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June 25, 2015

David Barfield, Chief Engineer
Brent Turney, Change Applications Supervisor
Division of Water Resources
Kansas Department of Agriculture
1320 Research Park Drive
Manhattan, Kansas 66502-5000

Re: Hays/Russell Water Transfer – Change applications for water right files 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; 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.

Dear David and Brent,

The Cities of Hays and Russell are preparing an 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 to supplement both Cities' inadequate municipal water resources. Water could also be available to other water utilities in the region and along the pipeline route.

A complete transfer application requires "contingently approved" change applications.[1] To that end, change applications and related documents for the water rights on the R9 Ranch listed above are attached. This letter provides substantive explanations for the requested changes and responds to a number of questions on the application that are common to all of the files. The content of this letter is incorporated into each change application.

The Cities respectfully request DWR's contingent approval of these applications.

[1] K.A.R. 5-50-7(b)(1)–(3). *See also* K.A.R. 5-50-2(x)(2)(A)–(C).

EXHIBIT 2

Table of Contents

I. Legal and practical prerequisites to contingent approval of these change applications

Because of the distance from the Ranch and the quantities of water involved, these applications can only become effective upon approval of a transfer pursuant to the Kansas Water Transfer Act.[2] A "complete" transfer application must include copies of the applications to change the place of use, the type of use, and the points of diversion that have been approved "contingent upon receiving a permit to transfer water."[3]

But this project will require much more than merely changing the characteristics of these water rights. Both Cities will invest significant time, resources, and money over several years, making vigilant front-end preparation a prerequisite to success. In addition to obtaining contingently approved change applications with rates, quantities, and terms acceptable to the Cities, numerous additional events must take place before the actual transfer of water from the Ranch can begin. These events include, for example:

- The complete design of required infrastructure, including collection and transmission systems;
- Acquisition of permits and approvals for road, railroad, pipeline, and stream crossings;
- Acquisition of easements and rights-of-way for the transmission pipeline;
- Securing project financing; and
- Construction of Phase 1 municipal wells, the collection system, the pipeline, and related infrastructure.

If a DWR order approving these change applications were to become effective immediately upon approval of the transfer application, several legal and practical problems would arise. Therefore, these and other conditions precedent to the movement of water to Hays and Russell must be included as "contingencies" in the Order approving these change applications.

A. *Wheatland Elec. Co-op., Inc. v. Polansky*

The irrigation rights on the Ranch are valuable and have even greater value to the Cities as municipal water sources. The Cities are committed to transferring water from the Ranch and believe that they can do so within the existing regulatory framework, but they cannot begin construction of a multi-million dollar project without the appropriate change and transfer orders in hand and only when events like those listed above come to fruition.

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[2] K.S.A. 82a-1501, *et seq*.

[3] K.A.R. 5-50-7(b)(1)–(3). *See also* K.A.R. 5-50-2(x)(2)(A)–(C).

While the circumstances are very different, the Court of Appeal's decision in *Wheatland Elec. Co-op., Inc. v. Polansky*[4] raises a significant concern for the Cities. In that case, the Court affirmed DWR's decision to reject Wheatland's attempted withdrawal of its change application after the Chief Engineer issued an order that was not to Wheatland's liking. The Court recognized the Chief Engineer's authority to deny change applications that materially injure senior water-right holders and to grant applications on terms, conditions, or with limitations that are in the public interest, noting that under the circumstances of that case, "[i]t was not unreasonable or arbitrary for the Division not to allow Wheatland to withdraw its change application."[5]

Unlike the Cities' application, Wheatland's change applications were not contingently approved under the Water Transfer Act and were not contingent on any future events. Wheatland had already entered into a contract to supply water and treatment services to the City of Garden City and constructed its reverse osmosis treatment plant. When Wheatland found DWR's change order unacceptable, withdrawal was both legally and practically problematic.

While an outright denial of a change application or a new permit does not change the *status quo*, under *Wheatland* the approval of a change application for less than the requested amount, or with terms that are not acceptable to the applicant, has the potential to result in the loss of a valuable property interest.

If an order approving these change applications becomes effective as soon as an order approving the transfer is final but Hays determines that it cannot proceed with the project, the value of the Ranch would diminish substantially. In that case, the water rights could not be used for irrigation and there would be no way to get the water from the Ranch to Hays and Russell for municipal use. The water rights would be lost and the value of the Ranch would diminish from irrigated cropland to sand hills. That result would be a patently unfair result to the Cities and their citizens.

The Cities respectfully request a written agreement at the outset that any contingent approval of these change applications will include a provision allowing the Cities to withdraw the changes at any time, including after an order approving the transfer is final.

II. The Cities' alternative request for partial changes in the type and place of use

DWR regulations permit partial changes from irrigation to municipal use.[6] Each of the Cities' change applications requests a change of the total quantity available to municipal use. However, to the extent that the full amount available for municipal use is not converted,[7] the

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[4] 46 Kan. App. 2d 746, 265 P. 3d 1194 (2011), review denied, 2013 Kan. LEXIS 472 (May 20, 2013) (No. 09-102881-A).

[5] *Wheatland*, 46 Kan. App. 2d at 753, 265 P.3d at 1201. *See also* K.S.A. 82a-708b(a), which makes the provisions and procedures for considering new applications applicable to change-application proceedings.

[6] K.A.R. 5-5-10.

[7] *See*, *e.g.*, K.A.R. 5-5-9(a)(6).

Cities request that any order approving any of the applications state that any quantity, in whole or in part, that is not made available for municipal use is to remain available for irrigation use.[8]

If DWR determines that some or all of the water otherwise available for municipal use should not be changed, the Cities reserve the right to amend their applications to add new points of diversion for irrigation use, to designate revised places for irrigation use,[9] and to allocate available rate between municipal and irrigation use.[10]

III. The necessity for an alternative approach to DWR's traditional reasonable-quantity analysis for municipal use

This project will provide a long-term supply of water to Hays, Russell, and possibly other communities in the region; is expected to have a design life of at least 50 years and to be productive for even longer; and financing for the project could require amortization over the entire design life of the infrastructure. For any number of reasons, including especially financing the project, DWR's traditional 20-year planning horizon, while workable for most other municipal water projects across the state, is not appropriate for the Cities' water-transfer project.

The Kansas Water Appropriation Act states that "[a]ppropriation rights in excess of the reasonable needs of the appropriators shall not be allowed."[11] And the regulations provide that changes in use are limited to the quantity actually consumed in any one year during the perfection period and, if necessary, further limited to the reasonable quantity needed for the new use.[12] DWR's 20-year planning horizon to establish the "reasonable needs" of municipal users is not mandated by DWR regulations. Indeed, DWR[13]—and Kansas courts[14]—have long recognized that "reasonableness" is fact and situation specific.

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.[15] For example, most communities in western Kansas overlie the

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[8] K.A.R. 5-5-10.

[9] K.A.R. 5-5-10(b).

[10] K.A.R. 5-5-10(c).

[11] K.S.A. 82a-707(e).

[12] K.A.R. 5-5-9(a).

[13] While DWR has set quantity limits on various beneficial purposes including irrigation, K.A.R. 5-3-19, 5-3-20, 5-3-23, and 5-3-24; stockwatering, K.A.R. 5-3-22; and reservoir storage, K.A.R. 5-6-5, the quantities available for municipal use remain flexible.

[14] K.S.A. 82a-707(e) prohibits water rights that exceed the appropriator's "reasonable needs." The term "reasonableness" is not defined by the statute; however, in the context of riparian surface water rights, Kansas courts have long held that "reasonable use" requires a factual inquiry, and can only be "determined in the light of total supply and total need of all riparian proprietors." *State ex rel. Peterson v. Kan. State Bd. Agric.*, 158 Kan. 603, 608, 149 P.2d 604 (1944). The Kansas Supreme Court has also defined "reasonableness," in a different context, to be that which "from the calm sea of level common sense applied to the total situation, is not illegitimate in view of the end attained." *Ernest v. Faler*, 237 Kan. 125, 131, 697 P.2d 870 (1985) (citing *In re Hall*, 195 Pac. 975 (Cal. 1920)).

[15] *See* the Municipal Use Supplemental Sheet found at https://agriculture ks.gov/docs/default-source/dwr-water-appropriation-forms/1_100_24.pdf?sfvrsn=2 and K.A.R. 5-8-6(b).

Ogallala Aquifer, which means that irrigation rights are generally available nearby and can be acquired and converted to municipal use.[16]

In eastern Kansas, a range of possible options are available, including relatively abundant surface water in multiple reservoirs, the acquisition of existing rights, the Water Marketing Program, Water Assurance Districts, and PWWSDs.[17]

But unlike most other Kansas cities, Hays and Russell must look far afield to find a reliable source of water. The Cities have considered numerous alternative water sources, most recently Wilson Reservoir and the Smoky Hill River in eastern Russell County. Extensive hydrology and engineering studies have shown these alternatives are unworkable or too expensive.

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 a project for less than the full quantity of water available from the Ranch.

Moreover, the policy bases for the traditional 20-year limit either no longer exist at all or have significantly eroded—particularly in Groundwater Management District No. 5. The prior appropriation doctrine, adopted in Kansas in 1945,[18] has four key tenets.

- Priority of right—first in time is first in right;[19]
- All water may be appropriated, so long as it is used for beneficial purposes;[20]
- Water rights in excess of reasonable needs are not allowed;[21] and
- Water that is no longer put to the beneficial use must be relinquished to allow reappropriation by others.[22]

Two key developments have eroded the impact of these doctrines. First, DWR has closed many areas of the State, including the Ranch and surrounding areas, to new appropriations.[23]

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[16] *See* Exhibit A, showing that the Ogallala Aquifer does not extend into either Ellis or Russell Counties. http://www kgs ku.edu/Publications/Bulletins/ED10/04_occur html.

[17] *See* the discussion under the heading "*Water use based on access to adequate sources*," *infra.*

[18] L. 1945, Ch. 390, § 1.

[19] K.S.A. 82a-706, 82a-706b, 82a-706e, 82a-707(b) and (c), 82a-708b, 82a-710, 82a-711, 82a-711a, 82a-715, 82a-716, and 82a-717a.

[20] K.S.A. 82a-703.

[21] K.S.A. 82a-707(e).

[22] As originally enacted and amended in 1957, K.S.A. 82a-718 permitted termination of water rights for non-use. L. 1957, Ch. 539, § 23. "Generally, after reverting to the public, the quantity of water forfeited is available to be reallocated to satisfy other junior water rights in the hydrological basin in order of priority date." Michael Toll, Comment, Reimagining Western Water Law: Time-Limited Water Right Permits Based on a Comprehensive Beneficial Use Doctrine, 82 U. Colo. L. Rev. 595, 626 (Spring 2011) ("The use requirement primarily played a role in reclaiming speculative claims from private ownership and returning them to the pool of unowned property, making them available for new, bona fide claimants."). *See also* David B. Schorr, *Appropriation as Agrarianism: Distributive Justice in the Creation of Property Rights*, 32 Ecology L.Q. 3, 22 (2005).

Second, the forfeiture of groundwater rights in closed areas is no longer authorized.[24] Because the R9 Ranch sits in an area that is closed to new applications, the water rights cannot be lost because of non-use and no new water will be made available for use by others if a portion of the available water is not converted to municipal use.

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. The Cities request an Order approving the change applications with a quantity that will float upwards as needs change and demand increases. These standards must be clear, objective, and not subject to the political or discretionary preferences of future Chief Engineers or Secretaries of Agriculture. They should be based on actual and projected population changes, the reasonable needs of additional users, and other measurable indices. The Cities believe that the details of such standards are best developed through a collaborative effort with DWR.

IV. Project Timing

The Cities currently plan to construct the water-transfer project in phases. Because the north side of the Ranch contains the most productive water rights, the Cities expect to convert those rights from irrigation to municipal use in the first phase. The Cities have already started to phase out irrigation on the Ranch. Many of the wells on the southwest end of the R9 Ranch have been plugged.[25]

The specific water rights and the total number of new municipal wells in the first phase will not be determined until completion of the design of the new collection and transmission system but could include files numbered 21,729; 21,730; 21,731; 21,732; 21,733; 21,734; 21,841; 21,842; and 29,816. *See* Section V.D. for a discussion of the Cities' proposed methods to determine the number and location of proposed wells.

The remaining R-9 Ranch water rights would be held in reserve until the need for water in Hays, Russell, and other potential water suppliers in the region justifies the change. Additional phases of the project will be completed as this demand increases.

Because the Cities anticipate a phased development of the water rights on the Ranch for municipal use, they request that the changes become effective as the need for municipal water increases. Stated another way, the Cities request that the water rights not converted to municipal use in the first phase remain available for irrigation use.

V. Supplemental information for the Cities' change applications

The numbered paragraphs below correspond to the paragraph numbers in DWR's change application form and are incorporated in each of the applications unless otherwise indicated.

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[23] K.A.R. 5-25-4.

[24] K.S.A. 82a-718(e).

[25] This approach was made possible by the amendment of K.S.A. 82a-718, which removed the threat that these water rights could be lost in a forfeiture proceeding. *See* Section V.F.

