

NOTICE

This scan only represents the application as filed. The information contained herein meets the requirements of K.A.R. 5-3-1 or K.A.R. 5-5-1, and has been found acceptable for filing in the office of the Chief Engineer. The application should not be considered to be a complete application as per K.A.R. 5-3-1b or K.A.R. 5-5-2a.

THE STATE OF KANSAS



KANSAS DEPARTMENT OF AGRICULTURE
Mike Beam, Secretary of Agriculture

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

50928

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

WATER RESOURCES RECEIVED

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12:07

KS DEPT OF AGRICULTURE

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): Josh Nelson
Address: 3036 Ave U
City: Marquette State KS Zip Code 67464
Telephone Number: (785) 820-0474

2. The source of water is: [] surface water in (stream)
OR [x] groundwater in Smokey Hill 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 161.2 acre-feet OR gallons per calendar year, to be diverted at a maximum rate of 1,000 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) [x] 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. 3 GMD Meets K.A.R. 5-3-1 (YES/NO) Use IRR Source G/S County MP By ALB Date 12/20/22
Code BE2 Fee \$ 300 TR # Receipt Date 12/20/22 Check # 43604

12/27/2022
LMoody

***60 DAYS TO LOCATE**

60 DTL
3960'
3960

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 ____ quarter of the ____ quarter of the NW quarter of Section 22, more particularly described as being near a point ____ feet North and ____ feet West of the Southeast corner of said section, in Township 17 South, Range 5 West, McPherson 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 _____, _____ 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 _____, _____ 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 _____, _____ 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):

(name, address and telephone number)

(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 12/14/22, 2022. _____
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 _____
(number of wells, pumps or dams, etc.)

and will be completed As soon as approved
(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 As soon as approved
(Mo/Day/Year)

IRRIGATION USE SUPPLEMENTAL SHEET

File No. _____

Name of Applicant (Please Print): Josh Nelson

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: Beverly S Olson Trust

ADDRESS: %Advantage Trust Co., PO Box 1337, Salina, KS 67401

S	T	R	NE¼				NW¼				SW¼				SE¼				TOTAL
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
22	17	5W					40											40	

Landowner of Record NAME: Nadine T O'Neill Trust // Cynthia S O'Neill Trust // Gregory & Teresa O'Neill Family Trust

ADDRESS: 1710 W Kansas Ave McPherson, KS 67460

S	T	R	NE¼				NW¼				SW¼				SE¼				TOTAL
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
22	17	5W					30	15	40									85	

Landowner of Record NAME: _____

ADDRESS: _____

S	T	R	NE¼				NW¼				SW¼				SE¼				TOTAL
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	

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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:

	Soil Name	Percent of field (%)	Intake Rate (in/hr)	Irrigation Design Group
2310	Bridgeport Silt Loam	13.7	.6-2.0	5
2345	McCook fine Sandy loam	31.3	.6-2.0	7
2375	Roxbury Silt Loam	54.0	.6-2.0	5
3843	Geary Silt Loam	.9	.2-.6	5
	Total:	100 %		

b. Estimate the average land slope in the field(s): 1 %

Estimate the maximum land slope in the field(s): 2 %

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: no tailwater with pivot

ii. For sprinkler systems:

- (1) Estimate the operating pressure at the distribution system: 35 psi
 (2) What is the sprinkler package design rate? 1000 gpm
 (3) What is the wetted diameter (twice the distance the sprinkler throws water) of a sprinkler on the outer 100 feet of the system? 50 feet
 (4) Please include a copy of the sprinkler package design information.

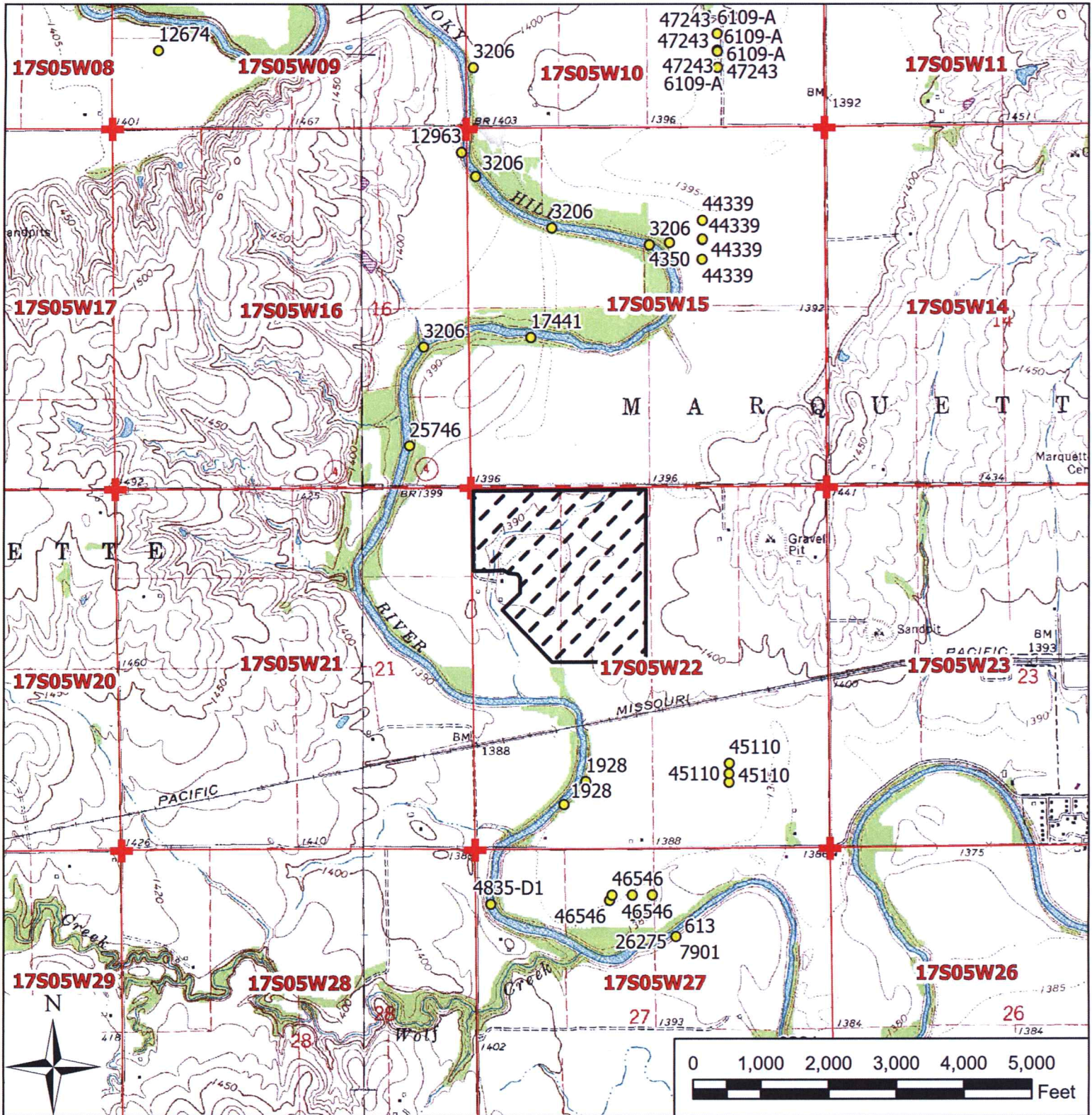
e. Crop(s) you intend to irrigate. Please note any planned crop rotations:

Soybeans, Corn, wheat

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).

