

**STATE OF KANSAS  
BEFORE THE DIVISION OF WATER RESOURCES  
KANSAS DEPARTMENT OF AGRICULTURE**

**In the Matter of the City of Wichita’s )  
Phase II Aquifer Storage and Recovery Project ) Case No. 18 WATER 14014  
In Harvey and Sedgwick Counties, Kansas. )  
\_\_\_\_\_ )**

Pursuant to K.S.A. 82a-1901 and K.A.R. 5-14-3a.

**BRIEF IN SUPPORT OF PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF  
LAW OF DWR**

COMES NOW, the Kansas Department of Agriculture, Division of Water Resources (“DWR”), by and through counsel, Stephanie A. Murray, and submits this Brief in Support of DWR’s Proposed Findings of Fact and Conclusions of Law regarding proposed modifications to permits held by the City of Wichita, Kansas for Phase II of its Aquifer Storage and Recovery Project.

**I. BACKGROUND**

a. Equus Beds Aquifer and Wichita’s Integrated Local Water Supply Plan

The Equus Beds Aquifer (“Aquifer”) is the easternmost portion of the High Plains Aquifer in Kansas and underlies an area northwest of the City of Wichita, Kansas (“City”).<sup>1</sup> The Aquifer possesses several hydrogeologic qualities that make it an important water source, including its generally shallow depth to water table, substantial saturated thickness, and generally good water quality.<sup>2</sup> The area also sees more rainfall than much of the High Plains Aquifer

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<sup>1</sup>City’s Exhibit 1, Proposal, Attachment H, p. 3, Cristi V. Hansen, Jennifer L. Lanning Rush, and Andrew C. Ziegler, Revised Shallow and Deep Water-Level and Storage-Volume Changes in the Equus Beds Aquifer near Wichita, Kansas, Predevelopment to 1993, United States Department of the Interior and United States Geological Survey, Scientific Investigations Report 2013-5170.

<sup>2</sup>*Id.*

region, and the Aquifer thus experiences generally favorable natural recharge. These factors have allowed the Aquifer to serve as a major water source for the City, smaller surrounding municipalities, and irrigated agriculture production in the area for decades.<sup>3</sup>

Significant development of the Aquifer began in the 1940s, with large-scale development of irrigation wells beginning the 1960s.<sup>4</sup> By the early 1990s, due to a combination of drought and groundwater pumping, the Aquifer had been depleted by about 12 percent, and groundwater levels were continuing to decline.<sup>5</sup> In January of 1993, approximately 120,000 acre-feet of water had been depleted, which caused water levels to drop by about 40 feet and left approximately 160-180 feet of water remaining in the Aquifer.<sup>6</sup> The Aquifer's water table is tied to water quality in a unique way. For many years, a plume of brine left over from oil and gas extraction near Burrton, Kansas, as well as saline water naturally present in the Arkansas River, has been migrating toward the Equus Beds Wellfield.<sup>7</sup> The salt plume migrates faster when the water table in the Aquifer is lower because lower water levels increase the hydraulic gradient from west to east within the Aquifer, which allows the migration to occur.<sup>8</sup> The migration of the Burrton salt plume could cause the water it contaminates to be of such poor quality that it is either unusable or must be treated at significant expense before being used.<sup>9</sup>

In an effort to improve its drought preparedness and combat migration of the Burrton salt plume, the City implemented its Integrative Local Water Supply Plan ("ILWSP") in 1993.<sup>10</sup>

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<sup>3</sup>*See id.*

<sup>4</sup>*Id.*

<sup>5</sup>City's Exhibit 1, Cover Letter, ASR Permit Modification Proposal – Revised Minimum Index Levels and Aquifer Maintenance Credits ("Proposal"), p. 2.

<sup>6</sup>*Id.*

<sup>7</sup>City's Exhibit 1, Proposal, Attachment H, p. 1.

<sup>8</sup>*Id.* at p. 2.

<sup>9</sup>*Id.*

<sup>10</sup>City's Exhibit 1, Proposal, p. 1-1.

Currently, the City’s base water rights in the Equus Beds Well Field (located in Harvey and Sedgwick Counties, Kansas, between the Arkansas and Little Arkansas Rivers) authorize it to use 40,000 acre-feet of water from the Aquifer per year.<sup>11</sup> The City is permitted to divert an additional 19,000 acre-feet of water per year in the Equus Beds Wellfield in recharge credits, which will be discussed in more detail herein.<sup>12</sup> The City also has water rights allowing it to divert approximately 47,000 acre-feet of water annually from Cheney Reservoir (“Cheney”) and 45,230 acre-feet of water annually from the Little Arkansas River, as well as additional water rights in the E&S Wellfield and the Bentley Reserve Wellfield.<sup>13</sup> One aspect of the ILSWP is that the City began to depend primarily on Cheney rather than the Aquifer as its main water supply source, which allowed it to avoid depleting the Aquifer.<sup>14</sup>

b. Wichita’s Aquifer Storage and Recovery Project – Phase I

Another component of the ILSWP was the development of the City’s Aquifer Storage and Recovery Project (“Project”), which allows the City to divert surface water from the Little Arkansas River during times of high flows, treat that water to drinking water standards, and inject it into a designated space at the top of the Aquifer.<sup>15</sup> The Project is governed broadly by applicable provisions of the Kansas Water Appropriation Act, 82a-701, *et seq.*, and amendments thereto and regulations adopted thereunder (collectively, “the KWAA”), and the Project’s governing Findings and Orders.<sup>16</sup> DWR’s aquifer storage and recovery regulations require a

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<sup>11</sup>City’s Exhibit 1, Proposal Cover Letter, p. 1.

<sup>12</sup>Transcript, Volume V, p. 1247, lines 6-8.

<sup>13</sup>Transcript, Volume VII, p. 1844, lines 3-1; City’s Exhibit 1, p. 2-5, Table 2-3.

<sup>14</sup>Transcript, Volume I, page 145, lines 15-25; Transcript, Volume I, p. 146, lines 1-7.

<sup>15</sup>City’s Exhibit 10, Attachment 1.

<sup>16</sup>*See generally* K.S.A. 82a-701, *et seq.*; K.A.R. 5-12-1 through 5-12-4; In the Matter of the City of Wichita’s Applications to Operate an Aquifer Storage and Recovery Project in Harvey and Sedgwick Counties, Kansas, Applications to Appropriate Water File Nos. 45,567; 45,568; 45,569; 45,570; 45,571; 45,572; 45,573; 45,574; 45,575; 45,576; and 46,081 (“Phase I Findings and Orders”); In the Matter of the Findings and Order for the city of

water user who develops an aquifer storage and recovery system to obtain multiple permits to operate the system—at least one permit authorizing the diversion of surface water and at least one additional permit authorizing the subsequent withdrawal of injected water from an aquifer.<sup>17</sup>

The Project was intentionally planned to be implemented in phases.<sup>18</sup> Phase I was approved by DWR in 2005 and established the foundational concept of the Project by designating the Basin Storage Area (“BSA”), essentially a “box” located at top of the Aquifer from which the Project could operate.<sup>19</sup> The primary goal of Phase I was to establish a hydraulic barrier that would slow the encroachment of the Burrton salt plume, which the City intended to accomplish by injecting treated surface water into the BSA, thereby raising the water table and decreasing the hydraulic gradient that was allowing migration to occur.<sup>20</sup> To date Phase I has allowed the City to inject 1,233,000,000 gallons of water in front of the leading edge of the Burrton salt plume.<sup>21</sup>

In addition to creating a barrier against the salt plume, the injection of surface water into the BSA also facilitates the City’s generation of “recharge credits,” which allow the City to inject a certain amount of water into the BSA when supply is plentiful and then later withdraw a corresponding amount when the need arises.<sup>22</sup> Phase I created 38 “index cells” to track water

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Wichita’s Aquifer Storage and Recovery Project – Phase II (“Phase II Findings and Orders”). K.A.R. 5-1-1, which provides definitions relevant to the Project, states, “aquifer storage means the act of storing water in an aquifer by artificial recharge for subsequent diversion and beneficial use.” K.A.R. 5-1-1. That regulation further provides that “aquifer storage and recovery system means the physical infrastructure that meets the following conditions: (1) is constructed and operated for artificial recharge, storage, and recovery of source water; and (2) consists of apparatus for diversion, treatment, recharge, storage, extraction, and distribution.” *Id.*

<sup>17</sup>See K.A.R. 5-12-1.

<sup>18</sup>City’s Exhibit 10, p. 2.

<sup>19</sup>Phase I Findings and Orders, p. 12, para. 13.

<sup>20</sup>*Id.* at p. 8, para. 38.

<sup>21</sup>City’s Exhibit 10, p. 2.

<sup>22</sup>City’s Exhibit 10, Attachment 1.

levels throughout the BSA and established a “minimum index level” for each index cell, essentially a floor within each cell (the January 1993 water level) below which the City would not be permitted to withdraw recharge credits.<sup>23</sup> Under Phase I, the City was permitted to withdraw up to 19,000 acre-feet of recharge credits per year.<sup>24</sup>

Phase I also established the accounting method by which the City would determine how much of the water it had injected into the BSA could be credited as recharge and withdrawn at any given time.<sup>25</sup> Such an analysis is necessary because a certain amount of injected water is always lost to the Aquifer, and water also migrates from cell to cell within the BSA and out of the BSA. It is important to note on this point that the water the City withdraws as a result of its accumulation of recharge credits through the Project is not native Equus Beds groundwater. The

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<sup>23</sup>Phase I Findings and Orders, p. 12, para. 13. K.A.R. 5-1-1 defines “index level” as “elevations established spatially throughout a basin storage area to be used to represent the maximum volume of a basin storage area, and storage available for recovery based upon accounting methodology, and conditions of the permit.” K.A.R. 5-1-1. K.A.R. 5-1-1 further provides that “maximum index level” means “the maximum elevation for storage within a basin storage area or, if the basin storage area is subdivided, a smaller subdivided area” and that “minimum index level” means “20 feet above the bedrock elevation or an alternatively proposed minimum elevation for storage within a basin storage area or, if the basin storage area is subdivided, a smaller subdivided area.” *Id.* K.A.R. 5-1-1 also defines “recharge credit” as “the quantity of water that is stored in the basin storage area and that is available for subsequent appropriation for beneficial use by the operator of the aquifer storage and recovery system.” *Id.* Former DWR Chief Engineer David Pope found when he approved Phase I of the Project that the public interest would be protected if recharge credits were not withdrawn when water levels were below the established minimum index level. Phase I Findings and Orders, p. 12, para. 13. Also notable as it concerns these proceedings, during the course of the Phase I proceedings, Chief Engineer Pope issued a pre-hearing order in which he stated that the Phase I hearing would address the question, “Will the City be considered to be recharging water into the Equus Beds by the concept of ‘passive recharge?’ – i.e., water which the City could have legally pumped, but did not pump.” *Id.* at p. 2, para. 10. Chief Engineer Pope concluded in the ASR Phase I Findings and Orders that the City should not be allowed to generate “passive recharge credits,” since such credits do not constitute “artificial recharge” as that term is defined in K.A.R. 5-1-1 because “no source water is being artificially recharged to create those credits.” *Id.* at p. 11, para. 3. No DWR statutes or regulations specifically define “passive recharge” or “passive recharge credit,” and the concept is not otherwise dealt with beyond Chief Engineer Pope’s brief discussion of it in the Phase I Findings and Orders.

<sup>24</sup>Transcript, Volume V, p. 1247, lines 6-8.

<sup>25</sup>Phase I Findings and Orders, p. 15, para. 5. The amount of water that the City is permitted to withdraw from the Aquifer is calculated by figuring the “water balance” of the BSA, which K.A.R. 5-1-1 says “means the method of determining the amount of water in storage in a basin storage area by accounting for inflow to, outflow from, and changes in storage in that basin storage area.” K.A.R. 5-1-1. K.A.R. 5-1-1 defines “basin storage loss” as “that portion of artificial recharge naturally flowing or discharging from the basin storage area.” *Id.*

established accounting methods ensure that the City withdraws only an amount of water that corresponds to the amount it injected, taking into account the amount of that water that has been lost naturally in the timeframe between injection and withdrawal.<sup>26</sup>

Under the accounting method adopted in Phase I, recharge credits are tracked by completing one run of the USGS Equus Beds Groundwater Flow Model (“EBGWM”) that incorporates the City’s Project activities and one run that does not.<sup>27</sup> Because the Project activities are the only difference in input parameters between the two model runs, it can be concluded that any variations in the results of the two runs are due to Project activities.<sup>28</sup> The results of the two model runs are then compared on a very detailed scale to evaluate the changes in groundwater flow into and out of the BSA and between index cells within the BSA due to Project activities.<sup>29</sup> Each index cell’s flow changes are then assessed to determine how much water in each index cell can be counted toward the City’s recharge credit total.<sup>30</sup>

c. Wichita’s Aquifer Storage and Recovery Project – Phase II

While Phase I of the Project did slow the encroachment of the Burrton salt plume, the City eventually determined that the plume’s migration could not be reversed or stopped entirely.<sup>31</sup> The City’s water management goals thus evolved as it moved into Phase II of the Project, and the City began to see the Project as a way to enhance its primary municipal water supply. In December 2008, the City and the District entered into a Memorandum of

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<sup>26</sup> See City’s Exhibit 1, Proposal, p. 2-16.