A. Paragraph 2. Name of Applicants

Please direct all correspondence to the lawyers for the City of Hays on all issues related to the change applications as follows:

David M. Traster
Daniel J. Buller
Foulston Siefkin LLP
1551 N. Waterfront Parkway, Suite 100
Wichita, Kansas 67206-4466
Phone: 316-291-9725 (David); 316-291-9579 (Daniel)
Fax: 866-347-3138 (David); 866-347-9613 (Daniel)
dtraster@foulston.com; dbuller@foulston.com

In addition, please provide copies of all correspondence to:

Toby Dougherty
City Manager
City of Hays
P.O. Box 490
Hays, KS 67601

and

Jon Quinday
City Manager
City of Russell
133 W. 8th Street
Russell, Kansas 67665

B. Paragraph 3. The proposed changes are needed for the following reasons

1. Existing sources do not meet present needs—the City of Hays

The City of Hays owns water rights in the Smoky Hill River alluvium south of Hays, in the Big Creek alluvium in Hays, in the Dakota formation southwest of Hays, and is currently using water from a KDHE Dry Cleaner Trust Fund remediation project.[26]

Hays has water rights totaling an annual quantity of approximately 3,735[27] acre-feet, limited to no more than 3,675 acre-feet, and further limited by the Smoky Hill IGUCA.[28] But production from the City's wells is decreasing, and in recent years Hays has been unable to produce more than 2,000 to 2,200 acre-feet of water per year because of the significant depletion

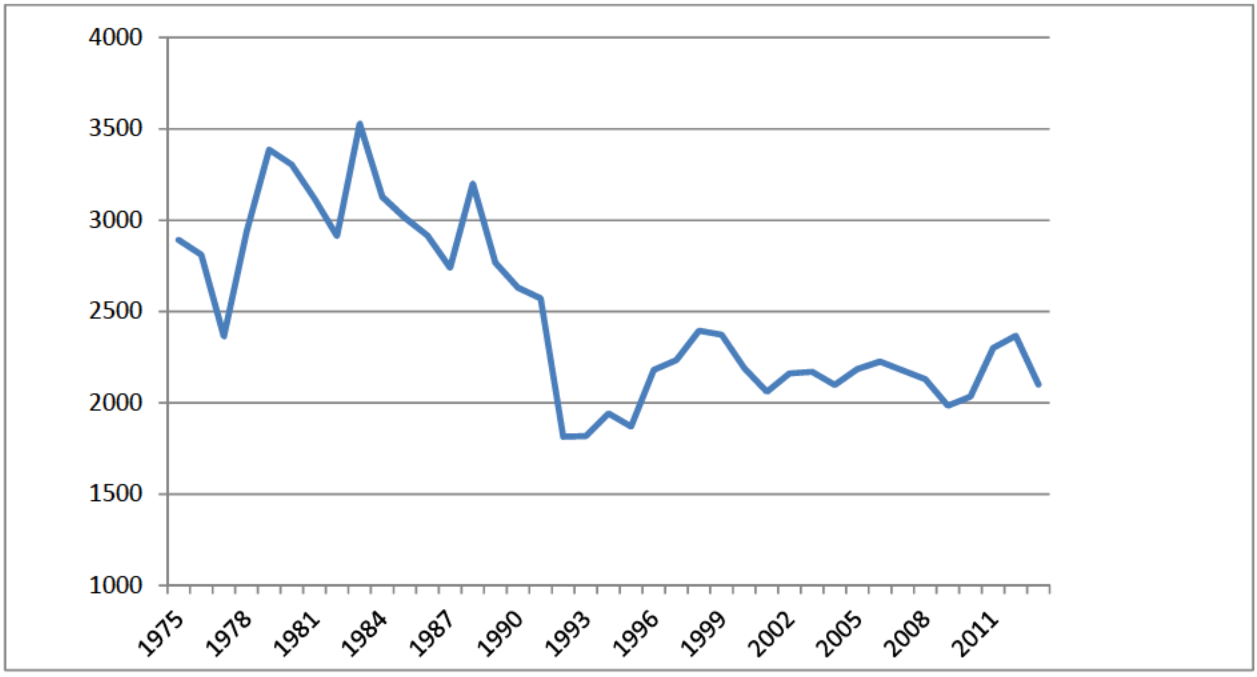
[26] Water from this source is being diverted under a temporary water appropriation right.

[27] Some of the later water appropriation rights held by the City of Hays include a limitation to a total quantity of 3,675 acre-feet when combined with other rights and the Smoky Hill water rights are limited by DWR's IGUCA.

[28] *See* Exhibit B.

of its Big Creek and Smoky Hill alluvial sources. Total municipal water use in Hays is shown in the following graph.

City of Hays Municipal Water Use in Acre-Feet per Year



Construction of Cedar Bluff Reservoir on the Smoky Hill River in Trego County and modern farming practices that significantly reduce runoff in the Smoky Hill basin have each contributed to the depletion of the City's water sources. This forced Hays to implement drought-induced conservation ordinances that drove homeowners to drill thousands of domestic wells in the Big Creek alluvium which, ironically, are now directly competing with Hays for the same water. This direct competition has impaired the City's water rights.

Hays has been the poster child for water conservation in Kansas since the early 1990s, when it imposed significant restrictions on water use. Hays is the only city in Kansas to adopt the green plumbing code and implement landscaping requirements that significantly limit the area and type of vegetation that is routinely grown and irrigated in other Kansas communities. To keep consumption rates low, Hays has enacted stringent water conservation measures, mandated the use of water-saving devices, and implemented a program that pays part of the owners' cost to purchase and install these devices.

In addition, both Hays and Russell have water-rate ordinances with increasing block structures. While the first gallon of water is relatively inexpensive, as consumption increases, so does the incremental rate. This approach has dramatically decreased the per capita water use by residents.

Hays residents have embraced these conservation efforts and taken pride in their accomplishments, but carrying the banner as the statewide leader in conservation has created a widely held perception that Hays lacks water. The City is at the effective limits of conservation for this part of the country. If Hays pushed even harder by adopting some of the draconian tactics

used by cities like Las Vegas and Phoenix, it would be thrust even farther away from its peer communities in Kansas, further repelling private and commercial investment.

Hays is the economic engine of Northwest Kansas; its continued growth and economic viability are crucial to the entire state. This is only possible if Hays has access to a water supply consistent with the reasonable expectations of citizens in other Kansas communities.

While abundant water does not guarantee that economic development will occur, development cannot occur without it. Hays has no interest in reverting to wasteful practices—conservation is, and will always be, a part of the culture in Hays. Instead, Hays is looking for additional water to ensure the long-term viability of the community and the region.

In order to grow, Hays must change the perception that it is short of water, which cannot be done until Hays changes the ***reality*** that it is short of water. Additional water resources will assure current and prospective businesses that water supplies meet and exceed current and long-term needs.

2. Existing sources do not meet present needs—the City of Russell

The discussion about Hays applies to the City of Russell as well. Russell is located in an arid climate where, like Hays, the evaporation rate exceeds the average annual rainfall.

Russell's water rights are designated with the following DWR file numbers: RS008; 1,267; 1,861; 7,628; 17,586; 17,587; and 36,680. These water rights provide Russell with the following quantities:

Cedar Bluff Reservoir	2,000 acre-feet	storage right
Smoky Hill River	1,086 acre-feet	surface water
Smoky Hill River	961 acre-feet	groundwater
Fossil Lake	410 acre-feet	surface water
Big Creek	1,767 acre-feet	surface water

While the City of Russell has water rights totaling an annual quantity of approximately 5,814 acre-feet, it is limited to no more than 1,840 acre-feet per year from all sources combined.

Moreover, these sources are highly susceptible to drought. Big Creek is particularly unreliable because it frequently runs dry during the summer months. The Pfeifer well field is capable of supplying the water demand for a very short duration but could be permanently damaged if demand increases too much.

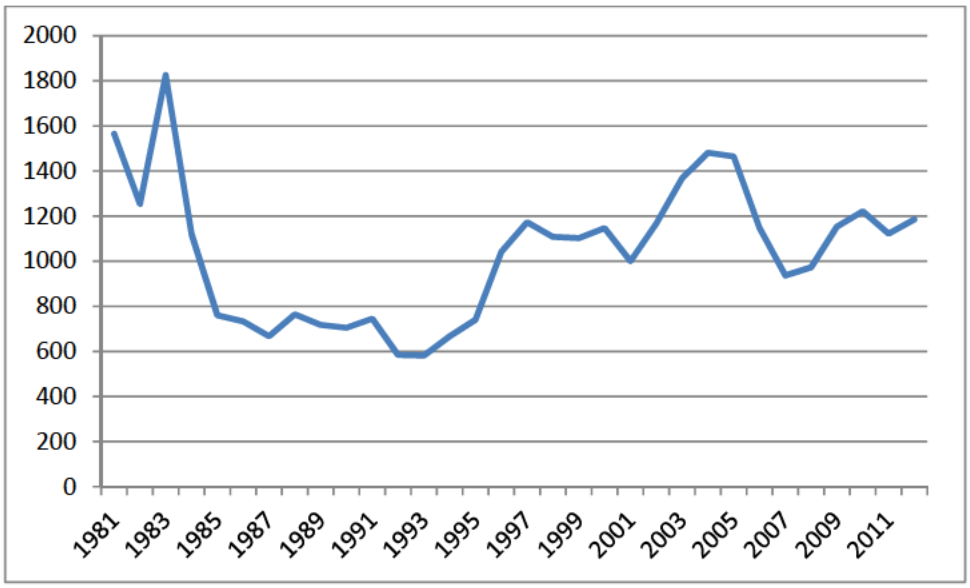
Russell has been able to manage its two main water sources effectively, but water use has been highly restricted over the last 12 years. Russell has been in a Stage 3 Critical Water Stage or Stage 4 Water Emergency for 8 consecutive years.

The City of Russell and its citizens have responded to the City's warnings about their water supply and have significantly reduced their consumption. The industrial sector was able to reduce water consumption by 63% over 10 years. The residential/commercial sector was able to reduce their water consumption by 30% over the same time period. The exemplary conservation

efforts have been well documented in the media.[29] In fact, in 2013, Russell's total water consumption dropped by 22 percent over the previous five years, with more than one-third of its residents using rain barrels to collect and reuse rainwater.[30]

Russell's water use peaked in the early 1980s, then dropped off precipitously in the mid-1980s.

City of Russell Municipal Water Use in Acre-Feet per Year



Russell's governing body recognizes the importance and scarcity of water in this region. In addition to investing in infrastructure, Russell looked to its neighbors to the west and their conservation efforts. In 2013, the City of Russell began offering free low-flow showerheads to its customers and implemented a new water-conservation education program for middle school science classes.[31] In 2014, Russell implemented a water-conservation rebate program, which promoted the purchase and proper installation of high-efficiency toilets.

As with other cities in this region, Russell must change the perception that it is short of water. This cannot be accomplished until it changes the reality that it is short of water. A reliable, sustainable, 100-year water source will assure current and prospective residents and businesses that Russell can sustain current and long-term needs.

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[29] Rick Montgomery, *Capturing Every Drop: Russell, Kan., Learns to Live with Drought*, The Kansas City Star (June 1, 2014), http://www kansascity.com/news/state/kansas/article446882/Capturing-every-drop-Russell-Kan.-learns-to-live-with-drought html. *See also Kansas Community Launches Educational Campaign to Help Promote Water Conservation*, AM Conservation Group (Jan. 20, 2014), http://www.amconservationgroup.com/blog/kansas-community-launches-educational-campaign-to-help-promote-water-conservation; Associated Press, *Russell seeks to conserve water* (July 11, 2012), http://cjonline.com/news/2012-07-11/russell-seeks-conserve-water.

[30] Montgomery, *Capturing Every Drop*, *supra* note 33.

[31] http://www.amconservationgroup.com/blog/kansas-community-launches-educational-campaign-to-help-promote-water-conservation.

3. Drought and the prospect of long-term mega-droughts

Historically, the water shortages in Hays and Russell have been cyclical. But the drought that started in 2010 has been extremely hard on the Cities' water sources and water shortages are now part of Hays' and Russell's daily life. Though those shortages become extreme during droughts, the Cities have entered a "new norm" that will extend beyond the current situation. In fact, with changing rainfall patterns and new farming practices it is hard to envision a time when the available alluvial aquifers will ever produce the quantities authorized or even sufficient quantities to meet the Cities' existing and future needs.

A recent Kansas Geological Survey ("KGS") article that analyzed paleoclimatological data concluded that "*we should expect decadal droughts on average two times a century in western Kansas*."[32] More severe droughts will tax existing systems beyond their ability to cope; both Cities must take steps to protect their citizens from future droughts.

4. Reasonable per capita water use

Extreme conservation, while laudable, is not the standard on the High Plains and is not conducive to economic-development efforts. Hays and Russell residents have sacrificed in ways that other Kansans have not. The Cities should not have to maintain this strict conservation once a new source of water becomes available. Instead, the communities' reasonable needs must balance the virtues of conservation with the reasonable expectations of other Kansas communities. Moreover, existing and prospective businesses have a legitimate interest in how water is used in their communities. Water use affects lifestyle which, in turn, affects employers' ability to attract new employees and the Cities' efforts to attract new employers.

5. Proximity to an adequate source matters

DWR considers significantly higher per capita water use quantities to be reasonable for municipal use in other areas of the State—in fact, in ***all*** other areas of the State. A reasonable quantity in Hays and Russell should not be different than the reasonable quantities in Dodge City,[33] Pratt,[34] or Larned.[35]

As shown in Table 1, every Kansas county with a population in excess of 15,000 in the 2010 census—except Ellis County—is (a) on or east of U.S. Highway 81, the traditional dividing line between eastern and western Kansas; (b) over or near a major aquifer; or (c) both.

Russell is even more isolated from viable sources. While it has very slightly more annual rainfall than Hays, its smaller size makes the economics of a long-distance pipeline more problematic.

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[32] Anthony L. Layzell, A thousand years of drought and climatic variability in Kansas: Implications for water resources management, Kansas Geological Survey, 2012, p. 10 (emphasis in original).

[33] Dodge City averaged 199 GPCD during 2007–2011. DWR's 2011 Municipal Water Use Report ("Report"), p. available at: http://agriculture ks.gov/docs/default-source/dwr-water-appropriation-documents/2011_ks_ municipal_water_use.pdf ?sfvrsn=2.

[34] Pratt averaged 195 GPCD during 2007-2011. *Id.*, p. 18.

[35] Larned averaged 203 GPCD during 2007-2011. *Id.*, p. 13.

