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2020 Jun 01 PM 11:37
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CASE NUMBER: 2019-CV-000005

APPENDIX A: UNPUBLISHED DRAFT MASTER ORDER

[See attached]

DRAFT INITIAL ORDER
FOR DISCUSSION ONLY
BEFORE THE CHIEF ENGINEER
OF THE DIVISION OF WATER RESOURCES
OF THE KANSAS DEPARTMENT OF AGRICULTURE

IN THE MATTER OF

APPLICATIONS TO CHANGE
POINTS OF DIVERSION, PLACES
OF USE, AND USE MADE OF
WATER UNDER WATER RIGHT,
FILE NOS. 21,729; 21,730; 21,731;
21,732; 21,733; 21,734; 21,841; 21,842;
22,325; 22,326; 22,327; 22,329; 22,330;
22,331; 22,332; 22,333; 22,334; 22,335;
22,338; 22,339; 22,340; 22,341; 22,342;
22,343; 22,345; 22,346; 27,760; 29,816;
30,083; and 30,084.

City of Hays and
City of Russell,

APPLICANTS.

Case No. 06 WATER 3849

**INITIAL ORDER
APPROVING APPLICATIONS TO CHANGE
POINTS OF DIVERSION, PLACES OF USE, AND USE MADE
OF THE CAPTIONED WATER APPROPRIATION RIGHTS**

COMES NOW the Chief Engineer of the Division of Water Resources, Kansas Department of Agriculture, and after and giving careful consideration to the Change Applications submitted by the Applicants in the above-captioned matter, makes the following Findings, Conclusions, and Initial Order.

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I. Definitions

1. As used in this Initial Order, the term “Municipal Water Supplier” means any entity that supplies water for Municipal Use.

2. The term “Project” means the diversion and transportation infrastructure to divert water pursuant to the Water Rights and to transport it for Municipal Use in Hays and its immediate vicinity as well as related areas in the NE/4 of Section 19 and the NW/4 of Section 36, T13S-R18W, Russell and its immediate vicinity, and other locations as set out below.

3. The term “Region Five” means Phillips, Rooks, Ellis, Rush, Pawnee, Edwards, Kiowa, and Comanche Counties in Kansas.

4. The term “Region Six” means Smith, Jewell, Osborne, Mitchell, Russell, Lincoln, Ellsworth, Barton, Rice, Stafford, Reno, Pratt, Kingman, Barber, and Harper Counties in Kansas.

5. The term “Treatment Losses” means the quantity of the waste stream from the treatment of the water from the Water Rights in order to meet regulatory standards or aesthetic concerns.

6. The term “Water Rights” means the water appropriation rights with points of diversion in Edwards County, Kansas numbered 21,729; 21,730; 21,731; 21,732; 21,733; 21,734; 21,841; 21,842; 22,325; 22,326; 22,327; 22,329; 22,330; 22,331; 22,332; 22,333; 22,334;

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22,335; 22,338; 22,339; 22,340; 22,341; 22,342; 22,343; 22,345; 22,346; 27,760; 29,816; 30,083;
and 30,084.

II. The Change Applications

7. On June 26, 2015, the Applicants, the Cities of Hays and Russell, submitted applications for approval to change the places of use, the points of diversion, and the uses made of water under the Water Rights, collectively the “Change Applications.”

8. The Change Applications were filed in anticipation of the Cities’ application to transfer in excess of 2,000 acre-feet of water per year from the R9 Ranch in Edwards County to Schoenchen, Kansas, and then on to Hays and to Russell pursuant to K.S.A. 82a-1501, *et seq.*, the “Transfer Application.”

9. On January 6, 2016, the Cities filed their Transfer Application, which was necessarily incomplete when filed because the Change Applications had not been contingently approved as required by K.A.R. 5-50-7(b)(1)–(3) and K.A.R. 5-50-2(x)(2)(A)–(C).

10. The Change Applications sought the Chief Engineer’s approval to change convert 7,625.70 acre-feet per year from irrigation to municipal use.

11. After extensive negotiation, the Cities and the Chief Engineer have reached a tentative agreement on numerous terms that are set out in this Initial Order, including an agreement to reduce the total quantity requested from Water Rights from 7,625.70 acre-feet per year to 6,714.10 acre-feet per year.

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12. The Cities understand that the Initial Order is subject to review by the Big Bend Groundwater Management District No. 5 (GMD5) and others. During that review, additional information may be provided that would require modification of this DRAFT Initial Order.

13. The Cities' proposed amendments to the original Change Applications are specifically contingent upon the entry of an Initial Order and a Final Order with terms that are acceptable to the Cities.

14. The Change Applications, as contingently amended, seek to make the following changes to the Water Rights:

a. Change the use made of water under each of the Water Rights from irrigation to municipal or industrial use.

b. Change the places of use from the R9 Ranch in Edwards County, Kansas, to:

i. the City of Hays, Kansas, and its immediate vicinity as well as related areas in the Northeast Quarter (NE/4) of Section 19 and the Northwest Quarter (NW/4) of Section 36, T13S-R18W, Ellis County, Kansas;

ii. the City of Russell, Kansas, and its immediate vicinity; and.

iii. the other locations listed below.

c. Change the quantities and points of diversion for each of the Water Rights as set out in Table 1. The approximate locations of the proposed municipal

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wells are shown on the map attached as Ex. 1 and are more specifically described in each of the Change Applications and the maps attached thereto.

| Table 1 | | | | |
|----------|-------------|--------------------|---|-------------------------|
| File No. | Circle | Quantity Requested | Amended Quantity Contingently Requested | Proposed Municipal Well |
| 21,729 | 7, 8, 9, 10 | 870.8 | 752.0 | A |
| 21,730 | 1 | 203.8 | 176.0 | G |
| 21,731 | 2 | 222.9 | 880.0 | G |
| 21,731 | 3, 4, 5 | 768.1 | | H |
| 21,732 | 6, 11, 12 | 688 | 593.0 | B |
| 21,733 | 13 | 219.5 | 189.0 | C |
| 21,734 | 16 | 226.4 | 889.1 | E |
| 21,734 | 18 | 148 | | C |
| 21,734 | 14, 15, 17 | 522.5 | | D |
| 21,841 | 8A | 195 | 195.0 | F |
| 21,842 | 11A | 195 | 195.0 | E |
| 22,325 | 19 | 216 | 186.0 | I |
| 22,326 | 20 | 196.7 | 135.0 | I |
| 22,327 | 21 | 175.1 | 145.8 | I |
| 22,329 | 24 | 150.5 | 108.0 | J |
| 22,330 | 25 | 152.6 | 117.0 | J |
| 22,331 | 22 | 209 | 180.0 | J |
| 22,332 | 23 | 166.3 | 135.0 | J |
| 22,333 | 39 | 57.5 | 50.0 | K |
| 22,334 | 27 | 162.9 | 136.1 | K |
| 22,335 | 26 | 171.4 | 142.6 | K |
| 22,338 | 28 | 141.1 | 116.6 | L |
| 22,339 | 27 | 142.6 | 118.8 | L |
| 22,340 | 31 | 140.4 | 116.6 | M |
| 22,341 | 30 | 190.4 | 188.0 | M |
| 22,342 | 36 | 100.8 | 75.0 | M |

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| Table 1 | | | | |
|-----------------------|--------|--------------------|---|-------------------------|
| File No. | Circle | Quantity Requested | Amended Quantity Contingently Requested | Proposed Municipal Well |
| 22,343 | 35 | 146.2 | 122.0 | N |
| 22,345 | 38 | 184.6 | 159.0 | N |
| 22,346 | 37 | 146.1 | 140.4 | N |
| 27,760 | 32 | 142.6 | 285.1 | L |
| 27,760 | 33 | 141.5 | | K |
| 29,816 | 10A | 97.5 | 188.0 | E |
| 29,816 | 9A | 90 | | F |
| 30,083 | 36 | 43.9 | 0.0 | M |
| 30,084 | 24 | 0 | 0.0 | J |
| Total Quantity | | 7,625.70 | 6,714.10 | |

15. The Change Applications did not seek changes in the rates of diversion but acknowledged that the rates would not be based on the cumulative total of the original rates for each of the Water Rights but on reasonable and practical factors, which are addressed below.

16. The Chief Engineer and DWR staff carefully reviewed the Change Applications and the attachments, the documents in the DWR files for each of the Water Rights, and other documents and sources of information normally consulted when considering similar applications.

17. The Chief Engineer and DWR staff met with the Cities, their attorneys, and engineers, and otherwise gave careful consideration to the merits of the requested changes.

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18. After careful consideration, the Chief Engineer finds that the Change Applications, as amended, should be contingently approved for the reasons and on the terms and conditions set out in this Initial Order.

III. Quantities

19. The Chief Engineer and DWR staff considered the applicable requirements set out in K.A.R. 5-5-1 – K.A.R. 5-5-16 and in K.A.R. 5-25-1 – K.A.R. 5-25-20, including especially the requirements in K.A.R. 5-5-9.

A. Consumptive Use Limitation

20. Approval of Change Applications is not permitted if proposed changes will cause the net consumptive use from the local source of water supply to be greater than the net consumptive use from the same local source of water supply for the original irrigation use.

21. The Net Irrigation Requirement (NIR) for the 50% chance rainfall for Edwards County, Kansas is 13.0 inches for corn and 20.9 inches for alfalfa.

22. A review of the information in DWR files, as supplemented by information provided by the Applicants, shows that the R9 Ranch was principally an alfalfa operation during the perfection periods for the Water Rights.

23. The NIR for alfalfa was used for the circles that were planted to alfalfa during the perfection period as permitted by K.A.R. 5-5-9(b).

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24. The NIR for corn was used for the remaining acreage as required by K.A.R. 5-5-9(a).