<sup>27</sup> City’s Exhibit 1, p. 4-1.

<sup>28</sup> *Id.*

<sup>29</sup> *Id.*

<sup>30</sup> *Id.*

<sup>31</sup> See Transcript, Volume I, p. 204, lines 16-21. (Testimony of Joseph Pajor that modeling has showed that the Burrton salt plume will continue to migrate towards the Equus Beds Wellfield regardless of pumping activity).

Understanding in preparation for the implementation of Phase II (“Phase II MOU”). In the Phase II MOU, the City committed to ensuring that water injected into the BSA as a result of the Project met drinking water standards.<sup>32</sup> It also agreed that if a domestic well that had existed prior to the Phase II MOU’s approval and that was located within 660 feet of an existing or new Project well was adversely impacted by drawdown from the Project well, City would “re-drill [the domestic well] or take other appropriate, affirmative action to restore productivity of such domestic well to the same rate and quality as existed before.”<sup>33</sup> This clause of the Phase II MOU allowed the City to obtain waivers of K.A.R. 5-22-2, which requires that nondomestic wells “described in an application for permit to appropriate water for beneficial use, an application for a term permit, or application to change the point of diversion” be at least 660 feet from all domestic wells.<sup>34</sup>

In September 2009, DWR approved Phase II of the Project, subject to essentially the same conditions as Phase I.<sup>35</sup> Most significantly, former DWR Chief Engineer David Barfield ordered when he approved Phase II that passive recharge credits would continue to be prohibited and that the boundaries of the BSA, the index cells, the minimum index levels, and the accounting methodology established in Phase I would remain in place.<sup>36</sup> The Findings and Orders governing Phase II also prohibit the City from injecting water into the BSA when the water table is less than 10 feet below land surface.<sup>37</sup> The City was still limited to a withdrawal of

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<sup>32</sup>*Memorandum of Understanding* between Equus Beds Groundwater Management District No. 2 and the City of Wichita, Kansas regarding Wichita’s Proposed Aquifer Storage and Recovery Project, Phase II (“Phase II MOU”), Dec. 3, 2008, p. 3, para. 5.

<sup>33</sup>*Id.* at p. 3, para. 6.

<sup>34</sup>K.A.R. 5-22-2.

<sup>35</sup>Phase II Findings and Orders, p. 2, para. 11.

<sup>36</sup>*Id.*

<sup>37</sup>*Id.* at p. 10, para. 8.

19,000 acre-feet of recharge credits per year under Phase II.<sup>38</sup>

Phase II utilizes a surface water intake right on the Little Arkansas River, water right file number 46,627, which has an annual authorized quantity of 45,230 acre-feet and authorizes the diversion of surface water from the Little Arkansas River for both municipal use and artificial recharge use (the City can either take diverted surface water directly to town for municipal use or inject it into the BSA and store it for artificial recharge use.<sup>39</sup> The permit for water right file number 46,627 only permits diversions when surface flows on the Little Arkansas River are above 30 cubic feet per second (“cfs”) at the Valley Center Gage.<sup>40</sup> The City also holds additional permits authorizing the operation of its Phase II “recharge and recovery wells,” the wells that withdraw injected water.<sup>41</sup> Each well permitted as part of the Project is governed by its own separate authorized rate of diversion and annual authorized quantity.<sup>42</sup>

The City’s goals for the Project shifted again following the 2011-2012 drought, as it began to consider using Phase II as a drought mitigation tool rather than to meet its primary water supply needs.<sup>43</sup> The City began to utilize Cheney even more aggressively following the 2011-2012 drought, as it realized that a significant amount of water stored there was being lost through evaporation and that it was thus more efficient water management to use that water before it could evaporate.<sup>44</sup> The City also determined following the 2011-2012 drought that it

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<sup>38</sup>Transcript, Volume V, p. 1247, lines 6-8.

<sup>39</sup>See City’s Exhibit 10, p. 2; Transcript, Volume VII, p. 1844, lines 3-1; Approval of Application and Permit to Proceed in the matter of water right file number 46,627, issued by David W. Barfield, Chief Engineer, Kan. Dep’t of Agric., Div. of Water Res., September 18, 2009.

<sup>40</sup>See Approval of Application and Permit to Proceed for Water Right File number 46,627, issued by David W. Barfield, Chief Engineer, Kan. Dep’t of Agric., Div. of Water Res., Sept. 18, 2009.

<sup>41</sup>See Phase II Findings and Orders.

<sup>42</sup>*Id.*

<sup>43</sup>See City’s Exhibit 10.

<sup>44</sup>City’s Exhibit 12.



would be prudent to enhance its overall drought preparedness. In April 2014, the City initiated a series of studies to ensure that its water resources were adequate to meet consumer demand in the event of a “one percent” drought (a drought that has a one in one-hundred chance of occurring in any given year and would have a duration of eight years).<sup>45</sup> This review found that, based on population growth and water demand projections, the City would need more water than its existing water rights provided in the event of a prolonged drought.<sup>46</sup> The City further determined that the Project would be its only practical and reliable water resource during a one percent drought.<sup>47</sup>

The City’s conclusion that the Project could be its only viable water source during a severe drought highlighted some of the limitations posed by certain Project permit conditions. First, the established minimum index levels mean that the City can only withdraw recharge credits if the Aquifer is roughly 92 percent full within the BSA and roughly 88 percent full within the Equus Beds Wellfield.<sup>48</sup> The City thus realized that a prolonged drought, which would likely cause the Aquifer’s water table to drop below those levels, could either incentivize the City to withdraw its credits (possibly unnecessarily) at the beginning of a drought, or strand accumulated recharge credits during the very time the City would need them the most, despite

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<sup>45</sup>City’s Exhibit 1, Proposal Cover Letter, p. 1. The City contracted High Country Hydrology, Inc. to quantify conditions that would constitute a one percent drought, both in terms of severity and duration of the drought. City’s Exhibit 1, Proposal, p. 2. High Country Hydrology concluded based on historic drought records that a one percent drought would have a duration of eight years. *Id.*

<sup>46</sup>Transcript, Volume I, p. 163, lines 19-25 and p. 164, lines 1-11; City’s Exhibit 1, Proposal Cover Letter, p. 1. The City has forecasted that its raw water demand by 2060 will be approximately 81,690 acre-feet annually. City’s Exhibit 1, Proposal, p. 2-3. The City arrived at this figure by utilizing a study performed by Science Applications International and Professional Engineering Consultants, which found that the City’s water demand by 2060 will be between 71,370 and 105,858 acre-feet per year. *Id.* at p. 2-2. The City selected the medium growth forecast generated by the study (87,597 acre-feet per year) and further reduced that number by factoring in its planned water conservation measures to arrive at its estimated 2060 water demand number. *Id.*

<sup>47</sup>City’s Exhibit 1, Proposal Cover Letter, p. 2.

<sup>48</sup>Phase I Findings and Orders, p. 15, para. 8.

overall Aquifer conditions potentially remaining relatively full.<sup>49</sup>

Second, the City's water management practices since the 1993 drought, particularly its increased reliance on Cheney, have resulted in the Aquifer recovering to nearly 100 percent full pre-development conditions.<sup>50</sup> With the City prohibited from injecting water into the Aquifer unless water levels are at least ten feet below land surface, a nearly full Aquifer limits the Project's capacity to generate recharge credits, which the City sees as "critical" to its overall drought preparedness plan.<sup>51</sup> Currently, in order to generate recharge credits when the Aquifer is functionally full, the City would have to withdraw water from the Aquifer to create space there, take the withdrawn water to town to be used, inject treated Little Arkansas River surface water into the BSA to generate a recharge credit, and then withdraw that water back out of the BSA and take it to town for municipal use.<sup>52</sup> Operating the Project in this fashion would repeatedly lower and raise the water table in the BSA, which is not ideal for the hydrologic health of the Aquifer and also makes groundwater pumping less efficient for all water users in the area. With these limiting conditions of the Phase II permits in mind, the City decided to ensure its ability to withdraw recharge credits when it needed them and to seek a more efficient and Aquifer-friendly way of accumulating credits.

## **II. PROPOSAL AT ISSUE**

On March 12, 2018, the City submitted proposed modifications to its Phase II permits ("Proposal") to Chief Engineer Barfield.<sup>53</sup> The City proposes that its Phase II permits be

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<sup>49</sup>City's Exhibit 10, p. 3.

<sup>50</sup>City's Exhibit 1, Proposal, p. 2.

<sup>51</sup>City's Exhibit 1, Proposal Cover Letter, p. 3.

<sup>52</sup>Transcript, Volume I, p. 151, lines 19-25, p. 152, lines 1-8; Transcript Volume I, p. 158, lines 23-25 and p. 159, lines 1-7.

<sup>53</sup>See City's Exhibit 1, Proposal Cover Letter, p. 1.

modified in two ways. First, the City proposes that the Project's existing minimum index levels be lowered, such that the City will be allowed to withdraw recharge credits as long as the Aquifer is approximately 80 percent full on average.<sup>54</sup> This aspect of the Proposal would potentially lower the Aquifer by approximately twelve feet on average.<sup>55</sup> Second, the City proposes that it be permitted to send water diverted from the Little Arkansas River that cannot be physically injected into the Aquifer due to a high water table directly to the City's main water treatment plant for municipal use.<sup>56</sup>

Under the Proposal, the water that remains in the Aquifer as a result of the City taking Little Arkansas River surface water directly to town would allow the City to earn Aquifer Maintenance Credits ("AMC").<sup>57</sup> AMCs would be tracked separately from physical recharge credits through a new proposed accounting methodology that would be used only to track the accumulation of AMCs.<sup>58</sup> The City has proposed that AMCs be assigned to each index cell on an annual basis by the following accounting method:

1. AMCs would be assigned to an index cell by dividing the total volume of water diverted from the Little Arkansas River to the City's main water treatment plant by the total number of points of diversion in the Equus Beds Wellfield that are in service that year (excluding Phase I recharge and recovery wells). This would distribute AMCs equally across the production wells that could have pumped water from the BSA.
2. A one-time initial loss value of 5 percent would be deducted from the total number of AMCs credited to each index cell. This initial loss value would account for losses to the Aquifer inherent in the injection and recovery process.
3. An average annual recurring loss value would be applied annually to each index cell to account for recharge credit migration from the BSA. This recurring loss value

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<sup>54</sup>City's Exhibit 1, Proposal, p. 2-16.

<sup>55</sup>City's Exhibit 1, Proposal, Table 2-11.

<sup>56</sup>City's Exhibit 1, Proposal Cover Letter, p. 2.

<sup>57</sup>*Id.*

<sup>58</sup>City's Exhibit 1, Proposal, p. 4-3.

would be applied gradationally across the BSA in order to account for the fact that this type of loss is highest on the east side of the BSA, lowest on the west side, and is moderate in the central area of the BSA. A 5 percent annual recurring loss value would be applied to the index cells on the east side of the BSA, a 3 percent annual recurring loss would be applied to the central area index cells, and an annual recurring loss value of 1 percent would be applied to the western index cells. The average annual recurring loss value applied across all index cells would be 3 percent.<sup>59</sup>

The proposed loss rates of 5 percent initially and an additional average of 3 percent annually are supported by past modeling results, drought modeling, and the hydrology of the Aquifer.<sup>60</sup>

As part of the Proposal, the City also submitted a list of seven key items summarizing the permit conditions that would pertain to the accumulation and accounting of AMCs under the Proposal. The City's proposed AMC-related permit conditions are as follows:

1. The City will continue to physically recharge the Aquifer through injection when it is possible to do so;
2. The rate of accrual of all recharge credits cannot exceed the constructed physical diversion capacity of the ASR system...and will be limited to the rate and quantity authorized by Water Right No. 46,627;
3. The Project's Phase I recharge and recovery wells will not be permitted to generate AMCs;
4. The City cannot receive credit for more than 120,000 acre-feet of water, through physical recharge credits and AMCs combined (120,000 acre-feet is the approximate size of the "hole" that existed in the Aquifer in January 1993 and constitutes approximately 11.7 percent of the Aquifer's total available storage area);
5. The City will calculate AMCs it generates using an alternative or modified accounting process that is different from the accounting used to track physical recharge credits;
6. AMCs will be accumulated "based on the metered quantity of water diverted from the Little Arkansas River via direct surface water diversions or water captured via bank storage wells and sent directly to the City;" and
7. The City will adopt a "straight-forward spreadsheet accounting process" to track its accumulation and use of AMCs.<sup>61</sup>

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<sup>59</sup>*Id.*

<sup>60</sup>*Id.*

<sup>61</sup>City's Exhibit 1, Proposal, p. 3-6.

