

File No. **50,023** 15. Formation Code: **540** Drainage Basin: **SMOKY HILL RIVER** County: **DK** Special Use: Stream:

16. Points of Diversion									
MOD DEL ENT	PDIV	Qualifier	S	T	R	ID	'N	'W	
CHK 86673	NE NW NW	3	1	4	3E	1	5288	4022	

17. Rate and Quantity				
Authorized		Additional		
Rate gpm	Quantity af	Rate gpm	Quantity af	Overlap PD Files
600	193	600	193	NONE
* rate will be reduced from 1500 gpm to 600 gpm.				

18. Storage: Rate _____ NF Quantity _____ ac/ft Additional Rate _____ NF Additional Quantity _____ ac/ft

19. Limitation: _____ af/yr at _____ gpm (_____ cfs) when combined with file number(s) _____
 Limitation: _____ af/yr at _____ gpm (_____ cfs) when combined with file number(s) _____

20. Meter Required? Yes No To be installed by **12/31/2023** Date Acceptable Meter Installed _____

21. Place of Use								NE¼				NW¼				SW¼				SE¼				Total	Owner	Chg? NO	Overlap Files			
MOD DEL ENT	PUSE	S	T	R	ID	NE ¼	NW ¼	SW ¼	SE ¼	NE ¼	NW ¼	SW ¼	SE ¼	NE ¼	NW ¼	SW ¼	SE ¼	NE ¼	NW ¼	SW ¼	SE ¼									
CHK 68806	34	13	3E	1										40	18											58	7b.	NO	none	
CHK 68807	3	14	3E	1						41	14	8	40													103	7b.	NO	none	

Comments:
Approved with special observation well conditions. Special Condition

KANSAS DEPARTMENT OF AGRICULTURE
Division of Water Resources
M E M O R A N D U M

TO: Files

DATE: January 21, 2022

FROM: Lloyd Hemphill

RE: Application, File No. 50,023

Steve Johnson filed the above referenced new application originally proposing to appropriate 193 acre-feet of groundwater at a diversion rate of 1,500 gallons per minute (gpm) from a proposed well for irrigation use. The authorized rate of diversion will be reduced to 600 gpm as later discussed in this memo. The point of diversion is in the Northwest Quarter of Section 3, Township 14 South, Range 3 East, Dickinson County, Kansas in the Smoky Hill River Basin. This point of diversion does not overlap any other water rights. The applicant signed the application form stating that he has legal access to the point of diversion.

This application proposes to irrigate 161 acres, with 58 acres in Section 34 of Township 13 South and Range 3 East and 103 acres in Section 3 of Township 14 South, Range 3 East, as described in the application. This acreage does not overlap any other water rights. The maximum reasonable quantity to irrigate the proposed 161 acres, based on the 1.2 acre-feet per acre allowable in Dickinson County, Kansas, would be 193 acre-feet. This application requests 193 acre-feet, which is reasonable. The place of use is owned by the Janet A Johnson and William F Johnson Family Trusts.

Per, K.A.R. 5-4-4, the minimum well spacing should be 1,320 feet to other non-domestic points of diversion and 660 feet to any domestic wells. The WRIS database indicates there no other senior groundwater rights within two (2) miles of the proposed point of diversion. The nearest non-domestic wells are a thermal exchange well located about 2.2 miles away and an industrial well about 2.8 miles away. The source of supply for both are undetermined bedrock aquifers. The nearest domestic well is the Neuschafer "Solar Well" used to water livestock, located about 1,460 ft to the west-southwest of the proposed well. Another domestic well is located 1,940 feet to the northwest which is owned by the applicant's family. Several other domestic wells are located farther than one-half mile away. These wells are discussed in more detail in technical reports compiled by John Munson, DWR Water Management Services. Based on this information, this application complies with minimum well spacing per K.A.R 5-4-4.