Table 1				
County	Population in 2010 Census	East of Highway 81	On Highway 81	Has access to a major aquifer
Johnson	544,179	X		
Sedgwick	498,365		X	Equus Beds
Shawnee	177,934	X		
Wyandotte	157,505	X		
Douglas	110,826	X		
Leavenworth	76,227	X		
Riley	71,115	X		
Butler	65,880	X		
Reno	64,511			Equus Beds
Saline	55,606		X	
Crawford	39,134	X		
Finney	36,776			Ogallala
Cowley	36,311	X		
Montgomery	35,471	X		
Harvey	34,684		X	Equus Beds
Geary	34,362	X		
Ford	33,848			Ogallala
Lyon	33,690	X		
Miami	32,787	X		
McPherson	29,180		X	Equus Beds
Ellis	28,452			
Barton	27,674			Ogallala
Franklin	25,992	X		
Sumner	24,132		X	
Seward	22,952			Ogallala
Labette	21,607	X		
Pottawatomie	21,604	X		
Cherokee	21,603	X		
Dickinson	19,754	X		
Jefferson	19,126	X		
Atchison	16,924	X		
Neosho	16,512	X		
Osage	16,295	X		
Bourbon	15,173	X		

6. Average annual water use by Kansas municipalities

The reasonable quantity of water needed for municipal use in Kansas is dependent on average annual rainfall, proximity to a source, and population. More rainfall reduces water needs, and larger cities use more water per capita than smaller cities. DWR has deemed larger quantities to be "reasonable" in communities that have abundant supplies.

The following analysis demonstrates that a reasonable quantity of water for municipal use in Hays is about 200 gallons per capita per day ("GPCD").

DWR publishes an annual report on municipal water use in Kansas. The report divides the state into eight separate water-use "regions."[36] Based on average annual precipitation and on per capita use, the report compares average use by water utilities in each of these similar geographic areas.[37]

Region 1 is the western-most tier of counties and Region 8 is the two eastern-most tier.[38] Hays is located in Region 5; Russell is in Region 6.[39]

Regions 7 and 8 are subdivided into small, medium, and large utilities with large utilities serving more than 10,000 people.[40] Hays would fit in the "large" category if Region 5 were so divided but would be the only such utility in that group.[41] Region 6 is divided into small and medium-large cities; Russell is in the medium-large category.[42]

a. Water use is inversely proportional to annual precipitation

The Report asserts that GPCD use is much higher in the west than in the east "primarily due to differences in precipitation."[43] Average annual precipitation in Region 1 (the far western tier of counties) ranges from below 18 inches to 21 inches.[44] Average annual precipitation in Region 8 (the two eastern tiers) is roughly double the rainfall in Region 1, ranging from 36 inches to over 45 inches.[45]

The following Table 2 is taken from the 2011 Report.[46] The fact that per capita water use declines from west to east is the most-apparent conclusion from this data.

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[36] *Id.*, p. 38.

[37] *Id.*, p. 3.

[38] *Id.*, p. 38.

[39] *Id.*

[40] *Id.*, p. 4.

[41] *Id.*

[42] *Id.*

[43] *Id.*, p. 3.

[44] *Annual Normal Precipitation, 1971–2000*, prepared by the Kansas Department of Agriculture, Administrative Services, October 30, 2009. http://agriculture ks.gov/docs/default-source/dwr-water-appropriation-documents/precip7100_3in.pdf.

[45] *Id.* There are two small areas, one in northwest Brown County and the other in eastern Doniphan County, that dip below 36 inches per year.

[46] 2011 Report, p. 4.

Table 2 AVERAGE GPCD USE FOR KANSAS PUBLIC WATER SUPPLIERS BY REGION AND SIZE, 2007–2011						
Region	Year					Average
	2007	2008	2009	2010	2011	
1	272	273	228	259	282	263
2	245	241	199	224	237	229
3	241	229	195	223	229	223
4	170	168	156	168	196	172
5	149	142	139	137	149	143
6-ML	135	133	131	139	151	138
6-S	126	121	117	114	134	122
7-L	135	128	124	134	140	132
7-M	101	96	94	98	103	98
7-S	92	89	87	87	93	90
8-L	130	123	122	125	130	126
8-M	98	92	89	93	94	93
8-S	82	81	78	79	81	80
Kansas	119	115	109	114	122	116

b. Per capita use by large Kansas utilities is much higher than small utilities

For the period 2007–2011, large water utilities in Region 8 used 135% of the quantities used by medium utilities in that Region and 158% of the quantity used by small utilities. In Region 7, large utilities needed between 135% and 147% as much water as medium and small utilities.

Table 3		
Region	Average GPCD from Table 1	Percent of 7-L and 8-L
7-Large	132	132 GPCD is 135% of use in 7-Medium and 147% of use in 7-Small Communities
7-Medium	98	
7-Small	90	
8-Large	126	126 GPCD is 136% of use in 8-Medium and 158% of use in 8-Small Communities
8-Medium	93	
8-Small	80	

Table 4 summarizes the comparison of water use in Hays from 1993 through 2012 to the average use in Regions 5, 6-ML, 7-L, and 8-L for that same period.[47] Conservation measures enacted by the City of Hays resulted in average water use that is 14.9%–42.7% lower than large users in all of the Regions to the east even though that per capita water needs decline as average rainfall increases from west to east.

[47] Data was extracted from several Annual Reports that were provided by DWR.

Table 4									
	Hays GPCD 1993–2012	Region 5 Average GPCD 1993–2012	Percent Below Regional Average	Region 6-ML Average GPCD 1993–2012	Percent Below Region 6- ML Average	Region 7-L Average GPCD 1993–2012	Percent Below Region 7-L Average	Region 8-L Average GPCD 1993-2012	Percent Below Region 8-L Average
Highest	112		-26.0%		-24.5%		-20.8%		-14.9%
Lowest	85	151.35	-43.8%	148.35	-42.7%	141.4	-39.9%	131.65	-35.4%
Average	97		-35.7%		-34.4%		-31.2%		-26.1%

c. Other than Hays, larger cities in Region 5 need more water than smaller cities

Even though Hays is the only "large" user in Region 5 and "large" utilities need between 135% and 158% more water than medium and small users, its average use is far lower than the average water use in its own Region 5. In fact, as shown in Tables 5, 6, and 7, the average GPCD water use in Hays from 2007 through 2011 is lower than any of the Region 5 utilities that would be considered "medium" and lower than all but 5 of the 23 "small" providers.

The following tables show the GPCD for all cities in Region 5 for which 2010 population figures were available, sorted by size.[48] Average need during 2007–2011 for "medium" sized cities was 153.5 GPCD; "small" cities averaged 128.5 GPCD. In Regions 7 and 8, large utilities need 135% of the water used by medium utilities and 152% of the water needed by small utilities. If Hays had access to plentiful water, it would normally use in the range of 200 GPCD instead of just 93 GPCD.[49]

[48] *See* http://factfinder2.census.gov/faces/nav/jsf/pages/community_facts.xhtml#none. Data were not available for the Rural Water Districts, the City of Belvidere, or "Hays City Suburban."

[49] 153.5 GPCD used by medium sized utilities in Region 5 times 135% equals 207 GPCD; 128.5 GPCD used by small utilities in Region 5 times 152% equals 195 GPCD.

Table 5								
	2010 Population	Region	2007	2008	2009	2010	2011	Average
Hays	**20,510**	**5**	**96**	**92**	**85**	**91**	**99**	**93**

Table 6								
Cities with population between 500 and 9,999								
	2010 Population	Region	2007	2008	2009	2010	2011	Average
Larned	4054	5	211	203	176	200	225	203
Phillipsburg	2581	5	195	130	121	114	139	140
Ellis	2062	5	90	93	91	97	101	94
Plainville	1903	5	134	123	130	146	149	136
Kinsley	1457	5	119	128	121	118	126	122
La Crosse	1342	5	127	123	125	139	145	132
Stockton	1329	5	149	114	98	101	115	115
Victoria	1214	5	107	107	95	105	110	105
Coldwater	828	5	178	165	189	208	226	193
Greensburg	777	5	223	173	242	259	309	241
Haviland	701	5	169	185	154	154	174	167
Logan	589	5	172	173	134	167	174	164
Protection	514	5	176	180	194	175	196	184
Average Annual GPCD			**157.7**	**145.9**	**143.8**	**152.5**	**168.4**	**153.5**

Table 7								
Region 5 Cities with population below 500								
	2010 Population	Region	2007	2008	2009	2010	2011	Average
Lewis	451	5	117	138	114	136	154	132
Otis	282	5	204	184	136	152	268	189
Palco	277	5	140	118	106	126	111	120
Agra	267	5	103	89	91	101	115	100
Bison	255	5	0	78	94	89	74	84
Mullinville	255	5	211	266	206	242	266	238
Burdett	247	5	151	191	134	169	178	165
Schoenchen	207	5	0	0	0	0	72	72
Offerle	199	5	152	101	135	158	183	146
McCracken	190	5	72	78	77	82	67	75
Kirwin	171	5	98	90	82	146	125	108
Rush Center	170	5	110	116	135	140	155	131
Rozel	156	5	156	161	150	230	238	187
Woodston	136	5	222	255	250	157	92	195
Long Island	134	5	196	180	210	193	202	196
Prairie View	134	5	144	159	123	107	133	133
Damar	132	5	0	0	0	119	100	110
Liebenthal	103	5	75	78	66	63	78	72
Glade	96	5	123	106	99	124	69	104
Belpre	84	5	110	109	107	130	174	126
Timken	76	5	125	69	47	59	67	73
Alexander	65	5	100	78	93	114	99	97
Speed	37	5	99	89	129	87	109	103
Average Annual GPCD			**117.7**	**118.8**	**112.3**	**127.1**	**136.0**	**128.5**

d. Water use depends on access to adequate sources

One cause of the disparity in water use in Region 5 is distance from the water source. Utilities in Region 5 that use the most water are located near sources that are adequate for the population served. The following table shows the average GPCD for 2007 through 2011 for the 12 communities in Region 5 that use the most water. In each case, there is an abundant supply of water nearby.

Table 8			
City	Average GCPD 2007–2011	2010 Population	Assumed Source
Greensburg	241	777	High Plains Aquifer
Mullinville	238	255	High Plains Aquifer
Larned	203	4054	High Plains Aquifer and the Arkansas River alluvium
Long Island	196	134	Prairie Dog Creek alluvium and High Plains Aquifer
Woodston	195	136	Alluvium of the South Fork of the Solomon River
Coldwater	193	828	High Plains Aquifer and the Calvary Creek alluvium
Otis	189	282	Walnut Creek alluvium
Rozel	187	156	Alluvia of the Pawnee River and Sawmill Creek and the High Plains Aquifer
Protection	184	514	Alluvia of the Cimarron River and Kiowa Creek
Haviland	167	701	High Plains Aquifer
Burdett	165	247	Pawnee River alluvium and possibly the High Plains Aquifer
Logan	164	589	Alluvium of the North Fork of the Solomon River

At the other end of the spectrum are the 12 communities in Region 5 that use the least amount of water. They are all in Ellis, Phillips, or Rush Counties, where both surface and groundwater are scarce.

Table 9			
City	County	Average GCPD 2007–2011	2010 Population
Victoria	Ellis	105	1214
Glade	Phillips	104	96
Speed	Phillips	103	37
Agra	Phillips	100	267
Alexander	Rush	97	65
Ellis	Ellis	94	2,062
Hays	Ellis	93	20,510
Bison	Rush	84	255
McCracken	Rush	75	190
Timken	Rush	73	76
Schoenchen	Ellis	72	207
Liebenthal	Rush	72	103

7. Reasonable per capita water use-City of Hays

At a minimum, Hays is entitled to plan future water use based on the Region 5 average of 143 GPCD; but in fairness, the average should be increased because with populations below 500 are included in the average. When those small communities are excluded from the calculation, Hays should be able to plan based on at least 153.5 GPCD.

Hays' estimated cost to produce from current sources 1,000 gallons of water is about $1.60. Water transferred from the Ranch will cost more, and could approach $5.00 per 1,000 gallons. This high cost will undoubtedly deter waste by water consumers in Hays.

8. Reasonable per capita water use-City of Russell

Russell's reported per capita water use falls near the middle of medium-large cities in Region 6. But this presents an inaccurate picture of water use in Russell.

The City of Russell has two principle sources of water: Big Creek surface water and groundwater from the Pfeifer well field. Big Creek surface water is transported in a 16-inch line from the Big Creek pump station to a surface water treatment plant in Russell 22 miles away. Water from each of several wells in the Pfeifer well field flows into a common "collector well."[50] Water is then pumped out of the collector well and transported in an 18-inch line to an electrodialysis reversal water treatment plant ("EDR plant") in Russell. Both lines are shown on Exhibit C.

Each of the Pfeifer wells is metered, as is the water withdrawn from the collector well and pumped to Russell. There are significant losses from the collector well but that water is not lost. All of the wells are located near the Smoky Hill River as shown on Exhibit C. They draw water from the alluvium, and losses from the collector well return to the alluvial aquifer.

The following table shows the actual GPCD for the City of Russell from 2007–2014. After removing the quantity of water lost in the collector well, the average water use in Russell for this period was just 102.8 GPCD. At the depth of the drought in 2013, usage dipped to 78.6 GPCD.

[50] The "collector well" was originally designed as a Ranney collector well. It is now used to collect water from the well field and as a pump station.