25. The priority date, the end of the perfection period for each of the Water Rights, and the crop used to determine the maximum quantities of water consumed during the perfection period are set out in Table 2 below.

B. Authorized Quantity Limitation

26. The total quantity of water that can be changed from irrigation to municipal use is further limited to the “authorized quantity.” K.A.R. 5-5-9(a)(4)states: “The authorized quantity to be changed to the new type of beneficial use shall never exceed the maximum annual quantity authorized by the water right.”

27. The Change Applications show that many of the Water Rights were originally permitted and perfected at quantities in excess of 1.5 acre-feet per acre but the perfected quantities were reduced to 1.5 acre-feet per acre when the Certificates of Appropriation were issued.

28. For example, the Permit for File No. 22,339 was issued on March 19, 1976, granting the right to divert up to 198 acre-feet annually at a rate not to exceed 1,000 gallons per minute for irrigation use on 110 acres, or 1.8 acre-feet per acre, in Section 10-T26S-R20W. DWR’s Field Inspection Report indicates that 218 acre-feet were applied to 110 approved acres during the perfection period so that all of the 198 acre-feet authorized by the Permit were lawfully perfected.

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29. Despite perfecting the entire authorized quantity, the Certificate limited the quantity to 1.5 acre-feet per acre for a total of 165 acre-feet.

30. The Cities contend that DWR did not have the authority to reduce the quantities after the Permits were issued. *See Clawson v. DWR*, 49 Kan. App. 2d 789, 315 P.3d 896 (2013) (which had not been decided when the Certificates were issued.)

31. Moreover, DWR's regulation provides that the actual perfected quantities are used to determine the extent of the "net consumptive use . . . by the original irrigation use." K.A.R. 5-5-9(a).

32. DWR disagrees with the Cities and has limited the total quantity for each Water Right to the lesser of the net consumptive use by the original irrigation use and the certified quantity.

33. The Cities continue to disagree with DWR on this issue but in order to avoid the time, expense, and uncertainty of litigation, and based on the negotiation of other terms set out in this Initial Order, have nevertheless agreed to accept this limitation on the condition that the Change Applications are finally approved on the terms set out in this Initial Order.

34. The Cities have reserved the right to assert their position in any future proceeding if the Change Applications are not approved or if the terms of a Final Order are not approved by the Cities.

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C. Authorized Quantity for Municipal Use

35. The original Change Applications requested that the Chief Engineer approve a total of 7,625.50 acre-feet of water from the Water Rights for municipal use.

36. For the reasons set out in Section III. A. and B., *supra*, the Chief Engineer denies the Cities' request and instead approves a total of 6,714.1 acre feet in the quantities set out in Table 2.

| Table 2. | | | | | |
|----------|------------|---------------|--------------------------|-------------------------------------|---------|
| File No. | Circle No. | Priority Date | End of Perfection Period | Quantity Approved for Municipal Use | Crop |
| 21,729 | 7 | 1/2/1974 | 12/31/1985 | 752.0 | Alfalfa |
| | 8 | | | | Alfalfa |
| | 9 | | | | Alfalfa |
| | 10 | | | | Alfalfa |
| 21,730 | 1 | 1/2/1974 | 12/31/1985 | 176.0 | Alfalfa |
| 21,731 | 2 | 1/2/1974 | 12/31/1983 | 880.0 | Alfalfa |
| | 3 | | | | Alfalfa |
| | 4 | | | | Alfalfa |
| | 5 | | | | Alfalfa |
| 21,732 | 6 | 1/2/1974 | 12/31/1985 | 593.0 | Alfalfa |
| | 11 | | | | Alfalfa |
| | 12 | | | | Alfalfa |
| 21,733 | 13 | 1/2/1974 | 12/31/1984 | 189.0 | Alfalfa |
| 21,734 | 14 | 1/2/1974 | 12/31/1991 | 889.1 | Alfalfa |
| | 15 | | | | Corn |
| | 16 | | | | Corn |
| | 17 | | | | Corn |
| | 18 | | | | Alfalfa |

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| Table 2. | | | | | |
|----------------|------------|---------------|--------------------------|-------------------------------------|---------|
| File No. | Circle No. | Priority Date | End of Perfection Period | Quantity Approved for Municipal Use | Crop |
| 21,841 | 8A | 1/22/1974 | 12/31/1984 | 195.0 | Alfalfa |
| 21,842 | 11A | 1/22/1974 | 12/31/1984 | 195.0 | Alfalfa |
| 22,325 | 19 | 5/2/1974 | 12/31/1981 | 186.0 | Alfalfa |
| 22,326 | 20 | 5/2/1974 | 12/31/1985 | 135.0 | Corn |
| 22,327 | 21 | 5/2/1974 | 12/31/1985 | 145.8 | Corn |
| 22,329 | 24 | 5/2/1974 | 12/31/1984 | 108.0 | Corn |
| 30,084 | 24 & 25 | 7/1/1977 | 12/31/1984 | 0.0 | Corn |
| 22,330 | 25 | 5/2/1974 | 12/31/1984 | 117.0 | Corn |
| 22,331 | 22 | 5/2/1974 | 12/31/1984 | 180.0 | Alfalfa |
| 22,332 | 23 | 5/2/1974 | 12/31/1984 | 135.0 | Corn |
| 22,333 | 39 | 5/2/1974 | 12/31/1983 | 50.0 | Alfalfa |
| 22,334 | 27 | 5/2/1974 | 12/31/1984 | 136.1 | Corn |
| 22,335 | 26 | 5/2/1974 | 12/31/1984 | 142.6 | Corn |
| 22,338 | 28 | 5/2/1974 | 12/31/1984 | 116.6 | Corn |
| 22,339 | 29 | 5/2/1974 | 12/31/1984 | 118.8 | Corn |
| 22,340 | 31 | 5/2/1974 | 12/31/1984 | 116.6 | Corn |
| 22,341 | 30 | 5/2/1974 | 12/31/1984 | 188.0 | Alfalfa |
| 22,342 | 36 | 5/2/1974 | 12/31/1991 | 75.0 | Corn |
| 30,083 | 36 | 7/1/1977 | 12/31/1991 | 0.0 | Corn |
| 22,343 | 35 | 5/2/1974 | 12/31/1984 | 122.0 | Corn |
| 22,345 | 38 | 5/2/1974 | 12/31/1984 | 159.0 | Alfalfa |
| 22,346 | 37 | 5/2/1974 | 12/31/1985 | 140.4 | Corn |
| 27,760 | 32 | 11/15/1976 | 12/31/1995 | 285.1 | Corn |
| | 33 | | | | Corn |
| 29,816 | 9A | 5/6/1977 | 12/31/1985 | 188.0 | Alfalfa |
| | 10A | | | | Alfalfa |
| Total Quantity | | | | 6,714.1 | |

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D. Long-Term Quantity Limitation

37. The Chief Engineer has determined that it is appropriate to impose a further limitation on the Water Rights based on a determination of a reasonable long-term yield of the water resources on the R9 Ranch.

38. The Water Appropriation Act permits owners to apply for permission to change the place of use, the point of diversion, or the use made of the water without losing priority of right. K.S.A. 82a-708b(a).

39. In order to change these characteristics of a water right, an applicant must demonstrate that the change is reasonable, that it will not impair existing rights, and that water will be diverted from the same local source of supply. *Id.*

40. The Chief Engineer must approve or reject an application “in accordance with the provisions and procedures prescribed for processing original applications for permission to appropriate water.” K.S.A. 82a-708b(a)(4).

41. DWR regulations set out quantity limitations addressed in this Initial Order including prohibiting an increase in consumptive use, *see e.g.*, K.A.R. 5-5-9(a); limiting the quantity to the maximum authorized quantity, K.A.R. 5-5-9(a)(4), and limiting the quantity to the reasonable need for the new use, K.A.R. 5-5-9(a)(6).

42. The Cities contend that the Chief Engineer does not have the authority to further limit the quantity of a perfected water appropriation right.

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43. The Chief Engineer's required reduction based on an estimate of the sustainable yield of the water resources on the R9 Ranch is inappropriate, unnecessary, unfair, and not authorized by the Water Appropriation Act or regulations. Among other things, the Cities assert the following:

- a. The Water Rights are perfected and certified.
- b. They are real property rights owned by the Cities. K.S.A. 82a-701(g).
- c. Imposing reductions, especially when they are not imposed on similarly situated water rights, is a deprivation of property for public use without adequate compensation.
- d. Both DWR and the GMD5 have promulgated regulations imposing specific limitations and requirements before change applications can be approved.
- e. Those regulations have been in place for many years.
- f. The City has complied with all applicable DWR and GMD5 regulations.
- g. There are no regulations that require or even allow reductions in the quantity of a water right based on sustainability.
- h. Neighboring water rights are not subject to similar reductions placing the Cities and competing appropriators on unequal footing to the Cities' disadvantage.

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i. For example, reductions in quantity, over and above those required by K.A.R. 5-5-9(a), are likely to place the Cities at a disadvantage in any future impairment dispute.

j. There are likely to be other unintended consequences over the life of the Project. Because of the long-term nature of the Project, changing climate conditions, the effect of other water uses in the area and the region, and other factors, it is impossible to predict all of the consequences of the Chief Engineer's requirement.

k. There is no rational basis for imposing reductions or obligations on the Cities that are not imposed on all appropriators.

l. Imposing extra-regulatory requirements on the Cities is very unlikely to appease Project opponents. In fact, it gives transfer opponents an unfair and unwarranted advantage at the start of the Transfer process.

m. The additional reductions are based on a computer model.

n. Aquifers are extremely complex systems.

o. Groundwater models are mathematical representations of the movement of groundwater through an aquifer that attempt to simulate the actual conditions based on estimates and assumptions about numerous factors such as porosity, hydraulic conductivity, aquifer transmissivity, elevation and topography, saturated thickness, and other factors.