Crop Consultant

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



Legend

- Water Appropriation
- Proposed Point of Diversion
- + Section Corner
- Section Line
- Half-Mile
- Proposed Place of Use

Application, File No. _____
 16-24-3E // McPherson County WATER RESOURCES RECEIVED

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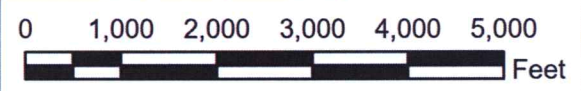
To the best of my knowledge, all points of diversion within one-half mile of the proposed point of diversion have been shown. KS DEPT OF AGRICULTURE

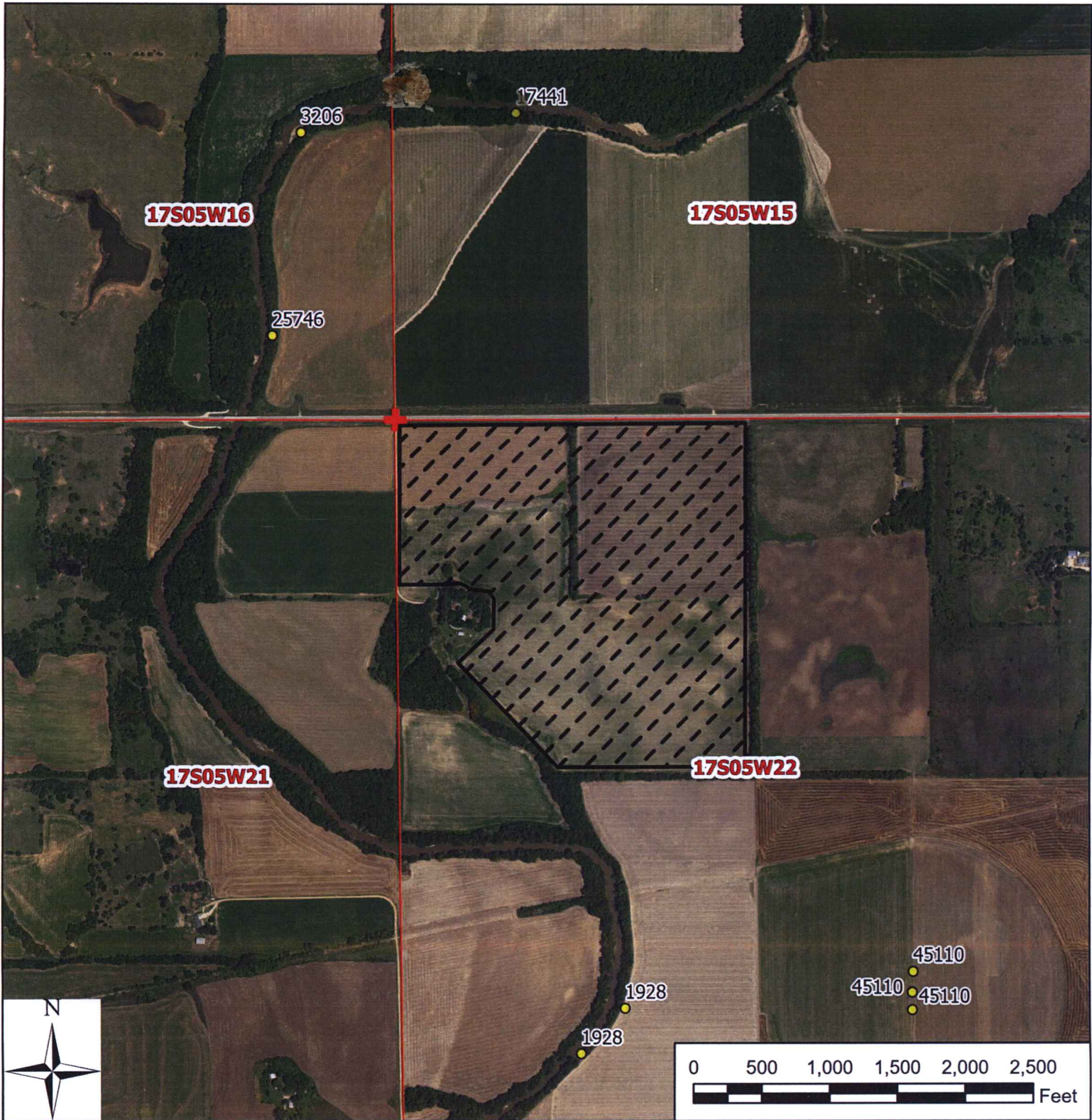
Josh Nell

 Signature / Date

12/13/22

09/09/2022 JNE/SFFO 1:24,000





Legend

- Water Appropriation
- Proposed Point of Diversion
- + Section Corner
- Section Line
- Half-Mile
- Proposed Place of Use

Application, File No. _____

16-24-3E // McPherson County

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To the best of my knowledge, all points of diversion within one-half mile of the proposed point of diversion have been shown. KS DEPT OF AGRICULTURE

[Signature] 12/13/22

Signature / Date

09/09/2022 JNE/SFFO 1:12,000



(Date)

Kansas Department of Agriculture
Division of Water Resources
David W. Barfield, Chief Engineer
1320 Research Park Drive
Manhattan, Kansas 66502

Re: Application
File No. _____

Minimum Desirable Streamflow

Dear Sir:

I understand that a Minimum Desirable Streamflow requirement has been established by the legislature for the source of supply to which the above referenced application applies.

I understand that diversion of water pursuant to this application will be subject to regulation any time Minimum Desirable Streamflow requirements are not being met.

I also 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. I realize that this could affect the economics of my decision to appropriate water.

I am aware of the above factors, and with the knowledge thereof, request that the Division of Water Resources proceed with processing and approval, if possible, of the above referenced application.

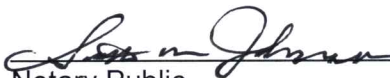


Signature of Applicant
Josh Nelson

(Print Applicant's Name)

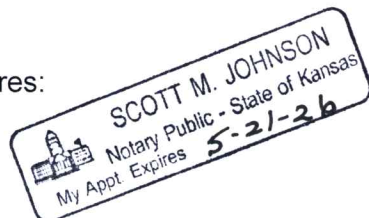
State of Kansas)
County of McPherson) ss

I hereby certify that the foregoing instrument was signed in my presence and sworn to before me this 13 day of December, 2022.



Notary Public

My Commission Expires:



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**MINIMUM DESIRABLE STREAMFLOW FORM TO BE USED WHEN
APPLICABLE WHEN FILING AN APPLICATION FOR PERMIT
TO APPROPRIATE WATER FOR BENEFICIAL USE**

The Kansas Legislature has established minimum desirable streamflows for the streams listed below. If your proposed diversion of water is going to be from one of these watercourses or adjacent alluvial aquifers, please complete the back side of this page and submit it along with your application for permit to appropriate water.

