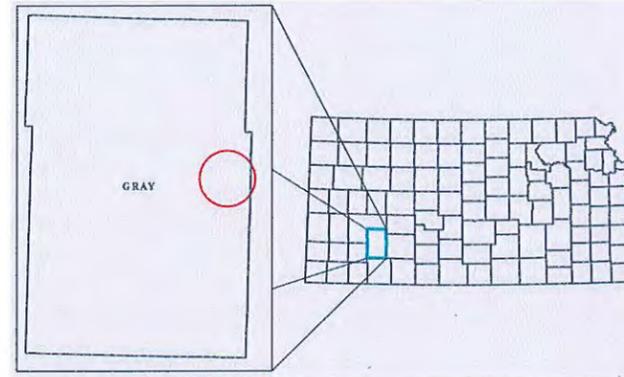


January 2017 – December 2021

Powerline Dairy, LLC

Water Conservation Area Management Plan



Water Conservation Area Executive Summary

Initial consultations with KDA-DWR began in July 2017

WCA Acres: 2,893 acres

Number of STK Water Rights: 4

Number of STK Wells: 4

Number of IRR Water Rights: 15

Number of IRR Wells: 20

Historical Period: 2012-2016 based on current operations and ownership

Prior Conservation:

- Converted four IRR water rights to STK use starting in 2010; reduced by 316.35 AF
- Average reuse of wastewater from dairy of 429.72 AF per year applied to irrigation fields
- Three irrigation fields (~300 acres) converted to grassland (CRP)

WCA Allocation:

- Total WCA allocation of 22,794 AF for period of WCA
 - STK- Held to average historical use (643.34 AF x 5-yrs)
 - IRR- 10% conservation (3,915.46 AF x 5-Yrs)

Corrective Controls- Flexibilities requested exceeding base water right

- STK File No. 12,932 shall be limited to an annual allocation of 400.00 AF
- STK File No. 25,265 shall be limited to an annual allocation of 400.00 AF
- Stockwater points of diversion cannot exceed a total annual aggregate use of 719.65 AF (total annual authorized quantity of all STK points of diversion)
- Any irrigation well may pump up to 130% of its authorized quantity in any calendar year during the term of this WCA but cannot exceed 5 times its authorized annual quantity during the 5-yr term of this WCA
- Irrigation points of diversion cannot exceed a total annual aggregate use of 5,470 AF (total annual authorized quantity of all IRR points of diversion)

*Additional corrective controls on Powerline Dairy, LLC WCA Management Plan starting on page 6.

Total water conserved over WCA period (based on historical use): 2,175,255 AF

**MANAGEMENT PLAN FOR THE DESIGNATION OF A
WATER CONSERVATION AREA (WCA)**

FOR

POWERLINE DAIRY, LLC

GRAY COUNTY, KANSAS

ORIGINALLY SUBMITTED ON DECEMBER 1, 2017

REVISED JULY 26, 2018 BASED ON DWR ANALYSIS AND REVIEW

TECHNICAL ASSISTANCE PROVIDED BY

RURAL RESOURCES CONSULTING, LLC

&

KLA ENVIRONMENTAL SERVICES, INC.

751 SE CR 36

SYRACUSE, KS 67878

1303 YUCCA ST

SCOTT CITY, KS 67871

**MANAGEMENT PLAN FOR THE DESIGNATION OF A
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FOR

POWERLINE DAIRY, LLC

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ORIGINALLY SUBMITTED ON DECEMBER 1, 2017

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POWERLINE DAIRY, LLC WATER CONSERVATION AREA MANAGEMENT PLAN

Management Plan for the Designation of a Water Conservation Area (WCA) for Powerline Dairy, LLC Gray County, Kansas

Purpose

The social and economic vitality of Powerline Dairy, LLC, its employees, and the local community is dependent upon our water supply. In order to reduce the rate of decline of groundwater levels in our region and extend the life of our water supply, we propose to establish a Water Conservation Area that encompasses the land and water rights associated with Powerline Dairy, LLC. The management plan for this Water Conservation Area is presented herein and shall form the basis of a Consent Agreement and Order Designating a Water Conservation Area pursuant to K.S.A. 82a-745 (WCA Law). The participating water right owners agree to the terms and conditions contained in this proposed management plan.

Expression of Conservation Goals

The water right owners participating in the Powerline Dairy, LLC Water Conservation Area have joined together because of their collective desire to sustain their business and community by conserving their groundwater resources. The dairy is currently permitted for a capacity of 12,000 lactating cows. Expansion of the facility is planned during the term of this Water Conservation Area to add 2,000 dry cows and 10,000 heifers. Flexibility is needed to allocate water resources among the variable demands of livestock consumption, dairy processing, and irrigated feed production that rely on groundwater and wastewater. The participants have concluded that the goals of conservation and flexible water resource allocation can be achieved by taking the following actions:

1. Implement significant reductions in water use based upon a defined period of historical use. A ten percent (10%) reduction of the historical irrigation water use based upon the period of 2012 through 2016 is proposed.
2. Gain flexibility in beneficial use, place of use, and quantity of annual use so that we can:
 - a. Improve the management our water resources while adjusting to weather and market conditions,
 - b. More effectively manage our wastewater and the associated nutrient content to optimize crop production and comply with the requirements of our Kansas and Federal environmental permits, and
 - c. Implement advancements in technology that are compatible with the provisions of this management plan.
3. Participate for a period that is compatible with typical crop rotations and long enough to indicate measurable results.
4. Establish a process to evaluate the effectiveness of this management plan so that it may be revised as needed and continued for subsequent terms.

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POWERLINE DAIRY, LLC WATER CONSERVATION AREA MANAGEMENT PLAN

Term

The terms and conditions of the Powerline Dairy, LLC Water Conservation Area shall be effective upon issuance of a Consent Agreement and Order Designating a Water Conservation Area (WCA Agreement) that is approved by all participating water right owners and the Chief Engineer of the Division of Water Resources. The proposed term of the WCA Agreement is five (5) years extending from January 1, 2017 through December 31, 2021. The term of this Water Conservation Area will be extended by a period of two (2) years upon request of the participants and with the concurrence of the Chief Engineer. The management plan will be revised at that time to reflect this two-year extension.

Water Rights Enrolled and Geographical Boundaries

The Powerline Dairy, LLC Water Conservation Area encompasses the dairy facility located in Section 27 Township 26 South Range 27 West (T26S R27W) and 23 irrigated fields in T26S R27W, all in Gray County. There are 24 points of diversion (wells) associated with 19 water rights in this area. Four water rights are devoted to stockwatering use to supply the dairy and the remainder are authorized for irrigation use to produce feed for the dairy operation. The geographic boundaries of the Powerline Dairy, LLC Water Conservation Area are shown on the map included in Appendix 1 of this management plan. Table 1 summarizes the water rights and points of diversion (wells) included in this Water Conservation Area, as does the water right summary that is included in Appendix 1.

All the stockwatering rights have a common place of use; that is, they are completely overlapped. Change applications were filed and approved in 2015 to completely overlap all of the irrigation water rights. Change applications will be filed by September 30, 2018 to clarify the place of use in Section 23 T26S R27W. This management plan proposes to completely overlap all places of use so that water from any point of diversion can be used for either stockwatering or irrigation purposes within any authorized place of use. The geographical description of the WCA-authorized place of use is shown in Table 2. This information is also included in Appendix 1.

Table 3 summarizes the total of the authorized quantities associated with the water rights enrolled in this WCA. It also summarizes the total average annual water use for the period 2012 through 2016, which is the historic period used as the basis for determination of the conservation reduction. Refer to Appendix 1 for a summary of water use history by water right. A conservation reduction factor of ten percent (10%) was applied to the total average annual irrigation water use to determine the basis for the quantity of permissible groundwater withdrawal. The sum of this quantity and the average annual stockwater use during the same period was then multiplied by five (5), which is the term of the WCA, to arrive at the total quantity of permissible groundwater use that is authorized by this WCA.

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POWERLINE DAIRY, LLC WATER CONSERVATION AREA MANAGEMENT PLAN

Table 1 – Water Rights and Points of Diversion Included in the Powerline Dairy, LLC WCA

WATER RIGHT FILE NO.	WELL ID NO.	BENEFICIAL USE*	AUTHORIZED QUANTITY (AF)	P/D DIST. FROM SE SECTION CORNER		
				SEC-TWP-RGE	NORTH	WEST
12,932	6	STK	224.25	27-26S-27W	660 FT	2550 FT
23,398	2	STK	160.00	28-26S-27W	1320 FT	1310 FT
25,265	11	STK	167.70	27-26S-27W	3317 FT	1664 FT
26,490	12	STK	167.70	27-26S-27W	2990 FT	5000 FT
9,778	1	IRR	308.00	23-26S-27W	4580 FT	2480 FT
10,976	6	IRR	59.00	17-26S-27W	3200 FT	3860 FT
10,976	3	IRR	88.00	17-26S-27W	1320 FT	3940 FT
10,976	5	IRR	91.00	17-26S-27W	2842 FT	2383 FT
14,591	4	IRR	272.00	18-26S-27W	2669 FT	954 FT
17,593	2	IRR	239.00	23-26S-27W	1320 FT	3980 FT
17,594	3	IRR	280.00	23-26S-27W	1351 FT	1734 FT
19,042	3	IRR	272.00	26-26S-27W	5040 FT	2900 FT
19,043	2	IRR	272.00	14-26S-27W	1980 FT	3940 FT
19,543	2	IRR	130.00	27-26S-27W	1320 FT	3960 FT
19,543	7	IRR		27-26S-27W	1060 FT	3960 FT
19,543	8	IRR		27-26S-27W	1190 FT	3960 FT
20,172	2	IRR		272.00	18-26S-27W	1320 FT
20,172	6	IRR	165.00	17-26S-27W	3200 FT	3860 FT
20,172	3	IRR	141.00	17-26S-27W	1320 FT	3940 FT
20,172	4	IRR	272.00	17-26S-27W	1320 FT	1310 FT
20,172	5	IRR	137.00	17-26S-27W	2842 FT	2383 FT
20,881	2	IRR	272.00	20-26S-27W	1335 FT	1320 FT
20,882	1	IRR	272.00	21-26S-27W	3975 FT	3970 FT
20,882	2	IRR	272.00	21-26S-27W	3975 FT	1345 FT
24,842	1	IRR	272.00	22-26S-27W	3960 FT	1350 FT
24,842	2	IRR	272.00	22-26S-27W	1629 FT	1355 FT
25,531	3	IRR	272.00	22-26S-27W	1295 FT	3960 FT
25,531	4	IRR	272.00	22-26S-27W	3940 FT	3950 FT
27,625	2	IRR	26.00	14-26S-27W	1980 FT	3940 FT
27,625	4	IRR	342.00	23-26S-27W	5000 FT	4680 FT
GY8	6	IRR	200.00	17-26S-27W	3200 FT	3860 FT
GY8	3	IRR		17-26S-27W	1320 FT	3940 FT
GY8	5	IRR		17-26S-27W	2842 FT	2383 FT

Legend: STK = stockwatering use IRR = irrigation use AF = acre-feet/year
 P/D = point of diversion SEC-TWP-RGE = Section, Township and Range

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POWERLINE DAIRY, LLC WATER CONSERVATION AREA MANAGEMENT PLAN

Table 2 – Place of Use for the Powerline Dairy, LLC WCA

Sec.	Twp.	Range	NE 1/4				NW 1/4				SW 1/4				SE 1/4				TOTAL ACRES
			NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	
27	26S	27W	40	40	40	40													Dairy
23	26S	27W	26	37	40	26	34	5	8	40	30	28	35	29	19	39	37	18	451
14	26S	27W					2	2	40	40	40	40	40	40					244
26	26S	27W					34	34	34	34									136
8	26S	27W															2	2	4
17	26S	27W	36	34	23	24	29	39	40	29	38	40	40	38	38	38	40	40	566
18	26S	27W	29	30	33	31									40	40	31	31	265
20	26S	27W							14	16	39	36	10	8	31	33	30	28	245
21	26S	27W	32	31	32	32	32	31	34	32									256
22	26S	27W	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	544
27	26S	27W									30.5	30.5	30.5	30.5			30	30	182

Total Irrigated Acres: 2,893

Table 3 – Summary of Conservation Reduction and Total Permissible Quantity of Withdrawal

	STOCKWATERING	IRRIGATION	TOTAL
AUTHORIZED QUANTITY	719.65 AF	5,470.00 AF	6,189.65 AF
2012 – 2016 AVERAGE USE	643.34 AF	4,350.51 AF	4,993.85 AF
10% REDUCTION OF AVERAGE IRRIGATION USE			3,915.46 AF
BASIS FOR PERMISSIBLE QUANTITY OF WITHDRAWAL	643.34 AF	3,915.46 AF	4,558.80 AF
TOTAL PERMISSIBLE QUANTITY OF WITHDRAWAL (5 x BASIS)			22,794.00 AF

Findings Regarding Groundwater Conditions

K.S.A. 82a-745 and K.S.A. 82a-1036(a) through (d) require a finding that one of the following conditions be present within the area proposed as a Water Conservation Area:

1. Groundwater levels in the area in question are declining or have declined excessively;
2. The rate of withdrawal of groundwater in the area equals or exceeds the rate of recharge within such area;
3. Preventable waste of water is occurring or may occur within the area in question; or
4. Unreasonable deterioration of the quality of water is occurring or may occur within the area in question.