The applicant identified two known domestic well owners within one-half mile and four other known or potential well owners slightly farther than one-half mile. A notification letter was sent on April 12, 2018 to the only nearby well owner not associated with the applicant within one-half mile. Numerous responses were received by phone, e-mail, and letter from this well owner and also multiple well owners beyond the one-half mile circle. These responses raised a variety of concerns including potential impacts to area domestic wells, springs, creeks, and ponds. These domestic wells are an important source of water for household use and domestic livestock watering. Based on the information provided by these well owners, it appears that the source of supply has historically been marginal, especially during times of drought. Many wells have gone dry or have been dry in the past. Due to the numerous concerns raised, this application was referred to DWR Water Management Services for further review. This memo will only summarize the DWR WMS findings, for full details refer to the file for technical reports prepared by John Munson (DWR WMS).

Initial review of well logs and other information by John Munson suggested that the source of water for the area wells may be an interconnected fractured bedrock aquifer. John Munson recommended construction of three observation wells and completion of a 48 hour pumping test, while monitoring both groundwater and surface water. This pumping test was initiated on January 9, 2019 and ended on January 11, 2019. The test well was pumped at a rate ranging from 361 to 373 gpm. Several wells were monitored during the test. The only well impacted by pumping was a deep observation well about 3,080 feet east of the test well, with about eight feet of drawdown. All of the other wells are completed at shallower depths and none experienced significant drawdown. John Munson's conclusions and recommendations are summarized as follows:

- The proposed appropriation is not expected to cause drawdown in existing domestic wells completed in the shallow aquifer (higher than 1,090 ft elevation) but there may be some leakage from the shallow aquifer due to long-term pumping from the deeper formation. The impact of this leakage was undetermined.
- Computer simulations with a pumping well operated continuously at the proposed rate (1,500 gpm) up to the proposed quantity (193 AF) may draw water level down by 50 to 97% of the available water column in wells within 1.5 miles, assuming they are drilled to the same depth as the test well. However, these simulations also show that the available drawdown is likely to be exceeded at the pumping well prior to diversion of 193 AF.
- If the application is approved, the permit should contain several conditions, including the completion of an additional observation well; and monitoring of water level and pumping information for at least one irrigation season so aquifer parameters can be verified or updated with long term pumping. The other observation wells should be maintained as well if possible.

DWR identified two deficiencies in the initial pumping test. First, the pumping test did not use a pumping rate high enough to support an irrigation system and second, did not determine the extent of the leakage between the shallow and deep aquifers and thus the extent of impact to domestic wells. DWR requested that the applicant conduct a second pumping test to determine whether this application could be approved. The applicant hired a consultant (Brad Vincent, Ground Water Associates), to design an irrigation well and plan a second pumping test. An irrigation well was completed with the open portion in the fractured limestone "lower" aquifer. Shallower formations were sealed off to minimize impact to the nearby domestic wells. A 48-hour pumping test began on July 12, 2021 and ended on July 13, 2021. The average pumping rate during this test was 605 gpm. As was seen during the initial pumping test, drawdown only occurred in the deeper observation well and not in the shallow domestic wells. Brad Vincent's analysis resulted in a transmissivity value indicating a "very strong aquifer" although he recommended that the pumping rate be limited to 600 gpm to lessen the chance of interfering with shallower wells. John Munson agreed that the authorized pumping rate be limited to 600 gpm, per Brad Vincent's recommendation. John Munson's analysis of pumping test data indicated leaky aquifer conditions, but he said that the only way to tell if this leakage will impact domestic wells on a longer time frame is with continuous monitoring. John reiterated the need to construct an observation well. He modified the location of the observation well to a point approximately 640 feet west-southwest of the irrigation well, in between the irrigation well and the Neuschafer "Solar Well". An alarm shall be established so DWR is notified by e-mail when the depth to water reaches 50 feet below land surface and the irrigation well may not be operated at such times when the depth to water level in the observation well reaches or exceeds 65 feet below land surface.