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- p. Many of the factors that affect water movement vary over time.
- q. Other factors vary, sometimes a great deal, based on location.
- r. The ability to observe actual aquifer characteristics, and changes in those characteristics, is very limited.
- s. Models are necessarily based on the assumption that all of the estimates and assumptions about each of the characteristics simulated in the model are true for a large area, in this case one-half mile by one-half mile cells each covering nearly 7 million square feet.
- t. Groundwater models are calibrated based on historical data that may or may not be accurate in the future.
- u. While groundwater models are useful predictive tools, and much better than guessing, they are not an appropriate basis for permeant or absolute limitations on real property rights.
- v. Finally, the required reduction is unnecessary because the R9 Ranch is the Cities' long-term source of municipal water and depleting those resources is not in their long-term interests. Management of the water resources on the R9 Ranch will require flexibility without artificial limitations. The Cities are capable of managing the resource sustainably without an artificial limitation imposed by the Chief Engineer that is not imposed on others.

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44. However, after negotiation and for the reasons out below, and others, the Cities have agreed that the annual quantity of water from the combined Water Rights will be 6714.1 acre-feet per year and further limited to a running ten-year average of 4,800 acre-feet per year (the "Ten-Year Average").

45. As noted above, the R9 Ranch is the Cities' long-term source of municipal water and it must be operated sustainably. Depleting the water resources on the R9 Ranch is not in the Cities' long-term interests.

46. The Cities need access to a dependable source of water and are concerned about the expense, uncertainty, and especially the delay attendant to litigation with DWR over this issue.

47. The BMcD modeling report, discussed in detail below, uses the term "sustainable yield," which is defined by K.A.R. 5-25-1(l) as "the long-term yield of the source of supply, including hydraulically connected surface water or groundwater, allowing for the reasonable raising and lowering of the water table."

48. As used in this Initial Order "sustainable yield," and similar terms, means the viable long-term yield of the groundwater resources on the R9 Ranch, including hydraulically connected surface water and groundwater and specifically includes potential lowering of the water table on the Ranch and the surrounding area.

49. The Ten-Year Average limitation is based, in part, on the Chief Engineer's review and consideration of the results of groundwater modeling discussed below.

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Further refinement and calibration of the model could result in changes to the conclusions that form the basis for the Ten-Year Average limitation.

50. Moreover, the Chief Engineer recognizes the potential for the Cities to be disadvantaged by the Ten-Year Average limitation when competing water rights in the area are not also limited. The Chief Engineer and the Cities have agreed that the Ten-Year Average limitation is imposed for the exclusive benefit of the Cities and the public as a whole and not for the benefit of any particular water right, person, or entity.

51. The Cities have agreed not to contest the Sustainable-Yield Limitation, in part, because the Chief Engineer has closed all of GMD5 and adjacent areas in GMD3 to new surface water and groundwater appropriations. K.A.R. 5-25-4 and K.A.R. 5-23-4b.

52. DWR and its sister agencies have worked to shift the focus from full development of the State's water resources contemplated by the 1945 Water Appropriation Act and the 1957 amendments. Their current focus is on conservation of the limited resource and it is unlikely that the focus will change in the absence of changes in Kansas public policy resulting from nationwide and even worldwide social and political changes.

53. The Cities have consented to the Chief Engineer's retention of continuing jurisdiction to increase, but not to decrease, the Ten-Year Average limitation. Therefore, the Chief Engineer hereby retains continuing jurisdiction to increase, but not to decrease, the Ten-Year Average limitation as circumstances may warrant.

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54. Based on all of the facts and circumstances, the Chief Engineer finds the Ten-Year Average limitation, which includes the potential lowering of the water table on the Ranch and the surrounding area, is reasonable.

55. The Ten-Year Average limitation shall be increased if the flow in the Arkansas River returns on a long-term, sustained basis.

56. The Ten-Year Average limitation shall lapse under either of the following circumstances.

a. any portion of the closed areas in Edwards, Pawnee, Kiowa, or Ford Counties are reopened to new appropriations; or

b. the restrictions set out in the Arkansas River IGUCA order issued by the Chief Engineer on September 29, 1986, as amended on March 6, 1987, and again on October 14, 2013, are lifted or reduced.

57. The Ten-Year Average limitation shall not limit the quantity of water that may be taken from the water resources on the R9 Ranch to the extent that they are recharged from sources not considered in the model discussed below.

E. Modeling

58. Quantifying the Ten-Year Average limitation was accomplished using a three-dimensional groundwater flow model developed for the Big Bend Groundwater Management District No. 5 (GMD5).

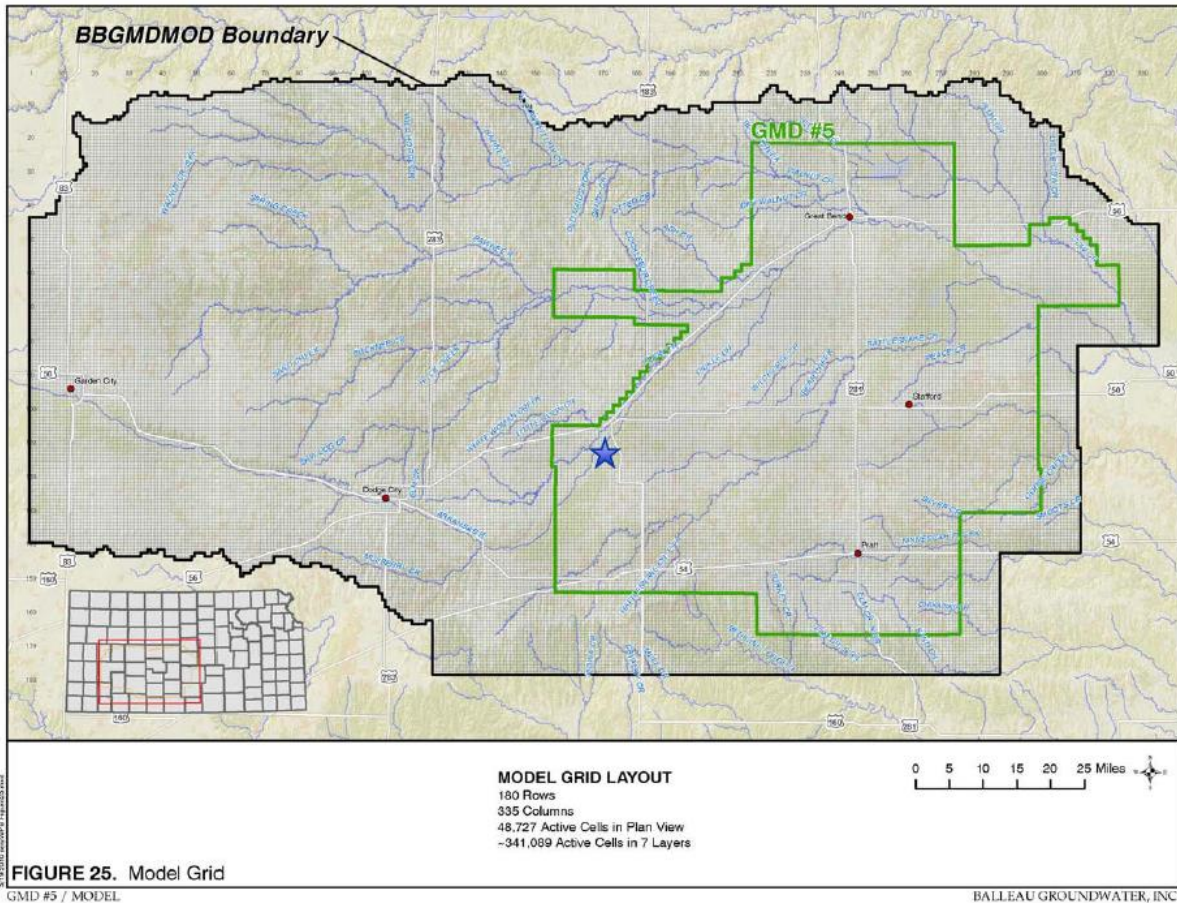
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59. A detailed report describing the construction and calibration of the GMD5 model can be found in the Balleau Groundwater, Inc. (BGW) report titled *Hydrologic Model of Big Bend Groundwater Management District No. 5*, dated June 2010 (Report).

60. BMcD acquired the Report and model files from the DWR through a Kansas Open Records Act (KORA) request. The results of the BMcD modeling are discussed in their modeling report dated _____.

61. As shown in the GMD5 Model Grid below, the GMD Model area encompasses the entire Groundwater Management District, a substantial area up-gradient of the District, and additional area down-gradient from the District.

GMD5 Model Grid



62. The R9 Ranch is located in the west-central portion of GMD5 and is fairly centrally located within the modeled area.

63. The GMD5 model utilizes the United States Geological Survey's (USGS) MODFLOW™2000 three-dimensional groundwater-flow modeling code. It includes the recharge, streamflow, and pumping data for the 68-year period from December 1939 through December 2007.

64. The model framework is composed of seven layers representing the major geologic divisions in the regional stratigraphy. For calculation purposes, the model is

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further divided into nine units to differentiate between areas with varying hydrologic characteristics within layers.

65. The model is divided into a one-half mile by one-half mile grids.

66. BMcD utilized the Groundwater Vistas Version 6.0 (GWV) pre- and post-processing software to run the GMD5 model. GWV provides a graphical user interface to streamline data entry and processing of model results.

67. BMcD imported the model construction, hydrogeological parameters, and well-pumping data contained in the GMD5 root MODFLOW files into GWV.

68. BMcD completed an initial run to verify that the GMD5 model was correctly imported and set up in GWV. BMcD did not make any changes to the data or hydrogeological parameters of the GMD5 model during the verification process.

69. Verification was accomplished by direct comparison of the mass-balance results, drawdown values, and water-level contours to the values from the Report and the model output files obtained from DWR.