The issues to be decided here are thus twofold: whether the City should be permitted to operate the Project with the proposed lower minimum index levels and whether the City should be allowed to generate credits that would allow it to later withdraw water from the Aquifer when it leaves water in state in the Aquifer and instead takes Little Arkansas River surface water directly to town for municipal use.<sup>62</sup> These two issues are independent from each other—both aspects of the Proposal could be approved, either aspect could be approved and the other rejected, or both could be rejected.<sup>63</sup>

### III. PROCEDURAL HISTORY

In the summer of 2018, following initial review of the Proposal, Chief Engineer Barfield determined that he would preside over a formal phase public hearing to gather evidence and hear public comments regarding the Proposal.<sup>64</sup> It was determined that parties to the formal phase public hearing would be the City, DWR, Equus Beds Groundwater Management District Number 2 (“the District”), and a group of landowners who filed a timely petition to intervene in the matter and who Chief Engineer Barfield determined owned water rights that could potentially be impacted by the Proposal (“the Intervenors”).<sup>65</sup> The formal phase public hearing was originally scheduled to take place on March 26 and 27, 2019, with the purpose of determining whether the Proposal was lawful and permissible and, if the Proposal was deemed lawful and permissible, determining permit conditions that it should be approved subject to in order to safeguard the rights of other area water right owners.<sup>66</sup>

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<sup>62</sup>Transcript, Volume V, p. 1241, lines 16-23.

<sup>63</sup>*Id.*

<sup>64</sup>*See* Notice of Pre-Hearing Conference for the Consideration of Modifications to the Phase II of the City of Wichita’s Aquifer Storage and Recovery (ASR) Project, July 2, 2018.

<sup>65</sup>*See* Order Regarding the Designation of Parties for the Formal Phase of the Public Hearing, Oct. 26, 2018.

<sup>66</sup>*See* Notice of Final Hearing Schedule, Dec. 21, 2018.

On March 19, 2019, the authority to preside over the formal phase public hearing was delegated to Constance C. Owen, and the formal phase public hearing was postponed. Ms. Owen was directed to conduct the hearing and, at the conclusion of the hearing, provide written recommendations regarding the Proposal to the Chief Engineer.<sup>67</sup> The formal phase public hearing, presided over by Ms. Owen, began in Halstead, Kansas on December 10, 2019 and was scheduled to conclude in March 2020.<sup>68</sup> However, the COVID-19 pandemic necessitated the postponement of the formal phase public hearing, and the proceedings did not ultimately conclude until February 2021.<sup>69</sup>

#### **IV. GMD2 AND INTERVENORS' ARGUMENTS IN OPPOSITION TO THE PROPOSAL**

The District and the Intervenors both oppose the Proposal on numerous grounds. The District filed a Motion to Dismiss on March 18, 2019, citing numerous reasons it believes the Proposal should be rejected, and the Intervenors filed a motion in support thereof.<sup>70</sup> The District's Motion to Dismiss remains pending.<sup>71</sup> All parties also filed Pre-Hearing Briefs, with the District and the Intervenors raising many of the same arguments the District raised in its Motion to Dismiss, as well as some additional arguments, and the District particularly also raised numerous other arguments over the course of the formal phase public hearing.<sup>72</sup>

The primary arguments raised by the District and the Intervenors are as follows: 1) the City's failure to submit an application for a new appropriation to DWR in conjunction with the

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<sup>67</sup>Notice of Delegation and Temporary Postponement, Mar. 19, 2019.

<sup>68</sup>See Notice of Hearing, Oct. 8, 2019; Notice of Continuation of Hearing, Jan. 9, 2020.

<sup>69</sup>See Agreed Waiver of Kansas Administrative Regulation 5-12-3, Dec. 30, 2020.

<sup>70</sup>See District's Motion to Dismiss.

<sup>71</sup>Transcript, Volume VIV, p. 3477, lines 1-2.

<sup>72</sup>See District's Pre-Hearing Brief; Intervenors' Pre-Hearing Brief.

Proposal is fatal to the Proposal; 2) AMCs would not constitute a recognized beneficial use of water under the KWAA; 3) the City's failure to submit a change application to DWR in conjunction with the Proposal is fatal to the Proposal; 4) the City's water use under the Proposal will result in impairment to other existing area water rights; 5) the Proposal will cause streamflow on the Little Arkansas River to fall below established minimum desirable streamflow ("MDS") levels; 6) the Proposal would violate safe yield requirements; 7) the Proposal should be denied because of the impact it will have on the saturated thickness of the Aquifer; 8) the City should be required to enter a multi-year flex account ("MYFA") rather than continuing to pursue the Proposal; 9) The Kansas Court of Appeals holding in *Clawson v. State, Dep't of Agric., Div. of Water Res.* (49 Kan. App. 2d 789, 792, 315 P.3d 896 (2013)) requires dismissal of the Proposal; 10) AMCs would constitute prohibited passive recharge; 11) the City's water use under the Proposal would violate the Takings Clause of both the United States and Kansas Constitutions; 12) the Proposal fundamentally violates the KWAA; 12) the Proposal and the proceedings to consider it have violated the District's Procedural Due Process rights; and 13) the City lacks standing to advance the Proposal.<sup>73</sup> For all these reasons, the District and the Intervenor argue the Proposal should be rejected.<sup>74</sup>

## V. GENERAL OPINIONS AND POSITIONS OF DWR

Chief Engineer Barfield said when the Proposal first came before him that he believed it was reasonable and lawful, writing in a September 18, 2017 letter to the City that the City's methods and the modeling it had performed were sufficient for the City's purpose in this matter

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<sup>73</sup>See District's Motion to Dismiss; District's Pre-Hearing Brief; Intervenor's Pre-Hearing Brief.

<sup>74</sup>See *id.*

and that, “no changes to statute or rules are necessary to consider and implement the City’s anticipated request for changes to [Project] conditions.”<sup>75</sup> DWR’s opinion following the formal phase public hearing process is much the same as the opinion Chief Engineer Barfield set forth in the September 18, 2017 letter. DWR believes the Proposal will advance good groundwater management and serve to extend the life of the Aquifer, that it comports with Kansas law, and that it is in the public interest and will not harm other water users in the area. DWR will address a few over-arching points, including some of the broad contentions raised by the District and the Intervenors, before responding more specifically to the legal arguments raised by those parties.

First, the District seems to believe the entire Proposal should be rejected because certain accompanying written assurances are not yet in place.<sup>76</sup> Such a position disregards the entire purpose of these proceedings. DWR has always believed that the Proposal, if approved, should be subject to permit conditions that would safeguard the rights of other area water users, and determining what those permit conditions should be has always been one of the primary objectives of this hearing process.<sup>77</sup> Unfortunately, the District has made thorough assessment and meaningful dialogue on that front rather difficult by dragging the proceedings off course with myriad arguments (many of them very off base) advocating for a complete preemptive dismissal of the entire Proposal. Moreover, some of the things that the District is so convinced must be protected by written assurances are already ensured by existing DWR statutes and regulations.<sup>78</sup>

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<sup>75</sup>Letter from David W. Barfield, Chief Engineer, Kan. Dep’t of Agric., Div. of Water Res., to the City of Wichita, Kansas, Sept. 18, 2017 (on file with the Kan. Dep’t of Agric.).

<sup>76</sup>Transcript, Volume XV, p. 3653, lines 7-18.

<sup>77</sup>See Transcript, Volume VIII, p. 2000, lines 16-19.

<sup>78</sup>See, e.g. K.A.R. 5-4-1; K.A.R. 5-15-1.



Permit conditions that DWR does believe would be necessary and appropriate (in addition to the proposed conditions the City submitted in conjunction with the Proposal) include a requirement that the City utilize pumping rotation if conflicts with existing water rights in the Equus Beds Wellfield occur due to the City's water use under the Proposal and a requirement that, if rotation is not sufficient to resolve a conflict, the City make whole any water right owner whose well is located within 660 feet of a Project well and is impacted by the City's water use under the Proposal. DWR will discuss both of those proposed permit conditions in more detail herein and will also further address why additional permit conditions are not necessary.

Moving on from the issue of permit conditions, statements by the District and the Intervenor have fundamentally mischaracterized the City's past water use, including the Project. For example, the Intervenor's Pre-Hearing Brief argues that approval of the Proposal would unfairly reward the City for poor water management.<sup>79</sup> DWR does not believe the City has been a bad actor in terms of resource stewardship. Rather, the record in this matter reflects that the City has been an exemplary steward of the Aquifer and is largely responsible for the high water table seen in the Aquifer today.<sup>80</sup> Since 1993, the Aquifer has rebounded from record lows and is now functionally full, largely due to the City's good management practices.<sup>81</sup> In fact, one of the issues the Proposal seeks to remedy has actually been caused by the City's own good practices—the high water table in the Aquifer that has resulted from the City relying primarily on Cheney means there is no space in the Aquifer for the City to inject water for the accumulation of

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<sup>79</sup>See Intervenor's Pre-Hearing Brief.

<sup>80</sup>See Transcript, Volume I, p. 145, lines 15-25; Transcript, Volume I, p. 146, lines 1-25; Transcript, Volume I, p. 271, lines 11-14.

<sup>81</sup>Transcript, Volume I, p. 146, lines 23-25. Irrigation use within the Equus Beds has increased since 1993, while the City's reliance on the Aquifer for its public water supply needs has decreased. Transcript, Volume I, p. 147, Lines 1-15.

physical recharge credits.<sup>82</sup>

DWR also disagrees with assertions that the Project has been unsuccessful or “doesn’t work.”<sup>83</sup> Admittedly, the City’s view of how the Project fits into its overall water management strategy has evolved over time.<sup>84</sup> It may also be true that the Project infrastructure did not always work perfectly, particularly at the Project’s inception. However, to characterize the Project as a failure completely ignores the substantial role that the Project and the City’s management has played in raising the water table in the Aquifer, to the benefit of all users in the area.<sup>85</sup> It is simply undeniable that the City is significantly responsible for the high water table seen in the Aquifer today, and it is completely inaccurate to characterize the Project as a failure or to suggest that granting the City what it is asking for here rewards it for bad behavior.

DWR also acknowledges that distrust has existed between the City and surrounding smaller municipalities, irrigators, and domestic users for many years.<sup>86</sup> However, it would not be appropriate to allow pre-existing distrust or events that happened decades ago to influence a decision as to this Proposal. DWR is committed to holding the City accountable just as it would any other water user, whether the Proposal is approved or not. Moreover, the existence of distrust between the City and other area water users does not change the fact that the Proposal will be almost universally beneficial from a hydrogeologic perspective and that it is reasonable, in the public interest, will not impair other water users, and conforms with existing law.

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<sup>82</sup>Transcript, Volume I, p. 151, lines 23-25; Transcript, Volume I, p. 152, lines 1-8. The use of the ASR Project is “critical” to the City’s long-term water supply plan. *Id.* at p. 152, lines 13-15.

<sup>83</sup>See Intervenors’ Pre-Hearing Brief, arguing that the Project has been a “failure.”

<sup>84</sup>See City’s Exhibit 10.

<sup>85</sup>City’s Exhibit 10, p. 2.

<sup>86</sup>See Transcript, Volume XII, p. 3259, lines 1-9.

Further, from a policy standpoint, municipalities should be permitted (and arguably even encouraged) to plan for extreme drought.<sup>87</sup> The City supplies water for drinking, cooking, and bathing to approximately 500,000 people, and that number could reach nearly 800,000 by 2060.<sup>88</sup> The City cannot fulfill its obligation to provide for the public health and welfare of those people without a reserve water supply. The Intervenors have criticized the Proposal on the grounds that it is designed to “meet a speculative future need,” but the management of a water supply based on projected future need is the very definition of municipal drought planning.<sup>89</sup> Moreover, the City’s projected population and water demand growth is based on real data, not speculation.<sup>90</sup> The City obviously felt it was prudent to plan for a one percent drought, and DWR does not disagree with that assessment given the City’s size and growth projections. Any position taken by the District or the Intervenors that the City did not “need” to base the Proposal on plans for a one percent drought is not reason enough to reject the entire Proposal.

The pleadings of the Intervenors particularly also repeatedly point out the overall cost of the Project, seemingly in an effort to imply that because the Project has been expensive, it is not a judicious means of water management.<sup>91</sup> That argument is off-base and also distracts from the relevant issues. First, the Project’s cost is not indicative of its prudence or effectiveness and is not a reason to deny the Proposal. Additionally, the City’s administrators are accountable to the public through political processes separate from these proceedings, and those administrators determined that the Project was a worthwhile investment for the City and that planning for a one

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<sup>87</sup>Transcript, Volume I, p. 38, lines 3-7. (Testimony of John Winchester that it would be “very important” for a municipality to have “at least some [water] supply reserved in the event of a “megadrought.”).

<sup>88</sup>City’s Exhibit 1, Proposal, Attachment D, *Water Demand Assessment Technical Memorandum*, p. 3-4, Table 3.

<sup>89</sup>See Intervenors’ Pre-Hearing Brief, p. 15; Transcript, Volume XV, p. 3626, lines 2-3.

<sup>90</sup>See City’s Exhibit 1, Proposal, p. 2-3.

<sup>91</sup>Intervenors’ Pre-Hearing Brief.

percent drought was appropriate.<sup>92</sup> These proceedings are not the appropriate forum for any debate regarding the merits of that decision.

Next, the District's Pre-Hearing Brief blatantly misconstrues the authority of groundwater management districts in general and the District's authority in relation to the Proposal in particular. The District asserts that, pursuant to K.S.A. 82a-1020, a provision of the Groundwater Management District Act ("GMD Act"), "...the management of the aquifer, and therefore the ASR Project, is clearly in the purview of [the] District" and argues that this is the "lens" through which the Proposal and the parties' arguments are appropriately analyzed.<sup>93</sup> The District provides no support for this contention, and assessment of the Kansas Legislature's specific grants of authority in this regard reveals that it is incorrect.