Arkansas River
Big Blue River
Chapman Creek
Chikaskia River
Cottonwood River
Delaware River
Little Arkansas River
Little Blue River
Marais des Cygnes River
Medicine Lodge River
Mill Creek (Wabaunsee Co. area)
Neosho River

Ninnescah River
North Fork Ninnescah River
Rattlesnake Creek
Republican River
Saline River
Smoky Hill River
Solomon River
South Fork Ninnescah
Spring River
Walnut River
Whitewater River



United States
Department of
Agriculture

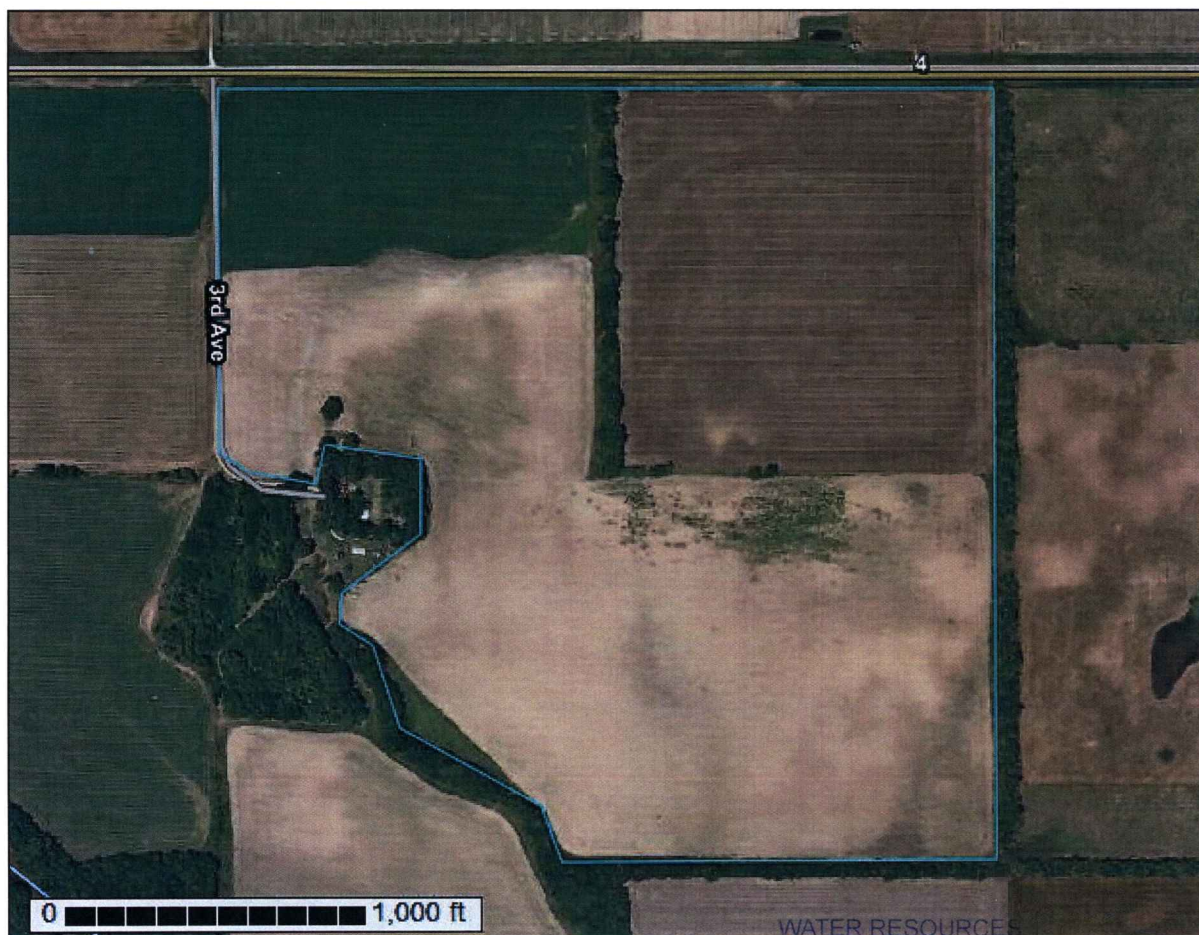
NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **McPherson County, Kansas**

Nelson, Josh



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DEC 20 2022 December 13, 2022

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Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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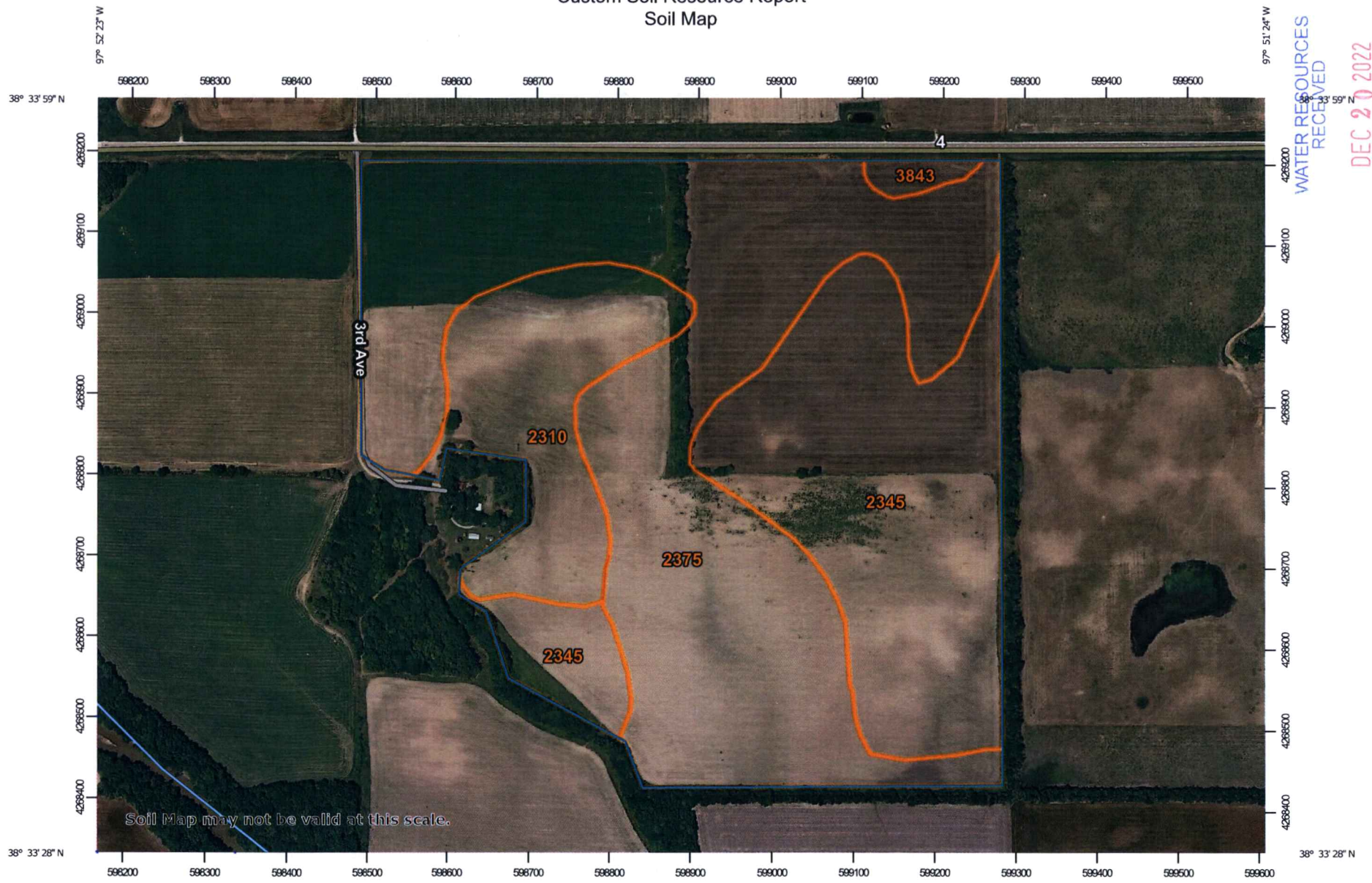
Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Map Scale: 1:6,570 if printed on A landscape (11" x 8.5") sheet.
0 50 100 200 300 Meters
0 300 600 1200 1800 Feet
Map projection: Web Mercator Corner coordinates: WGS84 Edge ticks: UTM Zone 14N WGS84