According to the well log for the completed irrigation well, the subsurface lithology is comprised of clay and shale to a depth of 30 feet; underlain by limestone to 38 feet; shale, clay, and limestone layers to 77 feet; fractured limestone to 105 feet; and shale to total depth of 117 feet. The screened portion of the well is from 73 feet to 103 feet (total depth) and the main source of water appears to be the weathered and highly fractured limestone layer between 77 and 105 feet. This zone has been called the "lower" aquifer. It is the Permian age Chase Group, perhaps the Barneston Limestone, as proposed by Brad Vincent. Static water level was measured at 14 feet (later at 25.1 ft), which appears to be well above the "lower" aquifer, indicating a confined or semi-confined aquifer. Per K.A.R. 5-3-14, safe yield for a confined aquifer is processed on a case-by-case basis using the best available information. Because no specific criteria have been developed for safe yield evaluation of this particular aquifer, it appears that the best method available is the safe yield criteria outlined in K.A.R. 5-3-11 for unconfined aquifers. This is consistent with other applications with a bedrock source of supply. This method of analysis calculates the maximum potential safe yield for this area (i.e. the recharge received by a deeper confined aquifer would likely only be a portion of the recharge to a shallow unconfined aquifer). The procedure outlined by K.A.R. 5-3-11 allows for a potential recharge of 3 inches, with 100 percent available for appropriation. The area of consideration, defined by the extent of the bedrock aquifer within a two-mile radius, is 8,042 acres, resulting in a safe yield of 2,010 acre-feet. Even if the deeper confined or semi-confined aquifer only received 10 percent of the recharge expected to reach an unconfined aquifer (0.3 inches) there would be sufficient water for the proposed appropriation. There are no other non-domestic water rights in the area, so there is sufficient water available for appropriation, and the application meets safe yield.

In accordance with K.S.A. 82a-706c, the Chief Engineer retains full authority to require any water user to install meters, gages, or other measuring devices, which devices he or she or his or her agents may read at any time. Water flowmeter requirements are further described in K.A.R. 5-1-4 through K.A.R. 5-1-12. If any chemical or foreign substance is injected into the water pumped under either of these permits, check valves will also need to be installed.

Katie Tietsort, Water Commissioner, Topeka Field Office, gave verbal recommendation on January 20, 2022 that the referenced application be approved. Based on the above discussion, the application complies with safe yield and well spacing criteria, and approval of the application will not impair senior water rights nor prejudicially or unreasonably affect the public interest, it is recommended that the referenced application be approved with additional conditions requiring monitoring of water levels.

Lloyd Hemphill
Environmental Scientist
Topeka Field Office

AMOUNT STATISTICS REPORT FOR POINTS OF DIVERSION UNDER A 50023 00

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AMOUNT STATISTICS REPORT FOR POINTS OF DIVERSION UNDER A 50023 00 IRR

Water Right and Points of Diversion Within 2.00 miles of point defined as:

5288 Feet North and 4022 Feet West of the Southeast Corner of Section 3 T 14S R 3E

GROUNDWATER ONLY

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File Number	Use	ST	SR	Dist (ft)	Q4	Q3	Q2	Q1	FeetN	FeetW	Sec	Twp	Rng	ID	Batt	Auth_Quan	Add_Quan	Unit	
A__	50023 00	IRR	AY	G	0	--	NE	NW	NW	5288	4022	3	14	3E	1		193.00	193.00	AF

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Total Net Quantities Authorized: Direct Storage

Total Requested Amount (AF) = 193.00 .00

Total Permitted Amount (AF) = .00 .00

Total Inspected Amount (AF) = .00 .00

Total Pro_Cert Amount (AF) = .00 .00

Total Certified Amount (AF) = .00 .00

Total Vested Amount (AF) = .00 .00

TOTAL AMOUNT (AF) = 193.00 .00

An * after the source of supply indicates a pending application for change under the file number.

An * after the ID indicates a 15 AF exemption was granted under the file number.

A "G" in the Batt column indicates the GEO CTR of a battery. A "B" indicates a well in the battery.

The number in the Batt column is the number of wells in the battery.