The participating water right owners have determined that the following conditions exist:

- Groundwater levels within T26S R27W, Gray County, have declined excessively and continue to decline under the current levels of water use. The amount of decline has been documented by the Kansas Geological Survey and the Kansas Department of Agriculture, Division of Water Resources. Two water level observation wells are located in T26S R27W: one in the SW ¼ of

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POWERLINE DAIRY, LLC WATER CONSERVATION AREA MANAGEMENT PLAN

Section 27 near the dairy and the other in the NE ¼ of Section 18. Both observation wells are within the geographical boundaries of this Water Conservation Area. The monitoring data indicate water level declines ranging from 45 to 60 feet in this area.

- The Kansas Geological Survey provided groundwater data that was used to develop the "Water Levels" section of the *Kansas High Plains Aquifer Atlas*. This information relates to Sections 13 through 36 in T26S R27W, which encompasses the geographical area of this WCA. The data indicate that approximately 62% of the predevelopment saturated thickness of the local aquifer has been depleted. The current average annual decline of saturated thickness in this area is slightly greater than two feet.

Refer to Appendix 2 for detailed information documenting these conditions.

This information provides evidence that groundwater levels within this area have declined excessively and are continuing this trend. The loss of saturated thickness also implies that the rate of groundwater withdrawal is substantially greater than the rate of aquifer recharge. These conditions indicate a diminishing groundwater resource and justify the establishment of a Water Conservation Area in this region.

Due Consideration for Past Conservation

Powerline Dairy, LLC has taken several actions that have reduced water use. The four water rights that provide stockwater to the dairy operation were originally perfected for irrigation use. Conversion from irrigation to stockwatering use resulted in a substantial reduction in authorized quantity. These reductions are summarized in Table 4.

Table 4 – Reductions in Authorized Quantity Resulting from Changes in Use

WATER RIGHT FILE NO.	ORIGINAL AUTHORIZED QUANTITY (AF)	CURRENT AUTHORIZED QUANTITY (AF)	QUANTITY REDUCTION (AF)
12,932	260	224.25	35.75
23,398	256	160.00	96.00
25,265	260	167.70	92.30
26,490	260	167.70	92.30
TOTALS	1,036	719.65	316.35

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The total reduction resulting from change in beneficial use from irrigation to stockwatering represents 30 percent of the original authorized quantity. This is a substantial reduction that occurred just prior to and during the period of historical use. Consideration of this reduction is the basis for maintaining the proposed stockwatering quantity at a level equal to the 2012 – 2016 average annual stockwatering use.

The dairy is required by state and Federal law to retain all wastewater and stormwater runoff generated within the facility. Most of this wastewater quantity is derived from surface runoff from pens, roofs and related structures. This additional source of water is ultimately used for irrigation on the land included in this WCA. The wastewater serves as a supplemental source of recharge to the aquifer. Records indicate an average annual application of 429.72 AF of wastewater within the proposed WCA area. Refer to Appendix 3 for a summary of these records. The efficiency of the sprinkler irrigation systems used by Powerline Dairy, LLC is estimated to be 87 percent. This implies a potential recharge rate of 13 percent of the water applied by irrigation. Using this recharge rate, the average estimated additional recharge provided by wastewater irrigation is 55.86 AF per year.

The fields associated with File Nos. 19,543 and 24,842 have been planted to grass. These fields are identified as FMNF #2, #3 and #6 on the map included in Appendix 1. This conversion to grass has reduced the irrigation demand on these fields, which has effectively conserved water when compared to typical cropping patterns in Gray County.

Corrective Control Provisions and Plan for Conservation

The following corrective control provisions pertaining to the Powerline Dairy, LLC Water Conservation Area will be in effect during the term of the WCA Agreement:

1. The term of the WCA Agreement shall extend from January 1, 2017 through December 31, 2021.
2. The total quantity of permissible groundwater withdrawal during the term of this WCA shall be limited to no more than 22,794.00 AF.
3. Stockwater use shall be limited to 1,108.9 AF per year. This is the total maximum quantity of water that will be diverted from points of diversion currently authorized for irrigation or stockwatering to support the planned dairy expansion. This limitation is based upon reasonable consumption rates for dairy operations. Refer to Appendix 3 for information documenting the determination of this quantity. A term permit will be filed to obtain authorization for change in use. Additional quantity obtained for stockwatering will be offset by reduced irrigation use of the subject water right.

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POWERLINE DAIRY, LLC WATER CONSERVATION AREA MANAGEMENT PLAN

4. The four (4) wells currently authorized for stockwatering use shall be subject to the following limitations:
 - a. The well associated with File No. 12,932 shall be limited to an annual allocation of 400.00 AF and a rate of 400 gallons per minute (gpm)
 - b. The well associated with File No. 25,265 shall be limited to an annual allocation of 400.00 AF and a rate of 310 gpm
 - c. The well associated with File No. 23,398 shall be limited to an annual allocation of 160.00 AF and a rate of 380 gpm
 - d. The well associated with File No. 26,490 shall be limited to an annual allocation of 167.70 AF and a rate of 200 gpm
 - e. The total aggregate annual use of File Nos. 12,932, 25,265, 23,398 and 26,490 shall not exceed 719.65 AF
5. All wells currently authorized for irrigation use that are included in this WCA shall be subject to the following limitations:
 - a. Any irrigation well may pump up to 130% of its authorized quantity in any calendar year during the term of this WCA
 - b. Each irrigation well shall be limited to a quantity that shall not exceed five (5) times its authorized quantity during the five-year term of this WCA
 - c. The total aggregate use of all irrigation wells included in this WCA shall not exceed a quantity equivalent to five (5) times 3,915.46 AF, which is 19,577.30 AF, during the five-year term of this WCA. The 3,915.46 AF quantity represents the ten percent (10%) reduction of average irrigation use as stated in Table 3.
 - d. All irrigation wells included in this WCA shall be operated at rates which do not exceed their corresponding authorized rates of diversion.
 - e. Total irrigation use in any calendar year shall not exceed 5,470.00 AF, which is the total aggregate authorized quantity of all irrigation water rights included in this WCA.
6. In the event of a catastrophic well failure, a term permit must be filed and approved by the Chief Engineer if any of the limitations stated in Corrective Control Provisions 4 and 5 must be exceeded for emergency purposes.
7. Water rights may be pumped as directed by the owners. Water may be used for either stockwatering or irrigation at any location included in the WCA-authorized place of use. The owners may designate management units and allocate portions of the total quantity of permissible groundwater withdrawal to those management units.
8. Water currently authorized for irrigation use that is subsequently diverted for stockwatering use shall be measured in a manner that provides accurate quantification of each use from each point of diversion. The Water Commissioner of the DWR Garden City Field Office shall be notified of each multiple use and shall approve each metering or measurement system installation.

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POWERLINE DAIRY, LLC WATER CONSERVATION AREA MANAGEMENT PLAN

9. A remainder quantity is defined as the accumulated portion of the total quantity of permissible groundwater withdrawal that is not used during the term of the WCA Agreement. The participants of the Powerline Dairy, LLC WCA may elect to deposit the remainder quantity into a subsequent WCA Agreement that is governed by this management plan or revised versions thereof. Such a deposit shall be in addition to the total annual quantity of permissible groundwater withdrawal determined for the subsequent WCA Agreement. The credited portion of the remainder quantity may be carried forward through the term of the subsequent WCA Agreement until it is diverted.

Compliance Monitoring and Enforcement

The participants acknowledge the compliance monitoring and enforcement provisions stated herein. This includes any specific provisions relating to measuring or reporting water usage.

Monitoring

Powerline Dairy, LLC or an authorized representative thereof will submit an annual report for each calendar year included in the term of this WCA. The annual report for each calendar year shall be submitted to the Chief Engineer no later than March 1st of the following year. The report will include a record of the following information:

- Beginning and ending flow meter readings for each point of diversion included in the WCA Agreement
- Quantity of water diverted by each point of diversion
- Locations where the water was used
- Acres irrigated
- Total quantity of water diverted during the calendar year
- Unused portion of the total quantity of permissible groundwater withdrawal.

These records will be maintained in electronic and paper format. Copies will be made available to Kansas Department of Agriculture, Division of Water Resources staff upon request.

The participants acknowledge that the measurement chambers of the water flow meters within this WCA will be sealed by Kansas Department of Agriculture, Division of Water Resources staff. These seals will remain in place for the duration of this management plan to ensure accurate water use records.

All water right owners agree to install and maintain water flow meters and appurtenances that comply with the requirements of the Division of Water Resources and Southwest Kansas Groundwater Management District No. 3. Any water right owner or authorized designee who finds a flow meter that is inoperable or inaccurate shall notify the Garden City Field Office of the Division of Water Resources within 48 hours of

POWERLINE DAIRY, LLC WATER CONSERVATION AREA MANAGEMENT PLAN

discovery. Whenever an inoperable or inaccurate meter is repaired or replaced, the water right owner or authorized designee shall notify the Garden City Field Office of the Division of Water Resources within seven (7) days on a form prescribed by the Chief Engineer of the water flow meter installation or any water flow meter repair or replacement event.

Enforcement

The participants acknowledge that failure to abide by the terms of this agreement may result in the termination of the WCA. Failure to abide by the terms, conditions, and limitations of the individual water rights will be subject to the civil penalties outlined in K.A.R. 5-14-10 and 5-14-12.

Review of Effectiveness

The Powerline Dairy, LLC WCA management plan will be evaluated annually by the participants. Revisions and amendments to the management plan will be developed as needed and submitted to the Chief Engineer for consideration. A formal review shall be conducted during the final year of the term to ensure that the provisions of this management plan are appropriate and are achieving the stated goals of the Powerline Dairy, LLC WCA. This review shall be completed by the Chief Engineer in consultation with the participants by October 31, 2021. Information obtained from the observation wells located in the SW ¼ of Section 27 T26S R27W and the NE ¼ of Section 18 T26S R27W will be considered in this review. If the Chief Engineer finds that this WCA has achieved its goals and that there are no legal or physical conditions that require it to be altered or terminated, then the Powerline Dairy, LLC WCA may be continued upon request of the participants. The management plan may be revised based upon the findings of the Chief Engineer and with the concurrence of all participating parties. The annual report for the last year in the term of this WCA shall indicate the total water use during the WCA period.