K.S.A. 82a-1020 does provide that it is the policy of the GMD Act to "...establish the right of local water users to determine their destiny with respect to the use of groundwater insofar as it does not conflict with the basic laws and policies of the state of Kansas."<sup>94</sup> However, the District's assessment that K.S.A. 82a-1020 grants it the authority to "determine how recharge credits can be accumulated and when they can be used" disregards that statute's key clause "*...insofar as it does not conflict with the basic laws and policies of the state of Kansas.*"<sup>95</sup> The basic laws and policies of the state of Kansas do not grant the District the authority that it purports to have. K.S.A. 82a-1039 provides, "Nothing in [the GMD] Act shall be construed as limiting or affecting any duty or power of the Chief Engineer granted pursuant to the Kansas

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<sup>92</sup>See Transcript, Volume I, p. 153, lines 5-9; Transcript, Volume I, p. 157, lines 15-16 (testimony of Joseph Pajor that, "Policy issues for the utility are decided by the City Council as the governing body" and "City Council directed that [the City] would pursue the ASR alternative" when presented with different drought planning options).

<sup>93</sup>District's Pre-Hearing Brief, p. 9.

<sup>94</sup>K.S.A. 82a-1020.

<sup>95</sup>*Id.*; District's Pre-Hearing Brief, p. 9.

Water Appropriation Act.”<sup>96</sup>

K.S.A. 82a-706 provides that the Chief Engineer “shall enforce and administer the laws of this state pertaining to the beneficial use of water and shall control, conserve, regulate, allot and aid in the distribution of the water resources of the state....”<sup>97</sup> The District cannot have the authority it claims to have if the latter part of K.S.A. 82a-1020 and K.S.A. 82a-1039 are to be given effect. The authority to regulate the City’s accumulation and use of recharge credits under the Proposal falls squarely within the purview of the Chief Engineer pursuant to K.S.A. 82a-706. That is the correct “lens” through which to analyze the Proposal and the parties’ arguments.

To that end, many of the arguments raised by the District and the Intervenors simply ignore the realities of the Proposal. Most fundamentally, the District and the Intervenors have raised numerous foundationally flawed arguments based on the amount of water the City would be entitled to under the Proposal. The major reason DWR feels the Proposal complies with applicable statutes and regulations is that the City would not be entitled to any more water under the Proposal than it already is.<sup>98</sup> First, the established minimum index levels exist only within the context of the Project—even now, the City could pump groundwater under the authority of its base water rights in the Equus Beds Wellfield with the Aquifer’s water table below the Project’s existing minimum index levels.<sup>99</sup> If pumping groundwater with the Aquifer’s water table below the current minimum index levels was inherently bad, DWR would never have approved the

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<sup>96</sup>K.S.A. 82a-1039.

<sup>97</sup>K.S.A. 82a-706.

<sup>98</sup>See Phase II Findings and Orders; Approval of Application and Permit to Proceed in the matter of water right file number 46,627, issued by David W. Barfield, Chief Engineer, Kan. Dep’t of Agric., Div. of Water Res., Sept. 18, 2009; City’s Exhibit 1, Proposal.

<sup>99</sup>See Phase II Findings and Orders (establishing the minimum index levels—the minimum index levels were never established for any non-Project water rights).

City's base water rights in the Equus Beds Wellfield in the first place (or any irrigation rights in the Equus Beds Wellfield junior to the City's base rights). Lowering the minimum index levels would not be inherently harmful to the Aquifer or to other area water users.

It is also important to bear in mind that the City's ability to take Little Arkansas River surface water directly to town under the Proposal will result in an offsetting reduction in the City's pumping of its native water rights in the Equus Beds Wellfield. Additionally, the City has expressed its willingness to commit to physically recharging the BSA when it is possible to do so, and DWR believes that a permit condition requiring this would be appropriate.<sup>100</sup> With such a condition in place, the City would not generate AMCs while the water table in the BSA was below its current functionally full level. Further, under the Proposal, each of the City's Project recovery wells would continue to be governed by its existing permitted annual authorized quantity and authorized rate.<sup>101</sup> Moreover, the Proposal does not seek to change the currently-existing 19,000 acre-feet per year limit on the City's ability to withdraw recharge credits.<sup>102</sup>

Finally, much has been made of the provision of the Proposal that would limit the recharge credits the City could accumulate to 120,000 acre-feet of water. The 120,000 acre-feet number is a proposed overall cap on the amount of recharge credits the City will be permitted to *accumulate* under the Proposal.<sup>103</sup> The number actually has no bearing on the City's authorized water *use*, which will continue to be limited by the 19,000 acre-feet withdrawal cap and the

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<sup>100</sup>Transcript, Volume I, p. 187, lines 4-14.

<sup>101</sup>See City's Exhibit 1, Proposal (not proposing to change the authorized quantities or rates of diversion of any Project water rights).

<sup>102</sup>Transcript, Volume V, p. 1284, lines 1-3.

<sup>103</sup>City's Exhibit 1, Proposal, p. 3-6; Transcript, Volume I, p. 195, lines 12-18; Transcript, Volume I, p. 209, lines 11-15 (testimony of Joseph Pajor that there is no scenario where the City would use anywhere close to 120,000 acre-feet of water per year based on its accumulation of recharge credits).

authorized annual quantity for each well.<sup>104</sup> For that reason, DWR believes the proposed 120,000 acre-feet credit accumulation cap is reasonable. In fact, while DWR does not believe including the 120,000 acre-feet cap as a permit condition would be inappropriate, DWR does not even feel that the proposed 120,000 acre-feet recharge credit cap is a particularly critical aspect of the Proposal. If anything, the 120,000 acre-feet number simply imposes a limit on the City where none existed before—the current Phase II permit conditions do not impose any limit on recharge credits accumulation.<sup>105</sup>

Additionally, the District and the Intervenors have disregarded the benefits the Proposal will provide during the 99 percent of the time the area is not experiencing a one percent drought, while also ignoring that the City's model shows that even in the last year of a one percent drought in which the City has pumped all the water that the Proposal would allow it to, the Aquifer will remain 80 percent full on average.<sup>106</sup> This is the reason DWR is not concerned by the District's and the Intervenors' nit-picking of the City's modeling—even if the Aquifer's actual level following a drought is slightly lower than what the City's modeling shows it will be, the Aquifer would still be mostly full, and would likely refill quickly due to its high rate of natural recharge. Any argument that invokes the 120,000 acre-feet recharge credit cap or the 19,000 acre-feet allotment for recharge credit withdrawal is simply fundamentally flawed, as is any argument predicated upon a dewatering of the Aquifer under the Proposal or a nuanced inadequacy in the City's modeling.

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<sup>104</sup>See Phase I Findings and Orders (establishing the 19,000 acre-feet per year limit on the total withdrawal of recharge credit); Phase II Findings and Orders (not changing said limit); City's Exhibit 1, Proposal (not proposing to change said limit).

<sup>105</sup>Transcript, Volume V, p. 1278, lines 4-7; Transcript, Volume V p. 1279, lines 12-17.

<sup>106</sup>City's Exhibit 1, Proposal, p. 2-16.

## **VI. THE HYDROGEOLOGIC EFFECTS OF THE PROPOSAL ARE ALMOST UNIVERSALLY POSITIVE**

Contrary to many of the District's and the Intervenors' arguments, both aspects of the Proposal will actually have positive hydrogeologic effects on the Aquifer. If the existing minimum index levels are lowered, the City will not be in a position where it must choose between potentially withdrawing its recharge credits unnecessarily at the beginning of a drought or risking the credits being stranded as the drought continues and the water table becomes too low for the Project to operate (even though the Aquifer is still relatively full).<sup>107</sup> Likewise, permitting the City to accumulate AMCs will allow the City to avoid "pumping a hole" in the Aquifer for the sole purpose of creating space to allow for injection and the generation of physical recharge credits.<sup>108</sup> This will avoid repeatedly raising and lowering the water table and will instead allow the Aquifer to remain full until the City needs to withdraw water to meet its customers' demand. Further, due to the nature of its other available water sources, particularly the high rate of evaporation Cheney experiences, the City will be incentivized to use its other water sources before it withdraws its accumulated credits, thereby keeping the Aquifer full until it is truly necessary to use it during drought.<sup>109</sup>

The Aquifer being full more of the time will result in a more stable hydraulic gradient, which will improve water quality in the area by slowing the encroachment of the Burrton salt plume.<sup>110</sup> A higher water table will also lower pumping costs for all irrigators in the area and, perhaps most importantly, will ensure that the Aquifer will be full at the beginning of a severe

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<sup>107</sup>Transcript, Volume I, p. 176, lines 23-25; Transcript, Volume I, p. 177, lines 1-18.

<sup>108</sup>*Id.* at p. 187, lines 15-23.

<sup>109</sup>Transcript, Volume V, p. 1286, lines 1-14.

<sup>110</sup>City's Exhibit 1, Proposal, Attachment H, p. 2 (the Burrton salt plume migrates faster when the Aquifer's water table is lower).



drought. Additionally, during times of normal rain fall, maintaining the aquifer at a fuller level will cause the Little Arkansas River to gain water from the Aquifer, reducing the likelihood that DWR will need to administer water rights to protect minimum desirable streamflow (“MDS”) on the Little Arkansas River.<sup>111</sup> Finally, as has already been mentioned, the Proposal will leave the Aquifer roughly 80 percent full at the end of a one percent drought.<sup>112</sup>

## **VII. THE DWR STATUTE GOVERNING NEW APPROPRIATIONS DOES NOT APPLY TO THE CITY’S PROPOSAL**

Turning to the more specific legal arguments raised by the District and the Intervenors, both of those parties contend that the provisions of the KWAA governing applications for new appropriations apply to the Proposal.<sup>113</sup> The District and the Intervenors argue that the City’s water use under the Proposal would constitute a new appropriation that would entitle the City to more water than it is currently authorized to use.<sup>114</sup> The District also points out that the City’s consumptive use of water could increase under the Proposal, which the District argues is prohibited.<sup>115</sup> These arguments are incorrect. The City is not seeking a new appropriation right, and, as previously discussed, the Proposal will not increase the amount of water the City is

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<sup>111</sup>Transcript, Volume XII, p. 3114, lines 1-6. K.S.A. 82a-703a provides, “Whenever the legislature enacts legislation establishing a minimum desirable streamflow for any watercourse in this state, the chief engineer shall withhold from appropriation that amount of water deemed necessary to establish and maintain for the identified watercourse the desired minimum streamflow.” K.S.A. 82a-703a. K.S.A. 82a-703b provides, “(a) In addition to any other limitation or condition prescribed by law or rule and regulation of the chief engineer, it shall be an express condition of each and every appropriation right, except for use of water for domestic purposes, applied for after April 12, 1984, that such right shall be subject to any minimum desirable streamflow requirements identified and established pursuant to law on or before July 1, 1990, for the source of water supply to which such right applies. (b) All vested rights, water appropriation rights and applications for permits to appropriate water having a priority date on or before April 12, 1984, shall not be subject to any minimum desirable streamflow requirements established pursuant to law. K.S.A. 82a-703b. K.S.A. 82a-703c establishes minimum desirable streamflows and sets minimum desirable streamflow on the Little Arkansas River at 8 cfs at the Alta Mills gage and 20 cfs at the Valley Center gage. K.S.A. 82a-703c.

<sup>112</sup>City’s Exhibit 1, Proposal, p. 2-16.

<sup>113</sup>See District’s Motion to Dismiss; District’s Pre-Hearing Brief; Intervenors’ Pre-Hearing Brief.

<sup>114</sup>See District’s Motion to Dismiss.

<sup>115</sup>See District’s Motion to Dismiss.

entitled to.<sup>116</sup> Additionally, the City is permitted to increase the consumptive use of its Project water rights.<sup>117</sup>

K.S.A. 82a-709 provides, “No person may acquire a new appropriation right to the use of waters of the state for other than domestic purposes without making an application to the chief engineer for a permit to make such appropriation.”<sup>118</sup> The City has not applied for a new water right, nor is it otherwise seeking to be entitled to any more water than it is already authorized to use.<sup>119</sup> All of the existing limitations on the amount of water the City is entitled to would remain in place under the Proposal—the limit on the withdrawal of recharge credits will remain the same, and all of the Project recharge and recovery wells will continue to be limited by their annual authorized quantities and rates.<sup>120</sup> Therefore, the City is not required to have applied for a new appropriation right pursuant to K.S.A. 82a-709.

Nonetheless, the District argues that AMCs would be impermissible because they would allow the City to increase the consumptive use of its existing Phase II recharge and recovery wells (to actually use more of its authorized quantity each year than it historically has).<sup>121</sup> The District asserts that the City is prohibited from increasing its consumptive use without applying for a new appropriation right pursuant to K.S.A. 82a-709.<sup>122</sup> However, K.A.R. 5-5-3 explicitly provides that the prohibition on increasing consumptive use applies only to water rights that are

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<sup>116</sup>See Phase I Findings and Orders; Phase II Findings and Orders, Approval of Application and Permit to Proceed in the matter of water right file number 46,627, issued by David W. Barfield, Chief Engineer, Kan. Dep’t of Agric., Div. of Water Res., September 18, 2009; City’s Exhibit 1, Proposal.