Water Rights and Points of Diversion Within 2.00 miles of point defined as:

5288 Feet North and 4022 Feet West of the Southeast Corner of Section 3 T 14S R 3E

GROUNDWATER ONLY

WATER USE CORRESPONDENTS:

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File Number Use ST SR

A__ 50023 00 IRR AY G

> STEVE JOHNSON

>

> 1536 NAIL ROAD

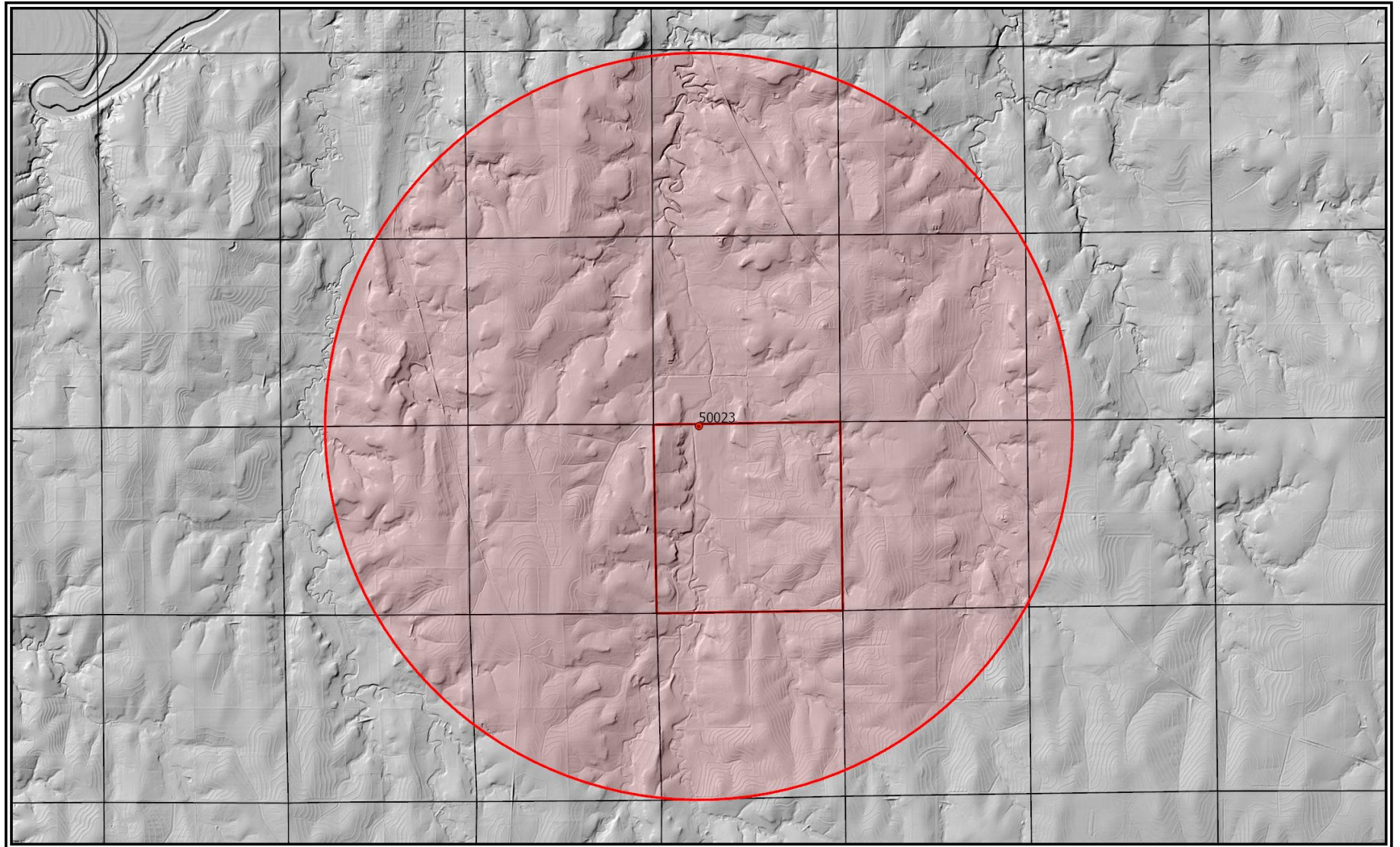
> ENTERPRISE KS 67441

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Safe Yield Report Sheet
Water Right- A5002300
Point of Diversion in 03-14S-03E
Footages from SE corner- 5,288 feet North 4,022 feet West



Analysis Results

The selected PD is in an area OPEN to new appropriations.