Participant Addition, Withdrawal, and Removal

The participants acknowledge that water right owners and their associated water rights and geographic boundaries may be added to this WCA upon written notification to the Chief Engineer by the owners of each enrolling water right. Such notification shall include the legal descriptions of the areas to be added. A participant may withdraw from the WCA through written notification to the Chief Engineer that is signed by the owners of the participating water right or rights to be withdrawn from the WCA.

If the addition or withdrawal of water rights requires modification of the permissible quantities of groundwater withdrawal, geographical boundaries, places of use, terms, or conditions of the original WCA, then the management plan shall be revised to incorporate such changes and the associated consent agreements shall be reaffirmed by all parties, after opportunity for comment on the proposed revisions by Southwest Kansas Groundwater Management District No. 3.

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The Chief Engineer shall reserve the right to remove any participant from the Powerline Dairy, LLC WCA for repeated violations of their WCA Agreement and/or violations of state laws and regulations that pertain to water rights and legal use of water.

Termination

The Powerline Dairy, LLC WCA Agreement may be terminated by written notification submitted to the Chief Engineer. Such notification will state the intent to terminate, any applicable reasons for termination, and shall be signed by all currently participating members of the WCA.

State Law

The participants of the Powerline Dairy, LLC WCA acknowledge that this WCA is subject to compliance with all other applicable state laws. The participants in conjunction with the Division of Water Resources will monitor any changes in Kansas laws that may impact this management plan or existing WCA Agreements.

Notification to Nearby Owners

The participants acknowledge that the Chief Engineer is required by state law to provide written notification to all water right owners with a point of diversion within 1/2 of a mile of the boundaries of this WCA. The Chief Engineer may consider information submitted by nearby owners when evaluating the potential for impairment of neighboring water rights.

Assurances

None of the terms and conditions of this management plan or a WCA Agreement executed in accordance with this management plan shall result in any permanent change to the enrolled water rights.

Review of Other Applicable Requirements

The Powerline Dairy, LLC WCA lies within the boundaries of Southwest Kansas Groundwater Management District No. 3. The rules and regulations pertaining to this groundwater management district (K.A.R. 5-23-1 through 5-23-15) were reviewed to determine if there were any provisions that would result in a greater level of water conservation than that contained in this management plan. No such provisions were identified.

The Powerline Dairy, LLC WCA is located within the boundaries of the Arkansas River Intensive Groundwater Use Control Area (IGUCA). No provisions of the Arkansas River IGUCA were noted that would prevent approval and implementation of the Powerline Dairy, LLC WCA.

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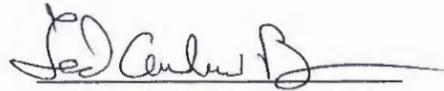
POWERLINE DAIRY, LLC WATER CONSERVATION AREA MANAGEMENT PLAN

There is currently no approved Local Enhanced Management Area (LEMA) within the boundaries of this WCA. The participants acknowledge that this WCA may be terminated if a LEMA is established that has more stringent requirements, after due consideration has been given to past conservation by the participants.

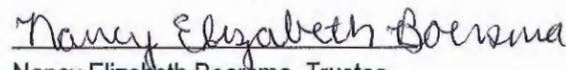
Participants' Agreement

By signing below, we, the water right owners, agree that this management plan is fair and equitable. This management plan, provided to the Chief Engineer and water right owners, is the expressed written intent of the parties and the whole agreement between the parties. We, the water right owners, agree to be bound by all the terms contained in this management plan and understand that the provisions of this agreement shall be construed to give effect to the provisions listed. We, the water right owners, also agree that this management plan is the basis for a consent agreement among the Chief Engineer and the undersigned water right owners, and therefore any order and consent agreement issued by the Chief Engineer, designating this WCA, shall be binding upon all parties as the necessary formal implementation of this management plan.

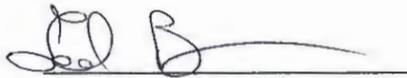
For the Participants: All participating water right owners signing below, affirm their approval of this WCA management plan and, if approved by the Chief Engineer, allow consent to the Chief Engineer to formally approve the designation of this Water Conservation Area, described herein, by means of a Consent Agreement and Order.



Ted Andrew Boersma, Trustee
Ted Andrew Boersma and Nancy Elizabeth
Boersma Revocable Trust
for Powerline Dairy, LLC



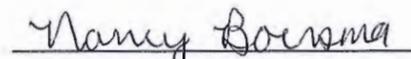
Nancy Elizabeth Boersma, Trustee
Ted Andrew Boersma and Nancy Elizabeth
Boersma Revocable Trust
for Powerline Dairy, LLC



Ted Boersma, Manager
Boersma Family, LLC



Ted Boersma, Owner
Land in Sections 14, 23 & 26 T26S R27W



Nancy Boersma, Owner
Land in Sections 14, 23 & 26 T26S R27W

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Division of Water Resources

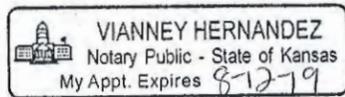
POWERLINE DAIRY, LLC WATER CONSERVATION AREA MANAGEMENT PLAN

ACKNOWLEDGEMENT OF NOTARY

STATE OF Kansas)
COUNTY OF Gray) SS

On this 7 day of August, 2018, before me, the undersigned Notary Public, personally appeared Nancy Baersma, known to me (or satisfactorily proven) to be the person(s) whose name(s) is/are subscribed to the within instrument, and acknowledged that they executed the same for the purposes therein contained.

In Witness Whereof, I have hereunto set my hand and official seal.



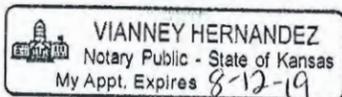
Vianney Hernandez
Notary Public
My Commission Expires 8-12-19

Printed Name: Vianney Hernandez

STATE OF Kansas)
COUNTY OF Gray) SS

On this 7 day of August, 2018, before me, the undersigned Notary Public, personally appeared Tea Baersma, known to me (or satisfactorily proven) to be the person(s) whose name(s) is/are subscribed to the within instrument, and acknowledged that they executed the same for the purposes therein contained.

In Witness Whereof, I have hereunto set my hand and official seal.



Vianney Hernandez
Notary Public
My Commission Expires 8-12-19

Printed Name: Vianney Hernandez

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Division of Water Resources

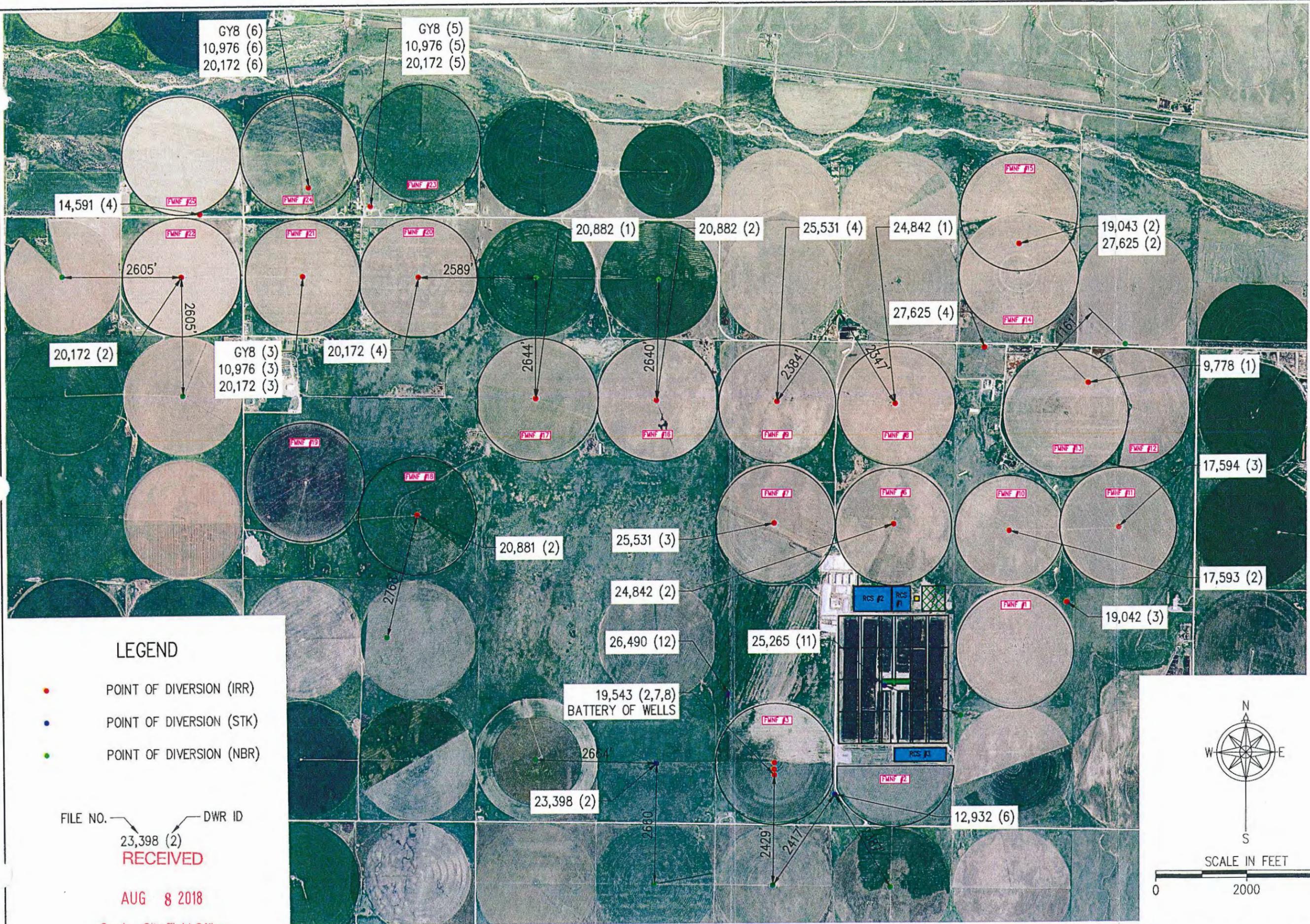
APPENDIX 1

Maps
Official DWR Summary
Place of Use Table

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Division of Water Resources



LEGEND

- POINT OF DIVERSION (IRR)
- POINT OF DIVERSION (STK)
- POINT OF DIVERSION (NBR)

FILE NO. 23,398 (2) DWR ID
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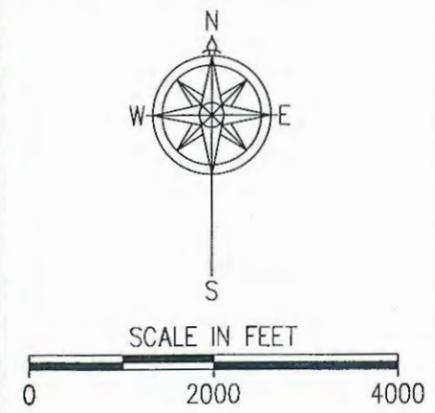
Garden City Field Office
 Division of Water Resources