Table 10 (1000s)								
	2007	2008	2009	2010	2011	2012	2013	2014
Raw Surface Water from Big Creek	233,585	151,361	233,548	235,666	186,446	119,504	125,836	173,561
Raw Groundwater from Pfeiffer Wells	71,747	172,019	142,242	162,334	179,291	267,262	119,129	153,728
Total Raw Water Diverted	305,331	323,380	375,790	398,000	365,737	386,766	244,965	327,288
Metered Quantity Diverted from Pfeiffer Collector Well	57,002	122,335	97,797	115,894	127,695	180,049	87,758	109,662
Raw Surface Water from Big Creek	233,585	151,361	233,548	235,666	186,446	119,504	125,836	173,561
Untreated Water Delivered to Russell Treatment Plants	290,587	273,696	331,345	351,560	314,141	299,553	213,594	283,223
Difference between Pfeifer Wells and Quantity from Pfeifer Collector Well	14,745	49,684	44,445	46,440	51,596	87,213	31,371	44,066
Water Sold to Industrial, Stock, and Bulk Customers	138,500	115,315	144,277	147,069	133,661	138,513	85,176	105,295
Water Sold to Residential and Commercial Customers	127,625	122,388	123,343	124,806	131,012	119,999	108,382	108,743
Other Metered Water	18,710	19,189	18,907	19,786	22,150	23,421	17,677	19,944
Total Metered Water	284,835	256,892	286,527	291,661	286,823	281,933	211,235	233,982
Total Quantity Not Accounted For	20,496	66,488	89,263	106,339	78,914	104,833	33,730	93,306
Water Loss in Collector Well	14,745	49,684	44,445	46,440	51,596	87,213	31,371	44,066
Actual Quantity Not Accounted For	5,752	16,804	44,818	59,899	27,318	17,620	2,359	49,241
Percent Total Raw Water Diverted Not Accounted For	1.9%	5.2%	11.9%	15.1%	7.5%	4.6%	1.0%	15.0%
Population	4522	4514	4506	4498	4490	4482	4474	4475
Residential, Commercial, Other Metered, and Unaccounted for Water	152,087	158,381	187,068	204,491	180,480	161,040	128,418	177,928
GPCD	92.14	96.13	113.74	124.56	110.13	98.44	78.64	108.93

As shown in Table 11, the actual per capita water use places Russell very near the bottom of the list for medium to large cities in Region 6ML.

Table 11							
		2007	2008	2009	2010	2011	Ave.
Attica	6ML	179	215	200	245	272	222
Mitchell Co. RWD #02	6ML	215	190	193	197	193	198
Pratt	6ML	184	192	187	203	210	195
Lyons	6ML	189	180	161	173	253	191
Medicine Lodge	6ML	201	199	164	179	180	185
Mankato	6ML	171	170	205	189	184	184
Kiowa	6ML	166	184	172	163	157	168
Downs	6ML	141	160	166	160	149	155
Smith Center	6ML	138	146	162	158	168	154
South Hutchinson	6ML	156	130	155	151	173	153
Osborne	6ML	157	159	136	124	144	144
St. John	6ML	136	135	123	154	166	143
Little River	6ML	136	119	142	158	149	141
Russell (reported)	6ML	107	133	151	166	146	141
Russell Co. RWD #03	6ML	130	127	121	162	153	139
Anthony	6ML	156	128	130	131	139	137
Harper	6ML	129	119	121	139	165	135
Lincoln Center	6ML	141	138	142	136	114	134
Claflin	6ML	131	117	123	134	158	133
Hutchinson	6ML	126	110	111	165	155	133
Rice Co. RWD #01	6ML	122	168	na	109	133	133
Macksville	6ML	122	132	133	140	135	132
Pretty Prairie	6ML	130	125	136	129	142	132
Haven	6ML	137	120	119	124	140	128
Ellsworth	6ML	132	128	130	127	117	127
Stafford	6ML	133	118	114	121	151	127
Buhler	6ML	117	111	120	130	143	124
Great Bend	6ML	131	130	120	117	122	124
Kingman	6ML	114	108	114	129	131	119
Wilson	6ML	108	104	106	110	109	107
Russell (actual)		92	96	114	125	110	107
Ellinwood	6ML	101	100	97	108	125	106
Hoisington	6ML	97	98	94	98	113	100
Beloit	6ML	90	80	84	84	126	93
Sterling	6ML	92	82	82	95	107	92
Nickerson	6ML	67	86	69	68	84	75
Barton Co. RWD #02	6ML	47	57	37	45	60	49

At a minimum, Russell is entitled to plan future water use based on the Region 6ML average of 138 GPCD excluding any quantity lost to the aquifer in the Pfeifer collector well.[51]

C. Paragraph 5. The proposed place of use and other water rights that cover this place of use

Subject to the discussion in Section 1, *supra*, the Cities request that the places of use for these water rights be changed to correspond with the currently authorized places of use for their existing municipal rights. Maps showing the Hays and Russell corporate city limits are attached to the change applications.

Water rights owned by the City of Hays: EL 002; 1,248; 5,757; 18,857; 18,858; 33,296; 33,548; 36,519; 36,520; 36,804; 40,367; 40,368; 40,702; 40,703; 40,704; 40,705; 40,706; and 40,707.

Exhibit B provides an overview of the authorized quantities of water for each of the City's existing municipal wells. Many of the wells are not capable of producing the authorized quantities.

Water rights owned by the City of Russell: RS008; 206; 1,267; 1,861; 7,628; 17,586; 17,587; 36,680; and 20139006.

R9 Ranch water rights owned by the Cities of Hays and Russell: 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.

While these water rights do not presently cover the authorized places of use for Hays and Russell, approval of the attached applications, the transfer application, and the construction of a collection and distribution system will eventually cause these water rights to completely overlap with each of the Cities' existing municipal rights.

D. Paragraph 7. The proposed points of diversion

As discussed above, the Cities' applications are filed in order to comply with DWR regulations requiring contingently approved change applications before a transfer application will be deemed complete.[52] Moreover, the statute and the regulations require that a transfer applicant provide a "proposed plan of design, construction, and operation" of the collection and transmission system that is in "sufficient detail to enable all parties to understand the impacts of the proposed water transfer."[53]

While the Cities will comply with the requirement to provide their plans to design, construct, and operate the system, neither the statute nor the regulation require a full set of detailed plans and specifications at this stage of the proceedings.

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[51] *See* Table 2, *supra*.

[52] K.A.R. 5-50-2(x)(2) and 5-50-7(b).

[53] K.S.A. 82a-1502(c)(6) and K.A.R. 5-50-2(g).

Nor does the transfer act require that the Cities specifically identify the precise points of diversion.[54] Instead, it only requires sufficient detail to enable the parties to determine the "impact" of the transfer, which means the "impact" to the State as a whole. The statute states:

> (c) To determine whether the benefits to the state for approving the transfer outweigh the benefits to the state for not approving the transfer, the presiding officer shall consider all matters pertaining thereto, including specifically:
>
> . . .
>
> (6) the proposed plan of design, construction and operation of any works or facilities used in conjunction with carrying the water from the point of diversion, which plan shall be in sufficient detail to enable all parties to understand the impacts of the proposed water transfer."[55]

Transfer act regulations require the same information in the transfer application.[56] In addition, "to be complete," the transfer application must show "the location of the proposed point or points of diversion."[57] However, the regulations go on to allow the Chief Engineer to waive the requirement that a "complete" application include the precise point of diversion. The regulation states:

> Unless this requirement is waived by the chief engineer for good cause, a water transfer application shall not be considered complete until one of the following has been approved contingent upon receiving a permit to transfer water: . . .
>
> (b) an application for a change in any or all of the following:
>
> (1) point of diversion;
>
> (2) place of use; or
>
> (3) use made of water filed pursuant to the KWAA . . ..[58]

The Cities are preparing studies and preliminary plans. The Cities will be consolidating wells but need to make sure that there is sufficient well capacity to divert the full quantity available from each water right on the Ranch. Without further investigation and more detailed design work, the Cities cannot be certain of either the location or the number of wells needed to support the transfer of water from each water right. Because developing detailed construction drawings and specifications will be expensive, prospective municipal wells will not be designed before receiving permission to transfer water from the Ranch.

Nevertheless, prospective well locations have been selected based on available information. Additional design work will be needed to narrow these preliminary placements to the ultimate well locations.[59]

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[54] Precision might be required if there was a question about whether the Transfer Act applied.

[55] K.S.A. 82a-1502(c)(6).

[56] K.A.R. 5-50-2(g).

[57] K.A.R. 5-50-2(c).

[58] K.A.R. 5-50-7.

The maps attached as Exhibits D and E show the proposed well locations based on the information available at this time, the proposed moves of each of the irrigation wells, and those portions of the Ranch that are within one-half mile of existing wells owned by others. The Cities will not place any new wells within one-half mile of wells owned by others.

The Cities request that the orders approving changes in points of diversion allow new wells to be drilled within a 1,000 foot radius of the proposed points of diversion but not closer than one-half mile from permitted wells owned by the Cities' neighbors.

In the alternative, the Cities request that the orders granting the change applications without specific well locations and instead set out provisions establishing well-location methodologies and parameters as provided in the Burns and McDonnell memorandum attached as Exhibit F. Stated another way, an alternative to designating specific points of diversion before the transfer proceeding is complete is to establish a process and criteria that will be used to establish well locations in the future.

These alternative approaches provide DWR, the Executive Director of the Kansas Water Office, the Secretary of Health and Environment, and neighboring landowners with information about prospective well locations while delaying the expense required to locate wells with precision and the uncertainty of waiting to establish new well locations until after the transfer is approved.

In the alternative, the Cities request a prospective waiver of the requirement that they obtain contingently approved orders identifying the number, locations, rates, and quantities of the specific authorized points of diversion before their transfer application will be deemed complete.[60]

E. Paragraphs 8, 9, and 10. Presently authorized points of diversion

Paragraph 8 of DWR's change application form, and where applicable paragraphs 9 and 10, requests the "Authorized Quantity" for each water right. The Cities interpret this as a request for quantity that may lawfully be used for irrigation before any changes are made.

However, DWR's regulation states that the actual perfected quantities are used to determine the extent of "consumptive use from the local source of water supply . . . by the original irrigation use"[61] during "any one calendar year during the perfection period."[62]

As discussed in the attachments to the change applications, many of the water rights had permitted and perfected quantities in excess of 1.5 acre-feet per acre. The certificates nevertheless reduced quantities to 1.5 acre-feet per acre without providing the then-owners with

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[59] We find no regulation that requires that wells drilled pursuant to a change application be placed within 300 feet of the approved location. K.A.R. 5-5-6(a) only applies to new applications to appropriate water. That said, the Cities assume that DWR imposes a 300-foot limitation in orders approving change applications by using the phrase defined in K.A.R. 5-1-1(q) but not otherwise used in the regulations.

[60] *See* K.A.R. 5-50-2(x)(2)(C) and K.A.R. 5-50-7(b)(1).

[61] K.A.R. 5-5-9(a).

[62] K.A.R. 5-5-9(a)(1).

notice or an opportunity for a hearing regarding the reduction of the quantities of their water rights.

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[63] on 110 acres in Section 10-T26S-R20W.[64] DWR's Field Inspection Report indicates that 218 acre-feet were applied to 110 approved acres so that all of the 198 acre-feet authorized by the permit were lawfully perfected.[65] But the subsequently issued certificate impermissibly limited the quantity to 165 acre-feet based on DWR's after-the-fact determination that 1.5 acre-feet per acre was a reasonable quantity for irrigation use.[66]

The actual perfected quantities are used to determine consumptive use.

F. Paragraph 11. Describe the current condition of and future plans for any point(s) of diversion that will no longer be used

Currently authorized well locations are shown on the maps attached to each application and on Exhibits D and E. .

The Cities are engaged in a phased well-plugging program beginning with the wells on the south end of the Ranch, moving north. The Cities expect that all of the irrigation wells on the Ranch, including wells associated with water rights that will not be physically converted to municipal use during the first phase, will be plugged by the time the transfer is approved. The current status of each of the wells on the Ranch is shown on Exhibits G and H.

3. Proposed rate

The proposed rate for each new point of diversion is the sum of the certified rates from each of the existing points of diversion that are being consolidated into a single new point of diversion, taking into account any overall limitations to those rates. The Cities do not expect new municipal wells to produce at a rate equal to the sum of the rates of all of the wells being consolidated but cannot establish reasonable rates until the new wells are designed. Actual rates of diversion will be based on aquifer characteristics and on well and system design parameters.

G. Paragraph 13. Describe how consumptive use will not be increased

The consumptive-use analysis for each water right is attached to each of the change applications.

DWR's regulation limits the quantity that can be changed to a new type of use to the "maximum annual quantity authorized by the water right."[67] The term "maximum annual quantity authorized by the water right" is not defined; however, subsection (b) of the same

[63] File No. 23,339 Permit, HAYS003317.

[64] File No. 23,339 Application, HAYS003310.

[65] File No. 23,339 FIR, HAYS003302.

[66] *Clawson v. Kansas Dept. of Agriculture, Div. of Water Resources*, 49 Kan. App. 2d 789, 315 P.3d 896 (2013).

[67] K.A.R. 5-5-9(a)(4).

regulation specifically provides that consumptive use can be based on the historic net consumptive use "actually made during the perfection period."[68]

As discussed in Section V.E., above, some of the R9 permits "authorized" in excess of 1.5 acre-feet per acre and in most of those instances, the then-owners perfected the full permitted quantity. But when certificates were issued, DWR reduced the permitted quantities to 1.5 acre-feet per acre even though greater quantities were lawfully perfected and even though there was no substantive or procedural justification for those reductions.

The quantities requested by the Cities are based on the net consumptive use actually and lawfully made during any one year during the perfection period, limited by the quantity authorized in the permits, not the improper quantity limitation imposed in some of the certificates.

In our July 2014 meeting, Brent Turney stated that if alfalfa was grown during the perfection period, the Net Irrigation Requirement ("NIR") for alfalfa, rather than the NIR for corn, would be used to determine consumptive use.[69]

Information in the DWR files and in other locations shows that alfalfa was grown on a number of circles during the perfection period.[70] The relevant documents are attached to the applications. The Cities have provided information on consumptive use for the locations where alfalfa is known to have been grown. The Cities believe that alfalfa was grown on most, if not all of the circles but have not yet found evidence to support that belief for some circles on the Ranch. The Cities reserve the right to provide DWR with additional information on crops grown during the perfection period.