70. The water-level, drawdown, and mass-balance results calculated during the evaluation run correlated very well with the values reported for the base case in the Report and output files

71. The variance between the inflow and outflow mass-balance results was less than 1.49% on average.

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72. This close correlation indicates that the change in the pre- and post-processing operation methods not impact the model output.

73. To evaluate the viable yield from the water resources on the R9 Ranch, the internal Hydrostratigraphic Units (HSU) package in GWV was utilized for the computation of sub-regional water balances instead of the USGS ZONEBUDGET package.

74. These two packages perform the same function and provide equivalent results, essentially calculating the mass budget for a sub-region of the model.

75. The model cells comprising the sub-region evaluated as the Ranch HSU are illustrated in the inset in Figure 1 of the BMcD Report.

76. The model was utilized to estimate the amount of water that flows into and out of the Ranch HSU. Properties evaluated include recharge, evapotranspiration, well pumping, underflow (flow into and out of the HSU from the surrounding aquifer), streamflow, and storage.

77. To develop a sustainable yield formula, the flow parameters were evaluated using the baseline characteristics of the Ranch HSU.

78. As stated above, the model simulates a period of time from December 1939 through December 2007. But as Balleau points out in his Report, DWR has metered records of the volumes pumped from individual wells after 1990.

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79. Since metered quantities for 1991 to 2007 provide the highest quality data, BMcD utilized this time period to complete the initial evaluation of the sustainable yield from the Ranch.

80. The existing model configuration was used with no changes. This scenario included the irrigation and irrigation return wells for the entire Ranch HSU.

81. As set out in the Report, Balleau used “irrigation return wells” to simulate the volume of water that infiltrates back into the aquifer during irrigation operations.

82. Water levels calculated by the model for 1991 through 2007 correlate well with the observed water levels from USGS monitoring wells on the Ranch.

83. After running this baseline scenario, the irrigation and irrigation return wells on the Ranch were removed and were replaced with the 14 proposed municipal wells.

84. Pumping in the portion of the Ranch HSU outside the Ranch remained unchanged. Pumping from the municipal wells on the Ranch was consumptive.

85. Some of the cells included in the Ranch HSU extend beyond the Ranch property boundary and a few of the surrounding center pivots extend onto some of these cells. Approximately 8 acre-feet of irrigation return flow per year was applied to those cells to account for recharge from irrigation outside of the Ranch boundaries.

86. In the second and third scenarios, the municipal wells were pumped at 4,800 acre-feet and 6,714 acre-feet of water on a 24 hour per day, 365.25 day basis for the 17-year period.

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87. The average sustainable yield calculated for the 1991 through 2007 time period of the model was 5,563 acre-feet per year.
88. Pumping 4,800 acre-feet per year resulted in approximately 0.5 feet of additional drawdown at the Ranch boundary.
89. Pumping and 6,714 acre-feet per year resulted in approximately 1.0 to 1.7 feet of additional drawdown at the Ranch boundary.
90. To simulate the effects of long-term municipal pumping on the Ranch and to calculate the long-term sustainable yield, the data from the model runs for 1991-2007 was used to simulate a 51-year period.
91. This was accomplished using the hydrologic data for the 17-year period from 1991 to 2007 for years 1 through 17, repeating the same data to simulate years 18 through 34, and repeating the data again for years 35 through 51.
92. All but two of the hydrogeologic parameters in the 51-year model remained unchanged.
 - a. The Arkansas River gauge at the Dodge City and the former Kinsley gauge reflect a significant decrease in flow after 2006. To recognize changing climate conditions and reduced flows in the Arkansas River, BMcD set the upstream flow contribution in the Arkansas River to zero after year 16 in the 51-year model.

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b. In the GMD5 model, the elevation of the Arkansas River declined linearly each year to account for erosion of the bottom of the channel. Since flow in the stream channel was removed, continued down-cutting of the riverbed elevation would not take place.

93. After setting up the 51-year model, BMcD ran the model with the irrigation and irrigation return wells on the Ranch.

94. Then, as before, the irrigation and irrigation return wells on the Ranch were removed and the 14 proposed municipal wells were inserted. Pumping in the portion of the Ranch HSU outside the Ranch remained unchanged.

95. The model was then run pumping at 4,800 acre-feet, 24 hours per day on a 365.25 day basis for the 51-year period.

96. This model run resulted in approximately 1.0 feet of additional drawdown at the Ranch boundary after 51 years of pumping.

97. In the next run, the municipal wells were assigned pumping rates equal to the anticipated operation of the Ranch as a municipal water supply

98. The wells were installed in phases and pumping was cycled among the wells operating at the actual anticipated rates. Production was stepped up over time based on the anticipated increase in demand. Pumping was also increased in June, July and August of each year to reflect increased demand during the hot summer months.

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99. This scenario produced higher water levels over most of the Ranch and the surrounding area. There was approximately 0.5 feet of water level rise at the Ranch boundary to the north and east after 51 years of pumping.

100. At DWR's request, a 2% drought scenario was inserted in the 51-year model. Data for the 1952 to 1957 historical period was extracted from the GMD5 model and inserted as years 35 through 39 in the 51-year simulation. This placed the drought two-thirds of the way through the 51-year model and after water demand has increased.

101. BMcD ran the model using the assigned pumping rates equal to the anticipated operation of the Ranch as a municipal water supply described above for the previous model run but with substantially increased pumping during the drought. After the drought the pumping returned to the previous pattern.

102. This scenario maximized the quantity pumped from the Ranch during the drought without exceeding a 4,800 acre-feet ten-year rolling average.

103. Based on the model results, 4,800 acre-feet per year is a reasonable value for the sustainable yield from the Ranch. Applied on a rolling average, the overall mass balance of water extracted versus water recharged will balance to minimize the effects of pumping on the Ranch and surrounding area.

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F. Reasonable Need

104. The Kansas Water Appropriation Act states that “[a]ppropriation rights in excess of the reasonable needs of the appropriators shall not be allowed.” K.S.A. 82a-707(e).

105. DWR regulations place a limitation on the quantity of water that can be converted from irrigation to some other use. K.A.R. 5-5-9(a)(6) states: “The approval for a change in the use made of water shall also be limited by that quantity reasonable for the use proposed by the change in the use made of water.”

106. The Project will provide a long-term supply of water to Hays, Russell, and other communities in the region; the Project is expected to have a design life of at least 50 years and to be productive for even longer.

107. DWR’s traditional method to determine the “reasonable needs” of municipal users uses a 20-year planning horizon. However, that approach is not mandated by DWR regulations. Indeed, DWR—and Kansas courts—have long recognized that “reasonableness” is fact and situation specific.

108. DWR’s 20-year approach is appropriate for most municipal users across the State, principally because most users are close to sufficient quantities of water to meet their short-, medium-, and long-term needs. For example, most communities in western Kansas overlie the High Plains/Ogallala Aquifer, which means that nearby irrigation rights are generally available and can be acquired and converted to municipal use.

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109. In eastern Kansas, a range of possible options are available, including relatively abundant surface water in multiple reservoirs, the acquisition of existing water rights, the Water Marketing Program, Water Assurance Districts, and PWWSDs.

110. But unlike most other Kansas cities, Hays and Russell must look far afield to find a reliable source of additional water.

111. The Cities have considered numerous alternative sources, most recently Wilson Reservoir and the Smoky Hill River in eastern Russell County. Extensive hydrology and engineering studies have shown that these alternatives are unworkable or too expensive.

112. Financing for the Project is likely to require amortization over the entire design life of the infrastructure.

113. As a practical matter, the Cities cannot afford to build a pipeline from Edwards County if it must leave some of the water on the Ranch or risk multiple transfer proceedings. In fact, it is unlikely that they can obtain long-term financing for the Project if less than the full quantity of water available from the Ranch is not approved.

114. A longer planning horizon in this case is a practical necessity, is consistent with the overall purposes of Kansas water law and its underlying policies, and is in line with the Cities' reasonable needs.

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115. For these reasons and others, the Cities have requested approval of the Change Applications with objective standards based on actual and projected population changes, the reasonable needs of additional users, and other measurable indices that allow quantities to float upwards as needs change and demand increases.

G. Reasonable quantity for municipal use

116. The Reasonable Quantity of water for Municipal Use for Hays, for Russell, and for other municipalities who contract for additional water supply from the R9 Ranch, shall be established for successive ten-year periods that shall run from January 1 of the second year after each Decennial Census and end on December 31 of the tenth year thereafter (“Ten-Year Period”), *e.g.*, January 1, 2022, to December 31, 2031, based on the results of the following formula.

- a. Estimated Population times the Average Per Capita Municipal Use in the appropriate Region;
- b. Plus Water sold by a Municipal Water Supplier for Industrial Use when such industrial user has not entered into a separate contract to purchase water from the Water Rights;
- c. Plus Water sold to other public water suppliers;
- d. Plus other unmetered water.

117. The Reasonable Quantity for each municipality shall be based on an assumed growth rate of 2% per year for ten years.

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118. For each Ten-Year Period, the Estimated Population for each municipality authorized to use water from the R9 Ranch shall be determined by multiplying the actual population as determined in the most recent Decennial Census by $(1 + 0.02)^{10}$.

119. If the actual population of any municipality is unavailable from the United States Census Bureau on January 1 of the second year after a Decennial Census, the previously-established limitation on quantity shall be used until the census data is published. The new limitation shall be retroactive to January 1 of the second year after the Decennial Census.

120. The Average Per Capita Municipal Use in the appropriate Region shall be determined by averaging the use of all municipal water suppliers in the Region in which a Municipal Water Supplier is located for the most recent 5-year period for which published data is available except that Average Per Capita Municipal Use for each Region shall exclude all municipal water suppliers with populations of 500 or fewer.