<sup>117</sup>See K.A.R. 5-5-3.

<sup>118</sup>K.S.A. 82a-709.

<sup>119</sup>See City’s Exhibit 1, Proposal.

<sup>120</sup>See *id.* (not proposing to change the existing recharge credit withdrawal limit or the annual authorized quantity or authorized rate of diversion of any Phase II recharge and recovery well).

<sup>121</sup>District’s Motion to Dismiss, p. 3.

<sup>122</sup>*Id.* at 3-4.

vested or for which the perfection period has expired.<sup>123</sup> The Phase II recharge and recovery well rights are not vested rights and have not been perfected.<sup>124</sup> The prohibition on increasing consumptive use thus does not apply to the Proposal. The fact that the City did not submit an application pursuant to K.S.A. 82a-709 is not grounds for the Proposal's dismissal.

### **VIII. AMCs WOULD CONSTITUTE A LAWFUL AND RECOGNIZED BENEFICIAL USE OF WATER PURSUANT TO THE KWAA**

The District makes several arguments related to the use the City would make of its water under the Proposal, arguing that AMCs would not constitute a permissible beneficial use of water and that the mechanism by which the City proposes to generate AMCs would essentially give the City two beneficial uses of water for the price of one.<sup>125</sup> In support of both of those arguments, the District asserts that the City should not be entitled to the water it would use based on its accumulation of AMCs under the Proposal because the City would not have physically injected Little Arkansas River surface water into the BSA when it accumulates AMCs.<sup>126</sup> The District's arguments in this regard are incorrect. AMCs would constitute a recognized beneficial use of water, and the Proposal would not entitle to the City to any additional uses of water. Moreover, the District's insistence on requiring physical injection of water into the BSA is misguided.

#### **a. AMCs Would Constitute a Recharge Credit.**

First, the method by which the City would accumulate AMCs under the Proposal would be the functional equivalent of physically recharging the BSA, and AMCs would therefore

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<sup>123</sup>K.A.R. 5-5-3.

<sup>124</sup>Transcript, Volume V, p. 1277, lines 20-23.

<sup>125</sup>See District's Motion to Dismiss; District's Pre-Hearing Brief; Transcript, Volume II, p. 328-330; Transcript, Volume XV, p. 3593, lines 5-7.

<sup>126</sup>See Transcript, Volume II, p. 328-330.

constitute recharge credits. Chief Engineer Barfield coined the phrase “functional equivalent” during his initial consideration of the Proposal, reasoning that AMCs were permissible because they would only be generated when the City could have created space in the BSA and then physically recharged it through injection of Little Arkansas River Surface water.<sup>127</sup> The District has made much of the fact that the phrase “functional equivalent” is not discussed in statute or regulation, asserting that the lack of a definition for that term necessarily means that AMCs would be unlawful. However, in making this argument, the District has failed to consider an existing statutory definition that AMCs would fall within—the definition for “recharge credit.”

K.A.R. 5-1-1 defines “recharge credit” as “the quantity of water that is stored in the basin storage area and that is available for subsequent appropriation for beneficial use by the operator of the aquifer storage and recovery system.”<sup>128</sup> Whether AMC water would constitute water that is “stored” in the BSA was explored at length during the formal phase public hearing, with the District and the Intervenors contending water should not be deemed stored in the BSA unless it was physically injected by the City prior to being withdrawn. In an attempt to make the point that “storage” necessarily requires physical input (in this case via injection), the District set forth numerous examples of things that could be stored somewhere, including books in a library, grain in a bin, money in a savings account, and eggs in a grocery store.<sup>129</sup> As the District’s counsel astutely observed, none of those items are capable of magically appearing in their respective storage places—some degree of human intervention is required to accomplish storage in those

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<sup>127</sup>See Letter from David W. Barfield, Chief Engineer, Kan. Dep’t of Agric., Div. of Water Res., to Groundwater Management District No. 2 and the City of Wichita, Kansas, June 1, 2018 (on file with the Kan. Dep’t of Agric.).

<sup>128</sup>K.A.R. 5-1-1.

<sup>129</sup>Transcript, Volume XI, p. 2841-2846.

instances.<sup>130</sup>

DWR realizes that the City would not inject water into the BSA in order to generate an AMC under the Proposal. The District has belabored this point at length and seems convinced that this fact alone is grounds for the AMC aspect of the Proposal to be rejected. However, physical injection is simply not strictly necessary given the state of the Aquifer today and the specific context of the Proposal. Currently, the Aquifer is so full that the City cannot generate recharge credits unless it first pumps the BSA down for no reason other than to make space for injection.<sup>131</sup> As discussed above, continually raising and lowering the water table in this way is harmful to the Aquifer and results in higher pumping costs to water users. Additionally, the absence of physical injection under the Proposal will not allow the City to take any more water from the BSA than it is already entitled to, and the proposed accounting adjustment will ensure the City is not permitted to withdraw any more water from the BSA based on its accumulation of AMCs than it could have injected.<sup>132</sup>

Further, to conclude based on the District's examples that human intervention is always necessary in order for something to be "stored" somewhere ignores the examples of natural storage that occur all around us every day: the trunks of trees and the leaves of plants store food and volcanic craters store magma. In fact, all water present in any aquifer pre-development came to be stored there through natural means, just as the water that the City could withdraw based on its accumulation of AMCs under the Proposal came to be in the BSA as a result of natural recharge (which was itself facilitated by the City's water management practices).

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<sup>130</sup>*See id.*

<sup>131</sup>*See* Transcript, Volume I, p. 151, lines 19-25, p. 152, lines 1-8; Transcript Volume I, p. 158, lines 23-25 and p. 159, lines 1-7.

<sup>132</sup>City's Exhibit 1, Proposal, p. 4-3.

Moreover, the City has expressed its willingness to commit to physically injecting water into the BSA when the water table is low enough to allow for injection, and a permit condition to that effect could easily be crafted.<sup>133</sup> Despite all these factors, the District seems intent on forcing the City to go through the extra step of pumping a hole in the Aquifer any time it wants recharge credits. To require this would essentially punish the City for its years of exemplary water management. It is also ironic that the District and the Intervenors would advance this position, given that pumping the hole is the very thing that several witnesses opposed to the Proposal characterized the City as threatening or plotting to do, despite that scenario being the very thing the City is trying to avoid with the Proposal.<sup>134</sup> The District is attempting to read limitations into the definition of “stored” that do not exist. The word does not require that water be physically injected into the BSA in order to generate a recharge credit, particularly when it is the City’s actions (taking water from the Little Arkansas River rather than pumping it from the BSA) that have allowed the water to remain in the BSA. There is no reason to adopt a definition of “stored” that would force the City to jump through extra hoops when existing regulations do not require it and a feasible alternative exists, especially not to the detriment of the Aquifer and all area water users.

In addition to being water that is “stored” in the Aquifer, AMCs would also meet the other requirements for a recharge credit—the water that would be withdrawn based on the accumulation of AMCs would be available for subsequent appropriation because the Proposal would not allow the City to withdraw any more water from the BSA than the water rights for its

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<sup>133</sup>City’s Exhibit 1, Proposal, p. 3-6.

<sup>134</sup>See Transcript, Volume XIII, p. 3339, lines 19-23.

existing recovery wells allow it to, and the City is obviously the operator of the Project system. Accordingly, AMCs fall within the definition of a recharge credit. Despite the District's repeated assertions to the contrary, the fact that the "functional equivalent" concept put forward by Chief Engineer Barfield is not defined in statute or regulation is not fatal to the City's Proposal because a lack of definition for that term does not negate the fact that AMCs would constitute recharge credits. The City should not be required to pump a hole in the Aquifer every time it wants to generate recharge credits when doing so is not required by law and does not serve the interests of the Aquifer and area water users.

b. The Use the City Would Make of its Water Under the Proposal Would be Permissible

The District further argues that even if it is determined that AMCs constitute recharge credits, the Proposal is unlawful because it would result in a use of water that is not recognized by the KWAA and would essentially allow the City to get two beneficial uses of water for the price of one.<sup>135</sup> First, the District argues that the "use" the City would make of its water under the AMC aspect of the Proposal would be to accumulate AMCs, which is not a beneficial use of water recognized by the KWAA.<sup>136</sup> That argument is incorrect. The City's water use under the Proposal would be municipal use—the same use it ultimately makes of all its Project water now.<sup>137</sup>

A more detailed summary of the AMC aspect of the Proposal is useful to frame further

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<sup>135</sup>See Transcript, Volume XV, p. 3593, lines 5-7.

<sup>136</sup>District's Motion to Dismiss, p. 3; K.A.R. 5-1-1 (providing that beneficial uses of water include domestic uses, stockwatering, municipal uses, irrigation, industrial uses, recreational uses, waterpower, artificial recharge, hydraulic dredging, contamination remediation, dewatering, fire protection, thermal exchange, and sediment control in a reservoir).

<sup>137</sup>See Approval of Application and Permit to Proceed in the matter of water right file number 46,627 (authorizing the City's Phase II Little Arkansas River surface water intake water right for municipal use); Phase II Findings and Orders, p. 1, para. 5 (authorizing the Phase II recharge and recovery wells for municipal use); K.A.R. 5-1-1 (identifying municipal use as a recognized beneficial use of water).

analysis of the District’s “two-for-one” argument. As previously discussed, water right file number 46,627, the City’s Little Arkansas River surface water intake right, is authorized for two beneficial uses: municipal use and artificial recharge use.<sup>138</sup> The City’s Project recharge and recovery wells are authorized for municipal use. Currently, there is no room in the BSA for the City to physically inject treated Little Arkansas River surface water.<sup>139</sup> Therefore, as discussed above, if the City wants to accumulate recharge credits when surface flows on the Little Arkansas River are high enough for it to be able to do so, it must first withdraw water from the BSA to create space for injection.<sup>140</sup> The withdrawn water is then taken to town for municipal use.<sup>141</sup> The City then diverts surface water flows from the Little Arkansas River, treats that water to drinking water standards, and injects it into the BSA for artificial recharge use.<sup>142</sup> The City can then subsequently withdraw that same water from the BSA and take it to town for municipal use. Accordingly, one “cycle” of the Project currently yields **two municipal uses and one artificial recharge use of water**.

Under the Proposal, the City would take treated Little Arkansas River surface water directly to town for municipal use and would also earn corresponding AMCs to later withdraw water from the BSA for municipal use.<sup>143</sup> Accordingly, one cycle of the Project under the Proposal would entitle the City to **two municipal uses of water**. The end result of two municipal uses of water would be the same under the Proposal as it is now, with the only difference in the

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<sup>138</sup>Approval of Application and Permit to Proceed in the matter of water right file number 46,627.

<sup>139</sup>See Transcript, Volume I, p. 151, lines 19-25, p. 152, lines 1-8; Transcript Volume I, p. 158, lines 23-25 and p. 159, lines 1-7.

<sup>140</sup>See *id.*

<sup>141</sup>Phase II Findings and Orders, p. 1, para. 5 (authorizing the Phase II recharge and recovery wells for municipal use).

<sup>142</sup>See Approval of Application and Permit to Proceed in the matter of water right file number 46,627 (authorizing the City’s Phase II Little Arkansas River surface water intake water right for artificial use).

<sup>143</sup>*Id.*



two scenarios being that the City would not use any water for artificial recharge under the Proposal. This is really a minimal difference, as artificial recharge is not a consumptive use.<sup>144</sup> Additionally, it makes sense that the City would not be assigned the beneficial use of artificial recharge under the Proposal, as that use is tied to the physical injection of water into the BSA that the City must undertake now in order to accumulate recharge credits.<sup>145</sup>

It would simply not be necessary to assign the City's AMC water use under the Proposal any use other than the end-result municipal use because all the water at issue would go directly from its source into town for municipal use and would be tracked using the proposed AMC accounting method.<sup>146</sup> Of course, the District disagrees, ignoring the equivalent outcome regarding consumptive municipal use and again insisting that the City should always be required to physically inject surface water into the BSA in order to be entitled to a recharge credit.<sup>147</sup> For the same reasons set forth above, physical injection is simply not necessary when the state of the Aquifer and all aspects of the Proposal are taken into account.<sup>148</sup> The Proposal would not allow the City to magically have more water for consumptive municipal use than it had before. The City would simply be using more surface water and less native Equus Beds groundwater under the Proposal. That the District believes this would constitute poor groundwater management is baffling.

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<sup>144</sup>K.A.R. 5-5-8 (providing that that "consumptive use" means gross diversions minus the combination of water wasted and water returned to the source of supply—all water used for artificial recharge is simply placed into a different source of supply, so no consumptive use occurs).

<sup>145</sup>See Approval of Application and Permit to Proceed in the matter of water right file number 46,627 (authorizing the City's Phase II Little Arkansas River surface water intake water right for artificial use).

<sup>146</sup>See City's Exhibit 1, Proposal Cover Letter, p. 2.

<sup>147</sup>See, e.g., Transcript, Volume XV, p. 3592, lines 23-25.

<sup>148</sup>See, e.g. Transcript, Volume I, p. 151, lines 19-25, p. 152, lines 1-8; Transcript Volume I, p. 158, lines 23-25 and p. 159, lines 1-7 (testimony that the Aquifer is functionally full); City's Exhibit 1, Proposal, p. 4-3 (setting out the City's proposed AMC accounting method).