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MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)


Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot


 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry


 Miscellaneous Water


 Perennial Water

 Rock Outcrop


 Saline Spot

 Sandy Spot


 Severely Eroded Spot


 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot


 Other

 Special Line Features

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: McPherson County, Kansas
 Survey Area Data: Version 20, Sep 13, 2022

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

Date(s) aerial images were photographed: Apr 15, 2021—Jun 12, 2021

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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
2310	Bridgeport silt loam, rarely flooded	18.0	13.7%
2345	McCook fine sandy loam, rarely flooded	41.0	31.3%
2375	Roxbury silt loam, rarely flooded	70.8	54.0%
3843	Geary silt loam, 1 to 3 percent slopes	1.2	0.9%
Totals for Area of Interest		130.9	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

McPherson County, Kansas

2310—Bridgeport silt loam, rarely flooded

Map Unit Setting

National map unit symbol: 2twlc
Elevation: 1,660 to 3,000 feet
Mean annual precipitation: 19 to 30 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 140 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Bridgeport, rarely flooded, and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bridgeport, Rarely Flooded

Setting

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

Typical profile

Ap - 0 to 6 inches: silt loam
A - 6 to 13 inches: silt loam
Bk - 13 to 28 inches: silt loam
C - 28 to 79 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
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: 10 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very high (about 12.5 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 2c
Hydrologic Soil Group: B
Ecological site: R073XY119KS - Loamy Terrace
Hydric soil rating: No

Minor Components

New cambria, rarely flooded

Percent of map unit: 5 percent

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Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R073XY120KS - Clay Terrace
Hydric soil rating: No

2345—McCook fine sandy loam, rarely flooded

Map Unit Setting

National map unit symbol: 2xlg
Elevation: 1,660 to 3,000 feet
Mean annual precipitation: 19 to 30 inches
Mean annual air temperature: 50 to 57 degrees F
Frost-free period: 145 to 210 days
Farmland classification: All areas are prime farmland

Map Unit Composition

McCook, rarely flooded, and similar soils: 99 percent
Minor components: 1 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of McCook, Rarely Flooded

Setting

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

Typical profile

Ap - 0 to 6 inches: fine sandy loam
A - 6 to 14 inches: silt loam
AC - 14 to 26 inches: silt loam
C - 26 to 79 inches: very fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
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: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): 2e

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Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: R073XY119KS - Loamy Terrace
Hydric soil rating: No

Minor Components

Aquolls, occasionally ponded

Percent of map unit: 1 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R073XY108KS - Loamy Floodplain
Hydric soil rating: Yes

2375—Roxbury silt loam, rarely flooded

Map Unit Setting

National map unit symbol: 307nn
Elevation: 1,660 to 3,410 feet
Mean annual precipitation: 19 to 30 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 140 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Roxbury, rarely flooded, and similar soils: 79 percent
Minor components: 21 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Roxbury, Rarely Flooded

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

Ap - 0 to 8 inches: silt loam
A - 8 to 22 inches: silt loam
Bk1 - 22 to 33 inches: silty clay loam
Bk2 - 33 to 56 inches: silt loam
2Bk3 - 56 to 79 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low

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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: 10 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Very high (about 13.1 inches)

Interpretive groups

Land capability classification (irrigated): 1

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B

Ecological site: R073XY119KS - Loamy Terrace

Hydric soil rating: No

Minor Components

Hord, rarely flooded

Percent of map unit: 10 percent

Landform: Terraces

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: R073XY119KS - Loamy Terrace

Hydric soil rating: No

Munjour, occasionally flooded

Percent of map unit: 5 percent

Landform: Flood-plain steps

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: R073XY107KS - Sandy Floodplain

Hydric soil rating: No

Bridgeport, rarely flooded

Percent of map unit: 5 percent

Landform: Terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: R073XY119KS - Loamy Terrace

Hydric soil rating: No

Aquolls, occasionally ponded

Percent of map unit: 1 percent

Landform: Depressions on flood plains

Down-slope shape: Concave, linear

Across-slope shape: Concave, linear

Ecological site: R073XY103KS - Subirrigated

Hydric soil rating: Yes

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3843—Geary silt loam, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2r9cv
Elevation: 1,310 to 1,640 feet
Mean annual precipitation: 27 to 34 inches
Mean annual air temperature: 54 to 57 degrees F
Frost-free period: 165 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Geary and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Geary

Setting

Landform: Hillslopes
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loess

Typical profile

Ap - 0 to 8 inches: silt loam
BA - 8 to 15 inches: silty clay loam
Bt1 - 15 to 34 inches: silty clay loam
Bt2 - 34 to 46 inches: silty clay loam
BC - 46 to 54 inches: silty clay loam
C - 54 to 79 inches: silt loam

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 11.9 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 2e

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Hydrologic Soil Group: C
Ecological site: R074XY115KS - Loamy Hills
Hydric soil rating: No

Minor Components

Crete

Percent of map unit: 6 percent
Landform: Hillslopes
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R074XY107KS - Clay Hills
Hydric soil rating: No

Smolan

Percent of map unit: 4 percent
Landform: Hillslopes
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R076XY115KS - Loamy Hills
Hydric soil rating: No

Edalgo

Percent of map unit: 3 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R074XY107KS - Clay Hills
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: R074XY132KS - Subirrigated
Hydric soil rating: Yes

Lancaster

Percent of map unit: 1 percent
Landform: Hillslopes
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R074XY115KS - Loamy Hills
Hydric soil rating: No

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Valley Dealer

INMAN IRRIGATION
892 ARAPAHO ROAD
INMAN, KS 67546-8002
United States

Customer

Josh Nelson
3036 Avenue U
Marquette, KS 67464-9234
US

Dealer No.

00003440

Field Name

Nelson, Josh. NW 1/4 22-17-5W McPherson County

Parent Order No.
Sprinkler Order No. **Nelson Josh For Water Permit**
Plant **VALLEY SHIPPING**

Dealer PO
Order Date **12/13/2022**
Load Date **12/16/2022**
Method Of Shipment **UPSG**

6 Span Valley Standard Pivot 8000
Machine Flow 1000 (GPM)
Pivot Pressure 35 (PSI)

Parent Order No

Dealer **INMAN IRRIGATION**

Sprinkler Order No

Nelson Josh For Water

Customer **Josh Nelson**

Permit

Field Name **Nelson, Josh. NW 1/4 22-17-5W McPherson County**

Valley Standard Pivot 8000 Machine Summary

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Span and Overhang

Model	Qty	Length (ft)	Pipe	Coupler	D. U.		Tire
			O.D. (in)	Spacing (in)	Qty	Profile	
8000	2	184.8	6 5/8	108	21	Standard	11.2 x 38
8000	4	180.0	6 5/8	108	20	Standard	11.2 x 38
8000	1	36.0	6 5/8	110	6		

Field Area

109.3 (Ac) Total
91.6 (Ac) Pivot 360°
17.7 (Ac) EG on 100%
1126.9 (ft) Machine Length
103.9 (ft) End Gun Radius

Flow

1000 (GPM)
9.15 (GPM per Acre)
0.49 (in per day) App Rate
0.245 (in) App Depth @ 100%
123.2 (GPM) End Gun

Messages

Caution:
1. Primary Endgun underwatering by 23.84%
2. This design contains double and/or triple sprinklers. Consider using higher pressure and/or flow capacity pressure regulators, double truss rod hose
3. slings, and/or double clamp-on drops. Adjustments to the sprinkler package are suggested in outlets (128)
4. I-Wob, Orbitor, Twister and Nutator sprinklers require at least 24 in (61 cm) of drop hose. Do not use slip weights or rigid drop materials. Do not install integrated weights on drops with double I-Wob or Nutator sprinklers.