The safe yield based on the variables listed below is 2,010.62 AF.

Total prior appropriations in the circle is 193.00 AF.

Total quantity of water available for appropriation is 1,817.62 AF.

This method of analysis assumes that this aquifer receives the full amount of recharge that would be received by an unconfined aquifer.

Safe Yield Variables

The area used for the analysis is set at 8,042 acres.

The potential annual recharge at the circle center is estimated to be 3.0 inches.

The percent of recharge available for appropriation is 100%.

Authorized Quantity values are as of 12-JAN-2022 and are based on Appropriated and Vested ground water right and possible stream nodes for GMD #2. Domestic, Term and Temporary water rights have been excluded.

There is 1 water right and 1 point of diversion within the circle.

File Number	Use	ST	SR	Q4	Q3	Q2	Q1	FeetN	FeetW	Sec	Twp	Rng	ID	Qind	Auth Quant	Add Quant	Tot Acres	Net Acres
A 50023 00	IRR	AY	G		NE	NW	NW	5288	4022	03	14	03E	1	WR	193.00	193.00	161.00	161.00

THE STATE OF KANSAS



KANSAS DEPARTMENT OF AGRICULTURE
Mike Beam, Secretary of Agriculture

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

APPROVAL OF APPLICATION and PERMIT TO PROCEED

(This Is Not a Certificate of Appropriation)

This is to certify that I have examined Application, **File No. 50,023** of the applicant

STEVE JOHNSON
1536 NAIL ROAD
ENTERPRISE, KS 67441

for a permit to appropriate water for beneficial use, together with the maps, plans and other submitted data, and that the application is hereby approved and the applicant is hereby authorized, subject to vested rights and prior appropriations, to proceed with the construction of the proposed diversion works (except those dams and stream obstructions regulated by K.S.A. 82a-301 through 305a, as amended), and to proceed with all steps necessary for the application of the water to the approved and proposed beneficial use and otherwise perfect the proposed appropriation subject to the following terms, conditions and limitations:

1. That the priority date assigned to such application is **March 26, 2018**.
2. That the water sought to be appropriated shall be used for irrigation use on land described in the application, as follows:

Sec.	Twp.	Range	NE $\frac{1}{4}$				NW $\frac{1}{4}$				SW $\frac{1}{4}$				SE $\frac{1}{4}$				TOTAL
			NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	
34	13S	3E									40	18							58
3	14S	3E					41	14	8	40									103

3. That the authorized source from which the appropriation shall be made is groundwater, to be withdrawn by means of one well located in the Northeast Quarter of the Northwest Quarter of the Northwest Quarter (NE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$) of Section 3, more particularly described as being near a point 5,288 feet North and 4,022 feet West of the Southeast corner of said section, in Township 14 South, Range 3 East, Dickinson County, Kansas, located substantially as shown on the topographic map accompanying the application.

4. That the appropriation sought shall be limited to a maximum diversion rate not in excess of **600 gallons per minute (1.34 c.f.s.)** and to a quantity not to exceed **193 acre-feet** of water for any calendar year.

5. That installation of works for diversion of water shall be completed on or before **December 31, 2023**, or within any authorized extension thereof. The applicant shall notify the Chief Engineer and pay the statutorily required field inspection fee of \$400.00 when construction of the works has been completed. Failure to timely submit the notice and the fee will result in revocation of the permit. Any request for an extension of time shall be submitted prior to the expiration of the deadline and shall be accompanied by the required statutory fee of \$100.00.