DRAWN	DLB	DATE	11/17
CHECKED	FCM	DATE	11/17
APPROVED	FCM	DATE	11/17

POWERLINE DAIRY, LLC
 WATER RIGHT POINT OF DIVERSION MAP
 T26S R27W
 GRAY COUNTY, KANSAS

T26S

R27W

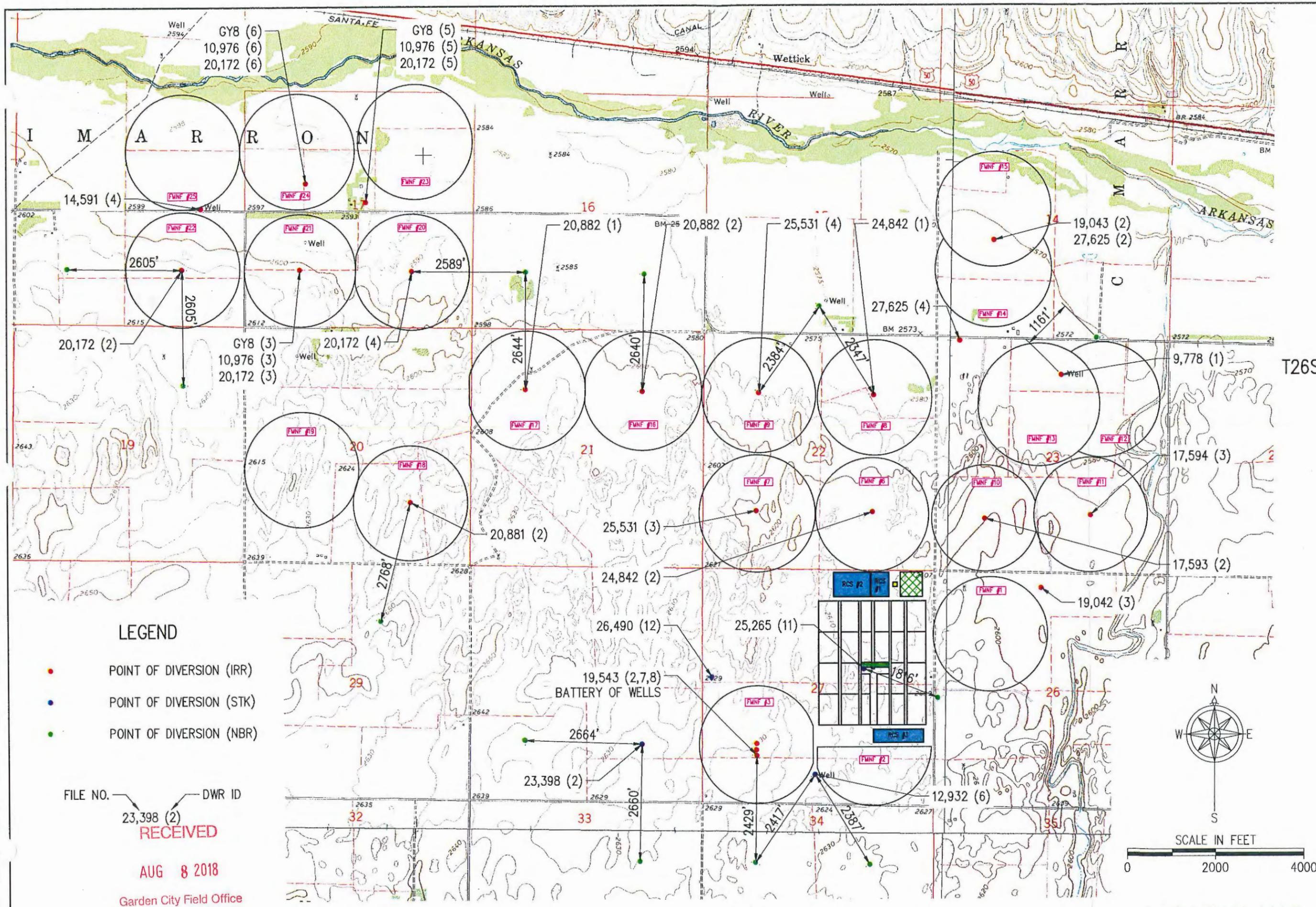


LOCATION MAP

1700 E IRON
 SALINA, KANSAS 67401
 (785) 823-0097
 1303 YUCCA STREET
 SCOTT CITY, KANSAS 67871
 (620) 872-2300



CAD FILE NAME:
 Plan View.dwg



LEGEND

- POINT OF DIVERSION (IRR)
- POINT OF DIVERSION (STK)
- POINT OF DIVERSION (NBR)

FILE NO. 23,398 (2)
 DWR ID RECEIVED

AUG 8 2018

Garden City Field Office
 Division of Water Resources

DRAWN	DLB	DATE	11/17
CHECKED	FCM	DATE	11/17
APPROVED	FCM	DATE	11/17

POWERLINE DAIRY, LLC
 WATER RIGHT POINT OF DIVERSION MAP
 T26S R27W
 GRAY COUNTY, KANSAS

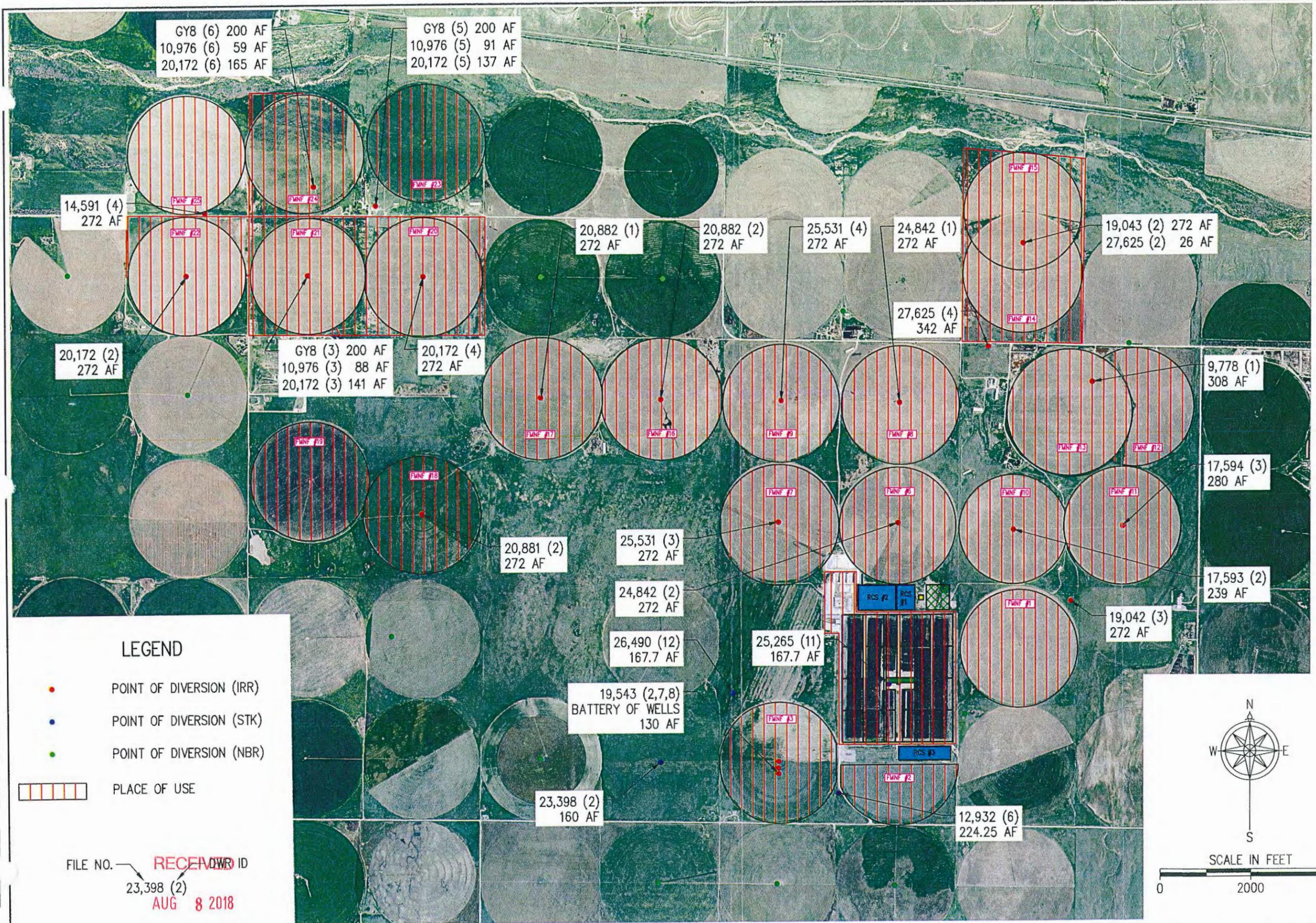
1700 E. IRON
 SALINA, KANSAS 67401
 (785) 823-0097
 1303 YUCCA STREET
 SCOTT CITY, KANSAS 67871
 (620) 872-2300



CAD FILE NAME:
 Plan View.dwg



LOCATION MAP



GY8 (6) 200 AF
10,976 (6) 59 AF
20,172 (6) 165 AF

GY8 (5) 200 AF
10,976 (5) 91 AF
20,172 (5) 137 AF

14,591 (4)
272 AF

20,882 (1)
272 AF

20,882 (2)
272 AF

25,531 (4)
272 AF

24,842 (1)
272 AF

19,043 (2) 272 AF
27,625 (2) 26 AF

20,172 (2)
272 AF

GY8 (3) 200 AF
10,976 (3) 88 AF
20,172 (3) 141 AF

20,172 (4)
272 AF

20,881 (2)
272 AF

25,531 (3)
272 AF

24,842 (2)
272 AF

26,490 (12)
167.7 AF

25,265 (11)
167.7 AF

19,543 (2,7,8)
BATTERY OF WELLS
130 AF

23,398 (2)
160 AF

12,932 (6)
224.25 AF

9,778 (1)
308 AF

17,594 (3)
280 AF

17,593 (2)
239 AF

19,042 (3)
272 AF

LEGEND

- POINT OF DIVERSION (IRR)
- POINT OF DIVERSION (STK)
- POINT OF DIVERSION (NBR)
- PLACE OF USE

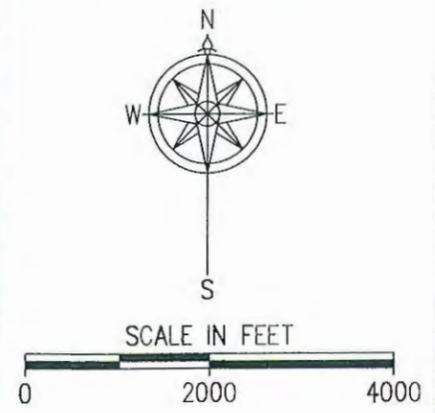
FILE NO. **RECEIVED** ID
23,398 (2)
AUG 8 2018