H. Treatment and Line Losses

121. The water on the north end of the Ranch is of relatively high quality such that it can be used with no or minimal treatment over and above chlorination at the Ranch.

122. As the wells on the south end of the Ranch are placed in service, additional treatment may be needed to meet regulatory standards or to address aesthetic concerns.

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123. The Cities have not determined whether treatment, if any, should take place before delivery of water to any and all customers or should be the responsibility of each customer following water delivery.

124. Current treatment technologies consume a portion of the raw water and generate non-potable wastewater. But treatment requirements are unknown at this time and new treatment technologies are likely to develop over the life of the Project.

125. The Reasonable Quantity of water that may be diverted from the R9 Ranch shall include a reasonable quantity of water needed to treat raw water to meet regulatory standards and aesthetic concerns.

126. All water from the Water Rights must be metered at the well head, as it leaves the pump station, and as it is delivered to any user. All wastewater generated from the Water Rights must be metered.

127. The cause of all line losses in excess of *de minimis* losses must be determined and repairs made within a reasonable time.

I. Conclusions

128. The Reasonable Quantity of water that may be diverted from the R9 Ranch shall be the total quantity of water for municipal use by Hays, Russell, and other municipalities who contract for additional water supply from the R9 Ranch as determined above, *plus*

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a. the quantity of the waste stream from the treatment of the water from the Water Rights in order to meet regulatory standards or aesthetic concerns whether treatment takes place on the Ranch or before or after delivery to any Municipal Water Supplier; and

b. the quantity of water lost from the Project in excess of *de minimis* losses.

129. When combined, the total quantity diverted from Files 21,729; 21,730; 21,731; 21,732; 21,733; 21,734; 21,841; 21,842; 22,325; 22,326; 22,327; 22,329; 22,330; 22,331; 22,332; 22,333; 22,334; 22,335; 22,338; 22,339; 22,340; 22,341; 22,342; 22,343; 22,345; 22,346; 27,760; 29,816; 30,083; and 30,084 shall not exceed 6,714 acre-feet per year.

130. When combined, the total quantity diverted from 21,729; 21,730; 21,731; 21,732; 21,733; 21,734; 21,841; 21,842; 22,325; 22,326; 22,327; 22,329; 22,330; 22,331; 22,332; 22,333; 22,334; 22,335; 22,338; 22,339; 22,340; 22,341; 22,342; 22,343; 22,345; 22,346; 27,760; 29,816; 30,083; and 30,084 shall not exceed a ten-year running average of 4,800 acre-feet per year.

131. When combined with 21,729; 21,730; 21,731; 21,732; 21,733; 21,734; 21,841; 21,842; 22,325; 22,326; 22,327; 22,329; 22,330; 22,331; 22,332; 22,333; 22,334; 22,335; 22,338; 22,339; 22,340; 22,341; 22,342; 22,343; 22,345; 22,346; 27,760; 29,816; and 30,083, the total quantity of water for industrial users who contract for water directly from the Ranch

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and not from a municipal “common distribution system,” shall not exceed the reasonable quantity of water as may be established by such industrial user and the Chief Engineer.

IV. Points of Diversion

132. The Cities have selected 14 preliminary well sites designated as municipal wells A–N. Specific well locations are more particularly described in the Change Applications and the Approvals for each of the Change Applications.

133. The Cities’ previously-approved irrigation wells, as specifically listed in Table 4 below, are consolidated into the new municipal wells shown on the map attached as Ex. 1.

134. The Cities have conducted extensive study and analysis of the existing data to formulate a plan for the diversion and transportation of water from the R9 Ranch to Hays and Russell.

135. Because of the uncertainty associated with the transfer process and the advisability of conducting hydrologic testing as part of the design process, the Cities have not selected precise well locations at this time.

136. There is no regulatory provision requiring wells to be located within 300 feet of the precise authorized location. Instead, approvals of applications to change a point of diversion generally require that new wells be “completed substantially as shown on

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aerial photograph, topographic map, or plat.” That phrase is defined at K.A.R. 5-5-1(q) and is used to limit the location of a well to within 300 feet of the point authorized.

137. The well-design process may reveal that optimum well locations are more than 300 feet from the preliminary well locations set out in the Change Applications.

138. For these and other reasons, the Cities have requested approval to place wells within 1,000 feet of the preliminary well locations.

139. However, the 1,000-foot limitation is not approvable without further limitation.

A. Groundwater Management District Regulations

140. GMD5 regulations include several well-location requirements, which each of the municipal wells must comply with. These are:

- a. None of the municipal wells may be moved more than 2,640 feet from the currently authorized points of diversion.
- b. All of the municipal wells must be completed in the aquifer or aquifers in which the currently authorized wells were authorized to be completed.
- c. None of the municipal wells may be drilled in the Dakota Aquifer.
- d. All municipal wells must be more than 1,320 feet from wells that carry an earlier priority except those wells owned by the Cities.
- e. All municipal wells must be more than 660 feet from all existing domestic wells, except those domestic wells owned by the Cities.

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141. There are no baseflow nodes within two miles of the R9 Ranch.

B. Proximity to existing irrigation wells outside the R9 Ranch

142. The Cities have proposed a limitation prohibiting the location of any new municipal well within one-half mile of any irrigation well outside of the boundaries of the R9 Ranch. The excluded areas are shown in gray on Ex. 1.

143. The Chief Engineer finds that no new or replacement municipal well shall be located within 2,640 feet of the authorized location, as of the date of this Initial Order, of any well authorized by DWR Files ED30; 19,522; 24,992; 29,123; 32,661; and 33,028.

C. Proximity to the center line of the Arkansas River

144. A DWR regulation states that wells with a source of supply in an alluvium may not be moved more than 10 percent closer to the centerline of a stream when the original well is in a reach of a basin that is fully appropriated or is in an area closed to new appropriations. K.A.R. 5-5-13.

145. The geographic extent of the alluvial aquifer on the Ranch was obtained from the Kansas Geological Survey available in Geographical Information System Data format and published at the Kansas Data Access & Support Center.

146. The map attached as Ex. 2, shows the extent of the alluvial aquifer on the Ranch, the existing irrigation wells, and the proposed municipal wells. A total of nine existing irrigation wells and two proposed municipal wells are located within the alluvial area.

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147. As shown on Ex. 2, each of the currently-proposed municipal points of diversion will result in changes that increase the relative distance to the centerline of the Arkansas River.

148. With one exception, when the other limitations on the changes in the point of diversion in this Initial Order are imposed, the municipal wells will not move closer to the Arkansas River in violation of K.A.R. 5-5-13.

149. Based on the limitations set out in this Initial Order, it is possible that Well G, which will be located in Section 30, Township 25 South-Range 19 West, could move closer to the center line of the River. While the specific authorized point of diversion complies with K.A.R. 5-5-13, the final well location could be closer to the River and violate the regulation.

150. For that reason, an additional limitation is included in the Approvals for the Water Rights that are consolidating into new municipal Well G, File Nos. 21, 730 and 21,731, requiring that Well G must be at least 1,080 feet from the center line of the River. *See* the Map attached as Ex. 3.

151. The Change Applications, as amended, comply with K.A.R. 5-5-13.

D. Future Change Applications

152. The Cities have requested that the Chief Engineer reserve the original points of diversion and the associated rates for each irrigation well, and that in the event of future applications to change the point of diversion of the municipal wells approved by

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this Initial Order, the certified well locations and associated rates of diversion be reinstated for the limited purpose of the consideration of such future change applications.

153. The rates for each of the existing wells on the R9 Ranch are set out in Table 4.

| Table 4 | | | | | |
|---------------|------------|------------------------|----------------------------|--|----------------------|
| DWR File No. | Circle No. | Well Location | Section - Township - Range | Distance North and East of the Southeast Corner of Section | Diversion Rate (gpm) |
| 21,729 | 7 | NC SW/4 | Sec.29-T25S-R19W | 1416'N 4000'W | 360 |
| | | NE/4 SW/4 SW/4 | Sec.29-T25S-R19W | 1043'N 4370'W | 635 |
| | 8 | NC NW/4 | Sec.29-T25S-R19W | 3982'N 3603'W | 275 |
| | | NE/4 SW/4 NW/4 | Sec.29-T25S-R19W | 3607'N 4167'W | 325 |
| | 9 | NC NE/4 | Sec.29-T25S-R19W | 3968'N 1312'W | 615 |
| | 10 | NC SE/4 | Sec.29-T25S-R19W | 1377'N 1415'W | 720 |
| 21,729 Totals | * | | | | 2930 |
| 21,730 | 1 | NW/4 NE/4 SW/4 | Sec.30-T25S-R19W | 2330' N 3937' W | 795 |
| 21,731 | 2 | SW/4 SE/4 SW/4 | Sec.30-T25S-R19W | 0380' N 3785' W | 450 |
| | | NW/4 NE/4 NW/4 | Sec.31-T25S-R19W | 5125' N 3920' W | 625 |
| | 3 | NW/4 NE/4 SW/4 | Sec.31-T25S-R19W | 2460' N 3660' W | 735 |
| | | NC W side NE/4 SW/4 | Sec.31-T25S-R19W | 1925' N 3810' W | 525 |
| | 4 | SE/4 NE/4 SE/4 | Sec.31-T25S-R19W | 1899' N 0054' W | 380 |
| | | SE/4 NE/4 SE/4 | Sec.31-T25S-R19W | 1440' N 0405' W | 245 |
| | 5 | NC NE/4 | Sec.31-T25S-R19W | 3975' N 1270' W | 605 |