The Proposal would not allow the City to make impermissible uses of its water, as the City's use of water under the Proposal would be the recognized beneficial use of municipal use. Additionally, the District's "two-for-one" argument is off-base because the Proposal would not allow the City to make any more consumptive uses of an equivalent volume of water than it currently can. Physical injection of surface water into the BSA is not necessary to ensure a lawful outcome here, and to insist on it for its own sake in this context advances poor groundwater management. The City's uses of water under the Proposal would be lawful and permissible.

#### **IX. THE STATUTE GOVERNING CHANGE APPLICATIONS DOES NOT APPLY TO THE PROPOSAL**

The District and the Intervenors argue that the Proposal should be rejected because it does not meet the requirements of K.S.A. 82a-708b, which governs changes to a water right.<sup>149</sup> However, K.S.A. 82a-708b does not apply to the Proposal because the City has not sought a true change to any of its Project water rights. Additionally, even when it does apply, K.S.A. 82a-708b does not require a definitive showing that there is no chance the application at issue will ever cause impairment to any water right, and the City's modeling work satisfies any showing that could ostensibly be required pursuant to K.S.A. 82a-708b.<sup>150</sup>

K.S.A. 82a-708b provides:

Any owner of a water right may change the place of use, the point of diversion or the use made of the water, without losing priority of right, provided such owner shall: (1) Apply in writing to the chief engineer for approval of any proposed change; (2) demonstrate to the chief engineer that any proposed change is reasonable and will not impair existing rights; (3) demonstrate to the chief engineer

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<sup>149</sup>See District's Motion to Dismiss; Intervenors' Motion in Support of District's Motion to Dismiss; District's Pre-Hearing Brief; Intervenors' Pre-Hearing Brief.

<sup>150</sup>City's Exhibit 1, Proposal, p. 2-16 (impairment is unlikely to occur, and the public interest will be protected, with the Aquifer 80 percent full).

that any proposed change relates to the same local source of supply as that to which the water right relates; and (4) receive the approval of the chief engineer with respect to any proposed change.<sup>151</sup>

The City has not sought a true *change* to their existing water rights. K.S.A. 82a-708b applies only to changes in the place of use, point of diversion or the use made of water under a water right, none of which the City is seeking here.<sup>152</sup> In an attempt to argue that the Proposal would change the points of diversion for the City's Project water rights, the District points out that the approval of AMCs would allow the City to utilize two sources of water (the Little Arkansas River and the BSA) with two different points of diversion (the City's surface water intake on the Little Arkansas River and its groundwater wells in the Equus Beds Wellfield).<sup>153</sup>

It is true that the City would utilize two sources of water and two points of diversion under the Proposal, but those facts do not support the conclusion that the City should have been required to file a change application with DWR. The City is already authorized to withdraw water from both the Little Arkansas River and the BSA.<sup>154</sup> It is also already authorized to operate both its surface water intake on the Little Arkansas River and its recharge and recovery wells in the Equus Beds Wellfield.<sup>155</sup> Those authorizations were the entire premise of the Project from the beginning, and nothing about the Proposal changes that. The City is not required to have filed a change application based on a new source of water or a new point of diversion (and the facts of the Proposal and the City's current water use would satisfy K.S.A. 82a-708b's requirement that a

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<sup>151</sup>K.S.A. 82a-708b.

<sup>152</sup>*See id.*; *see* City's Exhibit 1, Proposal (not seeking to change any of the things listed in K.S.A. 82a-708b).

<sup>153</sup>District's Motion to Dismiss, Page 4.

<sup>154</sup>Phase I Findings and Orders and Phase II Findings and Orders; Approval of Application and Permit to Proceed in the matter of water right file number 46,627, issued by David W. Barfield, Chief Engineer, Kan. Dep't of Agric., Div. of Water Res., September 18, 2009.

<sup>155</sup>Phase I Findings and Orders and Phase II Findings and Orders; Approval of Application and Permit to Proceed in the matter of water right file number 46,627, issued by David W. Barfield, Chief Engineer, Kan. Dep't of Agric., Div. of Water Res., September 18, 2009.

change relate to the same local source of supply even if K.S.A. 82a-708b was properly applicable).

Additionally, even when K.S.A. 82a-708b does apply, it does not require a definitive showing that a proposed change will never cause an impairment to any water right at any point.<sup>156</sup> If such a showing was required, many existing water rights would never have been approved over the years, including many irrigation rights within the District. The City's modeling work here goes far beyond the level of detail that the vast majority of water users seeking a change ever present to DWR, and the Proposal and the City's modeling satisfies the K.S.A. 82a-708b requirements that the Proposal be reasonable and in the public interest and that it not cause impairment.

One key reason DWR is confident the Proposal will not cause impairment is that it would not entitle the City to any additional water: the City's recharge and recovery wells will continue to be governed by their existing quantity and rate limitations; the existing limit on the City's annual withdrawal of recharge credits will remain in place; the 120,000 acre-feet credit accumulation cap is irrelevant to the amount of water the City is actually authorized to use; and the City is already authorized to pump groundwater below the current minimum index levels outside of the context of the Project.<sup>157</sup> Moreover, the City's AMCs would not automatically renew once they are used.<sup>158</sup> Therefore, the City could not take its maximum allotted recharge credits out of the BSA in back-to-back years.

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<sup>156</sup>See K.S.A. 82a-708b.

<sup>157</sup>See Phase II Findings and Orders; Approval of Application and Permit to Proceed in the matter of water right file number 46,627; City's Exhibit 1, Proposal; Transcript, Volume I, p. 158, lines 18-22 (testimony of Joseph Pajor that no cap on the City's accumulation of recharge credits currently exists).

<sup>158</sup>Transcript, Volume III, p. 627, lines 1-2 (testimony of Don Henry that AMCs "have to be accrued" before the City could use them).

The other key fact that indicates impairment will not occur under the Proposal is that, as discussed, the City's model shows that the Proposal would leave the Aquifer approximately 80 percent full even at the end of a one-percent drought.<sup>159</sup> The City would also be incentivized to rely on Cheney for as long as possible during a drought and, with the lower minimum index levels under the Proposal, will be free to leave its accumulated credits in the Aquifer for as long as possible without fear that those credits will become stranded.<sup>160</sup> The fact that the Proposal will not increase the amount of water the City is entitled to and the fact that the Aquifer will remain 80 percent full even in a worst case scenario constitute a more than adequate showing that the Proposal will not negatively impact existing area water rights at all, let alone impact any water rights to the extent they are legally impaired. The City has not sought a true change to its water rights and is already authorized to utilize multiple sources of water and multiple points of diversion.<sup>161</sup> Even if K.S.A. 82a-708b did apply, it does not require the City to have made a definitive showing that the Proposal will never cause impairment, and the Proposal and the City's model would satisfy the statute's relevant requirements.

#### **X. HYPOTHETICAL FUTURE IMPAIRMENT IS NOT A REASON TO DENY THE PROPOSAL**

Notwithstanding that the Proposal will not harm existing area water rights, a more in-depth discussion of impairment is warranted, as the District and the Intervenors raised the issue of impairment repeatedly throughout the formal phase hearing, and several of their arguments

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<sup>159</sup>City's Exhibit 1, Proposal, p. 2-16.

<sup>160</sup>Transcript, Volume II, p. 303, lines 6-14 (testimony of Joseph Pajor that it would not be in the City's interest to draw down the Aquifer for any reason unconnected to the City's need to use the Aquifer to meet its municipal water supply demand).

<sup>161</sup>*See generally* City's Exhibit I, Proposal; Phase II Findings and Orders; Approval of Application and Permit to Proceed in the matter of water right file number 46,627, issued by David W. Barfield, Chief Engineer, Kan. Dep't of Agric., Div. of Water Res., September 18, 2009.

fundamentally misunderstand key aspects of legal impairment. Existing water rights that are impacted by the City's water use under the Proposal would not per se be legally impaired, and it would not be appropriate to deny the Proposal because of a hypothetical (and unlikely) chance of future impairment.<sup>162</sup>

- a. The Fact That Some Well Columns May Have to Be Drilled Deeper as a Result of the Proposal Does Not Mean Those Water Rights Will Be Per Se Impaired.

Any impact to other water users that does occur because of the City's water use under the Proposal will not necessarily amount to legal impairment. In support of its impairment argument, the District contends that the City's water use under the Proposal would lower the Aquifer enough that some water users' well columns may have to be drilled deeper to continue pumping.<sup>163</sup> However, a water right is not necessarily impaired just because groundwater pumping by another water user renders it necessary for the water right's well to be drilled deeper in order to access water.<sup>164</sup> DWR's regulations allow the Chief Engineer to decline to even initiate an impairment investigation unless the water right owner alleging impairment provides evidence illustrating the extent to which the allegedly impaired well has "fully penetrated" the usable portion of an aquifer.<sup>165</sup>

K.A.R. 5-4-1, the DWR regulation governing "distribution of water between users when a prior right is being impaired," requires an owner of a non-domestic groundwater right who complains of impairment to submit a report to the Chief Engineer that "provide[s] data to show the extent to which the well [that is allegedly impaired] has fully penetrated the productive

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<sup>162</sup>*See id.*

<sup>163</sup>*See e.g.*, Transcript, Volume X, p. 2546, lines 7-11.

<sup>164</sup>*See* K.A.R. 5-4-1.

<sup>165</sup>K.A.R. 5-4-1.

portions of the aquifer with water of acceptable quality for the [well's] authorized use...”<sup>166</sup> The Chief Engineer is prohibited from taking any action until information regarding the depth of the well has been provided.<sup>167</sup> The Chief Engineer is also authorized to require the owner of an allegedly impaired domestic water right to submit such information before taking action.<sup>168</sup> The authority that K.A.R. 5-4-1 provides the Chief Engineer to ensure that a well has fully penetrated an aquifer before initiating an impairment investigation indicates that DWR never intended a senior water right to be considered per se impaired simply because pumping by a junior water right renders it necessary for the senior right owner to drill its well deeper in order to access water.

This conclusion is bolstered when one considers that defining impairment such that a senior water right is deemed impaired just because pumping by a junior right renders it necessary for the senior water right's well to be drilled deeper would discourage the application of water to beneficial use, which would contravene the public policy of the KWAA, which explicitly provides that, “All water within the state of Kansas is hereby dedicated to the use of the people of the state...” so that the “highest public benefit and maximum economic development may result from the use of such water.”<sup>169</sup> The fact that some area wells may have to be drilled deeper as a result of the Proposal does not mean that the Proposal will necessarily cause impairment and is not a reason to preemptively deny it.

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<sup>166</sup>*Id.*

<sup>167</sup>*Id.*

<sup>168</sup>*Id.*

<sup>169</sup>K.S.A. 82a-702.

b. DWR's Impairment Statutes and Regulations Are Intended to Address Alleged or Confirmed Impairments After the Fact—Not to Preemptively Discourage Water Use.

Another common thread underlying all the District's and the Intervenor's impairment arguments is those parties' beliefs that the Proposal should be denied simply because there is some speculative chance that it might result in the impairment of some unidentified water right at some unspecified future date. Such a position fundamentally misunderstands the nature and purpose of DWR's impairment statutes and regulations and discourages the full development of water rights. The District's impairment-related arguments rely heavily on K.S.A. 82a-711, which sets out numerous criteria governing when the Chief Engineer can approve an application to appropriate water for beneficial use.<sup>170</sup> The District's reliance on K.S.A. 82a-711 here is misplaced. K.S.A. 82a-711 does not apply to the Proposal because the Proposal does not constitute an application to appropriate water. The City's applications for the permits associated with the Project were approved originally pursuant to K.S.A. 82a-711, as all such applications are, and the Chief Engineer obviously did not find at that time that the appropriations the City was seeking would contravene any of the requirements of K.S.A. 82a-711.

Additionally, DWR does not ever deny any kind of application or proposal because of a potential for impairment that is as speculative and unlikely as the one that the District and the Intervenor's have raised here. DWR's impairment procedures simply do not function that way and were not intended to—they exist to allow DWR to administer water rights after an investigation has been conducted and impairment has been shown.<sup>171</sup> K.A.R. 5-4-1 requires a senior water right owner who believes his water right is being impaired to include in his

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<sup>170</sup>See K.S.A. 82a-711.

<sup>171</sup>See generally K.S.A. 82a-711; K.A.R. 5-4-1; K.A.R. 5-12-1.



complaint detailed information about the water right and the nature of the alleged impairment.<sup>172</sup>

It also requires the Chief Engineer to investigate and make detailed and specific findings regarding the complaint before issuing any formal finding that an impairment is occurring.<sup>173</sup>

K.A.R. 5-4-1 requires particularized and non-hypothetical findings regarding impairment and authorizes DWR to respond to specific existing alleged or confirmed impairments—it does not empower DWR to preemptively deny water use merely because a future impairment might occur.<sup>174</sup> This interpretation of K.A.R. 5-4-1 makes sense when considered in conjunction with the aforementioned public policy set forth in the KWAA that water should be appropriated for beneficial use in a way that facilitates maximum economic gain for the people of the State.<sup>175</sup> To prohibit a water right owner from making use of the maximum amount of water he is entitled to would not be in line with such policy. All of the District’s and the Intervenors’ impairment-related arguments rest on a hypothetical and non-particularized possibility of future impairment. Such claims would not even be adequate for DWR to commence an impairment investigation.<sup>176</sup> They certainly do not constitute a basis for preemptively denying the entire Proposal.