Dealer:
None

Pressure

35 (PSI) Pivot Pressure
Inlet Pressure
0.0 (ft) Highest Elevation
0.0 (ft) Lowest Elevation

LRDU Drive Train

34 RPM Center Drive @ 60 Hz freq.
11.2 x 38 Tire
52:1 Wheel GB Ratio, LRDU Dist 1090.7 (ft)
12.1 Hrs/360° @ 100% 9.45 (Ft per Min)
12.1 Hrs/360° @ 100%

Parent Order No

Dealer **INMAN IRRIGATION**

Sprinkler Order No

Nelson Josh For Water






Customer **Josh Nelson**

Permit

Field Name **Nelson, Josh. NW 1/4 22-17-5W McPherson County**

Valley Standard Pivot 8000 Machine Summary

Sprinkler -- Computer Spacing


<u>Sprinkler Configuration</u>	<u>Range (ft)</u>	
Senninger U-Pipe 6(in) Plastic 3/4 M NPT x 3/4 M Hose	All	
Blue Premium Hose Drop Variable Length 72(in) Ground Clr		
Valley Regulator PSR-2 10(PSI) 3/4 F NPT		
Senninger Magnum-Threaded Integrated Weight 0.85		
Senninger I-Wob2 - UP3 Std Angle 3/4 M NPT		

1136.46 (ft) Total Drop Hose Length

Pressure Loss

<u>Pipe Length (ft)</u>	<u>Pipe I.D. (in)</u>	<u>Pipe Finish</u>	<u>C-Factor</u>	<u>Loss (PSI)</u>
1108.8	6.42	Galvanized	150	12.1
18.1	3.79	Galvanized	150	0.3
Total =				12.4

End Gun(s) & Booster Pump Information

	<u>Primary End Gun</u>
	Nelson SR100 End Gun
	0.8 Nozzle
	Berkeley 2 HP Booster Pump

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Parent Order No

Dealer **INMAN IRRIGATION**
Customer **Josh Nelson**
Field Name **Nelson, Josh. NW 1/4 22-17-5W McPherson County**
Valley Standard Pivot 8000 Machine Summary

Sprinkler Order No **Nelson Josh For Water**
Permit

Span Flow

Span Number	Irrigated Length (ft)	Area (Ac)	Rqd (GPM)	Act (GPM)	Rqd (GPM per Acre)	Act (GPM per Acre)	% Deviation
1	184.6	2.5	23.4	25.1	9.40	10.09	7.4
2	184.9	7.4	69.7	69.6	9.40	9.39	-0.1
3	180.1	12.0	112.5	112.7	9.40	9.42	0.2
4	180.1	16.6	156.4	156.2	9.40	9.39	-0.1
5	180.1	21.3	200.4	200.5	9.40	9.40	0.0
6	179.8	26.0	244.0	244.2	9.40	9.41	0.1
O/H	36.2	5.8	56.0	55.4	9.66	9.56	-1.1
EG	103.9	17.7	161.7	123.2	9.15	6.97	-23.8
Totals		109.3		986.9			
	Drain Sprinkler		13.9	14.5			
	Total Machine Flow			1001.4			

Advanced Options


Drain Sprinkler = Senninger Directional
 Last Sprinkler Coverage = 1 ft
 Sprinkler Coverage Length = 1127.9 ft
 Use Last Coupler= YES
 Minimum Mainline Pressure = 6 PSI

Shipping Options

Ship Drop Hardware
 Ship Endgun Nozzle
 Ship Endgun & Hardware
 Do not ship Endgun Valve / Nozzle Valve Hardware
 Do not ship Boosterpump Hardware

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Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
1	5.4									35.0			
2	14.4												
<p style="text-align: center;">Gauge Plug</p> <p style="text-align: center;">Sprinkler : Senninger Iwob2 - Up3</p> <hr style="border-top: 1px dashed black;"/> 													
3	23.4	1		6	Gold	I-Wob2 - UP3	Std Angle Black	95	PSR-2 10A	34.2	11.4	0.5	0.9
4	32.4	2	9.0	6	Gold	I-Wob2 - UP3	Std Angle Black	101	PSR-2 10A	33.9	11.4	0.4	0.9
5	41.4	3	9.0	6	Gold	I-Wob2 - UP3	Std Angle Black	105	PSR-2 10A	33.5	11.4	0.5	0.9
6	49.9	4	8.5	6	Gold	I-Wob2 - UP3	Std Angle Black	109	PSR-2 10A	33.3	11.4	0.6	0.9
7	58.3	5	8.4	6	Gold	I-Wob2 - UP3	Std Angle Black	112	PSR-2 10A	33.0	11.4	0.7	0.9
8	66.8	6	8.4	6	Gold	I-Wob2 - UP3	Std Angle Black	115	PSR-2 10A	32.8	11.4	0.8	0.9
9	75.3	7	8.5	6	Gold	I-Wob2 - UP3	Std Angle Black	117	PSR-2 10A	32.5	11.4	0.9	0.9
10	84.3	8	9.0	6.5	Gold Notched	I-Wob2 - UP3	Std Angle Black	118	PSR-2 10A	32.3	11.4	1.0	1.0
11	93.3	9	9.0	7	Lime	I-Wob2 - UP3	Std Angle Black	119	PSR-2 10A	32.1	11.4	1.1	1.2
12	102.3	10	9.0	7	Lime	I-Wob2 - UP3	Std Angle Black	119	PSR-2 10A	32.0	11.4	1.2	1.2
13	111.3	11	9.0	7.5	Lime Notched	I-Wob2 - UP3	Std Angle Black	118	PSR-2 10A	31.8	11.4	1.3	1.4
14	119.7	12	8.4	7.5	Lime Notched	I-Wob2 - UP3	Std Angle Black	117	PSR-2 10A	31.7	11.4	1.4	1.4
15	128.1	13	8.4	8	Lavender	I-Wob2 - UP3	Std Angle Black	115	PSR-2 10A	31.7	11.4	1.5	1.5
16	136.5	14	8.4	8	Lavender	I-Wob2 - UP3	Std Angle Black	113	PSR-2 10A	31.6	11.4	1.6	1.5
17	145.0	15	8.5	8.5	Lavender Notched	I-Wob2 - UP3	Std Angle Black	110	PSR-2 10A	31.6	11.4	1.7	1.7
18	154.0	16	9.0	9	Grey	I-Wob2 - UP3	Std Angle Black	106	PSR-2 10A	31.6	11.4	1.9	1.9
19	163.0	17	9.0	9	Grey	I-Wob2 - UP3	Std Angle Black	101	PSR-2 10A	31.6	11.4	2.0	1.9
20	172.0	18	9.0	9.5	Grey Notched	I-Wob2 - UP3	Std Angle Black	96	PSR-2 10A	31.6	11.4	2.1	2.2
21	181.0	19	9.0	9.5	Grey Notched	I-Wob2 - UP3	Std Angle Black	90	PSR-2 10A	31.7	11.4	2.2	2.2
185.6		Tower Number : 1 Span Length(ft) : 184.6											
22	190.3	20	9.3	10	Turquoise	I-Wob2 - UP3	Std Angle Black	90	PSR-2 10A	31.5	11.4	2.4	2.4
23	199.3	21	9.0	10	Turquoise	I-Wob2 - UP3	Std Angle Black	96	PSR-2 10A	31.1	11.4	2.4	2.4
24	208.3	22	9.0	10.5	Turq Notched	I-Wob2 - UP3	Std Angle Black	102	PSR-2 10A	30.8	11.3	2.5	2.6
25	217.3	23	9.0	10.5	Turq Notched	I-Wob2 - UP3	Std Angle Black	107	PSR-2 10A	30.4	11.3	2.7	2.6
26	226.3	24	9.0	10.5	Turq Notched	I-Wob2 - UP3	Std Angle Black	111	PSR-2 10A	30.1	11.3	2.7	2.6
27	234.8	25	8.5	10.5	Turq Notched	I-Wob2 - UP3	Std Angle Black	115	PSR-2 10A	29.9	11.3	2.7	2.6
28	243.2	26	8.4	11	Yellow	I-Wob2 - UP3	Std Angle Black	117	PSR-2 10A	29.6	11.3	2.8	2.9