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| Table 4 | | | | | |
|---------------|------------|---------------------|----------------------------|--|----------------------|
| DWR File No. | Circle No. | Well Location | Section - Township - Range | Distance North and East of the Southeast Corner of Section | Diversion Rate (gpm) |
| 21,731 Totals | * | | | | 3565 |
| 21,732 | 6 | NC NW/4 | Sec.32-T25S-R19W | 4026'N 3966'W | 715 |
| | 11 | NC NE/4 | Sec.32-T25S-R19W | 4019'N 1358'W | 780 |
| | 12 | NC S/2 | Sec.32-T25S-R19W | 1441'N 2632'W | 885 |
| 21,732 Totals | * | | | | 2380 |
| 21,733 | 13 | SW/4 NW/4 SW/4 | Sec.33-T25S-R19W | 1356' N 5021' W | 915 |
| 21,734 | 14 | Lot 3 | Sec.5-T26S-R19W | 5424'N 3735'W | 1250 |
| | 15 | NW/4 NE/4 SW/4 5 | Sec.5-T26S-R19W | | |
| | 16 | NE/4 SW/4 SE/4 | Sec.5-T26S-R19W | 1260'N 1332'W | 1035 |
| | 17 | NE/4 SW/4 NE/4 | Sec.5-T26S-R19W | 4000'N 1333'W | 1050 |
| | 18 | Lot 1 | Sec.5-T26S-R19W | 6461'N 535'W | 935 |
| 21,734 Totals | * | | | | 4270 |
| 21,841 | 8A | NC Lots 1 & 2 | Sec.4-T26S-R19W | 5378' N 1340' W | 890 |
| 21,842 | 11A | NC SW/4 | Sec.4-T26S-R19W | 1301' N 3910' W | 900 |
| 22,325 | 19 | Lot 1 | Sec.1-T26S-R20W | 6669' N 996' W | 530 |
| | | Lot 2 | Sec.1-T26S-R20W | 6673' N 1535' W | 805 |
| 22,325 Totals | * | | | | 1000 |
| 22,326 | 20 | Lot 3 (Well A) | Sec.1-T26S-R20W | 5373' N 3779' W | 690 |
| | | Lot 3 (Well B) | Sec.1-T26S-R20W | 5128' N 3066' W | 565 |
| 22,326 | * | | | | 1000 |

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| Table 4 | | | | | |
|---------------|------------|----------------------|----------------------------|--|----------------------|
| DWR File No. | Circle No. | Well Location | Section - Township - Range | Distance North and East of the Southeast Corner of Section | Diversion Rate (gpm) |
| Totals | | | | | |
| 22,327 | 21 | NC NE/4 | Sec.1-T26S-R20W | 4062' N 1539' W | 490 |
| | | Lot 2 | Sec.1-T26S-R20W | 4372' N 2154' W | 475 |
| 22,327 Totals | * | | | | 950 |
| 22,329 | 24 | NC SW/4 | Sec.1-T26S-R20W | 1380' N 4090' W | 570 |
| 22,330 | 25 | NC SE/4 | Sec.1-T26S-R20W | 1397' N 1515' W | 620 |
| 22,331 | 22 | NC SW/4 NW/4 | Sec.1-T26S-R20W | 3240'N- 4875'W | 645 |
| | | Lot 9 | Sec.2-T26S-R20W | 3460'N- 235'W | 640 |
| 22,331 Totals | * | | | | 1000 |
| 22,332 | 23 | NC SE/4 | Sec.2-T26S-R20W | 1407'N- 1330'W | 655 |
| | | NC E/2 SE/4 | Sec.2-T26S-R20W | 1342'N- 797'W | 460 |
| 22,332 Totals | * | | | | 980 |
| 22,333 | 39 | SE/4 SE/4 SW/4 | Sec.2-T26S-R20W | 0590'N- 3053'W | 520 |
| 22,334 | 27 | NC NE/4 | Sec.11-T26S-R20W | 3960'N- 1335'W | 639 |
| | | NC N/2 NE/4 | Sec.11-T26S-R20W | 4680'N- 1320'W | 630 |
| 22,334 Totals | * | | | | 890 |
| 22,335 | 26 | NC NW/4 | Sec. 11-T26S-R20W | 3970'N- 3945'W | 555 |
| | | NC E/2 NW/4 | Sec. 11-T26S-R19W | 3920'N- 3270'W | 680 |
| 22,335 Totals | * | | | | 1000 |
| 22,338 | 28 | Lot 7 SW/4 SE/4 NE/4 | Sec.10-T26S-R20W | 3152'N- 1043'W | 950 |

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| Table 4 | | | | | |
|---------------|------------|----------------------|----------------------------|--|----------------------|
| DWR File No. | Circle No. | Well Location | Section - Township - Range | Distance North and East of the Southeast Corner of Section | Diversion Rate (gpm) |
| | | Lot 7 SE/4 SE/4 NE/4 | Sec.10-T26S-R20W | 2705'N-730'W | 785 |
| 22,338 Totals | * | | | | 950 |
| 22,339 | 29 | Lot 5 | Sec.10-T26S-R20W | 2535'N-3300'W | 680 |
| 22,340 | 31 | NW/4 SE/4 SE/4 | Sec.10-T26S-R20W | 0690'N-1136'W | 950 |
| 22,341 | 30 | NW/4 NE/4 NW/4 | Sec. 15-T26S-R20W | 5240'N-3600'W | 920 |
| 22,342 | 36 | NW/4 SW/4 NW/4 | Sec. 14-T26S-R20W | 3906'N-4878'W | 630 |
| 22,343 | 35 | NE/4 SW/4 NE/4 | Sec. 15-T26S-R20W | 3565'N-1670'W | 810 |
| 22,345 | 38 | NC SE/4 | Sec. 15-T26S-R20W | 1175'N-1205'W | 820 |
| 22,346 | 37 | SW/4 NE/4 SW/4 | Sec. 15-T26S-R20W | 1395'N-3740'W | 600 |
| 27,760 | 32 | NC SW/4 | Sec. 11-T26S-R20W | 1320'N-3985'W | 631 |
| | 33 | NC SE/4 | Sec. 11-T26S-R20W | 1150'N-1615'W | 380 |
| | | NE/4 SW/4 SE/4 | Sec. 11-T26S-R20W | | 938 |
| 27,760 Totals | * | | | | 1949 |
| 29,816 | 9A | NC N/2 S/2 NE/4 | Sec. 4-T26S-R19W | 4056'N-1320'W | 750 |
| | 10A | NC S/2 NW/4 | Sec. 4-T26S-R19W | 2731'N-3960'W | 800 |
| 29,816 Totals | * | | | | 1550 |
| 30,083 | 36 | NC E/2 W/2 NW/4 | Sec. 14-T26S-R20W | 3994'N-4328'W | 1000 |
| 30,084 | 24 & 25 | NC S/2 | Sec.1-T26S-R20W | 1105' N 2860' W | 795 |

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154. There are regulatory limits on the movement of well locations, including spacing requirements, see e.g., K.A.R. 5-25-4, and movement of wells in the alluvial aquifer closer to the center of the Arkansas River, see e.g. K.A.R. 5-5-13.

155. As discussed in in the previous Section,

a. The well locations for the new municipal wells comply with all of the regulatory requirements.

b. Exact well locations have not been determined.

c. The Cities have been granted some flexibility to choose appropriate well locations after more extensive study.

156. Applications to change the location of a well or wells could be filed during initial construction or when any of the new wells must be redrilled or relocated.

157. The Cities have requested that in any future application to change a point of diversion from any of the well locations approved by this Initial Order, the “Presently authorized point of diversion” and the “Authorized Rates” for each of those well locations be either the rate of diversion and well location approved by this Initial Order, or, in the alternative, the original authorized rates and well locations for each of the wells consolidated at any one of the new well locations approved by this initial order.

158. The Cities’ request is granted with the following limitations.

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a. If the cities elect to base future change applications on the original well locations and rates, the quantities approved in this Initial Order shall not revert to the original quantities.

b. This Initial Order does not authorize diversion from the original well locations or at the original rates. Instead, original well locations and rates of diversion may be considered as the “presently authorized point of diversion” and the “authorized rates” for in the context of an application to change the point of diversion.

E. Conclusions

159. The amended Change Applications include maps showing:

- a. The authorized irrigation well locations;
- b. a one-half mile buffer around each of the authorized irrigation well locations;
- c. the preliminary municipal well location;
- d. a 1,000-foot buffer around the preliminary municipal well location;
- e. if applicable, the Arkansas River alluvium; and
- f. the proposed areal limits around the preliminary municipal well locations where such wells are authorized to be drilled without filing an application to change the point of diversion.

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160. The Chief Engineer finds that the preliminary municipal well locations set out in the Amended Change Applications including the areal limits around the preliminary municipal well locations are reasonable and are approved with the limitations and restrictions set out above and shown on the maps referred to in the immediately preceding paragraph.

V. Rates

161. Approved rates for new municipal wells are set out in Table 3 and are the highest of the following factors:

- a. the rate required to divert the full quantity allowed for each new well during a 180-day period of continuous operation;
- b. the highest perfected rate of each of the irrigation wells being combined into a new Municipal well;
- c. the estimated rate that the water resources on the R9 Ranch are likely to be capable of producing based on existing saturated thickness and transmissivity data and before any additional hydrologic testing.
- d. A minimum of 700 gpm.

| R9 Well Municipal Well | Amended Quantity Contingently Requested | Consolidated Rates in GPM | Maximum Rate in GPM |
|---------------------------|--|------------------------------|------------------------|
| A | 752.00 | 2,900 | 945 |
| B | 593.00 | 2,380 | 885 |
| C | 363.20 | 1,693 | 1,360 |
| D | 512.51 | 3,161 | 1,500 |

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| Table 3 | | | |
|---------------------------|--|------------------------------|------------------------|
| R9 Well Municipal Well | Amended Quantity Contingently Requested | Consolidated Rates in GPM | Maximum Rate in GPM |
| E | 495.39 | 2,561 | 1,270 |
| F | 285.00 | 1,640 | 1,040 |
| G | 448.00 | 1,870 | 1,040 |
| H | 608.00 | 2,490 | 764 |
| I | 466.80 | 2,950 | 805 |
| J | 540.00 | 3,170 | 700 |
| K | 471.70 | 3,380 | 700 |
| L | 377.50 | 2,430 | 950 |
| M | 379.60 | 3,500 | 950 |
| N | 421.40 | 2,230 | 1,040 |

VI. Authorized Beneficial Uses-Alternative 1

162. All water from the Ranch may be used for municipal or industrial purposes, and the Cities may decide to contract directly with an industrial entity for use of water from the R9 Ranch.