H. Paragraph 17. Attach documentation to show the proposed changes will not impair existing water rights and relate to the same local source of supply

The attached map shows the location of proposed municipal wells, the presently authorized points of diversion, and neighboring wells. The Cities own all of the irrigation and domestic wells within one-half mile of all of the proposed points of diversion.

Exhibit I shows the location of all permitted wells in the proximity of the R9 Ranch. There are no permitted wells within one-half mile of any of the proposed points of diversion. The Cities will not move their wells to locations within one-half mile of any permitted well. *See* the shaded areas on Exhibits D and E.

Exhibit J shows the locations of all non-permitted wells within one-half mile of the proposed locations. Because the Cities have requested the ability to move up to 1,000 feet, Exhibit K shows the neighboring wells that are within 3,640 feet of the proposed well locations.

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[68] *See, e.g.*, K.A.R. 5-5-9(b).

[69] K.A.R. 5-5-12 provides the NIR for corn.

[70] The R-9 Ranch has had several names over the years including "Lucerne Farms." Alfalfa, also called lucerne, is a perennial forage legume in the pea family *Fabaceae* that normally lives four to eight years but can live more than 20 years, depending on variety and climate.

The names and addresses of the owners of wells shown on Exhibits J and K are attached as Exhibit L.

I. Paragraph 18. Identify the rules and regulations for which you request a waiver

When well locations are consolidated, some new wells will be closer to the Arkansas River while others will be farther away. If, for example, the five wells associated with File 21,731 are consolidated as shown in Exhibit D and E, two of the wells will move closer to the River and two will move away from the River. To the extent it is applicable, a waiver of K.A.R. 5-5-13 may be required.

We find no regulation that requires that wells drilled pursuant to a change application be placed within 300 feet of the approved location. K.A.R. 5-5-6(a) only applies to new applications to appropriate water. That said, the Cities assume that DWR imposes a 300-foot limitation in orders approving change applications by using the phrase "completed substantially as shown on aerial photograph, topographic map, or plat," defined but not used in DWR's regulations.[71] While a waiver of a regulation is not required, as discussed in Section V.D., *supra*, the Cities request orders that provide greater flexibility regarding ultimate well placement.

In Section V.D. the Cities have requested, in the alternative, a prospective waiver of the requirement that they obtain contingently approved orders identifying the number, locations, rates, and quantities of the specific authorized points of diversion before their transfer application will be deemed complete.[72]

[71] K.A.R. 5-1-1(q).

[72] *See* K.A.R. 5-50-2(x)(2)(C) and K.A.R. 5-50-7(b)(1).

VI. Conclusion

The following table sets out the quantity requested for each water right.

Table 12

File No.	Circle[73]	Quantity Requested in Acre-Feet	Rate in Gallons Per Minute	Proposed Municipal Well		File No.	Circle	Quantity Requested in Acre-Feet	Rate in Gallons Per Minute	Proposed Municipal Well
21,729	7, 8, 9, 10	870.8	2900.0	A		22,333	39	57.5	520.0	K
21,730	1	203.8	795.0	G		22,334	27	162.9	890.0	K
21,731	2	222.9	1075.0	G		22,335	26	171.4	1000.0	K
21,731	3, 4, 5	768.1	2490.0	H		22,338	28	141.1	950.0	L
21,732	6, 11, 12	688.0	2380.0	B		22,339	27	142.6	680.0	L
21,733	13	219.5	915.0	C		22,340	31	140.4	950.0	M
21,734	16	226.4	861.0	E		22,341	30	190.4	920.0	M
21,734	18	148.0	777.8	C		22,342	36	100.8	630.0	M
21,734	14, 15, 17	522.5	3161.2	D		22,343	35	146.2	810.0	N
21,841	8A	195.0	890.0	F		22,345	38	184.6	820.0	N
21,842	11A	195.0	900.0	E		22,346	37	146.1	600.0	N
22,325	19	216.0	1000.0	I		27,760	32	142.6	800.0	L
22,326	20	196.7	1000.0	I		27,760	33	141.5	970.0	K
22,327	21	175.1	950.0	I		29,816	10A	97.5	800.0	E
22,329	24	150.5	570.0	J		29,816	9A	90.0	750.0	F
22,330	25	152.6	620.0	J		30,083	36	43.9	1000.0	M
22,331	22	209.0	1000.0	J		30,084	24	0.0	0.0	J
22,332	23	166.3	980.0	J		**Total Quantity**		**7625.50**		

The following table summarizes the quantity and rate requested for each proposed municipal well.

Table 13

Proposed Municipal Well	Quantity Requested in Acre-Feet	Rate in Gallons Per Minute		Proposed Municipal Well	Quantity Requested in Acre-Feet	Rate in Gallons Per Minute
A	870.8	2900.0		H	768.1	2490.0
B	688.0	2380.0		I	587.8	2950.0
C	367.5	1692.8		J	678.4	3170.0
D	522.5	3161.2		K	533.2	3380.0
E	518.9	2561.0		L	426.2	2430.0
F	285.0	1640.0		M	475.5	3500.0
G	426.7	1870.0		N	476.9	2230.0
				Total	**7625.5**	

[73] See Exhibit M, a map showing the circle numbers and water right file numbers on the R9 Ranch.

The Cities of Hays and Russell respectfully ask DWR to contingently approve the change applications on the terms and conditions requested in the applications and this letter.

Very truly yours,

FOULSTON SIEFKIN LLP

David M. Traster

C: John T. Bird, Hays City Attorney
Ken Cole, Russell City Attorney
Toby Dougherty, City of Hays
Orrin Feril, GMD5 Manager
Bernie Kitten, Hays Director of Utilities
Jeff Lanterman, DWR Stafford Field Office Water Commissioner
Robert Large, Dept. of Agriculture Attorney
Brian Meier, Burns and McDonnell
John Mitchell, KDHE
Lynn Preheim, GMD5 Attorney
Jon Quinday, City of Russell
Tracy Streeter, Kansas Water Office
Arlyn Unrein, Russell Director of Public Works

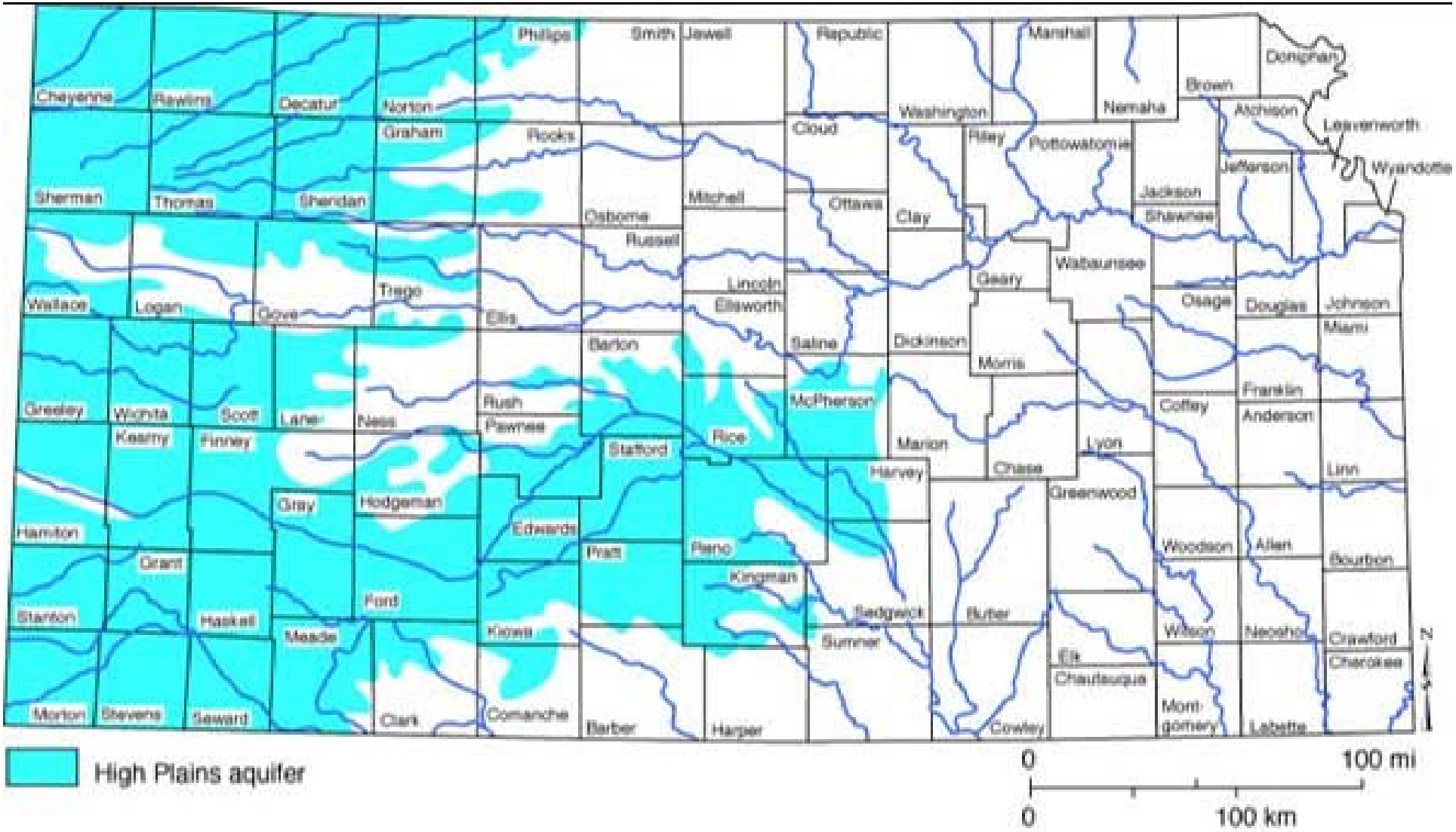

Cheyenne
Rawlins
Decatur
Norton
Phillips
Smith
Jewell
Republic
Washington
Marshall
Nemaha
Brown
Doniphan
Atchison
Leavenworth
Wyandotte
Sherman
Thomas
Sheridan
Graham
Rooks
Cloud
Riley
Pottawatomie
Jefferson
Mitchell
Osborne
Ottawa
Clay
Jackson
Shawnee
Russell
Wallace
Logan
Gove
Trego
Lincoln
Ellsworth
Ellis
Wabaunsee
Geary
Osage
Douglas
Johnson
Miami
Barton
Saline
Dickinson
Morris
Greeley
Wichita
Scott
Lane
Ness
Rush
Pawnee
McPherson
Coffey
Franklin
Anderson
Kearny
Finney
Stafford
Rice
Marion
Chase
Lyon
Linn
Harvey
Greenwood
Gray
Hodgeman
Edwards
Hamilton
Pratt
Reno
Woodson
Allen
Bourbon
Grant
Kingman
Ford
Stanton
Haskell
Meade
Kiowa
Sedgwick
Butler
Wilson
Neosho
Crawford
Summer
Elk
Cherokee
Chautauqua
Morton
Stevens
Seward
Clark
Comanche
Barber
Harper
Cowley
Montgomery
Labette
N
High Plains aquifer
0
100 mi
0
100 km

EXHIBIT A

Exhibit B

DWR File No. (All quantities are in acre-feet per year)	Well number	Gross quantity	Limitations on quantities in DWR Permits and Orders	Limitations on quantities in DWR Permits and Orders	Net quantities after DWR ordered limitations	Limitations imposed by the Smoky Hill River IGUCA	Net quantities after IGUCA and DWR ordered limitations	Net quantities after all limitations
Big Creek Wells								
40,367	C-33	314.00	314.00	1,227.55	1,227.55		1,429.46	3,675
40,368	C-32	314.00						
EL 002	C-29	1,227.55	102.99					
EL 002	C-30	1,227.55	102.99					
EL 002	C-20	1,227.55	0.00					
EL 002	C-17	1,227.55	1,021.57					
EL 002	C-21	1,227.55						
EL 002	C-24	1,227.55						
EL 002	C-27	1,227.55						
EL 002	C-28A	1,227.55						
EL 002	C-31	1,227.55						
EL 002	C-19	1,227.55						
18,857		10.74	10.74					
18,858		10.74	10.74					
36,519		34.42	34.42					
36,520		9.20	9.20					
36,804		3.81	3.81					
Yuasa Wells*								
33,548	YE-1	61.00	61.00					
33,548	YE-2	72.00	72.00					
Smoky Hill Wells								
1,248 / 5,757	S-8	2,500.00		2,500.00	2,500.00	2,085.58	2,285.83	
1,248 / 5,757	S-10	2,500.00						
1,248 / 5,757	S-11	2,500.00						
1,248 / 5,757	S-13	2,500.00						
1,248 / 5,757	S-14	2,500.00						
1,248 / 5,757	S-16	2,500.00						
1,248 / 5,757	S-18	2,500.00						
1,248 / 5,757	S-21	2,500.00						
1,248 / 5,757	S-19	2,500.00	968.00					
1,248 / 5,757	S-20	2,500.00						
33,296	S-22	155.20		300.00	300.00	200.25		
33,296	S-23	176.96						
Dakota Wells*								
40,702	D-6	121.00	121.00				882.00	
40,703	D-3	160.00	160.00					
40,704	D-5	160.00	160.00					
40,705	D-4	160.00	160.00					
40,706	D-1	121.00	121.00					
40,707	D-2	160.00	160.00					

* The Yuasa and Dakota wells are limited to a total annual capacity of 3,675 af/y when combined with other water rights.