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Customer **Josh Nelson**

Field Name **Nelson, Josh. NW 1/4 22-17-5W McPherson County**

Valley Standard Pivot 8000 Machine Sprinkler Chart

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Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
29	251.6	27	8.4	11	Yellow	I-Wob2 - UP3	Std Angle Black	120	PSR-2 10A	29.4	11.3	2.9	2.9
30	260.1	28	8.5	11.5	Yellow Notched	I-Wob2 - UP3	Std Angle Black	121	PSR-2 10A	29.2	11.3	3.1	3.2
31	269.1	29	9.0	11.5	Yellow Notched	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	29.0	11.3	3.3	3.2
32	278.1	30	9.0	12	Red	I-Wob2 - UP3	Std Angle Black	123	PSR-2 10A	28.9	11.3	3.4	3.4
33	287.1	31	9.0	12	Red	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	28.7	11.3	3.5	3.4
34	296.1	32	9.0	12	Red	I-Wob2 - UP3	Std Angle Black	121	PSR-2 10A	28.6	11.3	3.5	3.4
35	304.5	33	8.4	12	Red	I-Wob2 - UP3	Std Angle Black	120	PSR-2 10A	28.6	11.3	3.5	3.4
36	312.9	34	8.4	12	Red	I-Wob2 - UP3	Std Angle Black	117	PSR-2 10A	28.5	11.3	3.6	3.4
37	321.4	35	8.4	12.5	Red Notched	I-Wob2 - UP3	Std Angle Black	115	PSR-2 10A	28.5	11.3	3.7	3.7
38	329.9	36	8.5	13	White	I-Wob2 - UP3	Std Angle Black	111	PSR-2 10A	28.5	11.3	3.9	4.1
39	338.9	37	9.0	13	White	I-Wob2 - UP3	Std Angle Black	107	PSR-2 10A	28.5	11.2	4.1	4.1
40	347.9	38	9.0	13.5	White Notched	I-Wob2 - UP3	Std Angle Black	102	PSR-2 10A	28.5	11.2	4.2	4.4
41	356.9	39	9.0	13.5	White Notched	I-Wob2 - UP3	Std Angle Black	96	PSR-2 10A	28.6	11.2	4.4	4.4
42	365.9	40	9.0	13.5	White Notched	I-Wob2 - UP3	Std Angle Black	90	PSR-2 10A	28.7	11.2	4.5	4.4
370.5		Tower Number : 2		Span Length(ft) : 184.9									
43	375.2	41	9.3	14	Blue	I-Wob2 - UP3	Std Angle Black	90	PSR-2 10A	28.6	11.2	4.7	4.7
44	384.2	42	9.0	14	Blue	I-Wob2 - UP3	Std Angle Black	97	PSR-2 10A	28.2	11.2	4.7	4.7
45	393.2	43	9.0	14	Blue	I-Wob2 - UP3	Std Angle Black	102	PSR-2 10A	27.8	11.2	4.8	4.7
46	402.2	44	9.0	14.5	Blue Notched	I-Wob2 - UP3	Std Angle Black	107	PSR-2 10A	27.5	11.2	4.9	5.0
47	411.2	45	9.0	14.5	Blue Notched	I-Wob2 - UP3	Std Angle Black	112	PSR-2 10A	27.3	11.2	5.0	5.0
48	420.2	46	9.0	14.5	Blue Notched	I-Wob2 - UP3	Std Angle Black	115	PSR-2 10A	27.0	11.2	5.1	5.0
49	429.2	47	9.0	15	Dark Brown	I-Wob2 - UP3	Std Angle Black	118	PSR-2 10A	26.8	11.1	5.2	5.4
50	438.2	48	9.0	15	Dark Brown	I-Wob2 - UP3	Std Angle Black	120	PSR-2 10A	26.6	11.1	5.3	5.4
51	447.2	49	9.0	15	Dark Brown	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	26.4	11.1	5.5	5.4
52	456.2	50	9.0	15.5	Dark Brn Notched	I-Wob2 - UP3	Std Angle Black	123	PSR-2 10A	26.2	11.1	5.5	5.7
53	465.1	51	8.9	15.5	Dark Brn Notched	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	26.1	11.1	5.6	5.7
54	474.1	52	9.0	15.5	Dark Brn Notched	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	26.0	11.1	5.8	5.7
55	483.1	53	9.0	15.5	Dark Brn Notched	I-Wob2 - UP3	Std Angle Black	120	PSR-2 10A	26.0	11.1	5.9	5.7
56	492.1	54	9.0	16	Orange	I-Wob2 - UP3	Std Angle Black	118	PSR-2 10A	25.9	11.1	6.0	6.1
57	501.1	55	9.0	16	Orange	I-Wob2 - UP3	Std Angle Black	115	PSR-2 10A	25.9	11.1	6.1	6.1
58	510.0	56	8.9	16	Orange	I-Wob2 - UP3	Std Angle Black	112	PSR-2 10A	25.9	11.0	6.2	6.1
59	519.0	57	9.0	16.5	Orange Notched	I-Wob2 - UP3	Std Angle Black	107	PSR-2 10A	26.0	11.0	6.3	6.5
60	528.0	58	9.0	16.5	Orange Notched	I-Wob2 - UP3	Std Angle Black	102	PSR-2 10A	26.1	11.0	6.4	6.5