163. The Project shall be considered to be a “common distribution system,” as that term is used in K.A.R. 5-1-1(tt) in effect on the date of this Initial Order.

164. All water purchased by industrial users that is supplied through a municipality-owned “common distribution system,” or directly from the Ranch and not through a municipality-owned “common distribution system,” shall be considered municipal use.

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VII. Authorized Beneficial Uses-Alternative 2

165. All Water from the Ranch may be used for municipal or industrial purposes, and the Cities may decide to contract directly with an industrial concern for use of water from the R9 Ranch.

166. The Project shall not be considered to be a “common distribution system,” as that term is used in K.A.R. 5-1-1(tt) in effect on the date of this Initial Order.

167. All water purchased by industrial users that is not supplied through a municipality-owned “common distribution system,” shall be considered industrial use.

168. Industrial users bear the burden of establishing that the industrial use complies with Kansas law.

VIII. Places of Use

A. City of Hays, Kansas

169. The authorized place of use shall include the City of Hays, Kansas, and its immediate vicinity as well as related areas in the Northeast Quarter (NE/4) of Section 19 and the Northwest Quarter (NW/4) of Section 36, T13S-R18W, Ellis County, Kansas.

B. City of Russell, Kansas

170. The authorized place of use shall include the City of Russell, Kansas, and its immediate vicinity.

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C. Other Cities

171. The authorized place of use shall include the City of Victoria, Kansas, and its immediate vicinity; the City of La Crosse, Kansas, and its immediate vicinity, and the City of Ellis, Kansas, and its immediate vicinity.

172. Upon the execution of a contract to purchase water from the Project, the authorized place of use shall include industrial facilities or the corporate limits of the municipality, rural water district, or other entity entering into such contract for purchase and in the case of a municipality, its immediate vicinity.

IX. Effective Date

A. The Change Application Approvals

173. The Cities filed the Change Applications in anticipation of a Water Transfer pursuant to K.S.A. 82a-1501, *et seq.* Pursuant to K.S.A. 5-50-2(x), the Approvals attached to this Initial Order for each of the Water Rights are contingent and conditioned on each of the following:

- a. The entry of a final, non-appealable Order by the Water Transfer Panel (as defined in K.S.A. 82a-1501(g)) approving the Cities' Transfer Application submitted pursuant to K.S.A. 82a-1503 (the "Transfer Order").
- b. The City of Hays obtaining financing for the Project.
- c. The Cities obtaining all permits, approvals, and licenses needed for the Project.

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174. The Approvals attached to this Initial Order for each of the Water Rights shall become effective on the date the City of Hays enters into a contract for the construction of the Project.

B. The Initial Order

175. This Order shall become a final agency action, as defined by K.S.A. 77-607(b), without further notice to the parties, if a request for hearing or a petition for administrative review is not filed as set forth below.

1. Request for Hearing.

176. According to K.A.R. 5-14-3(c), any party who desires a hearing must submit a request within 15 days after the date shown on the Certificate of Service attached to this Initial Order.

177. Filing a request for a hearing will give any party with standing the opportunity to submit additional facts for consideration, to contest any findings made by the Chief Engineer, or to present any other information that the requesting party contends should be considered in this matter.

178. A timely filed request for hearing will stay the deadline for requesting administrative review of this Order pending the outcome of the hearing or an order denying the request for a hearing.

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2. Petition for Review

179. Any person aggrieved by this Initial Order may petition for administrative review pursuant to K.S.A. 82a-708b(a) and K.S.A. 82a-1901(a). The petition must be filed within 30 days after the date shown on the Certificate of Service attached to this Order and must set forth the basis for the review, unless stayed by the timely filing of a request for hearing.

180. Any request for hearing or petition for administrative review shall be in writing and shall be submitted to the attention of: Chief Legal Counsel, Kansas Department of Agriculture, 1320 Research Park Drive, Manhattan, Kansas 66502, Fax: (785) 564-6777.

Dated at Manhattan, Kansas, on this ____ day of _____, 2016.

David W. Barfield, P.E.
Chief Engineer
Division of Water Resources
Kansas Department of Agriculture

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FOR DISCUSSION ONLY
ACKNOWLEDGMENT

State of Kansas)
) SS
County of Shawnee)

The foregoing INITIAL ORDER APPROVING APPLICATIONS TO CHANGE POINTS OF DIVERSION, PLACES OF USE, AND USE MADE OF THE CAPTIONED WATER APPROPRIATION RIGHTS was acknowledged before me on this ___ day of _____, 2016, by David W. Barfield, P.E., Chief Engineer, Division of Water Resources, Kansas Department of Agriculture.

Notary Public

CERTIFICATE OF SERVICE

On this ___ day of _____, 2016, I hereby certify that this INITIAL ORDER APPROVING APPLICATIONS TO CHANGE POINTS OF DIVERSION, PLACES OF USE, AND USE MADE OF THE CAPTIONED WATER APPROPRIATION RIGHTS was mailed postage prepaid, first class, U.S. mail to the following:

CITY OF HAYS
CITY HALL 16TH & MAIN
PO BOX 490
HAYS KS 67601

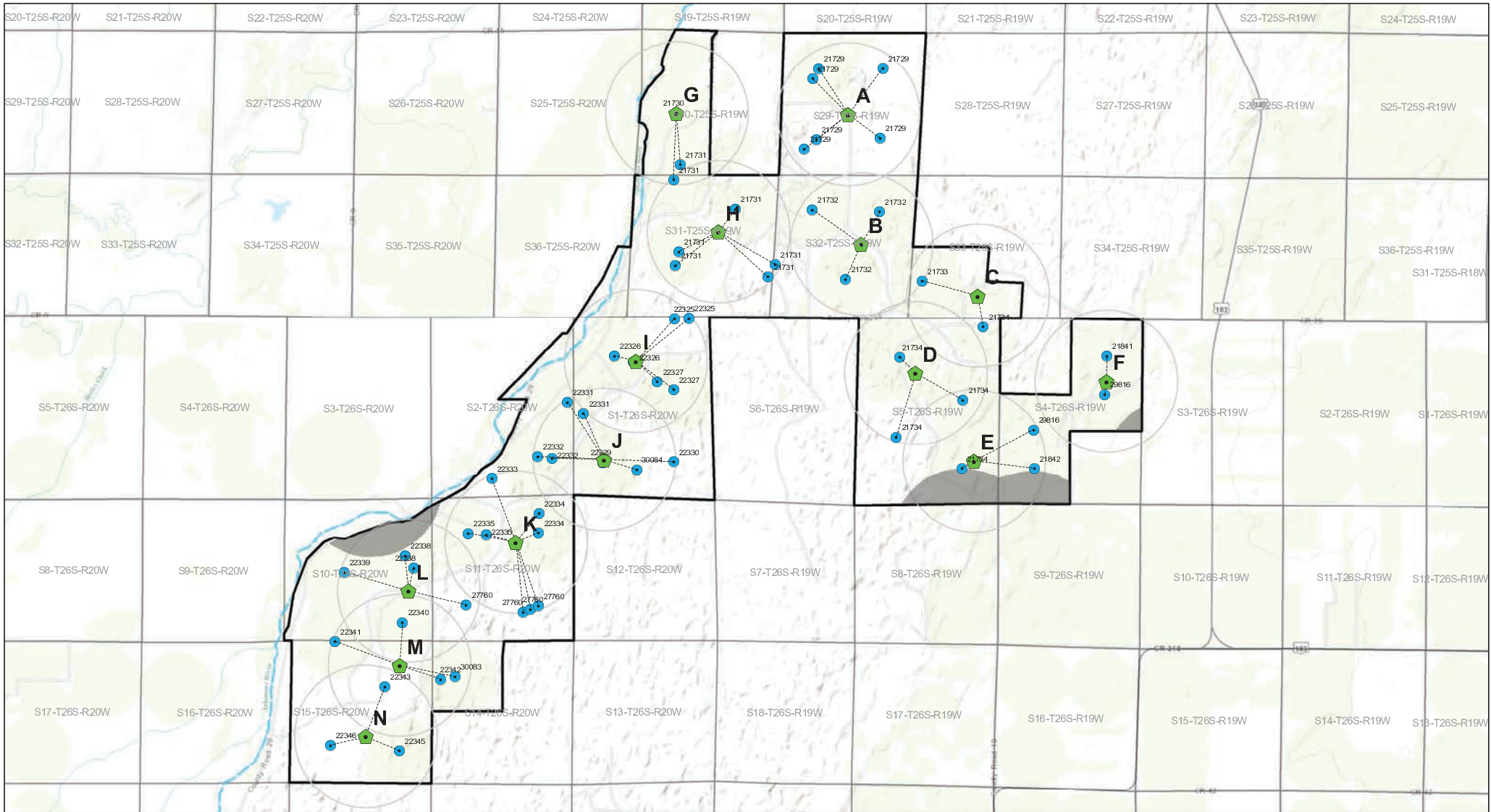
CITY OF RUSSELL
CITY CLERK
133 W. 8TH STEET
RUSSELL KS 67665

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DAVID M. TRASTER
DANIEL J. BULLER
FOULSTON SIEFKIN LLP
1551 N. WATERFRONT PARKWAY
SUITE 100
WICHITA KS 67206