EXHIBIT B

CITY OF RUSSELL WATER SOURCE

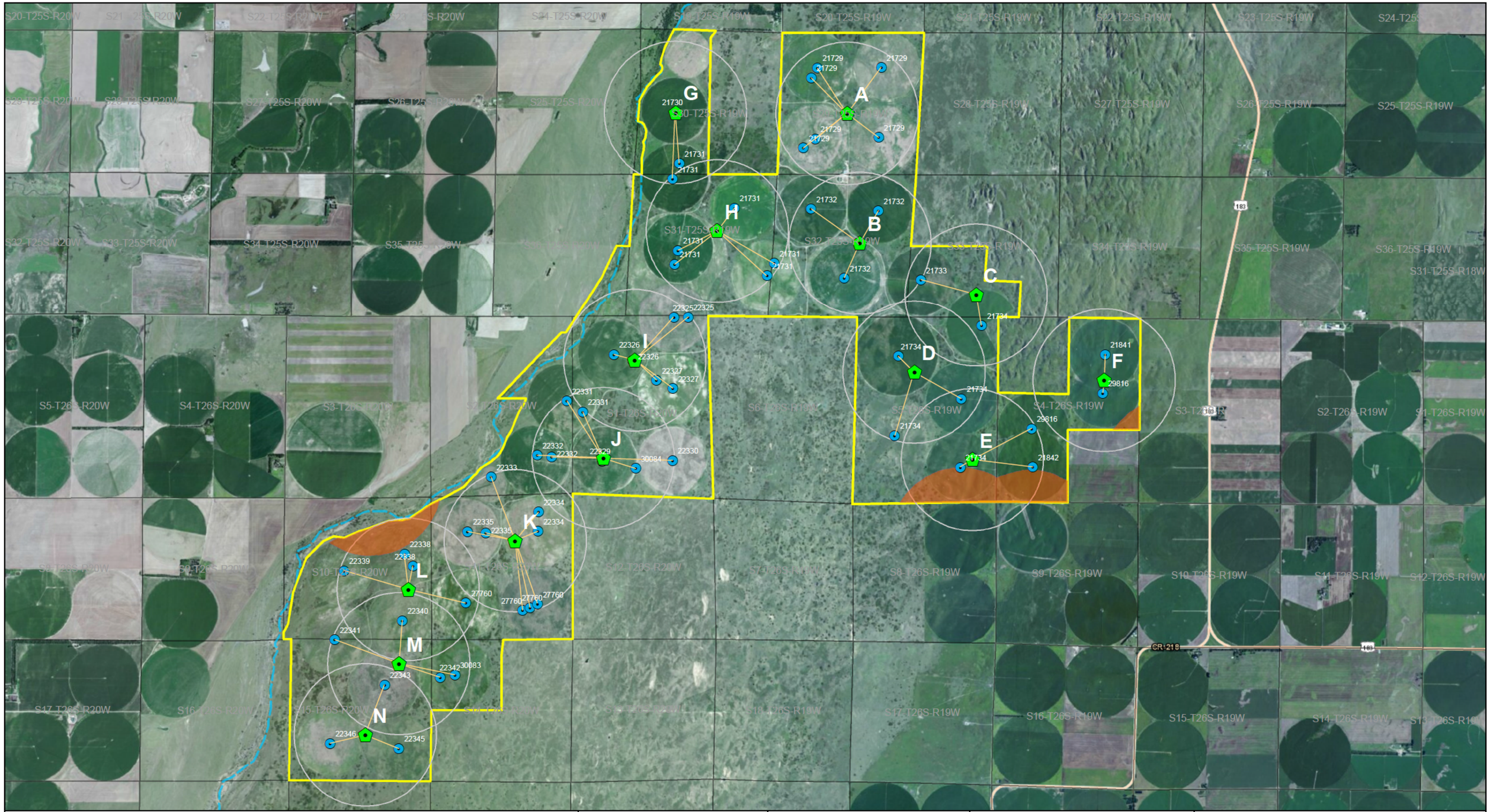
CITY OF Russell KANSAS

C:\russellwater\Pfeifer\pfeifer.dwg, 05/21/2015 2:26:07 PM

VINEYARD
320TH
350TH
VINCENT
WALKER
390TH
175TH
177TH
179TH
180TH
182ND
183RD
184TH
186TH
15TH ST
10TH
STATE
4TH
JEWELL
DORRANCE
WITT
AMBER
AIRBASE
BALTA
OLD US 40
HWY 40
110TH
VICTORIA
NOOSE
GOLF COURSE
11TH
IRON
HOMER
178TH
I-70
181ST
Mud Creek
Walker Creek
Fossil Creek
16" FROM BIG CREEK
18" FROM PFFER WELLS
SPRING HILL
GRANT
MOUNT PLEASANT
176TH
PLYMOUTH
BIG CREEK PUMP STATION
4 CORNERS
MUNJOR
330TH
BUTTERFIELD TRAIL
Big Creek
FAIRFIELD
LINCOLN
WALTERS
370TH
GRANTS VILLA
PFEIFER
18" FROM PFIFER WELLS
MITCHELL
Smoky Hill River
Lawson Creek
NORFOLK
310TH
CHETOLAH GOLD
WINTERSET
STICKNEY
EXHIBIT
C
SCHOENCHEN
#1
#2
#3
#4
#5
#6
#7
#8
#9
#10
335TH
Duck Creek
230

WELLS
SURFACE WATER INTAKE
BIG CREEK PUMP STATION
WATER TREATMENT PLANT
RAW WATERLINE
BIG CREEK
PFEIFER

0 1 2 Miles



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

1:40,000

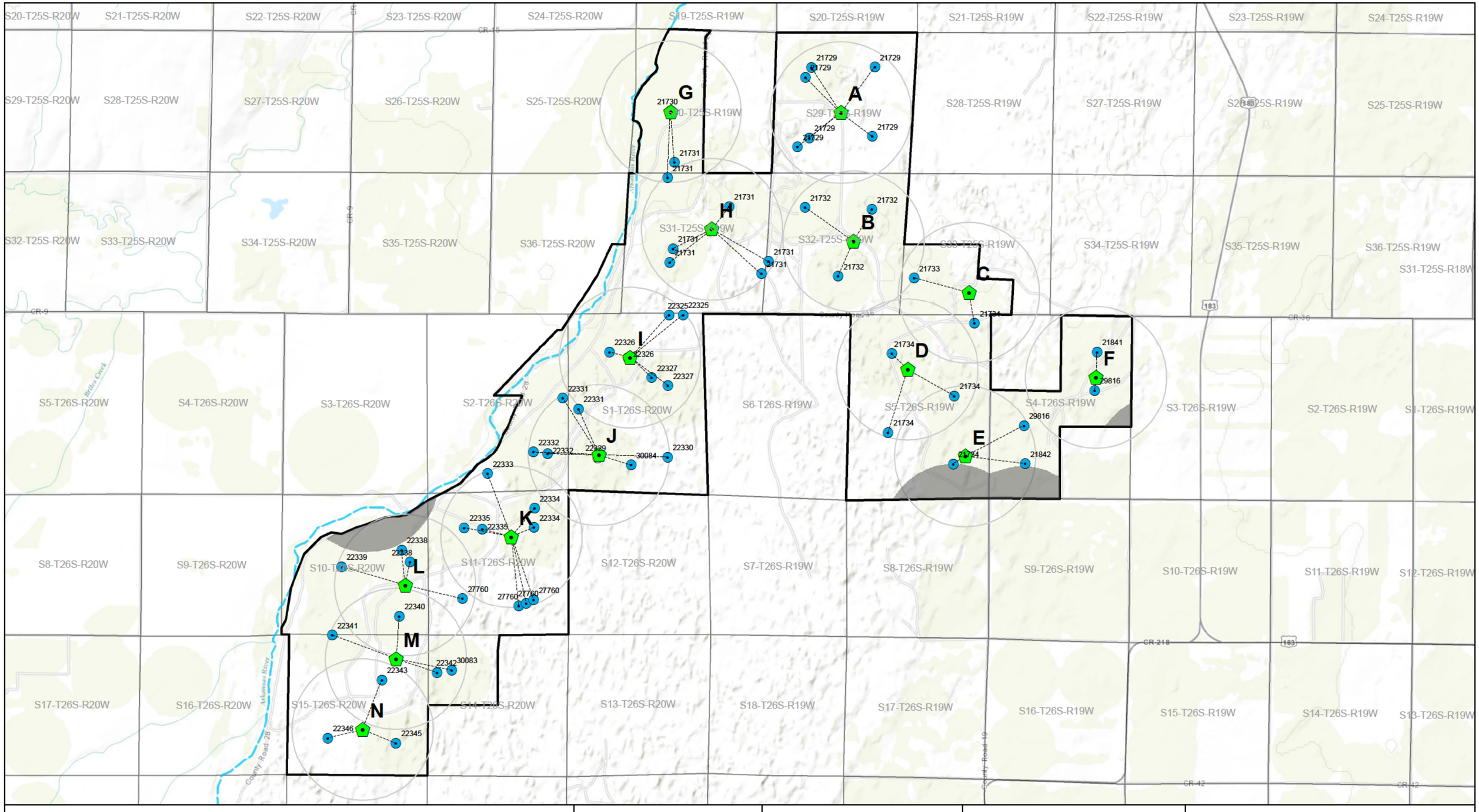
N

0 0.25 0.5 1 Miles

HAYS KANSAS

BURNS McDONNELL

EXHIBIT D



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

1:40,000

N

0 0.25 0.5 1 Miles

HAYS KANSAS

BURNS McDONNELL

EXHIBIT E

Memorandum

BURNS McDONNELL

Date: June 16, 2015

To: Kansas Department of Agriculture – Division of Water Resources

From: Paul McCormick
Daniel Clement

Subject: R9 Ranch Conversion to Municipal Water Supply
Methodologies for Well Site Selection and Design

In 1994 the cities of Hays and Russell purchased roughly 6,700 acres of farmland south of Kinsley in Edwards County, Kansas, now known as the R9 Ranch. The cities of Hays and Russell purchased the Ranch intending to convert existing irrigation water rights to municipal water supply. This memo describes the process and methodology the Cities will use to refine the proposed well locations set out in the change applications.

The approach and methods discussed below were specifically developed to address the unique geographical and physical necessities of each proposed well location, to satisfy regulatory standards, and to prevent impairment of other water rights.

I. Regulatory Considerations

First consideration will be given to the regulatory constraints imposed on changes in points of diversion, such as:

- The new municipal points of diversion will remain in the same source of supply and are proposed at no more than one-half mile from the originally authorized irrigation well locations.
- As discussed below, the proposed rates of the new municipal wells will not exceed the combined rate of the original irrigation wells and are likely be much lower.
- The quantities for each new municipal well will not exceed the combined quantity authorized by associated change applications.
- The location of the proposed municipal wells will either maintain or increase well spacing between third-party irrigation wells, in addition consideration will be given to anticipated changes in pumping patterns.
- Well spacing between the new municipal wells will be specifically designed to minimize interference and aquifer stress.

II. Aquifer Properties

Using existing data, the Cities anticipate further refining the new municipal well locations by locating the highest yielding portions of the aquifer with acceptable water quality. For example, groundwater modeling, well logs, bedrock elevations, water level measurements, and water

EXHIBIT F

quality analyses will be utilized to focus development on areas with the maximum saturated thickness and the highest aquifer hydraulic conductivity.

Locating wells in portions of the aquifer with lower levels of impurities will prolong pumping and transmission equipment, reduce equipment and pipeline maintenance, and lower treatment costs. In general, the water throughout the Ranch is fresh and usable with some areas containing elevated nitrates and sulfates. Lab results from several rounds of water quality testing from both irrigation and monitoring wells will identify areas with lower nitrate, sulfate, iron, and manganese levels.

III. Physical Limitations and Infrastructure Considerations

Well locations will be further refined by identifying physical and infrastructure limitations such as topography, erosion potential, accessibility, and proximity to the collection pipeline.

- *Topography* – Well sites will be located in areas of stable ground and avoid both topographic highs and lows, which are susceptible to erosion or burial. The Ranch is located in an area of sandy soils that are highly susceptible to wind erosion and quickly create undulating sand-dune topography. Adequate vegetative cover is needed to stabilize the soil. Infrastructure design will consider the geomorphology of each proposed well site and surrounding land management practices to mitigate erosion.
- *Well Site Access* – Access roads will be maintained during seasonal extremes and avoid existing sand dune topography.
- *Power Access* – Potential well sites will be within a reasonable proximity to power distribution lines.
- *Proximity to the Collection Pipeline* – Well sites need to be within a reasonable proximity to a raw water collection system.

IV. Aquifer Testing Program

Areas identified as viable after consideration of regulatory, aquifer capacity, and infrastructure limitations will be further evaluated using physical and geophysical methods that may include:

- Test holes, collection of geologic samples, and creation of lithological logs;
- GeoProbe direct push sampling;
- Geophysical logging;
- Test well construction;
- Monitoring well installation;
- Water quality sampling; and
- Aquifer pump testing.