Garden City Field Office
Division of Water Resources

T26S

R27W

PLACE OF USE MAP



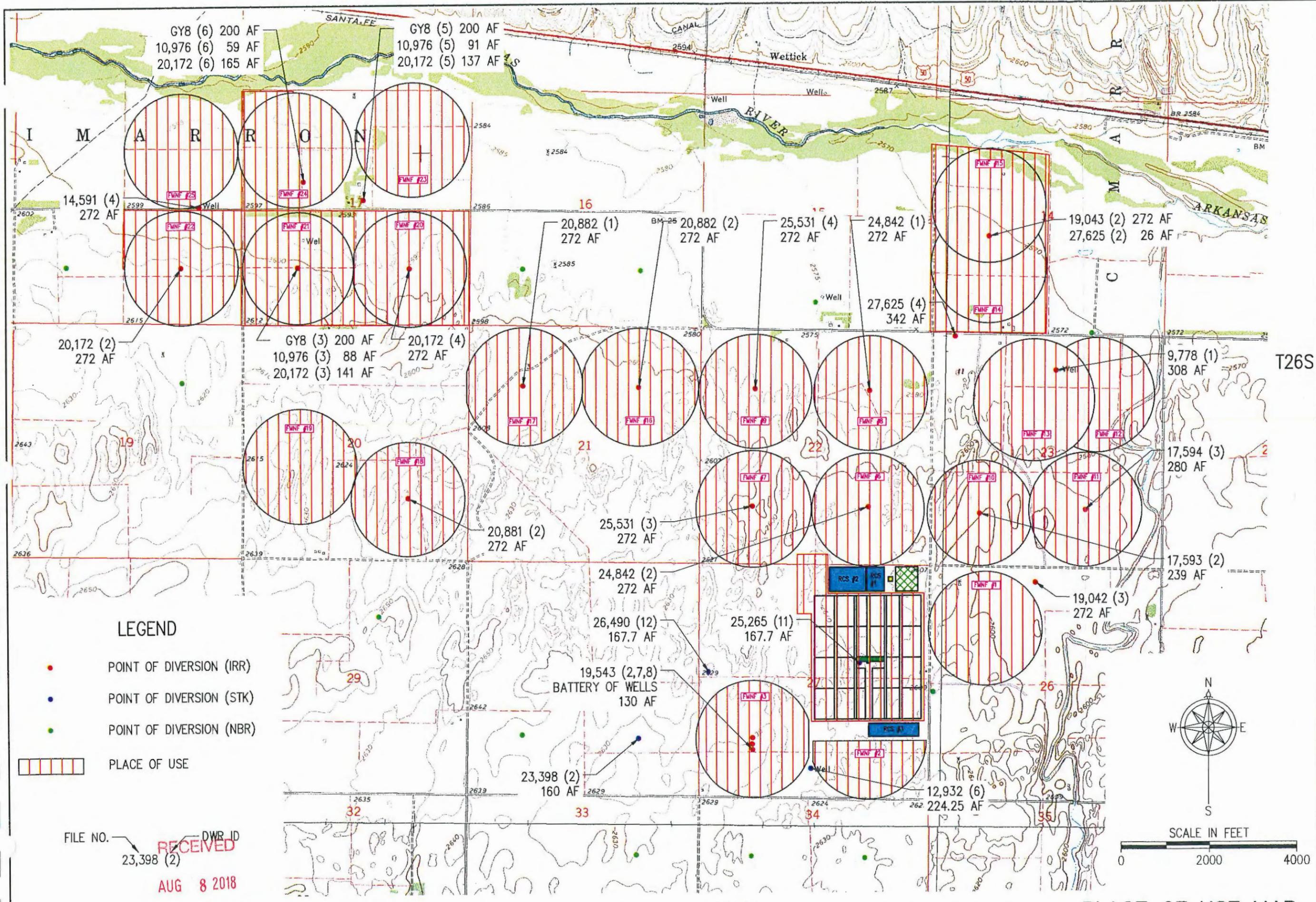
DRAWN	DLB	DATE	11/17
CHECKED	FCM	DATE	11/17
APPROVED	FCM	DATE	11/17

POWERLINE DAIRY, LLC
WATER RIGHT POINT OF DIVERSION MAP
T26S R27W
GRAY COUNTY, KANSAS

1700 E. IRON
SALINA, KANSAS 67401
(785) 923-0097
1303 YUCCA STREET
SCOTT CITY, KANSAS 67871
(620) 872-2300



CAD FILE NAME:
Plan View.dwg
SHEET NO. 1 OF 2



GY8 (6) 200 AF
10,976 (6) 59 AF
20,172 (6) 165 AF

GY8 (5) 200 AF
10,976 (5) 91 AF
20,172 (5) 137 AF

14,591 (4)
272 AF

20,172 (2)
272 AF

GY8 (3) 200 AF
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20,172 (4)
272 AF

20,882 (1)
272 AF

20,882 (2)
272 AF

25,531 (4)
272 AF

24,842 (1)
272 AF

19,043 (2) 272 AF
27,625 (2) 26 AF

27,625 (4)
342 AF

9,778 (1)
308 AF

17,594 (3)
280 AF

17,593 (2)
239 AF

19,042 (3)
272 AF

23,398 (2)
160 AF

19,543 (2,7,8)
BATTERY OF WELLS
130 AF

25,265 (11)
167.7 AF

12,932 (6)
224.25 AF

LEGEND

- POINT OF DIVERSION (IRR)
- POINT OF DIVERSION (STK)
- POINT OF DIVERSION (NBR)
- PLACE OF USE

FILE NO. 23,398 (2)
DWR ID
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AUG 8 2018

Garden City Field Office
Division of Water Resources



DRAWN	DLB	DATE	11/17
CHECKED	FCM	DATE	11/17
APPROVED	FCM	DATE	11/17

POWERLINE DAIRY, LLC
WATER RIGHT POINT OF DIVERSION MAP
T26S R27W
GRAY COUNTY, KANSAS

1700 E. IRON
SAJINA, KANSAS 67401
(785) 823-0097
1303 YUCCA STREET
SCOTT CITY, KANSAS 67871
(620) 872-2300



CAD FILE NAME:
Plan View.dwg

SHEET NO. 1 OF 2

PLACE OF USE MAP

R27W

T26S

GY8 (6) 200 AF
10,976 (6) 59 AF
20,172 (6) 165 AF

GY8 (5) 200 AF
10,976 (5) 91 AF
20,172 (5) 137 AF

14,591 (4)
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20,882 (1)
272 AF

20,882 (2)
272 AF

25,531 (4)
272 AF

24,842 (1)
272 AF

19,043 (2) 272 AF
27,625 (2) 26 AF

2605'
2605'

2589'

2644'

2640'

2384'

2547'

20,172 (2)
272 AF

GY8 (3) 200 AF
10,976 (3) 88 AF
20,172 (3) 141 AF

20,172 (4)
272 AF

9,778 (1)
308 AF

2768'

20,881 (2)
272 AF

25,531 (3)
272 AF

24,842 (2)
272 AF

26,490 (12)
167.7 AF

25,265 (11)
167.7 AF

19,543 (2,7,8)
BATTERY OF WELLS
130 AF

19,042 (3)
272 AF

17,594 (3)
280 AF

17,593 (2)
239 AF

FILE NO. DWR ID

23,398 (2)

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Division of Water Resources

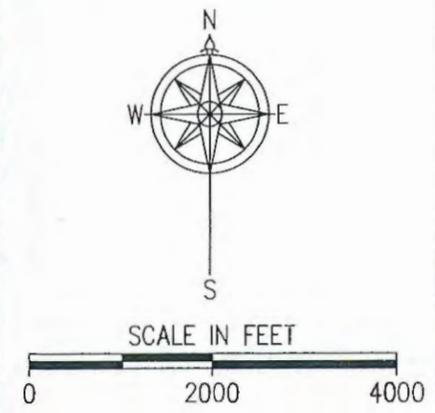
T26S

POWERLINE DAIRY, LLC
WATER RIGHT POINT OF DIVERSION MAP
T26S R27W
GRAY COUNTY, KANSAS

DRAWN	DLB	DATE	11/17
CHECKED	FCM	DATE	11/17
APPROVED	FCM	DATE	11/17

LEGEND

- POINT OF DIVERSION (IRR)
- POINT OF DIVERSION (STK)
- POINT OF DIVERSION (NBR)



R27W

QUANTITY MAP

1700 E IRON
SALINA, KANSAS 67401
(785) 823-0097
1303 YUCCA STREET
SCOTT CITY, KANSAS 67871
(620) 872-2300



CAD FILE NAME:
Plan View.dwg

SHEET NO. 1 OF 2

KLA ENVIRONMENTAL SERVICES, INC.

PROJECT: **POWERLINE DAIRY, LLC**

LOCATION: **GRAY COUNTY, KANSAS**

BY: **BMW**
DATE: **7/10/2017**

REVIEWED BY: **Armando Zarco (KDA office)**
DATE: **7/23/2018**

HISTORICAL WATER USE EVALUATION

USE	DAIRY (STK)				
FILE NO.	12,932	23,398	25,265	26,490	
AUTH. QTY. (AC-FT)	224.25	160.00	167.70	167.70	← TOTAL STK AUTHORIZED QUANTITY
YEAR	REPORTED ACRE-FEET				
2016	670.834				
2015	683.522				
2014	499.221				
2013	751.546				
2012	611.557				
5-YEAR AVG	643.336				643.34

USE	IRRIGATION WELLS (IRR)																				TOTAL IRR AUTHORIZED QUANTITY			
FILE NO.	GY8, 10,976 & 20,172			9,778 (1)	14,591 (4)	17,593 (2)	17,594 (3)	19,042 (3)	19,043 (2) & 27,625 (2)	19,543 (2), (7) & (8)	20,172 (2)[18] & (4)	20,881 (2)	20,882 (1) & (2)	24,842	25,531 (3) & (4)	27,625 (4)								
FIELD NO.	FMNF #24-(6)	FMNF #21-(3)	FMNF #23-(5)	FMNF #13	FMNF #25	FMNF #10	FMNF #11	FMNF #1	FMNF #15	FMNF #3 & FMNF #2	FMNF #22-(2)[18]	FMNF #20-(4)	FMNF #18 & FMNF #19	FMNF #17-(1)	FMNF #16-(2)	FMNF #6-(2)	FMNF #8-(1)	FMNF #7-(3)	FMNF #9-(4)	FMNF #12 & FMNF#14-(4)				
AUTH. QTY. (AC-FT)	224-424	229-429	228-428	308.00	272.00	239.00	280.00	272.00	298.00	130.00	272.00	272.00	272.00	272.00	272.00	272.00	272.00	272.00	272.00	272.00	272.00	272.00	342.00	5470.00
YEAR	REPORTED ACRE-FEET																							
2016	718.838			203.640	146.350	33.010	157.460	163.150	171.980	No Use	115.510	239.864	241.830	231.380	194.058	143.060	203.770	235.607	235.610	226.499				
2015	592.430			240.740	119.380	143.267	184.490	166.090	203.877	2.520	216.930	247.681	208.150	224.886	225.033	159.730	188.100	207.990	236.410	282.775				
2014	742.933			297.360	131.320	173.139	276.790	177.520	210.450	4.240	207.070	232.620	211.504	252.886	242.177	150.940	204.690	188.250	252.440	300.852				
2013	850.686			304.600	151.140	229.899	274.030	202.710	264.170	101.642	189.120	235.876	272.000	218.860	240.569	171.690	242.340	219.060	272.000	258.572				
2012	881.000			305.770	199.730	237.572	278.050	272.000	271.870	100.934	272.000	268.779	265.120	261.664	270.308	251.490	250.580	269.150	270.170	305.808				
5-YEAR AVG	757.177			270.422	149.584	163.377	234.164	196.294	224.469	52.334	200.126	244.964	239.721	237.935	234.429	175.382	217.896	224.011	253.326	274.901				4350.51

Note: File No. 12,932 MM indicates the main meter adjacent to the well. File No. 12,932 DM indicates the meter at the milking facility. The dairy meter (DM) indicates usage within the milking facility. The difference between the MM and DM usage represents the portion directly consumed by dairy cattle.