6. That the proposed appropriation shall be perfected by the actual application of water to the proposed beneficial use on or before **December 31, 2027**, or any authorized extension thereof. Any request for an extension of time shall be submitted prior to the expiration of the deadline and shall be accompanied by the required statutory fee of \$100.00.

7. That the applicant shall not be deemed to have acquired a water appropriation for a quantity in excess of the amount approved herein nor in excess of the amount found by the Chief Engineer to have been actually used for the approved purpose during one calendar year subsequent to approval of the application and within the time specified for perfection or any authorized extension thereof.

8. That the use of water herein authorized shall not be made so as to impair any use under existing water rights nor prejudicially and unreasonably affect the public interest.

9. That the right of the appropriator shall relate to a specific quantity of water, and such right must allow for a reasonable raising or lowering of the static water level and for the reasonable increase or decrease of the streamflow at the appropriator's point of diversion.

10. That this permit does not constitute authority under K.S.A. 82a-301 through 305a to construct any dam or other obstruction; nor does it grant any right-of-way, or authorize entry upon or injury to, public or private property.

11. That all diversion works constructed under the authority of this permit into which any type of chemical or other foreign substance will be injected into the water pumped from the diversion works shall be equipped with an in-line, automatic quick-closing, check valve capable of preventing pollution of the source of the water supply. The type of valve installed shall meet specifications adopted by the Chief Engineer and shall be maintained in an operating condition satisfactory to the Chief Engineer.

12. That all wells with a diversion rate of 100 gallons per minute or more drilled under the authority of this permit shall have a tube or other device installed in a manner acceptable to, and in accordance with specifications adopted by, the Chief Engineer. This tube or device shall be suitable for making water level measurements and shall be maintained in a condition satisfactory to the Chief Engineer.

13. That an acceptable water flow meter shall be installed and maintained on the diversion works authorized by this permit in accordance with Kansas Administrative Regulations 5-1-4 through 5-1-12 adopted by the Chief Engineer. This water flow meter shall be used to provide an accurate quantity of water diverted as required for the annual water use report (including the meter reading at the beginning and end of the report year).

14. That the applicant shall maintain accurate and complete records from which the quantity of water diverted during each calendar year may be readily determined and the applicant shall file an annual water use report with the Chief Engineer by March 1 following the end of each calendar year. Failure to file the annual water use report by the due date shall cause the applicant to be subject to a civil penalty.

15. That no water user shall engage in nor allow the waste of any water diverted under the authority of this permit.

16. That failure without cause to comply with provisions of the permit and its terms, conditions and limitations will result in the forfeiture of the priority date, revocation of the permit and dismissal of the application.

1320 Research Park Drive
Manhattan, KS 66502
785-564-6700
www. agriculture.ks.gov



900 SW Jackson, Room 456
Topeka, KS 66612
785-296-3556

Mike Beam, Secretary

Laura Kelly, Governor

February 14, 2022

STEVE JOHNSON
1536 NAIL ROAD
ENTERPRISE, KS 67441

RE: Appropriation of Water, File No. 50,023

Dear Mr. Johnson:

Enclosed is a permit authorizing you to proceed with construction of the proposed diversion works and to appropriate water for beneficial use as set forth in the permit. Your attention is directed to the enclosures and to the terms, conditions, limitations, and requirements specified in this permit.

As you have agreed, approval of your application requires you construct and monitor water levels in a nearby observation well as described in the permit. A condition of this approval also requires you to monitor the pumping rate of the authorized irrigation well. The monitoring equipment must be approved by the Chief Engineer before installation and must be installed and operating at least 90 days prior to the operation of the irrigation well. These monitoring requirements are part of your permit conditions, and these permit conditions must be in place for you to operate legally.

As part of the investigations leading up to approval of this application, three other observation wells were constructed to allow monitoring of water levels during pumping tests. These monitoring wells could be useful in the future if any long-term impacts to nearby domestic wells are observed. These observation wells can be maintained if the landowners are mutually agreeable, otherwise they should be properly plugged.