Tied to the District’s and the Intervenors’ erroneous beliefs that any chance of future impairment is grounds to deny the Proposal are those parties’ criticisms of the City’s modeling work. For example, the Intervenors criticize the City’s model on the grounds that it is “limited by

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<sup>172</sup>See K.A.R. 5-4-1. The Chief Engineer can decline to initiate an impairment investigation until the water right owner alleging impairment submits a report that meets the following criteria: “...(A) Be prepared by a licensed well driller, a professional engineer, or a licensed geologist; (B) describe the construction and the components of the well; (C) provide data to show the extent to which the well has fully penetrated the productive portions of the aquifer with water of acceptable quality for the authorized use; and (D) provide testing and inspection data to show the extent to which the pump and power unit are in good working condition to make full use of the available aquifer. *Id.*

<sup>173</sup>See *id.*

<sup>174</sup>See *id.*

<sup>175</sup>K.S.A. 82a-702.

<sup>176</sup>See K.A.R. 5-4-1.

scale and time distributions and unable to identify potential impairment” and “cannot be used for detailed analyses such as simulating water level drawdown near a single well.”<sup>177</sup> This alleged “problem” with the City’s modeling illustrates the unrealistic standards that the District and the Intervenors would have the City held to and further demonstrates exactly why DWR’s impairment regulations set forth such a detailed process for addressing impairment after the fact. There is no model that is not limited by some degree of scale and time distributions—every model includes those parameters. Moreover, there is no need to “simulate” water level draw down near a single well to protect against impairment—the very purpose of the Chief Engineer’s impairment investigation pursuant to K.A.R. 5-4-1 is, among other things, to determine the actual level of draw down that is occurring near the well alleging impairment.<sup>178</sup>

Likewise, there is no need for written assurances from the City that it will use Cheney to the fullest extent possible before it withdraws recharge credits or that it will keep the Aquifer full under the Proposal, as the District’s counsel advocated for in closing arguments.<sup>179</sup> Such written assurances are never required from any water user in any context because they would be fundamentally unnecessary. For one thing, it is a water right owner’s right to determine how to utilize their water rights, as long as that use is lawful. For another, to assert that a water user should be required to provide written assurances that it will not impair surrounding users totally disregards the protections already provided for in DWR’s impairment statutes and regulations.

Moreover, even if one Project recharge and recovery well was causing impairment under the Proposal, it is very likely that the other recharge and recovery wells would not be causing

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<sup>177</sup>Intervenors’ Pre-Hearing Brief, p. 14.

<sup>178</sup>See K.A.R. 5-4-1 (requiring the Chief Engineer to provide a report detailing the findings of an impairment investigation).

<sup>179</sup>Transcript, Volume XV, p. 3653, lines 11-16.

impairment, especially not at that same time. DWR’s impairment regulations are designed to allow DWR to target a single impairing well without reducing water use for a non-impairing well.<sup>180</sup> The approach that the District and the Intervenors advocate for—rejecting the entire Proposal in order to head off any future risk of impairment that would most likely be caused by a single well at any given time—would curtail water use to a much greater degree than would actually be necessary even in the event impairment did occur. Again, such an outcome would discourage the full development of water rights and the application of water to beneficial use, in violation of the public policy set forth in the KWAA.<sup>181</sup>

Finally, the City has expressed its willingness to agree to MOU terms that would require it to make whole the owner of any domestic well within 660-feet of a Project well that is impacted by the City’s water use under the Proposal.<sup>182</sup> A domestic well located further than 660 feet from a Project well is extremely unlikely to be impaired as a result of the Proposal, and if an any impacted well that had fully penetrated the Aquifer was still being affected by the City’s water use under the Proposal, that well’s owner would be able to rely on DWR’s existing impairment procedures to remedy the impairment.<sup>183</sup>

The City’s water use under the Proposal would not negatively impact existing water rights because the Proposal would not allow the City to use any more water than it is already

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<sup>180</sup>See K.A.R. 5-4-1.

<sup>181</sup>See K.S.A. 82a-702.

<sup>182</sup>Transcript, Volume III, p. 604, lines 9-16 (testimony of Don Henry that the City is “100 percent committed” to agreeing to conditions that would be designed to further ensure protections for domestic water rights owners, similar to those agreed to in the Phase II MOU). K.A.R. 5-22-2 would not apply to the Proposal, regardless of whether the City and the District agree to MOU terms requiring the City to make whole domestic users within 660 feet of a Project well who are impacted by the Proposal. K.A.R. 5-22-2 applies only to applications for permits to appropriate water, applications, for terms permits, and applications to change a point of diversion. K.A.R. 5-22-2. The Proposal does not constitute any of those things.

<sup>183</sup>See K.A.R. 5-22-2; K.S.A.

entitled to, and, to the extent the City was required to make a showing that existing water rights will not be impaired under the Proposal, it has done so.<sup>184</sup> Additionally, K.S.A. 82a-711 does not apply to the Proposal.<sup>185</sup> Further, any impact to existing water rights that does occur would not necessarily amount to legal impairment, and it would not be appropriate to preemptively deny the Proposal based on a speculative and unlikely future possibility of impairment, as DWR's primary impairment regulation is intended to address an impairment that is already occurring.<sup>186</sup>

Written assurances from the City regarding impairment are not necessary for the same reason. The protections provided for in DWR's impairment regulations apply to the City's water use under the Project currently (and to every other permitted water right owner in the state in general). Those protections will remain in place to protect any water user who is in fact impaired in the future, by the City or otherwise, whether the Proposal is ultimately approved or not. The arguments by the District and the Intervenors to the contrary either ignore the facts of the Proposal and its supporting modeling, rest on flawed legal conclusions, or both.

## **XI. THE PROPOSAL SHOULD NOT BE DENIED DUE TO MDS CONSIDERATIONS**

The District and the Intervenors assert that the City's water use under the Proposal would cause streamflow on the Little Arkansas River to fall below MDS levels. In order to ensure adequate flow in the state's streams, the Chief Engineer has the authority to administer water rights whose pumping causes surface water flows on the state's streams to be excessively depleted.<sup>187</sup> As discussed above, K.S.A. 82a-703c establishes that MDS on the Little Arkansas

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<sup>184</sup>See City's Exhibit 1, Proposal, p. 2-16 (illustrating that the Aquifer will remain more than 80 percent full at the end of a one-percent drought in which the City has taken all of the water that the Proposal would allow it to).

<sup>185</sup>See K.S.A. 82a-711.

<sup>186</sup>See K.A.R. 5-4-1.

<sup>187</sup>K.S.A. 82a-703a.

River is 8 cfs at the Alta Mills gage and 20 cfs at the Valley Center gage.<sup>188</sup> Per K.S.A. 82a-703a, if streamflow drops below the established volume at either of those gages, then “[T]he chief engineer shall withhold from appropriation that amount of water deemed necessary to establish and maintain for the identified watercourse the desired minimum streamflow.”<sup>189</sup> K.A.R. 5-15-1 through K.A.R. 5-15-4 more specifically govern the administration of water rights to protect MDS.<sup>190</sup>

K.A.R. 5-15-1 pertains to “administration of minimum desirable streamflow” and provides, in relevant part:

(a) Except as specified in subsection (d), if the streamflow at a minimum desirable streamflow (MDS) gaging station falls below the streamflow established in K.S.A. 82a-703c, and amendments thereto, **for a period of seven consecutive days, a determination of whether the following conditions have been met shall be made by the chief engineer:**

(1) The **actual daily average streamflow** at the gage has been less than the streamflow trigger value set by K.A.R. 5-15-4.

(2) If an alluvial aquifer has a significant effect on streamflow, the static groundwater level in the alluvial aquifer above the gage is insufficient to maintain MDS in the stream.

(b) Whenever the chief engineer determines that MDS administration should occur according to subsection (d) or because the conditions specified in paragraphs (a)(1) and (2) have both been met, **water rights and approvals of applications with a priority after April 12, 1984 shall be administered in order of priority as necessary to protect the appropriate minimum desirable streamflow specified in K.S.A. 82a-703c, and amendments thereto...**

(c) After administration to protect MDS has begun, no person that has received notice according to subsection (b) may divert water under the authority of a water right or approval of application with a priority after April 12, 1984, unless one of the following conditions is met:

(1) The owner of the water right or approval of application has entered into an annual MDS consent order with the chief engineer in accordance with the provisions of K.A.R. 5-15-2 and is diverting water in accordance with the terms

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<sup>188</sup>K.S.A. 82a-703c.

<sup>189</sup>K.S.A. 82a-703a.

<sup>190</sup>See K.A.R. 5-15-1 through 5-14-4.

of that MDS consent order.

(2) The chief engineer has determined, in accordance with the provisions of K.A.R. 5-15-3, that administration of water rights and approvals of applications with a priority after April 12, 1984 is no longer necessary to protect MDS and has notified the owners by certified mail, personal notice, or other verifiable means that diversions may continue in accordance with the terms, conditions, and limitations of the water right or approval of application.

(d) If the streamflow at an MDS gaging station falls below the level established in K.S.A. 82a-703c, and amendments thereto, **for a period of seven consecutive days** and no streamflow trigger value has been set for an MDS gaging station in K.A.R. 5-15-4, a determination of whether and when MDS administration will begin and how it should occur shall be made by the chief engineer, **based on the following factors:**

- (1) The general hydrologic conditions affecting streamflow in the stream reach;
- (2) the magnitude and duration of recent streamflows;
- (3) the extent to which groundwater contributes to streamflow;
- (4) the effects of drought on streamflow;
- (5) the existence and effect of relevant water management agreements;
- (6) the magnitude of the effect that the administration of water rights with priorities junior to the MDS values would have on the streamflow; and
- (7) the effect of reservoir operations...<sup>191</sup>

K.A.R. 5-15-3, which governs “cessation of minimum desirable streamflow

administration, states:

(a) Except as specified in subsection (c), whenever the chief engineer determines that both of the conditions specified in subsection (b) have been met, the administration of water rights and approvals of applications with a priority after April 12, 1984 to protect minimum desirable streamflows pursuant to K.S.A. 82a-703c, and amendments thereto, shall be declared by the chief engineer to be no longer necessary. The owners of those water rights...may recommence diverting water in accordance with the terms, conditions, and limitations of their water rights or approvals of applications.

(b)(1) The streamflows at the minimum desirable streamflow (MDS) gage have exceeded the streamflows established by K.S.A. 82a-703c, and amendments thereto, for a period of 14 consecutive days.

(2) If a significant alluvial aquifer exists, the average static water level in the alluvial aquifer has recovered sufficiently to maintain MDS in the stream.

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<sup>191</sup>K.A.R. 5-15-1.

(c) Whenever the chief engineer determines that hydrologic conditions indicate that MDS values have been met or exceeded and are likely to be maintained for the foreseeable future, MDS administration may be declared by the chief engineer to be no longer necessary even if both of the conditions of subsection (b) have not been met.<sup>192</sup>

The District's and the Intervenor's contentions regarding MDS are incorrect for several reasons. First, the City's modeling illustrates that the Proposal is not likely to adversely impact MDS on the Little Arkansas River. During the 99 percent of the time that the area is not experiencing a one percent drought, the Proposal will allow the BSA and the entire Aquifer to be managed at a fuller level. This will cause the Little Arkansas River to "gain" water from the Aquifer, thereby actually ensuring that MDS is met more often than it would be if the Proposal is denied.<sup>193</sup>

Next, DWR's MDS regulations, like those applicable to impairment, contemplate the administration of water rights *after* MDS has been shown to be impacted.<sup>194</sup> K.A.R. 5-15-1 clearly contemplates an observable impact to MDS actually occurring before administration of water rights to protect MDS begins.<sup>195</sup> Streamflow must fall below the established MDS level for seven consecutive days, and the Chief Engineer must make fact-specific findings regarding streamflow and hydrologic conditions at the relevant time.<sup>196</sup> Additionally, K.A.R. 5-15-3 clearly contemplates administration of water rights taking place only once MDS is impacted and continuing only as long as is necessary to restore MDS.<sup>197</sup> This approach assures that Kansas water users are able to put as much water as possible to beneficial use.

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<sup>192</sup>K.A.R. 5-15-3.

<sup>193</sup>*Id.*

<sup>194</sup>K.A.R. 5-15-1.

<sup>195</sup>*Id.*

<sup>196</sup>*Id.*

<sup>197</sup>K.A.R. 5-15-3.

Further, DWR does not ever curtail the pumping of groundwater rights in the Little Arkansas River basin as part of MDS administration because groundwater and surface water in the basin have not been shown to be interconnected to the extent that doing so would impact surface water flows.<sup>198</sup> DWR does administer groundwater rights to restore MDS in areas where more immediate interconnectivity between groundwater and surface water has been shown, such as the Republican River basin.<sup>199</sup> Moreover, if immediate interconnectivity between groundwater and surface water in the Little Arkansas River basin was shown, all water rights impacting MDS would be administered if MDS was not being met, not just the City's recharge and recovery wells.<sup>200</sup> K.A.R. 5-15-1 provides for the administration of *all* water rights with a priority date after April 12, 1984 in order of priority once it has been determined that MDS is being impacted.<sup>201</sup> This means it is possible that the City's recharge and recovery wells and additional irrigation wells senior to those water rights would have to be administered before MDS was restored. It is also possible that MDS would be restored once the most junior impacting water right was administered. The approach that the District and the Intervenors advocate for—rejecting the entire Proposal because of a hypothetical future impact to MDS—is thus potentially both under-inclusive and over-inclusive. It is also simply not necessary in light of DWR's MDS regulations.

