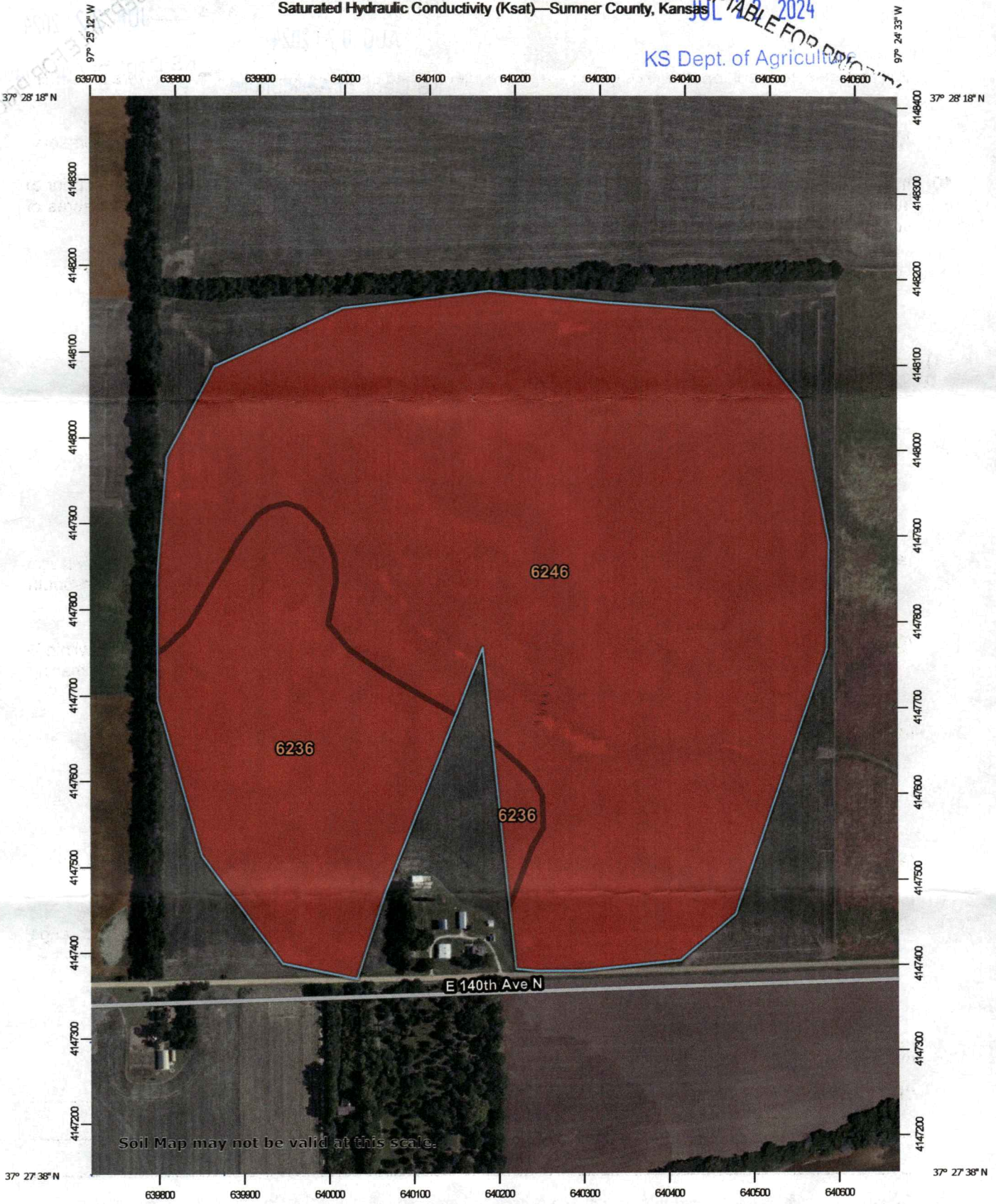
8/9/2024
KJN

Saturated Hydraulic Conductivity (Ksat)—Sumner County, Kansas

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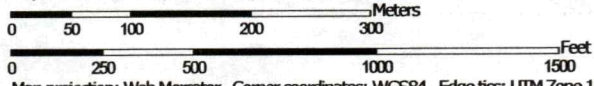
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Soil Map may not be valid at this scale.

Map Scale: 1:6,130 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

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2. Please complete the following information for the description of the operation for the irrigation project. Attach supplemental sheets as needed.

a. Indicate the soils in the field(s) and their intake rates:

See attached Map and Tables

| Soil Name | Percent of field (%) | Intake Rate (in/hr) | Irrigation Design Group |
|---------------------------|----------------------|---------------------|-------------------------|
| Dale & Reinach silt loams | 28.3 | 1.27559 | |
| Elandco silt clay loam | 76.5 | 1.27559 | 2 |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| Total: | 100 % | | |

b. Estimate the average land slope in the field(s): 0.5 %

Estimate the maximum land slope in the field(s): 1.0 %

c. Type of irrigation system you propose to use (check one):

- Center pivot Center pivot - LEPA "Big gun" sprinkler
 Gravity system (furrows) Gravity system (borders) Sideroll sprinkler

Other, please describe: _____

d. System design features:

i. Describe how you will control tailwater:

It is anticipated that with proper operations no runoff will occur.

ii. For sprinkler systems:

- Estimate the operating pressure at the distribution system: 35 psi
- What is the sprinkler package design rate? 800 gpm
- What is the wetted diameter (twice the distance the sprinkler throws water) of a sprinkler on the outer 100 feet of the system? 60 feet
- Please include a copy of the sprinkler package design information.

e. Crop(s) you intend to irrigate. Please note any planned crop rotations:

Corn, soybeans, wheat, and milo are intended crops.