Customer **Josh Nelson**

Field Name **Nelson, Josh. NW 1/4 22-17-5W McPherson County**

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
61	537.0	59	9.0	16.5	Orange Notched	I-Wob2 - UP3	Std Angle Black	97	PSR-2 10A	26.2	11.0	6.6	6.5
62	546.0	60	9.0	17	Dark Green	I-Wob2 - UP3	Std Angle Black	90	PSR-2 10A	26.3	11.0	6.8	6.8
550.6		Tower Number : 3		Span Length(ft) : 180.1									
63	555.3	61	9.3	17	Dark Green	I-Wob2 - UP3	Std Angle Black	90	PSR-2 10A	26.2	11.0	6.9	6.8
64	564.3	62	9.0	17	Dark Green	I-Wob2 - UP3	Std Angle Black	97	PSR-2 10A	25.8	11.0	6.9	6.8
65	573.3	63	9.0	17	Dark Green	I-Wob2 - UP3	Std Angle Black	102	PSR-2 10A	25.5	11.0	7.0	6.8
66	582.3	64	9.0	17.5	Dark Grn Notched	I-Wob2 - UP3	Std Angle Black	107	PSR-2 10A	25.3	10.9	7.1	7.3
67	591.3	65	9.0	17.5	Dark Grn Notched	I-Wob2 - UP3	Std Angle Black	112	PSR-2 10A	25.0	10.9	7.2	7.3
68	600.3	66	9.0	17.5	Dark Grn Notched	I-Wob2 - UP3	Std Angle Black	115	PSR-2 10A	24.8	10.9	7.3	7.2
69	609.3	67	9.0	17.5	Dark Grn Notched	I-Wob2 - UP3	Std Angle Black	118	PSR-2 10A	24.6	10.9	7.4	7.2
70	618.3	68	9.0	18	Purple	I-Wob2 - UP3	Std Angle Black	120	PSR-2 10A	24.4	10.9	7.5	7.7
71	627.3	69	9.0	18	Purple	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	24.3	10.9	7.7	7.7
72	636.3	70	9.0	18	Purple	I-Wob2 - UP3	Std Angle Black	123	PSR-2 10A	24.2	10.9	7.7	7.7
73	645.2	71	8.9	18.5	Purple Notched	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	24.1	10.8	7.8	8.1
74	654.2	72	9.0	18.5	Purple Notched	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	24.0	10.8	8.0	8.1
75	663.2	73	9.0	18.5	Purple Notched	I-Wob2 - UP3	Std Angle Black	120	PSR-2 10A	24.0	10.8	8.1	8.1
76	672.2	74	9.0	18.5	Purple Notched	I-Wob2 - UP3	Std Angle Black	118	PSR-2 10A	24.0	10.8	8.2	8.1
77	681.2	75	9.0	18.5	Purple Notched	I-Wob2 - UP3	Std Angle Black	115	PSR-2 10A	24.0	10.8	8.3	8.1
78	690.1	76	8.9	19	Black	I-Wob2 - UP3	Std Angle Black	112	PSR-2 10A	24.0	10.8	8.4	8.5
79	699.1	77	9.0	19	Black	I-Wob2 - UP3	Std Angle Black	107	PSR-2 10A	24.1	10.8	8.5	8.5
80	708.1	78	9.0	19	Black	I-Wob2 - UP3	Std Angle Black	102	PSR-2 10A	24.2	10.7	8.6	8.5
81	717.1	79	9.0	19.5	Black Notched	I-Wob2 - UP3	Std Angle Black	97	PSR-2 10A	24.4	10.7	8.7	8.9
82	726.1	80	9.0	19.5	Black Notched	I-Wob2 - UP3	Std Angle Black	90	PSR-2 10A	24.5	10.7	9.0	8.9
730.7		Tower Number : 4		Span Length(ft) : 180.1									
83	735.4	81	9.3	20	Dark Turquoise	I-Wob2 - UP3	Std Angle Black	90	PSR-2 10A	24.5	10.7	9.1	9.4
84	744.4	82	9.0	19.5	Black Notched	I-Wob2 - UP3	Std Angle Black	97	PSR-2 10A	24.2	10.7	9.1	8.9
85	753.4	83	9.0	20	Dark Turquoise	I-Wob2 - UP3	Std Angle Black	102	PSR-2 10A	23.9	10.7	9.2	9.4
86	762.4	84	9.0	20	Dark Turquoise	I-Wob2 - UP3	Std Angle Black	107	PSR-2 10A	23.6	10.7	9.3	9.4
87	771.4	85	9.0	20	Dark Turquoise	I-Wob2 - UP3	Std Angle Black	112	PSR-2 10A	23.4	10.6	9.4	9.4
88	780.4	86	9.0	20	Dark Turquoise	I-Wob2 - UP3	Std Angle Black	115	PSR-2 10A	23.2	10.6	9.5	9.3
89	789.4	87	9.0	20.5	Drk Turq Notched	I-Wob2 - UP3	Std Angle Black	118	PSR-2 10A	23.1	10.6	9.6	9.8
90	798.4	88	9.0	20.5	Drk Turq Notched	I-Wob2 - UP3	Std Angle Black	120	PSR-2 10A	22.9	10.6	9.7	9.8
91	807.4	89	9.0	20.5	Drk Turq Notched	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	22.8	10.6	9.9	9.8

WATER RESOURCES RECEIVED
 DEC 20 2022
 KS DEPT OF AGRICULTURE

Customer **Josh Nelson**

Field Name **Nelson, Josh. NW 1/4 22-17-5W McPherson County**

Valley Standard Pivot 8000 Machine Sprinkler Chart

WATER RESOURCES RECEIVED
 DEC 0 2022
 KS DEPT OF AGRICULTURE

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Req (GPM)	Act (GPM)
92	816.4	90	9.0	20.5	Drk Turq Notched	I-Wob2 - UP3	Std Angle Black	123	PSR-2 10A	22.7	10.6	9.9	9.8
93	825.3	91	8.9	20.5	Drk Turq Notched	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	22.7	10.5	10.0	9.8
94	834.3	92	9.0	21	Mustard	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	22.7	10.5	10.2	10.2
95	843.3	93	9.0	21	Mustard	I-Wob2 - UP3	Std Angle Black	120	PSR-2 10A	22.7	10.5	10.3	10.2
96	852.3	94	9.0	21	Mustard	I-Wob2 - UP3	Std Angle Black	118	PSR-2 10A	22.7	10.5	10.4	10.2
97	861.3	95	9.0	21.5	Mustard Notched	I-Wob2 - UP3	Std Angle Black	115	PSR-2 10A	22.8	10.4	10.4	10.8
98	870.2	96	8.9	21	Mustard	I-Wob2 - UP3	Std Angle Black	112	PSR-2 10A	22.9	10.5	10.6	10.2
99	879.2	97	9.0	21.5	Mustard Notched	I-Wob2 - UP3	Std Angle Black	107	PSR-2 10A	23.0	10.4	10.7	10.8
100	888.2	98	9.0	21.5	Mustard Notched	I-Wob2 - UP3	Std Angle Black	102	PSR-2 10A	23.1	10.4	10.8	10.8
101	897.2	99	9.0	22	Maroon	I-Wob2 - UP3	Std Angle Black	97	PSR-2 10A	23.3	10.4	10.9	11.2
102	906.2	100	9.0	22	Maroon	I-Wob2 - UP3	Std Angle Black	90	PSR-2 10A	23.5	10.3	11.3	11.2
910.8		Tower Number : 5		Span Length(ft) : 180.1									
103	915.5	101	9.3	22	Maroon	I-Wob2 - UP3	Std Angle Black	90	PSR-2 10A	23.4	10.3	11.4	11.2
104	924.5	102	9.0	22	Maroon	I-Wob2 - UP3	Std Angle Black	97	PSR-2 10A	23.2	10.3	11.3	11.2
105	933.5	103	9.0	22.5	Maroon Notched	I-Wob2 - UP3	Std Angle Black	102	PSR-2 10A	22.9	10.3	11.4	11.7
106	942.5	104	9.0	22.5	Maroon Notched	I-Wob2 - UP3	Std Angle Black	107	PSR-2 10A	22.7	10.3	11.5	11.7
107	951.5	105	9.0	22.5	Maroon Notched	I-Wob2 - UP3	Std Angle Black	112	PSR-2 10A	22.5	10.3	11.6	11.7
108	960.5	106	9.0	22.5	Maroon Notched	I-Wob2 - UP3	Std Angle Black	115	PSR-2 10A	22.4	10.3	11.7	11.7
109	969.5	107	9.0	22.5	Maroon Notched	I-Wob2 - UP3	Std Angle Black	118	PSR-2 10A	22.3	10.2	11.8	11.6
110	978.5	108	9.0	23	Cream	I-Wob2 - UP3	Std Angle Black	120	PSR-2 10A	22.2	10.2	11.9	12.1
111	987.5	109	9.0	23	Cream	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	22.1	10.2	12.0	12.1
112	996.5	110	9.0	23	Cream	I-Wob2 - UP3	Std Angle Black	123	PSR-2 10A	22.0	10.2	12.1	12.1
113	1005.4	111	8.9	23	Cream	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	22.0	10.2	12.2	12.1
114	1014.4	112	9.0	23.5	Cream Notched	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	22.0	10.1	12.4	12.6
115	1023.4	113	9.0	23.5	Cream Notched	I-Wob2 - UP3	Std Angle Black	120	PSR-2 10A	22.1	10.1	12.5	12.6
116	1032.4	114	9.0	23.5	Cream Notched	I-Wob2 - UP3	Std Angle Black	118	PSR-2 10A	22.1	10.1	12.6	12.6
117	1041.4	115	9.0	23.5	Cream Notched	I-Wob2 - UP3	Std Angle Black	115	PSR-2 10A	22.2	10.1	12.6	12.6
118	1050.3	116	8.9	23.5	Cream Notched	I-Wob2 - UP3	Std Angle Black	112	PSR-2 10A	22.3	10.1	12.7	12.6
119	1059.3	117	9.0	24	Dark Blue	I-Wob2 - UP3	Std Angle Black	107	PSR-2 10A	22.5	10.0	12.9	13.1
120	1068.3	118	9.0	24	Dark Blue	I-Wob2 - UP3	Std Angle Black	102	PSR-2 10A	22.6	10.0	13.0	13.1
121	1077.3	119	9.0	24	Dark Blue	I-Wob2 - UP3	Std Angle Black	97	PSR-2 10A	22.8	10.0	13.1	13.1
122	1086.3	120	9.0	24	Dark Blue	I-Wob2 - UP3	Std Angle Black	90	PSR-2 10A	23.1	10.0	13.1	13.1
123	1090.1			B.P.									