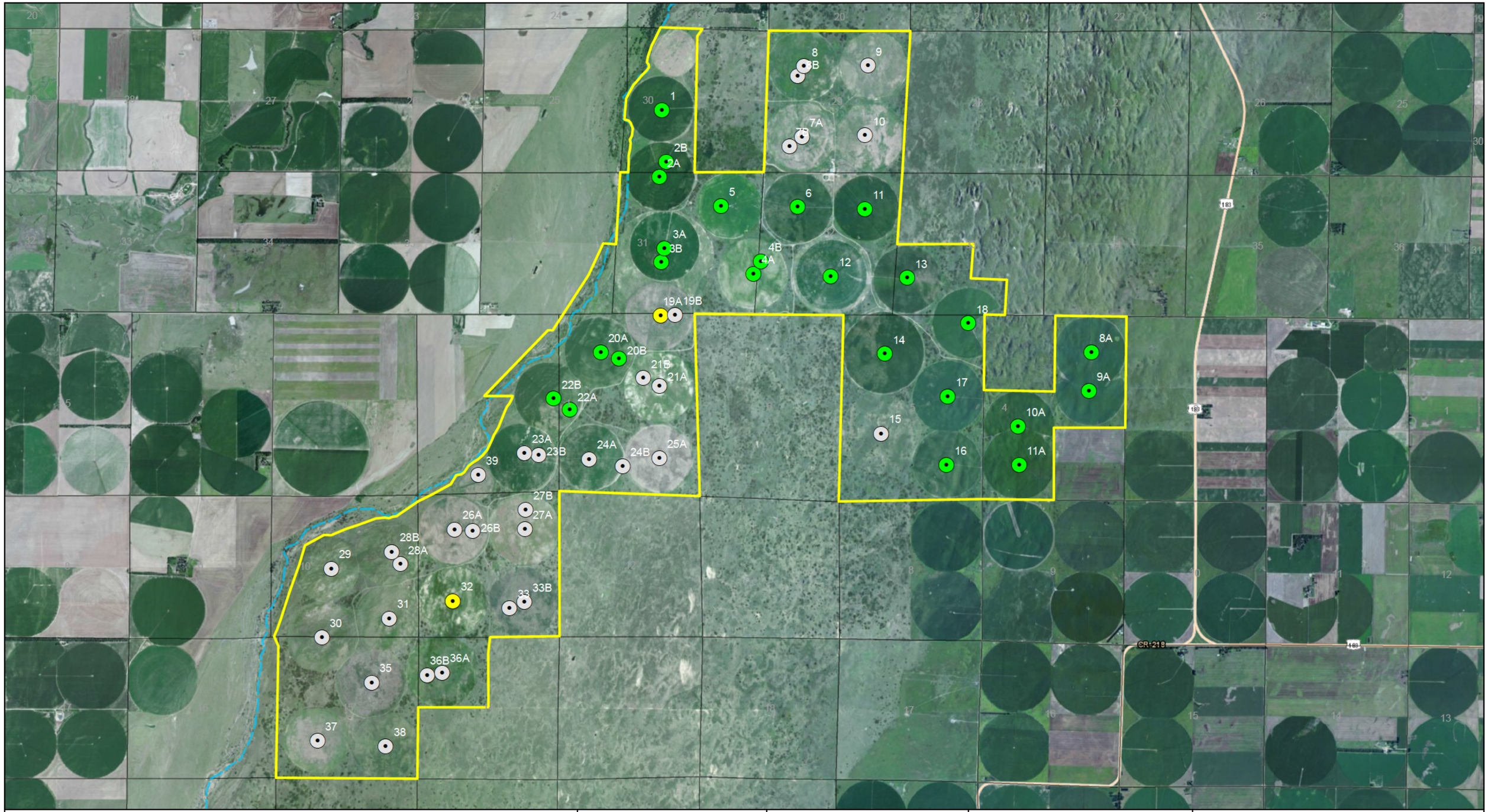
V. Final Well Design

Final well placement and design will utilize the information described above. Final well design will include the following:

- Design production rate;
- Surface completion infrastructure and site footprint;
- Borehole diameter and depth;
- Surface casing diameter and length;
- Screen diameter, length, and placement;
- Screen material and slot sizing;
- Gravel pack specifications; and
- Grouting intervals

The phasing and selection of final well locations will be closely coordinated with DWR staff in conjunction with the completion of change applications.

PAM/DWC



Legend

R9 Ranch Irr. Well Status

- Active
- Inactive
- Plugged

R9 Ranch Property Boundary

River Centerline

1:40,000

N

0 0.25 0.5 1 Miles

HAYS KANSAS

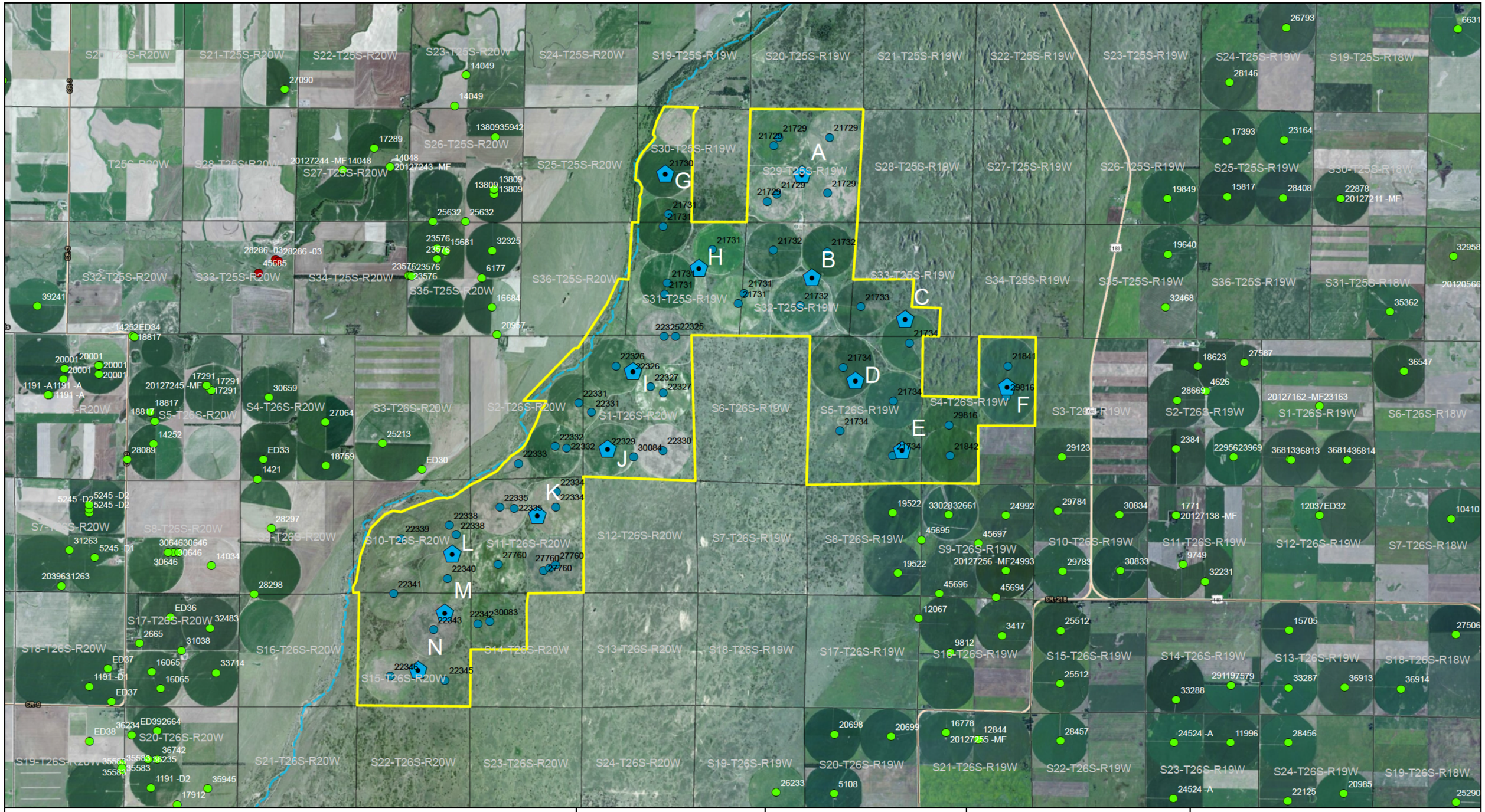
BURNS McDONNELL

EXHIBIT G

Site Name	Well Status	Water Right	Longitude	Latitude	Township	Range	Section	Feet North	Feet West	Qual 3	Qual 2	Qual 1
1	Active	21730	-99.45506	37.84661	25S	19W	30	2330	3937	NW	NE	SW
5	Active	21731	-99.44736	37.836813	25S	19W	31	3975	1270		NC	NE
2A	Active	21731	-99.45535	37.83976	25S	19W	31	5125	3920	NW	NE	NW
2B	Active	21731	-99.45447	37.84132	25S	19W	30	380	3785	SW	SE	SW
3A	Active	21731	-99.45461	37.83246	25S	19W	31	2460	3660	NW	NE	SW
3B	Active	21731	-99.45503	37.83104	25S	19W	31	1925	3810	CW	NE	SW
4A	Active	21731	-99.44313	37.82993	25S	19W	31	1448	187	SE	NE	SE
4B	Active	21731	-99.44223	37.83121	25S	19W	32	1931	4960	SW	NW	SW
6	Active	21732	-99.43752	37.83678	25S	19W	32	4026	3966		NC	NW
11	Active	21732	-99.42885	37.8366	25S	19W	32	4019	1358		NC	NE
12	Active	21732	-99.43319	37.82971	25S	19W	32	1441	2632		NC	S2
13	Active	21733	-99.423352	37.829567	25S	19W	33	1356	5021	SW	NW	SW
14	Active	21734	-99.426174	37.821805	26S	19W	5	5394	3640			
16	Active	21734	-99.418161	37.810491	26S	19W	5	1274	1325	NE	SW	SE
17	Active	21734	-99.41807	37.81747	26S	19W	5	3776	1306			
18	Active	21734	-99.41549	37.82495	26S	19W	5	6538	525			
8A	Active	21841	-99.3996	37.82206	26S	19W	4	5378	1340	NE	NW	NE
11A	Active	21842	-99.408866	37.810535	26S	19W	4	1301	3910		NC	SW
20A	Active	22326	-99.462799	37.821811	26S	20W	1	5373	3779			
20B	Active	22326	-99.460376	37.82121	26S	20W	1	5128	3066			
22A	Active	22331	-99.46676	37.815936	26S	20W	1	3240	4875	NC	SW	NW
22B	Active	22331	-99.468785	37.817062	26S	20W	2	3460	235			
10A	Active	29816	-99.409033	37.814461	26S	19W	4	2731	3960		CS	NW
9A	Active	29816	-99.399893	37.818095	26S	19W	4	4056	1320	CN	S2	NE
19A	Inactive	22325	-99.455084	37.825625	26S	20W	1	6673	1535	NE	NW	NE
32	Inactive	27760	-99.481654	37.796366	26S	20W	11	1298	4002	NE	SW	SW
8	Plugged	21729	-99.4368	37.85115	25S	19W	29	3982	3603		NC	NW
9	Plugged	21729	-99.428547	37.851219	25S	19W	29	3968	1312		NC	NE
10	Plugged	21729	-99.428857	37.8441	25S	19W	29	1377	1415		NC	SE
7A	Plugged	21729	-99.43703	37.84393	25S	19W	29	1416	4000		NC	SW
7B	Plugged	21729	-99.43854	37.84299	25S	19W	29	1043	4370	NE	SW	SW
8B	Plugged	21729	-99.43755	37.85015	25S	19W	29	3607	4167	NE	SW	NW
15	Plugged	21734	-99.42663	37.81366	26S	19W	5	2348	3773	NW	NE	SW
19B	Plugged	22325	-99.453255	37.82568	26S	20W	1	6669	996	NW	NE	NE
21A	Plugged	22327	-99.455179	37.818406	26S	20W	1	4062	1539		NC	NE
21B	Plugged	22327	-99.457286	37.819214	26S	20W	1	4372	2154			
24A	Plugged	22329	-99.464197	37.810926	26S	20W	1	1380	4090		NC	SW
25A	Plugged	22330	-99.455179	37.811038	26S	20W	1	1397	1515		NC	SE
23A	Plugged	22332	-99.472559	37.811492	26S	20W	2	1407	1330		NC	SE
23B	Plugged	22332	-99.47072	37.811307	26S	20W	2	1342	797	NC	E2	SE
39	Plugged	22333	-99.478486	37.80927	26S	20W	2	590	3053	SE	SE	SW
27A	Plugged	22334	-99.472428	37.803728	26S	20W	11	3960	1335		NC	NE
27B	Plugged	22334	-99.472378	37.805716	26S	20W	11	4680	1320	NC	N2	N2
26A	Plugged	22335	-99.481468	37.803649	26S	20W	11	3970	3945		NC	NW
26B	Plugged	22335	-99.47913	37.80354	26S	20W	11	3920	3270	NC	E2	NW
28A	Plugged	22338	-99.488459	37.800114	26S	20W	10	2705	730			

EXHIBIT H

Site Name	Well Status	Water Right	Longitude	Latitude	Township	Range	Section	Feet North	Feet West	Qual 3	Qual 2	Qual 1
28B	Plugged	22338	-99.489555	37.801341	26S	20W	10	3152	1043			
29	Plugged	22339	-99.497344	37.799599	26S	20W	10	2535	3300			
31	Plugged	22340	-99.489807	37.794551	26S	20W	10	690	1136	NW	SE	SE
30	Plugged	22341	-99.498505	37.792555	26S	20W	15	5240	3600	NW	NE	NW
36B	Plugged	22342	-99.48489	37.78877	26S	20W	14	3906	4878	NW	SW	NW
35	Plugged	22343	-99.491831	37.78796	26S	20W	15	3565	1670	NE	SW	NE
38	Plugged	22345	-99.490224	37.781395	26S	20W	15	1175	1205		NC	SE
37	Plugged	22346	-99.498997	37.781998	26S	20W	15	1395	3740	SW	NE	SW
33	Plugged	27760	-99.474345	37.795657	26S	20W	11	1040	1890	NE	SW	SE
33B	Plugged	27760	-99.472441	37.796316	26S	20W	11	1280	1340	NE	SW	SE
36A	Plugged	30083	-99.483	37.78904	26S	20W	14	3994	4328	E2	W2	NW
24B	Plugged	30084	-99.459906	37.810203	26S	20W	1	1105	2860		NC	S2



Legend

- Proposed Municipal Wells
- R9 Ranch Property Boundary
- PLSS Sections
- River Centerline
- Existing R9 Ranch Irrigation Wells
- Irrigation Wells (File No.)
- Stockwater Wells (File No.)