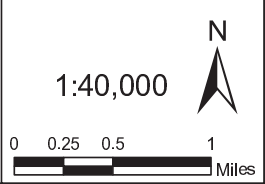
Stafford Field Office
Stockton Field Office
Big Bend Groundwater Management District No. 5

Staff






Legend

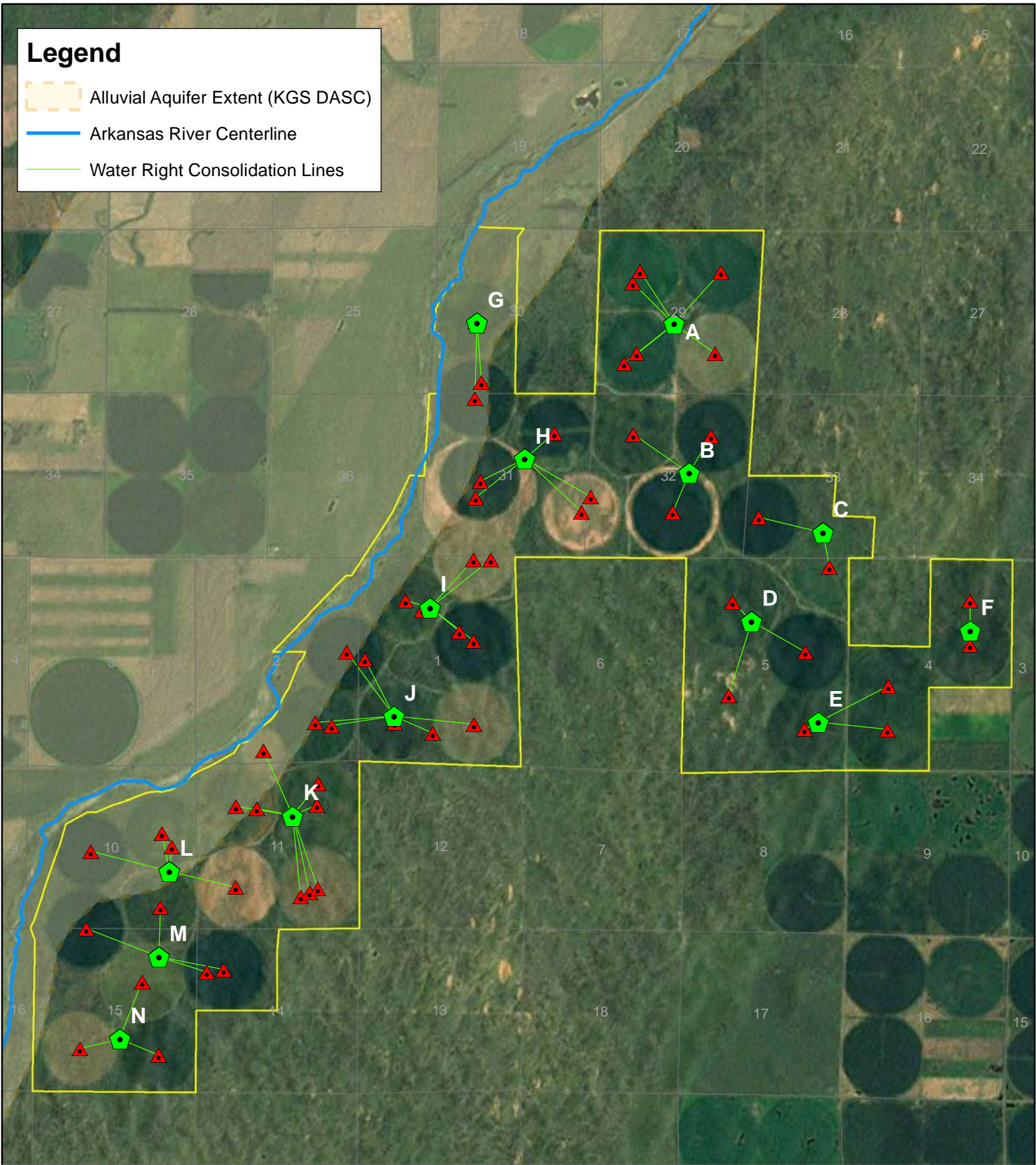
- Proposed Municipal Wells (A-N)
- Existing R9 Ranch Points of Diversion
- 1/2 Mile Buffer Around Proposed Wells
- Water Rights Consolidation Lines
- Area Excluded From Proposed Wells
- River Centerline
- R9 Ranch Property Boundary
- PLSS Sections



Initial Order Ex. 1

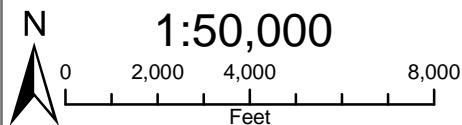
Legend

-  Alluvial Aquifer Extent (KGS DASC)
-  Arkansas River Centerline
-  Water Right Consolidation Lines









Legend

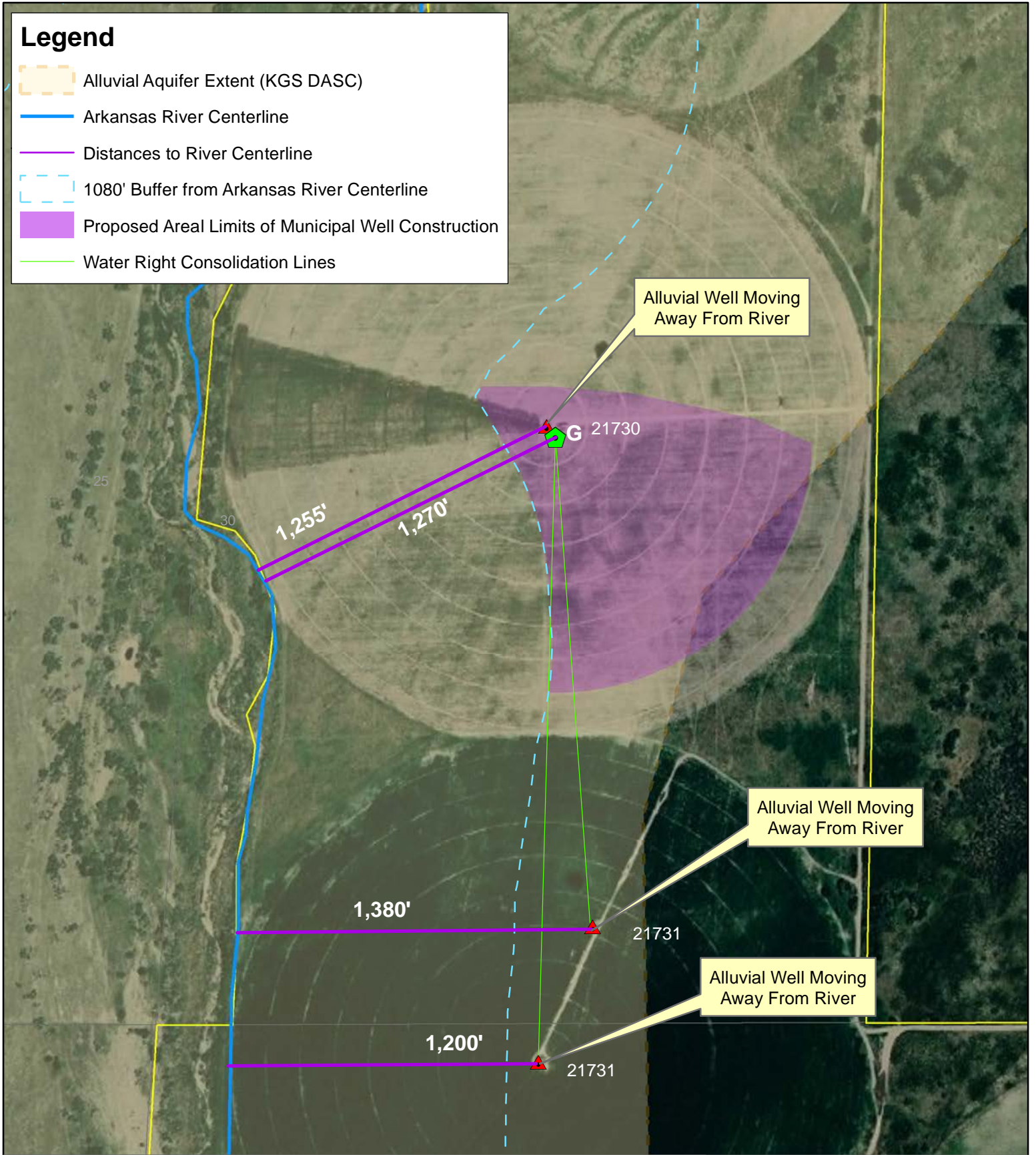
-  R9 Irrigation Wells
-  Conceptual Municipal Well Site
-  R9 Ranch Property Boundary
-  PLSS - Sections






Initial Order Ex. 2
Hays R9 Ranch
Conceptual Municipal Well Field
Analysis of Alluvial Aquifer Extent &
Well Proximity to Arkansas River

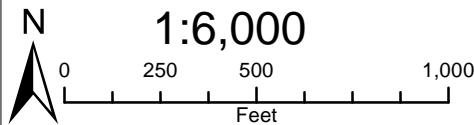
Legend

-  Alluvial Aquifer Extent (KGS DASC)
-  Arkansas River Centerline
-  Distances to River Centerline
-  1080' Buffer from Arkansas River Centerline
-  Proposed Areal Limits of Municipal Well Construction
-  Water Right Consolidation Lines



Legend

-  R9 Irrigation Wells
-  Conceptual Municipal Well Site
-  R9 Ranch Property Boundary
-  PLSS - Sections



Initial Order Exhibit 3
 Conceptual Well Site G
 R9 Ranch
 Analysis of Alluvial Aquifer Extent &
 Well Proximity to Arkansas River