	AUTHORIZED QUANTITY	2012-2016 AVERAGE USE	Proposed Conservation Reduction for WCA
TOTAL STK =	719.65 AF	643.34 AF	643.34 AF (Past Conservation)
TOTAL IRR =	5470.00 AF	4350.51 AF	3915.46 AF (10% Reduction)
TOTAL ALL =	6189.650 AF	4993.850 AF	4558.796 AF Basis Qty for WCA
		81% of Auth Qty	74% of Auth Qty

DWR Notes:

WR #GY-8 has group quantity therefore we needed to calculate as a group for accuracy (average use of group is 757.177 AF)
WR #GY-8 has a group annual authorized quantity of 200 AF; therefore up to 200 AF can be pumped from any of the 3 wells under this water right

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Division of Water Resources

PLACE OF USE

Sec.	Twp.	Range	NE 1/4				NW 1/4				SW 1/4				SE 1/4				TOTAL ACRES
			NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	
23	26	27W	26	37	40	26	34	5	8	40	30	28	35	29	19	39	37	18	451
14	26	27W					2	2	40	40	40	40	40						244
26	26	27W					34	34	34	34									136
8	26	27W															2	2	4
17	26	27W	36	34	23	24	29	39	40	29	38	40	40	38	38	38	40	40	566
18	26	27W	29	30	33	31								40	40	31	31	265	
20	26	27W							14	16	39	36	10	8	31	33	30	28	245
21	26	27W	32	31	32	32	32	31	34	32									256
22	26	27W	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	544
27	26	27W									30.5	30.5	30.5	30.5			30	30	182

TOTAL ACRES 2,893

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Division of Water Resources

APPENDIX 2

Groundwater Level Decline Data

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Division of Water Resources

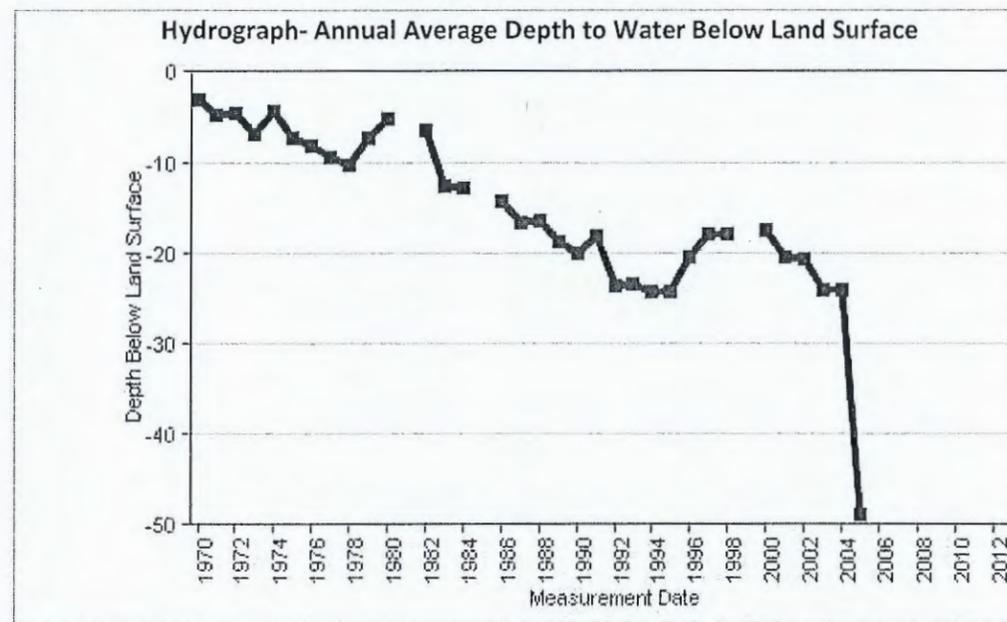
General Well Site Information

USGS ID:	374714100182601	KGS Local Well ID:	26S 27W 18ADC 01
County:	Gray	PLSS Description:	26S 27W 18 SWSENE
HUC 8 Code:	11030003	GMD:	Southwest Kansas GMD #3
Longitude:	-100.309471	Lat/Long Source:	GPS
Latitude:	37.788222	Lat/Long Accuracy:	5 seconds
Surface Elevation (ft):	2598.65	Depth of Well (ft):	220
Geological Unit Codes:		USGS Map Name:	Cimarron
Use of Site:	Withdrawal of Water	Use of Water:	Irrigation
WWC5 Links:	None	WIMAS Link:	28283

Water Level Measurements

374714100182601

Note that depth to water is feet below land surface and all measurements for the well are included.



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Division of Water Resources

Date	Depth to Water	Status	Agency	Method	WL Source	Tape Hold	Chalk Cut	Initials
FEB-01-1970	-3	-	-	Steel Tape	-	-	---	-
JAN-21-1971	-4.67	-	-	Steel Tape	-	-	---	-
FEB-01-1972	-4.55	-	-	Steel Tape	-	-	---	-
JAN-18-1973	-6.81	-	-	Steel Tape	-	-	---	-
JAN-24-1974	-4.26	-	-	Steel Tape	-	-	---	-
JAN-14-1975	-7.41	-	-	Steel Tape	-	-	---	-
JAN-26-1976	-8.11	-	-	Steel Tape	-	-	---	-
JAN-11-1977	-9.5	-	-	Steel Tape	-	-	---	-
JAN-19-1978	-10.3	-	-	Steel Tape	-	-	---	-
JAN-08-1979	-7.29	-	-	Steel Tape	-	-	---	-
JAN-12-1980	-5.08	-	-	Steel Tape	-	-	---	-
JAN-17-1980	-5.15	-	-	Steel Tape	-	-	---	-
JAN-26-1982	-6.4	-	-	Steel Tape	-	-	---	-
JAN-12-1983	-12.71	-	-	Steel Tape	-	-	---	-
JAN-30-1984	-12.9	-	-	Steel Tape	-	-	---	-
DEC-01-1986	-14.36	B	DWR	Unknown	-	-	---	-
JAN-01-1987	-13.57	B	DWR	Unknown	-	-	---	-
MAR-01-1987	-13.34	B	DWR	Unknown	-	-	---	-
MAY-01-1987	-18.54	B	DWR	Unknown	-	-	---	-
JUL-01-1987	-16.11	B	DWR	Unknown	-	-	---	-
AUG-01-1987	-16.86	B	DWR	Unknown	-	-	---	-
SEP-01-1987	-19.01	B	DWR	Unknown	-	-	---	-
OCT-01-1987	-18.97	B	DWR	Unknown	-	-	---	-
NOV-01-1987	-16.61	B	DWR	Unknown	-	-	---	-
DEC-01-1987	-16.99	B	DWR	Unknown	-	-	---	-
MAR-01-1988	-16.01	B	DWR	Unknown	-	-	---	-
NOV-01-1988	-16.68	B	DWR	Unknown	-	-	---	-
DEC-01-1988	-16.71	B	DWR	Unknown	-	-	---	-
JAN-01-1989	-16.76	B	DWR	Unknown	-	-	---	-
FEB-01-1989	-16.63	B	DWR	Unknown	-	-	---	-
MAR-01-1989	-20.74	B	DWR	Unknown	-	-	---	-
JUL-01-1989	-22.5	B	DWR	Unknown	-	-	---	-
NOV-01-1989	-19.33	B	DWR	Unknown	-	-	---	-
DEC-01-1989	-16.91	B	DWR	Unknown	-	-	---	-
FEB-01-1990	-16.56	B	DWR	Unknown	-	-	---	RECEIVED

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Garden City Field Office
Division of Water Resources

APR-01-1990	-22.62	B	DWR	Unknown	-	-	---	-
OCT-01-1990	-21.15	B	DWR	Unknown	-	-	---	-
DEC-01-1990	-19.9	B	DWR	Unknown	-	-	---	-
JAN-01-1991	-17.7	B	DWR	Unknown	-	-	---	-
FEB-01-1991	-18.6	B	DWR	Unknown	-	-	---	-
JAN-01-1992	-21.57	B	DWR	Unknown	-	-	---	-
MAR-01-1992	-23.99	B	DWR	Unknown	-	-	---	-
MAY-01-1992	-24.46	B	DWR	Unknown	-	-	---	-
JUN-01-1992	-23.17	B	DWR	Unknown	-	-	---	-
JUL-01-1992	-23.48	B	DWR	Unknown	-	-	---	-
SEP-01-1992	-23.9	B	DWR	Unknown	-	-	---	-
NOV-01-1992	-25.14	B	DWR	Unknown	-	-	---	-
JAN-01-1993	-21.68	B	DWR	Unknown	-	-	---	-
MAR-01-1993	-22	B	DWR	Unknown	-	-	---	-
MAY-01-1993	-24.25	B	DWR	Unknown	-	-	---	-
JUL-01-1993	-26.12	B	DWR	Unknown	-	-	---	-
NOV-01-1993	-22.89	B	DWR	Unknown	-	-	---	-
JAN-01-1994	-21.92	B	DWR	Unknown	-	-	---	-
MAR-01-1994	-23.32	B	DWR	Unknown	-	-	---	-
MAY-01-1994	-22.93	B	DWR	Unknown	-	-	---	-
JUL-01-1994	-24.58	B	DWR	Unknown	-	-	---	-
SEP-01-1994	-26.64	B	DWR	Unknown	-	-	---	-
NOV-01-1994	-26.57	B	DWR	Unknown	-	-	---	-
DEC-01-1994	-23.72	B	DWR	Unknown	-	-	---	-
JAN-01-1995	-23.25	B	DWR	Unknown	-	-	---	-
MAR-01-1995	-24.68	B	DWR	Unknown	-	-	---	-
MAY-01-1995	-25.1	B	DWR	Unknown	-	-	---	-
JUL-01-1995	-26.79	B	DWR	Unknown	-	-	---	-
NOV-01-1995	-21.77	B	DWR	Unknown	-	-	---	-
MAR-01-1996	-22.94	B	DWR	Unknown	-	-	---	-
SEP-01-1996	-20.12	B	DWR	Unknown	-	-	---	-
DEC-01-1996	-18.2	B	DWR	Unknown	-	-	---	-
MAR-01-1997	-16.7	B	DWR	Unknown	-	-	---	-
SEP-01-1997	-18.95	B	DWR	Unknown	-	-	---	-
JAN-01-1998	-17.96	B	DWR	Unknown	-	-	---	-
JAN-01-2000	-16.16	B	DWR	Unknown	-	-	---	RECEIVED
APR-01-2000	-17.79	B	DWR	Unknown	-	-	---	-

AUG 8 2018

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OCT-01-2000	-18.56	B	DWR	Unknown	-	-	---	-
JAN-01-2001	-19.76	B	DWR	Unknown	-	-	---	-
JUL-01-2001	-20.05	B	DWR	Unknown	-	-	---	-
JUL-01-2001	-20.05	B	DWR	Unknown	-	-	---	-
OCT-01-2001	-22.24	B	DWR	Unknown	-	-	---	-
JAN-01-2002	-20.69	B	DWR	Unknown	-	-	---	-
JAN-01-2003	-21.83	B	DWR	Unknown	-	-	---	-
APR-01-2003	-23.65	B	DWR	Unknown	-	-	---	-
OCT-01-2003	-26.5	B	DWR	Unknown	-	-	---	-
OCT-19-2004	-24.02	-	DWR	Unknown	-	-	---	-
APR-20-2005	---	P	DWR	Unknown	-	-	---	-
JUL-18-2005	---	P	DWR	Unknown	-	-	---	-
OCT-17-2005	-48.92	-	DWR	Unknown	-	54	4.08	-
APR-05-2006	---	P	DWR	Unknown	-	-	---	-
JUL-11-2006	---	P	DWR	Unknown	-	-	---	-
OCT-16-2006	---	O	DWR	Unknown	-	-	---	-
APR-03-2007	---	O	DWR	Unknown	-	-	---	-
OCT-29-2007	---	P	DWR	Unknown	-	-	---	-
JAN-29-2008	---	O	DWR	Unknown	-	-	---	-
DEC-16-2008	---	O	DWR	Unknown	-	-	---	-
APR-06-2010	---	O	DWR	Unknown	-	-	---	sv
JAN-08-2013	---	Z	DWR	Unknown	-	-	---	RD
OCT-17-2014	---	O	DWR	Unknown	-	-	---	ieg