Customer **Josh Nelson**

Field Name **Nelson, Josh. NW 1/4 22-17-5W McPherson County**

Valley Standard Pivot 8000 Machine Sprinkler Chart

WATER RESOURCES RECEIVED
 DEC 20 2022
 KS DEPT OF AGRICULTURE

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Reqd (GPM)	Act (GPM)
1090.7		Tower Number : 6 Span Length(ft) : 179.8											
124	1095.1	121	8.8	24	Dark Blue	I-Wob2 - UP3	Std Angle Black	89	PSR-2 10A	23.1	9.9	13.3	13.0
125	1104.3	122	9.2	24.5	Drk Blue Notched	I-Wob2 - UP3	Std Angle Black	93	PSR-2 10A	22.9	9.9	13.5	13.5
126	1107.8			Plug									
127	1113.2	123	8.9	24.5	Drk Blue Notched	I-Wob2 - UP3	Std Angle Black	97	PSR-2 10A	22.8	9.9	13.7	13.5
128	1122.4	124	9.2	18	Purple	I-Wob2 - UP3	Std Angle Black	102	PSR-2 10A	22.5	10.9	15.4	15.3
		124		18	Purple	I-Wob2 - UP3	Std Angle Black		PSR-2 10A				
Sprinkler : Senninger Spray													

129	1125.9	125		21	Mustard	Directional				21.8	21.8	13.9	14.5
	1126.9			Overhand									
		Span Length(ft) : 36.2											
Sprinkler : Nelson Endgun													

130	1126.9	126		0.8						21.8	46.6	161.7	123.2

Primary Endgun Arc Settings: Forward Angle: **45** Reverse Angle: **80**

1001.3

Dealer **INMAN IRRIGATION**
 Customer **Josh Nelson**
 Field Name **Nelson, Josh. NW 1/4 22-17-5W McPherson**
 County



Sprinkler Order No **Nelson Josh For Water Permit**
 Parent Order No

Valley Standard Pivot 8000 Percent Timer Data

WATER RESOURCES RECEIVED
 DEC 20 2022
 KS DEPT OF AGRICULTURE

Setup Information - Valley Computer Control Panel Water Application Constants: Minimum Application = 0.245 (in) Hours/360° = 12.1

Based on IN

IN Per 360 degrees	Pivot % Timer	Hours Per 360 degrees
0.245	100.0	12.1
0.30	81.6	14.8
0.40	61.2	19.8
0.50	48.9	24.7
0.60	40.8	29.7
0.70	35.0	34.6
0.80	30.6	39.5
0.90	27.2	44.5
1.00	24.5	49.4
1.25	19.6	61.7
1.50	16.3	74.2
1.75	14.0	86.4
2.00	12.2	99.2
2.50	9.8	123.5
3.00	8.2	147.6
3.50	7.0	172.9
4.00	6.1	198.4

Based on % Timer

Pivot % Timer	IN Per 360 degrees	Hours Per 360 degrees
100.0	0.245	12.1
90.0	0.27	13.4
80.0	0.31	15.1
70.0	0.35	17.3
60.0	0.41	20.2
50.0	0.49	24.2
45.0	0.54	26.9
40.0	0.61	30.3
35.0	0.70	34.6
30.0	0.82	40.3
25.0	0.98	48.4
20.0	1.22	60.5
17.5	1.40	69.1
15.0	1.63	80.7
12.5	1.96	96.8
10.0	2.45	121.0
7.5	3.26	161.3
5.0	4.89	242.0

Field Area

109.3 (Ac) Total
 91.6 (Ac) Pivot 360°
 17.7 (Ac) EG on 100%
 1126.9 (ft) Machine Length
 103.9 (ft) End Gun Radius

Flow

1000 (GPM)
 9.15 (GPM per Acre)
 0.49 (in per day) App Rate
 0.245 (in) App Depth @ 100%
 123.2 (GPM) End Gun

Pressure

35 (PSI) Pivot Pressure
 Inlet Pressure
 0.0 (ft) Highest Elevation
 0.0 (ft) Lowest Elevation

LRDU Drive Train

34 RPM Center Drive @ 60 Hz freq.
 11.2 x 38 Tire
 52:1 Wheel GB Ratio, LRDU Dist 1090.7 (ft)
 12.1 Hrs/360° @ 100% (9.45) (Ft per Min)
 12.1 Hrs/360° @ 100%

Disclaimer

The information presented in the attached Percent Timer Report is based on variables which cannot be totally controlled by Valmont (including, but not limited to; pivot pressure, inside pipeline surface, end gun throw, end gun arc setting, tire slippage, tire pressure, field slopes, soil variations, sprinkler package installation, well capacity, center drive motor voltage, center drive motor frequency, climatic conditions and other elements and circumstances beyond Valmont's reasonable control). Valmont recommends monitoring the machine for at least one pass through field to obtain an accurate rotation time.

DATA ENTRY SYSTEM ID NUMBER SHEET

FILE NUMBER 50928

APPLICANT PERSON ID & SEQ #	PDIV ID	BATTERY ID
<u>68789</u>	<u>89951</u>	

LANDOWNER PERSON ID & SEQ #	PUSE ID
<u>68566</u>	<u>71158</u>
<u>68788</u>	<u>71159</u>

WATER USE CORRESPONDENT PERSON ID & SEQ #
<u>68566</u>