Notice must be filed on the enclosed form once the diversion works have been completed. Failure to complete the diversion works within the time allowed, or within any authorized extension of time thereof, will result in dismissal of this permit. If you need an extension of time, you must request it before the deadline for completion set forth in the permit. Any request for an extension of time must be accompanied by the statutorily required fee, which is currently \$100.00.

An acceptable water flowmeter must be installed on the diversion works authorized by this permit prior to using water. An annual water use report must be filed with the Chief Engineer by March 1, following the end of each calendar year. If a complete annual water use report is not received by the deadline, then a fine may be assessed and all water use under such permit or right may be suspended. Reports submitted in paper form will be assessed a \$20 per file number paper filing fee. In order to avoid this filing fee, you may submit your report online at www.kswaterusereport.org.

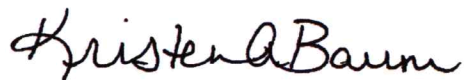
The approval of your application constitutes a permit to appropriate water. It does not give authority to construct any dam or other stream obstruction regulated by K.S.A. 82a-301 through 305a. It does not give authority to access any right-of-way or authorize trespassing upon or injury to public or private property. It may also be necessary for you to comply with other local, state or federal requirements.

Steve Johnson
File No. 50,023
Page 2

Enclosed is an informational sheet that sets forth the procedure to obtain a Certificate of Appropriation which will establish the extent of your perfected water right. Additional information and applicable forms may be found on our website at agriculture.ks.gov/divisions-programs/dwr.

If you have any questions or need assistance with any of these requirements, please contact our office at 785-564-6640 or your local Topeka Field Office at 785-296-5733. If you call, please reference the file number so we can help you more efficiently.

Sincerely,



Kristen A. Baum
New Applications and Changes Supervisor
Division of Water Resources

KAB:lh

Enclosure(s)

pc: Topeka Field Office

RIGHT TO A HEARING AND TO ADMINISTRATIVE REVIEW

If you are aggrieved by this Order, then pursuant to K.S.A. 82a-1901, you may:

- 1) request an evidentiary hearing before the Chief Engineer, or
- 2) request administrative review by the Secretary of Agriculture.

Failure to request an evidentiary hearing before the Chief Engineer does not preclude your right to administrative review by the Secretary. To obtain an evidentiary hearing before the Chief Engineer, a written request for hearing must be filed within 15 days after service of this Order as provided in K.S.A. 77-531 (**i.e., within a total of 18 days after this Order was mailed to you**), with: Kansas Department of Agriculture, Attn: Legal Section, 1320 Research Park Drive, Manhattan, Kansas 66502, FAX (785) 564-6777.

If you do not file a request for an evidentiary hearing before the Chief Engineer, you may petition for administrative review of the Order by the Secretary of Agriculture. A petition for review shall be in writing and state the basis for requesting administrative review. The request for hearing may be denied if the request fails to clearly establish factual or legal issues for review. See K.S.A. 77-527. The petition must be filed within 30 days after service of this Order as provided in K.S.A. 77-531 (**i.e., within a total of 33 days after this Order was mailed to you**), and be filed with: Secretary of Agriculture, Attn: Legal Division, Kansas Department of Agriculture, 1320 Research Park Drive, Manhattan, Kansas 66502, FAX (785) 564-6777.

If neither a request for an evidentiary hearing nor a petition for administrative review is filed as set forth above, then this Order shall be effective and become a final agency action as defined in K.S.A. 77-607(b). Failure to timely request either an evidentiary hearing or administrative review may preclude further judicial review under the Kansas Judicial Review Act.

CERTIFICATE OF SERVICE

On this 14 day of February, 2022, I hereby certify that the foregoing Approval of Application and Permit to Proceed, File No. 50,023, dated 11 February 2022 was mailed postage prepaid, first class, US mail to the following:

STEVE JOHNSON
1536 NAIL ROAD
ENTERPRISE, KS 67441

With photocopies to:

Topeka Field Office



Ashley Jean
Division of Water Resources