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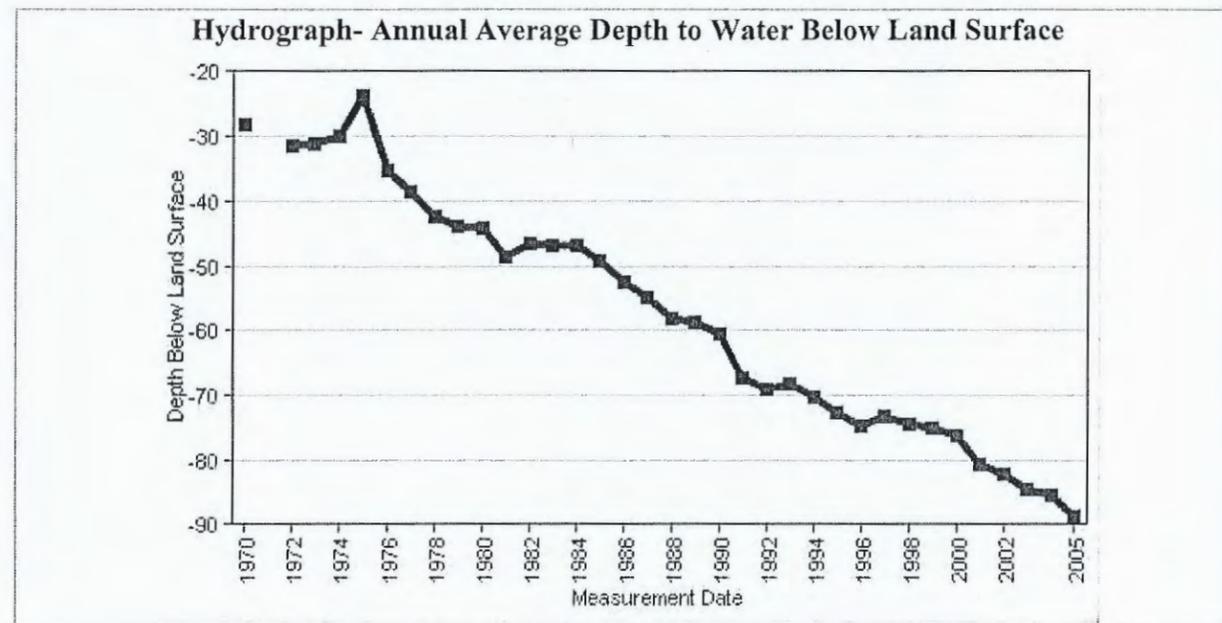
General Well Site Information

USGS ID:	374502100153401	KGS Local Well ID:	26S 27W 27CDD 01
County:	Gray	PLSS Description:	26S 27W 27 SESESW
HUC 8 Code:	11030003	GMD:	Southwest Kansas GMD #3
Longitude:	-100.26082	Lat/Long Source:	GPS (within 50 feet)
Latitude:	37.753572	Lat/Long Accuracy:	5 seconds
Surface Elevation (ft):	2612	Depth of Well (ft):	230
Geological Unit Codes:	QU TO	USGS Map Name:	Cimarron
Use of Site:	Unused	Use of Water:	Unused
WWC5 Links:	None	WIMAS Link:	<u>21341</u>

Water Level Measurements

374502100153401

Note that depth to water is feet below land surface and all measurements for the well are included.



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Date	Depth to Water	Status	Agency	Method	WL Source	Tape Hold	Chalk Cut	Initials
FEB-01-1970	-28.2	-	-	Steel Tape	-	-	---	-
FEB-01-1972	-31.3	-	-	Steel Tape	-	-	---	-
JAN-18-1973	-31.23	-	-	Steel Tape	-	-	---	-
JAN-24-1974	-30	-	-	Steel Tape	-	-	---	-
JAN-14-1975	-23.84	-	-	Steel Tape	-	-	---	-
JAN-26-1976	-35.13	-	-	Steel Tape	-	-	---	-
JAN-11-1977	-38.45	-	-	Steel Tape	-	-	---	-
JAN-18-1978	-42.27	-	-	Steel Tape	-	-	---	-
JAN-08-1979	-43.98	-	-	Steel Tape	-	-	---	-
JAN-17-1980	-44.08	-	-	Steel Tape	-	-	---	-
JAN-13-1981	-48.5	-	-	Steel Tape	-	-	---	-
JAN-26-1982	-46.46	-	-	Steel Tape	-	-	---	-
JAN-12-1983	-46.9	-	-	Steel Tape	-	-	---	-
JAN-30-1984	-46.95	-	-	Steel Tape	-	-	---	-
JAN-21-1985	-49.16	-	-	Steel Tape	-	-	---	-
JAN-23-1986	-50.38	-	-	Steel Tape	-	-	---	-
DEC-01-1986	-54.38	B	DWR	Unknown	-	-	---	-
JAN-14-1987	-53.72	-	-	Steel Tape	-	-	---	-
MAR-01-1987	-53.34	B	DWR	Unknown	-	-	---	-
MAY-01-1987	-53.31	B	DWR	Unknown	-	-	---	-
SEP-01-1987	-56.66	B	DWR	Unknown	-	-	---	-
OCT-01-1987	-56.37	B	DWR	Unknown	-	-	---	-
NOV-01-1987	-55.53	B	DWR	Unknown	-	-	---	-
DEC-01-1987	-55.01	B	DWR	Unknown	-	-	---	-
DEC-22-1987	-54.2	-	-	Steel Tape	-	-	---	-
MAR-01-1988	-53.56	B	DWR	Unknown	-	-	---	-
MAY-01-1988	-56.96	B	DWR	Unknown	-	-	---	-
JUN-01-1988	-58.81	B	DWR	Unknown	-	-	---	-
SEP-01-1988	-61.19	B	DWR	Unknown	-	-	---	-
OCT-01-1988	-58.91	B	DWR	Unknown	-	-	---	-
NOV-01-1988	-58.54	B	DWR	Unknown	-	-	---	-
DEC-01-1988	-58.03	B	DWR	Unknown	-	-	---	-
JAN-09-1989	-57.64	-	-	Steel Tape	-	-	---	-
FEB-01-1989	-57.26	B	DWR	Unknown	-	-	---	-
APR-01-1989	-56.9	B	DWR	Unknown	-	-	---	-

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JUN-01-1989	-58.4	B	DWR	Unknown	-	-	---	-
SEP-01-1989	-61.24	B	DWR	Unknown	-	-	---	-
NOV-01-1989	-60.2	B	DWR	Unknown	-	-	---	-
DEC-01-1989	-59.51	B	DWR	Unknown	-	-	---	-
JAN-06-1990	-57.72	-	-	Steel Tape	-	-	---	-
FEB-01-1990	-58.5	B	DWR	Unknown	-	-	---	-
APR-01-1990	-57.98	B	DWR	Unknown	-	-	---	-
MAY-01-1990	-58.69	B	DWR	Unknown	-	-	---	-
JUN-01-1990	-61.85	B	DWR	Unknown	-	-	---	-
SEP-01-1990	-63.4	B	DWR	Unknown	-	-	---	-
NOV-01-1990	-62.64	B	DWR	Unknown	-	-	---	-
DEC-01-1990	-62.22	B	DWR	Unknown	-	-	---	-
JAN-01-1991	-62	B	DWR	Unknown	-	-	---	-
JAN-16-1991	-61.36	-	-	Steel Tape	-	-	---	-
FEB-01-1991	-61.62	B	DWR	Unknown	-	-	---	-
MAR-01-1991	-61.46	B	DWR	Unknown	-	-	---	-
APR-01-1991	-61.89	B	DWR	Unknown	-	-	---	-
MAY-01-1991	-62.08	B	DWR	Unknown	-	-	---	-
JUL-01-1991	-83.62	B	DWR	Unknown	-	-	---	-
AUG-01-1991	-83.18	B	DWR	Unknown	-	-	---	-
SEP-01-1991	-68.96	B	DWR	Unknown	-	-	---	-
NOV-01-1991	-67.63	B	DWR	Unknown	-	-	---	-
JAN-01-1992	-66.9	B	DWR	Unknown	-	-	---	-
MAR-01-1992	-65.6	B	DWR	Unknown	-	-	---	-
APR-01-1992	-78.43	B	DWR	Unknown	-	-	---	-
MAY-01-1992	-67.35	B	DWR	Unknown	-	-	---	-
JUN-01-1992	-67.05	B	DWR	Unknown	-	-	---	-
JUL-01-1992	-70	B	DWR	Unknown	-	-	---	-
SEP-01-1992	-69.49	B	DWR	Unknown	-	-	---	-
OCT-01-1992	-68.87	B	DWR	Unknown	-	-	---	-
NOV-01-1992	-68.41	B	DWR	Unknown	-	-	---	-
JAN-01-1993	-67.45	B	DWR	Unknown	-	-	---	-
FEB-04-1993	-68.4	-	-	Steel Tape	-	-	---	-
MAR-01-1993	-66.91	B	DWR	Unknown	-	-	---	-
MAY-01-1993	-66.78	B	DWR	Unknown	-	-	---	-
JUL-01-1993	-69.06	B	DWR	Unknown	-	-	---	-
AUG-01-1993	-69.69	B	DWR	Unknown	-	-	---	-

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NOV-01-1993	-68.15	B	DWR	Unknown	-	-	---	-
JAN-01-1994	-67.19	B	DWR	Unknown	-	-	---	-
JAN-10-1994	-67.68	-	-	Steel Tape	-	-	---	-
MAR-01-1994	-66.37	B	DWR	Unknown	-	-	---	-
MAY-01-1994	-68.28	B	DWR	Unknown	-	-	---	-
JUL-01-1994	-79.17	B	DWR	Unknown	-	-	---	-
SEP-01-1994	-71.96	B	DWR	Unknown	-	-	---	-
NOV-01-1994	-70.73	B	DWR	Unknown	-	-	---	-
DEC-01-1994	-70.22	B	DWR	Unknown	-	-	---	-
JAN-01-1995	-69.68	B	DWR	Unknown	-	-	---	-
JAN-13-1995	-70.12	-	-	Steel Tape	-	-	---	-
MAR-01-1995	-69.14	B	DWR	Unknown	-	-	---	-
MAY-01-1995	-69.44	B	DWR	Unknown	-	-	---	-
JUL-01-1995	-81.06	B	DWR	Unknown	-	-	---	-
SEP-01-1995	-76.02	B	DWR	Unknown	-	-	---	-
NOV-01-1995	-73.35	B	DWR	Unknown	-	-	---	-
JAN-01-1996	-71.48	B	DWR	Unknown	-	-	---	-
JAN-13-1996	-71.78	-	-	Steel Tape	-	-	---	-
MAR-01-1996	-70.82	B	DWR	Unknown	-	-	---	-
MAY-01-1996	-74.86	B	DWR	Unknown	-	-	---	-
JUL-01-1996	-87.6	B	DWR	Unknown	-	-	---	-
SEP-01-1996	-74.35	B	DWR	Unknown	-	-	---	-
DEC-01-1996	-72.54	B	DWR	Unknown	-	-	---	-
JAN-08-1997	-72.12	-	KGS	Steel Tape	-	76	2.98	U B
MAR-01-1997	-71.16	B	DWR	Unknown	-	-	---	-
SEP-01-1997	-76.2	B	DWR	Unknown	-	-	---	-
JAN-01-1998	-73.25	B	DWR	Unknown	-	-	---	-
JAN-07-1998	-73.65	-	KGS	Steel Tape	-	76	1.45	GLM
APR-01-1998	-72.67	B	DWR	Unknown	-	-	---	-
SEP-01-1998	-78.54	B	DWR	Unknown	-	-	---	-
JAN-07-1999	-75.77	-	KGS	Steel Tape	-	77	0.33	JMH
APR-01-1999	-74.09	B	DWR	Unknown	-	-	---	-
JAN-01-2000	-76.65	B	DWR	Unknown	-	-	---	-
JAN-08-2000	-76.68	-	KGS	Steel Tape	-	80	2.42	DRL
APR-01-2000	-75.05	B	DWR	Unknown	-	-	---	-
JAN-01-2001	-78.74	B	DWR	Unknown	-	-	---	RECEIVED
JAN-07-2001	-79.31	-	KGS	Steel Tape	-	82	1.79	MWF

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APR-01-2001	-79.36	B	DWR	Unknown	-	-	---	-
OCT-01-2001	-84.77	B	DWR	Unknown	-	-	---	-
JAN-08-2002	-81.68	-	KGS	Steel Tape	-	85	2.42	BBW
APR-01-2002	-82.34	B	DWR	Unknown	-	-	---	-
JAN-10-2003	-84.54	-	KGS	Steel Tape	-	90	4.56	JMA
JAN-07-2004	-85.36	-	KGS	Steel Tape	-	87	0.74	BBW
JAN-11-2005	-88.59	-	DWR	Steel Tape	-	95	5.51	MSP