Rotation is planned dependent on the soil conditions and anticipated climate conditions.

f. Please describe how you will determine when to irrigate and how much water to apply (particularly important if you do not plan a full irrigation).

Irrigation will be based on crop stress and soil moisture. Rate and duration of irrigation is dependent on weather based factors. The "new" diversion will be used solely when the PD for 50398 are unable to meet pumping needs. It is anticipated that during each growing season, the maximum rate of application will be needed.

You may attach any additional information you believe will assist in informing the Division of the need for your request.

Sumner County, Kansas

6236—Dale and Reinach silt loams, rarely flooded

Map Unit Setting

National map unit symbol: 1kh89
Elevation: 700 to 1,500 feet
Mean annual precipitation: 24 to 31 inches
Mean annual air temperature: 45 to 70 degrees F
Frost-free period: 195 to 225 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Dale and similar soils: 50 percent
Reinach and similar soils: 48 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dale

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

A - 0 to 24 inches: silt loam
Bw - 24 to 34 inches: silt loam
C - 34 to 60 inches: silt loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B
Ecological site: R080AY0500K - Loamy Bottomland
Hydric soil rating: No

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Description of Reinach

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

A - 0 to 24 inches: silt loam
Bw - 24 to 34 inches: silt loam
C - 34 to 60 inches: silt loam

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Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water
(Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B
Ecological site: R080AY0500K - Loamy Bottomland
Hydric soil rating: No

Minor Components

Aquolls

Percent of map unit: 2 percent
Landform: Hillslopes, drainageways, depressions
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R079XY132KS - Subirrigated
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Sumner County, Kansas
Survey Area Data: Version 20, Sep 12, 2023

Sumner County, Kansas

6246—Elandco silty clay loam, rarely flooded

Map Unit Setting

National map unit symbol: 2ww2p
Elevation: 870 to 1,370 feet
Mean annual precipitation: 31 to 39 inches
Mean annual air temperature: 59 to 63 degrees F
Frost-free period: 187 to 232 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Elandco, rarely flooded, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elandco, Rarely Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

Ap - 0 to 10 inches: silty clay loam
A - 10 to 40 inches: silt loam
Ck - 40 to 79 inches: silt loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 3 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 11.4 inches)

Interpretive groups

Land capability classification (irrigated): 2w
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B
Ecological site: R080AY0500K - Loamy Bottomland
Hydric soil rating: No

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Minor Components

Brewer, rarely flooded

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R080AY045OK - Clay Bottomland
Hydric soil rating: No

Reinach, rarely flooded

Percent of map unit: 4 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R080AY050OK - Loamy Bottomland
Hydric soil rating: No

Aquolls, occasionally ponded

Percent of map unit: 1 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R080AY090OK - Ponded Bottomland
Hydric soil rating: Yes

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Data Source Information

Soil Survey Area: Sumner County, Kansas
Survey Area Data: Version 20, Sep 12, 2023

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Saturated Hydraulic Conductivity (Ksat)—Sumner County, Kansas

MAP LEGEND

- Area of Interest (AOI)**
 -  Area of Interest (AOI)
- Soils**
 - Soil Rating Polygons**
 -  = 9.0000
 -  Not rated or not available
 - Soil Rating Lines**
 -  = 9.0000
 -  Not rated or not available
 - Soil Rating Points**
 -  = 9.0000
 -  Not rated or not available
- Water Features**
 -  Streams and Canals
- Transportation**
 -  Rails
 -  Interstate Highways
 -  US Routes
 -  Major Roads
 -  Local Roads
- Background**
 -  Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Sumner County, Kansas
Survey Area Data: Version 20, Sep 12, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 4, 2020—Jun 5, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

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Saturated Hydraulic Conductivity (Ksat)

| Map unit symbol | Map unit name | Rating (micrometers per second) | Acres in AOI | Percent of AOI |
|------------------------------------|---|---------------------------------|--------------|----------------|
| 6236 | Dale and Reinach silt loams, rarely flooded | 9.0000 | 29.5 | 23.5% |
| 6246 | Elandco silty clay loam, rarely flooded | 9.0000 | 96.1 | 76.5% |
| Totals for Area of Interest | | | 125.6 | 100.0% |

Description

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity is considered in the design of soil drainage systems and septic tank absorption fields.

For each soil layer, 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.

The numeric Ksat values have been grouped according to standard Ksat class limits.

Rating Options

Units of Measure: micrometers per second

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Fastest

Interpret Nulls as Zero: No

Layer Options (Horizon Aggregation Method): All Layers (Weighted Average)