1:50,000

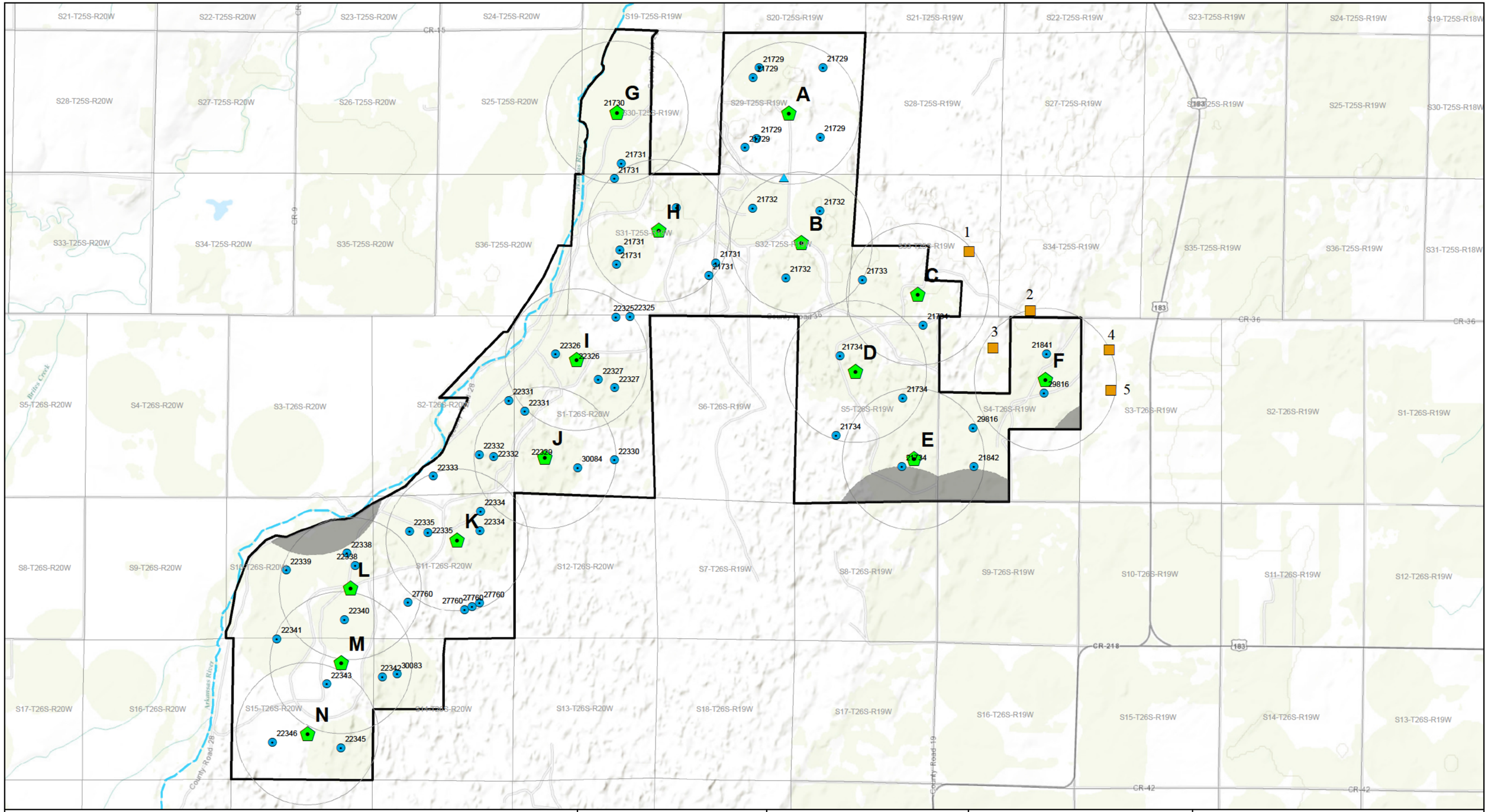
N

0 0.25 0.5 1 Miles

HAYS KANSAS

BURNS McDONNELL

EXHIBIT I



Legend

- Proposed Municipal Wells (A-N)
- Existing R9 Ranch Points of Diversion
- 1/2 Mile Buffer Around Proposed Wells
- PLSS Sections
- Area Excluded From Proposed Wells
- R9 Ranch Property Boundary
- Domestic Well (Non-Permitted)
- Stock Well (Non-Permitted)

1:40,000

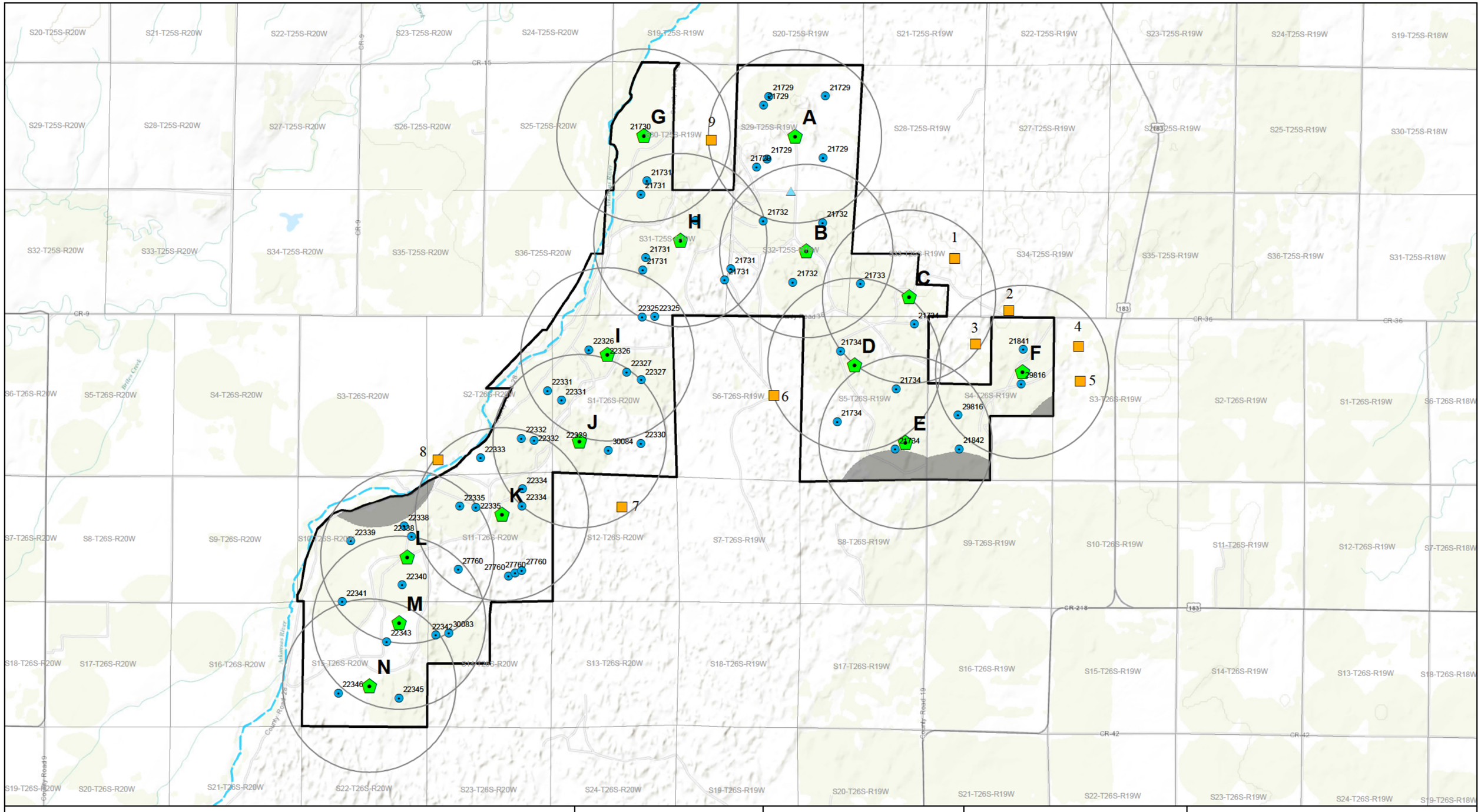
N

0 0.25 0.5 1 Miles

HAYS KANSAS

BURNS McDONNELL

EXHIBIT J



Legend

- Proposed Municipal Wells (A-N)
- Existing R9 Ranch Points of Diversion
- 3,640 Feet Buffer Around Proposed Wells
- PLSS Sections
- Area Excluded From Proposed Wells
- R9 Ranch Property Boundary
- Domestic Well (Non-Permitted)
- Stock Well (Non-Permitted)

1:45,000

N

0 0.25 0.5 1 Miles

HAYS KANSAS

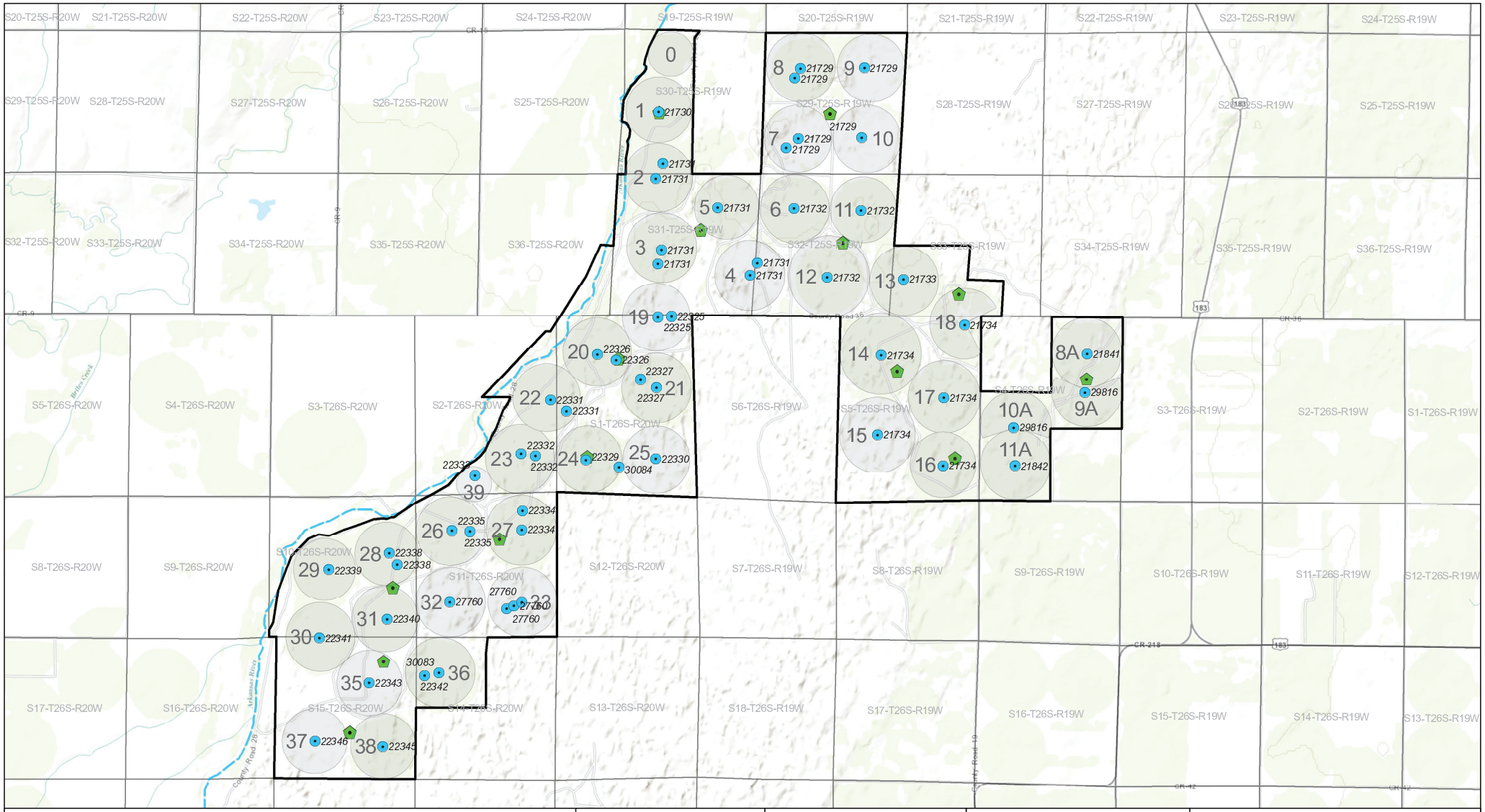
BURNS McDONNELL

EXHIBIT K

Exhibit L

1. Gregory C. & Lisa J.T. Ebert, P.O. Box 242, Kinsley, KS 67547
2. Kevin R. Schultz & Vera M. Rev Trust, 2048 280th Ave., Haviland, KS 67059
3. Gregory Ebert, P.O. Box 242, Kinsley, KS 67547
4. Monte L. & Douglas D. Hirsh, 103 Capital, Kinsley, KS 67547
5. Monte L. & Douglas D. Hirsh, 103 Capital, Kinsley, KS 67547
6. Tom Hammond, P.O. Box 3278, Viero Beach, FL 32964
7. Jennifer & Amy Mull, Attn: Glenn Mull, Pawnee Rock, KS 67567
8. Leroy A. & Steven D. Wetzel, 2167 20th Ave., Offerle, KS 67563
9. Randy A. & Tammie S. Schmidt, 905 Marsh Kinsley, KS 67547

EXHIBIT L


Legend
Proposed Municipal Wells (A-N)
Existing R9 Ranch Points of Diversion
Center Pivots - Approximate (0-39)
River Centerline
R9 Ranch Property Boundary
PLSS Sections
1:40,000
N
0 0.25 0.5 1
Miles
HAYS KANSAS
BURNS McDONNELL
EXHIBIT
M