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TRS	TWP_IDENT	TOWNSHIP	RANGE	SECTION	STATUS	description	gmd	ned_elev	hpa_bedrock	hpa_bedrock_ depth	wte_predev	predev_st	wte_ 2015_2017	dtw_ 2015_2017	satthick_ 2015_2017	chnge_predev_ 2015_2017 _actual	chnge_predev_ 2015_2017_ percent	chnge_ 19961998 _20152017	chnge_19961998 _20152017 _annual_trend	eul_19961998 _20152017 _200gpm
26S27W13	26S27W	26S	27W	13		some	3	2564.02	2400.17	163.85	2567.00	166.83	2486.40	77.62	86.23	-80.60	-48.31	-49.86	-2.62	19.52
26S27W14	26S27W	26S	27W	14		some	3	2568.74	2396.80	171.94	2575.00	178.20	2481.84	86.90	85.04	-93.16	-52.28	-44.47	-2.34	21.38
26S27W15	26S27W	26S	27W	15		some	3	2574.29	2392.79	181.50	2581.00	188.21	2486.12	88.17	93.33	-94.88	-50.41	-40.91	-2.15	27.09
26S27W16	26S27W	26S	27W	16		some	3	2583.08	2397.49	185.59	2587.00	189.51	2490.86	92.22	93.37	-96.14	-50.73	-38.97	-2.05	28.46
26S27W17	26S27W	26S	27W	17		some	3	2592.87	2398.70	194.17	2595.00	196.30	2498.25	94.62	99.55	-96.75	-49.29	-39.14	-2.06	31.33
26S27W18	26S27W	26S	27W	18		some	3	2603.75	2403.38	200.37	2604.00	200.62	2505.93	97.82	102.55	-98.07	-48.89	-42.20	-2.22	30.41
26S27W19	26S27W	26S	27W	19		some	3	2631.53	2420.68	210.85	2603.00	182.32	2491.22	140.31	70.54	-111.78	-61.31	-43.08	-2.27	15.67
26S27W20	26S27W	26S	27W	20		some	3	2619.43	2391.85	227.58	2595.00	203.15	2482.21	137.22	90.36	-112.79	-55.52	-40.08	-2.11	26.24
26S27W21	26S27W	26S	27W	21		some	3	2610.71	2387.25	223.46	2587.00	199.75	2471.07	139.64	83.82	-115.93	-58.04	-39.93	-2.10	23.23
26S27W22	26S27W	26S	27W	22		some	3	2594.61	2387.63	206.98	2580.00	192.37	2463.46	131.15	75.83	-116.54	-60.58	-41.50	-2.18	18.69
26S27W23	26S27W	26S	27W	23		some	3	2585.12	2390.95	194.17	2573.00	182.05	2466.26	118.86	75.31	-106.74	-58.63	-44.61	-2.35	17.17
26S27W24	26S27W	26S	27W	24		some	3	2577.99	2377.75	200.24	2564.00	186.25	2478.57	99.42	100.82	-85.43	-45.87	-49.07	-2.58	25.48
26S27W25	26S27W	26S	27W	25		some	3	2602.31	2378.00	224.31	2562.00	184.00	2470.93	131.38	92.93	-91.07	-49.50	-43.54	-2.29	25.28
26S27W26	26S27W	26S	27W	26		some	3	2606.86	2401.45	205.41	2571.00	169.55	2453.77	153.09	52.32	-117.23	-69.14	-41.74	-2.20	7.88
26S27W27	26S27W	26S	27W	27		some	3	2615.01	2394.94	220.07	2579.00	184.06	2437.40	177.61	42.46	-141.60	-76.93	-39.66	-2.09	3.57
26S27W28	26S27W	26S	27W	28		some	3	2632.04	2386.66	245.38	2587.00	200.34	2456.18	175.86	69.52	-130.82	-65.30	-38.32	-2.02	17.12
26S27W29	26S27W	26S	27W	29		some	3	2640.34	2389.43	250.91	2595.00	205.57	2474.85	165.49	85.42	-120.15	-58.45	-38.54	-2.03	24.86
26S27W30	26S27W	26S	27W	30		some	3	2646.87	2412.59	234.28	2603.00	190.41	2484.20	162.67	71.61	-118.80	-62.39	-41.77	-2.20	16.65
26S27W31	26S27W	26S	27W	31		some	3	2659.54	2403.69	255.85	2603.00	199.31	2495.20	164.34	91.51	-107.80	-54.09	-39.12	-2.06	27.44
26S27W32	26S27W	26S	27W	32		some	3	2649.90	2402.89	247.01	2595.00	192.11	2482.85	167.05	79.96	-112.15	-58.38	-35.34	-1.86	24.17
26S27W33	26S27W	26S	27W	33		some	3	2644.25	2417.60	226.65	2587.00	169.40	2463.26	180.99	45.66	-123.74	-73.04	-35.38	-1.86	5.73
26S27W34	26S27W	26S	27W	34		some	3	2631.86	2445.96	185.90	2578.00	132.04	2446.28	185.58	0.32	-131.72	-99.76	-36.67	-1.93	already at threshold
26S27W35	26S27W	26S	27W	35		some	3	2622.15	2455.42	166.73	2569.00	113.58	2456.27	165.88	0.85	-112.73	-99.25	-38.17	-2.01	already at threshold
26S27W36	26S27W	26S	27W	36		some	3	2618.75	2439.84	178.91	2560.00	120.16	2469.91	148.84	30.07	-90.09	-74.98	-38.98	-2.05	already at threshold
Averages											2583.33	180.25	2474.72	136.78	71.64	-108.61	-61.71	-40.88	-2.15	20.83

WATER LEVEL DATA PROVIDED BY BROWNIE WILSON, KANSAS GEOLOGICAL SURVEY, VIA E-MAIL ON SEPT. 29, 2017

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APPENDIX 3

Determination of Reasonable Stockwater Use
Summary of Wastewater (Effluent) Applied to Place of Use
for Irrigation Purposes

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KLA ENVIRONMENTAL SERVICES, INC.PROJECT: **POWERLINE DAIRY, LLC**LOCATION: **SECTION 27 T26S R27W, GRAY COUNTY, KANSAS**BY: **FCM**
DATE: **10/12/2017**CHECKED BY: **CSG**
DATE: **11/28/2017****ESTIMATED MAXIMUM REASONABLE STOCKWATER USE QUANTITY
FOR CURRENT AND PLANNED DAIRY CAPACITY****USE BASED ON CURRENT CAPACITY:**

LIVESTOCK TYPE	USE	UNIT RATE (GAL/HD/DAY)	NO. OF HEAD	NO. OF DAYS	ANNUAL USE (GALLONS)
LACTATING COWS	DRINKING	35	12,000	365	153,300,000
LACTATING COWS	DAIRY PROCESSING	35	12,000	365	153,300,000
TOTAL =					306,600,000

= 940.9

USE BASED ON PLANNED CAPACITY AFTER EXPANSION:

LIVESTOCK TYPE	USE	UNIT RATE (GAL/HD/DAY)	NO. OF HEAD	NO. OF DAYS	ANNUAL USE (GALLONS)
LACTATING COWS	DRINKING	35	12,000	365	153,300,000
LACTATING COWS	DAIRY PROCESSING	35	12,000	365	153,300,000
DRY COWS	DRINKING	15	2,000	365	10,950,000
HEIFERS	DRINKING	12	10,000	365	43,800,000
TOTAL =					361,350,000

= 1,108.9 AF

NOTES: DAIRY PROCESSING INCLUDES ALL SANITATION, COOLING AND RELATED PROCESSES ASSOCIATED WITH THE MILKING OPERATION.

GAL/HD/DAY = GALLONS/HEAD/DAY

1.0 AF = 1.0 ACRE-FOOT = 325,851 GALLONS

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KLA ENVIRONMENTAL SERVICES, INC.

PROJECT: **POWERLINE DAIRY, LLC**

LOCATION: **GRAY COUNTY, KANSAS**

BY: **FCM**
DATE: **11/10/2017**

CHECKED BY: **CSG**
DATE: **11/28/2017**

**SUMMARY OF WASTEWATER (EFFLUENT) APPLIED TO POWERLINE DAIRY, LLC
PLACE OF USE FOR IRRIGATION PURPOSES**

Powerline Dairy, LLC generates wastewater from milk processing and sanitation operations. The facility is also required to contain all stormwater runoff generated within the facility. This wastewater is ultimately used for irrigation purposes. The wastewater supplements groundwater used for irrigated crop production and is applied on the same place of use as the groundwater authorized by the facility's water rights. Wastewater irrigation provides an additional source of recharge to the local aquifer utilized by Powerline Dairy, LLC.

Powerline Dairy, LLC is required to keep a record of all wastewater application according to the terms and conditions of their KDHE and EPA water pollution control permit. The wastewater application (i.e. irrigation) quantities summarized in the following table were obtained from the LAND APPLICATION SUMMARY of the facility's annual report to KDHE.

YEAR	WASTEWATER (EFFLUENT) APPLICATION	
	(GALLONS)	(ACRE-FEET)
2012	140,974,248	432.63
2013	143,329,561	439.86
2014	132,545,680	406.77
2015	142,217,358	436.45
2016	141,057,310	432.89
AVERAGE	140,024,831	429.72

Table KS6-1, Typical Efficiency for Irrigation Systems, in the NRCS National Engineering Handbook, Part 652, Irrigation Guide, indicates a system efficiency of 87% for center pivot sprinkler systems with nozzles near the ground. This is the type of irrigation system used by Powerline Dairy, LLC. This implies a potential recharge factor of 13% (100% - 87%).

→ The average annual potential recharge from wastewater (effluent) irrigation = 13% of the average annual application = 55.86 acre-feet

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**KS652.0605 State supplement -
irrigation system design****(a) General information**

This part contains additional technical information required for the design of the various types of irrigation systems. Section KS652.0605(b) addresses gravity irrigation systems. Section KS652.0605(c) addresses sprinkle irrigation systems. Section KS652.0605(d) addresses micro (drip) irrigation systems.

Table KS6-1 is provided for guidance in determining the recommended irrigation efficiency to use in the various system designs. The efficiencies shown are for the system efficiency. System efficiency considers all water losses beginning at the water source and ending at the soil surface or point of application. These values are appropriate for use in irrigation scheduling programs, which are addressed in Chapter 9, Irrigation Water Management. It does not consider impacts of irrigation management alternatives. Those issues are discussed in KS652.0505.

Table KS6-1 Typical Efficiency for Irrigation Systems

Irrigation System Type	Efficiency (%)
Surface Irrigation - Basic (Earthen conveyance ditch and siphon tubes or cutouts)	50
Surface Irrigation - Basic (Earthen conveyance ditch, siphon tubes or cutouts, land leveled)	60
Surface Irrigation - Basic (Earthen conveyance ditch, gated pipe, land leveled, tailwater reuse)	70
Surface Irrigation - Improved (Delivery pipeline, gated pipe)	70
Surface Irrigation - Improved (Delivery pipeline, gated pipe, land leveled)	75
Surface Irrigation - Improved (Tailwater reuse, land leveled, delivery pipeline, gated pipe)	80
Center Pivot ^{1/2/} and Linear Move - Sprinklers on top of pipe	80
Center Pivot ^{1/2/} and Linear Move - Nozzles below lateral but > 6 feet height above ground	85
Center Pivot ^{1/2/} and Linear Move - Nozzles near ground (in canopy)	87
Center Pivot and Linear Move - Low Energy Precision Application (LEPA)	92
Sprinkler - Solid set	75
Sprinkler Irrigation - Side roll	70
Subsurface Drip Irrigation (SDI)	92

^{1/} When the center pivot system includes an end gun, reduce the efficiency by 5%.

^{2/} When the center pivot system includes a corner system (sometimes referred to as a trailer section), reduce the efficiency by 3%.

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AUG 8 2018

Garden City Field Office
Division of Water Resources