This same logic applies to the administration of surface water rights to restore MDS, which DWR does undertake in the Little Arkansas River basin—all surface water rights in the basin would be administered in order to restore MDS, not just the City's Phase II surface water

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<sup>198</sup>Transcript, Volume VII, p. 1754, lines 8-25; Transcript, Volume VII, p. 1755, lines 1-8.

<sup>199</sup>Transcript, Volume VII, p. 1755, lines 1-8.

<sup>200</sup>See K.A.R. 5-15-1.

<sup>201</sup>*Id.*



intake right.<sup>202</sup> Finally, as discussed, the City's permit for the Phase II surface water intake right requires that water right to cease diversions when Little Arkansas River surface water flows hit 30 cfs at the Valley Center Gage.<sup>203</sup> Thus, in the event flows on the Little Arkansas River hit the 20 cfs MDS trigger at the Valley Center gage, the Phase II surface water intake right will have already ceased operating by the terms of its own permit and would not need to be administered. To the deny the entire Proposal based on speculative future impact to MDS makes no sense on this point alone.

The Proposal will not cause surface water flows on the Little Arkansas River to fall below MDS levels. DWR's MDS regulations are designed to be applied after MDS is impacted and specifically allow groundwater pumping to resume as soon as MDS is restored.<sup>204</sup> Further, DWR does not ever administer groundwater rights in the Little Arkansas River Basin in order to restore MDS, and the City's Phase II surface water intake right would cease diversions before MDS was impacted.<sup>205</sup> If groundwater rights were administered in order to restore MDS in the Little Arkansas River basin, every groundwater right with a priority date junior to MDS would need to be administered, not just the City's Project recharge and recovery wells.<sup>206</sup> Thus, to deny the Proposal merely because it might someday impact MDS on the Little Arkansas River would really serve no purpose and would further contravene the specific procedures mandated by DWR regulation.<sup>207</sup> It would also prevent water rights from being fully utilized, which would violate

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<sup>202</sup>*Id.*

<sup>203</sup>See Approval of Application and Permit to Proceed for Water Right File number 46,627, issued by David W. Barfield, Chief Engineer, Kan. Dep't of Agric., Div. of Water Res., Sept. 18, 2009.

<sup>204</sup>K.A.R. 5-15-1; K.A.R. 5-15-3.

<sup>205</sup>Transcript, Volume XII, p. 3114, lines 1-6; Approval of Application and Permit to Proceed for Water Right File number 46,627, issued by David W. Barfield, Chief Engineer, Kan. Dep't of Agric., Div. of Water Res., Sept. 18, 2009.

<sup>206</sup>K.A.R. 5-15-1.

<sup>207</sup>Transcript, Volume VII, p. 1754, lines 8-25; Transcript, Volume VII, p. 1755, lines 1-8; K.A.R. 5-15-1; K.A.R. 5-

the public policy explicitly set forth in the KWAA.<sup>208</sup>

## **XII. THE PROPOSAL SHOULD NOT BE DENIED DUE TO SAFE YIELD CONSIDERATIONS**

The District and Intervenors also argue that safe yield considerations bar the City's Proposal. Safe yield is an analysis that essentially ensures that each appropriation takes no more water than an aquifer can "safely yield." K.A.R. 5-3-10, DWR's general safe yield regulation, provides:

...the approval of any new application to appropriate groundwater or surface water for beneficial use, except for domestic use, temporary use and term permits for five years or less, shall not cause the safe yield of the source of water supply to be exceeded, neither shall it otherwise prejudicially and unreasonably affect the public interest.<sup>209</sup>

A more specific regulation, K.A.R. 5-22-7, also governs safe yield within the District.<sup>210</sup> The District's and Intervenors' position ignores several key considerations regarding safe yield. The Proposal is not subject to DWR's safe yield requirements and would not violate them even if it was.

First, K.A.R. 5-3-10 applies to "...any new application to appropriate groundwater or surface water..."<sup>211</sup> As already established, the City's Proposal does not constitute a new appropriation, and there is no application for such before the Chief Engineer. The Proposal is therefore not even subject to DWR's general safe yield requirements. Further, K.A.R. 5-22-7 specifically exempts from safe yield requirements "an application for an aquifer storage and

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15-3.

<sup>208</sup>See K.S.A. 82a-702.

<sup>209</sup>K.A.R. 5-3-10.

<sup>210</sup>See K.A.R. 5-22-7.

<sup>211</sup>K.A.R. 5-3-10.

recovery well.”<sup>212</sup> Thus, even if the Proposal did constitute a new application, safe yield considerations would not apply, as the Proposal relates to an aquifer storage and recovery project within the District. Finally, as has been stated numerous times, the Proposal will leave the Aquifer approximately 80 percent full in a worst-case scenario, and all of the City’s recovery wells will continue to be governed by their authorized rates and annual quantities.<sup>213</sup> The Proposal thus would not violate safe yield considerations even if safe yield criteria were applied to it. Safe yield considerations do not mandate dismissal of the Proposal.

### **XIII. THE PROPOSAL SHOULD NOT BE DENIED DUE TO SATURATED THICKNESS CONSIDERATIONS**

The District next asserts that the City’s water use under the Proposal would adversely impact the saturated thickness of the Aquifer. This claim is related to the alleged inadequacy of the City’s modeling—the District believes that the City’s water use under the Proposal will draw the water table in the Aquifer down more than the City’s model shows that it will, which the District argues will in turn reduce the Aquifer’s saturated thickness to an unacceptable level.<sup>214</sup> This argument, however, ignores the realities of the Proposal, does not consider any context regarding saturated thickness and continued groundwater use statewide, and fails to account for the Aquifer’s natural recharge capabilities. Also notable is that the District’s argument in this regard raises issues that have apparently never concerned the District until now.

Any argument that this Proposal will impact the saturated thickness of the Aquifer to a significant degree is unfounded. Again, everything the City is proposing to do here would take place within a “box” at the top 20 percent of the Aquifer, as opposed to the Project’s currently

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<sup>212</sup>K.A.R. 5-22-7.

<sup>213</sup>City’s Exhibit 1, Proposal, p. 2-16.

<sup>214</sup>See Transcript, Volume VIII, p. 1973-1976.

allowed operations, which occupy the top 12 percent of the Aquifer.<sup>215</sup> Even if the District’s and Intervenor’s criticisms of the City’s modeling are correct, the Aquifer will remain mostly full even in a worst-case scenario. A proposal that leaves the Aquifer 65 or 70 percent full following a one-percent drought is still very much a reasonable proposal. If the Aquifer is somewhat depleted coming out of what would statistically be a once in a lifetime drought, then it has done what the legislature intended and served the people of Kansas when they needed it.<sup>216</sup>

For context on the issue of saturated thickness, a consideration of groundwater pumping in the Ogallala Aquifer is informative: in parts of Western Kansas Groundwater Management District Number 1 (“GMD1”), irrigation pumping continues with only approximately 20 feet of saturated thickness left in the Ogallala Aquifer.<sup>217</sup> This present-day saturated thickness is compared to a pre-development saturated thickness between 90 and 120 feet across GMD1.<sup>218</sup> Accordingly, groundwater pumping continues in GMD1 with 20 percent or less of the Ogallala’s original saturated thickness remaining in some areas. By contrast, the District believes that 70-80 percent of pre-development saturated thickness remaining in the Aquifer at the end of a one percent drought, in an area that sees much better natural recharge than GMD1, renders the Proposal unacceptable. Such a position is clearly without merit.

Finally, regulations specifically applicable to the various groundwater management districts in Kansas indicate that the District has never before been concerned with the saturated thickness of the Aquifer outside of the context of the City’s Proposal. Almost all of Kansas’s five

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<sup>215</sup>*Id.*

<sup>216</sup>*See* K.S.A. 82a-702.

<sup>217</sup>Transcript, Volume VI, p. 1534, lines 11-12.

<sup>218</sup>*See* Estimated Average Predevelopment Saturated Thickness of the High Plains Aquifer in Western Kansas GMD No. 1 (KGS Open-file Report 2016-19), kgs\_ofr2019-16.pdf (ks.gov).

groundwater management districts have addressed issues unique to their areas by recommending relevant regulations to the Chief Engineer. For example, some regulations unique to GMD1 address saturated thickness, batteries of wells, and tailwater control and waste.<sup>219</sup> Regulations relevant to Southwest Kansas Groundwater Management District Number 3 address the saturated thickness of the High Plains Aquifer and the Dakota Aquifer System.<sup>220</sup> Some regulations pertaining to Big Bend Groundwater Management District Number 5 address saturated thickness and numerous issues regarding the Rattlesnake Creek Basin.<sup>221</sup> The regulations specific to the District address bank storage wells and data reporting requirements for aquifer storage and recovery systems and bank storage wells, among other things.<sup>222</sup> Noticeably absent are any regulations regarding saturated thickness. The most obvious explanation for this is that the District has never before been concerned about saturated thickness in relation to the Project and has only raised the issue now in order to further mire these proceedings in irrelevant minutiae.

The Project would operate only within the top 20 percent of the Aquifer under the Proposal, leaving the Aquifer approximately 80 percent full even at the end of a one-percent drought.<sup>223</sup> Thus, the Proposal is reasonable even if there is a small degree of error in the City's modeling, particularly when continued irrigation pumping despite drastically reduced saturated thickness in other areas of the state is considered for context. Finally, if saturated thickness in the context of the Project was of genuine concern to the District, the District could have recommended the Chief Engineer adopt district-specific regulations addressing the issue. It has

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<sup>219</sup>See K.A.R. 5-21-2; K.A.R. 5-21-15; K.A.R. 5-21-9.

<sup>220</sup>See K.A.R. 5-23-4; K.A.R. 5-23-14; K.A.R. 5-23-15.

<sup>221</sup>See K.A.R. 5-25-19; K.A.R. 5-25-16 through 5-25-16; K.A.R. 5-25-18; K.A.R. 5-25-22.

<sup>222</sup>See K.A.R. 5-22-7; K.A.R. 5-22-10; K.A.R. 5-22-13; K.A.R. 5-22-17.

<sup>223</sup>City's Exhibit 1, Proposal, p. 2-16.

never done so. The District’s saturated thickness arguments are without merit. The Proposal will not adversely impact saturated thickness in the Aquifer even in the event of severe drought and will ensure greater saturated thickness is maintained during times of normal rainfall. Saturated thickness concerns are not grounds for dismissal of the Proposal.

#### **XIV. A MULTI-YEAR FLEX ACCOUNT IS NOT AN ADEQUATE ALTERNATIVE TO THE PROPOSAL**

The District asserts that the Chief Engineer should ensure the Proposal contains a mechanism to “allow for continued monitoring and the ability to enforce safeguards,” and that “the only way to accomplish this...” is to approve the Proposal for only a short duration.<sup>224</sup> The District suggests this could be accomplished through a multi-year flex account (“MYFA”) or other term permit and has repeatedly insisted that a MYFA in particular would be adequate to accomplish the City’s water planning goals and is necessary to ensure the City “plays by the same rules” as other water users.<sup>225</sup> The District’s position in this regard fails to consider the aspects of water resource management unique to municipalities and disregards the protections already in place to accomplish the monitoring and enforcement the District advocates for.

A MYFA is essentially a term permit that grants a water right owner a quantity of water over a five-year period.<sup>226</sup> The water right owner can use an equal amount of water each year for five years or can use more or less water in any given year as needed, as long as the total MYFA allocation is not exceeded over the five-year term.<sup>227</sup> The flexibility provided by a MYFA has made it a useful option for many agricultural water users. However, a MYFA is not a suitable

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<sup>224</sup>District’s Pre-Hearing Brief, Page 11.

<sup>225</sup>Transcript, Volume XV, p. 3618, lines 21-23.

<sup>226</sup>See K.A.R. 5-16-3; K.A.R. 5-15-6.

<sup>227</sup>See K.A.R. 5-16-3; K.A.R. 5-15-6.

water planning option for a municipality, particularly one of the City's size.<sup>228</sup> By the very nature of a MYFA, a water user could use too much water in the first years of a MYFA and not have enough left in the final years of the five-year term.<sup>229</sup> Of course, this is an issue even for agricultural water users who regularly rely on MYFAs. However, for a municipality, the pitfalls of a MYFA present real public health and safety concerns. DWR cannot condone a drought planning tool that even opens the door to the possibility that a large municipality responsible for schools, hospitals, and nursing homes could set itself up to run out of water. A MYFA is simply not a suitable tool for a large municipality that is attempting to plan for a very severe drought, and entering a MYFA would certainly not be an adequate alternative to the Proposal for the City.

Moreover, the District's insistence that the Proposal needs to include monitoring and enforcement mechanisms totally disregards DWR's impairment and MDS regulations, which already exist to monitor water use and enforce the KWAA. These regulations apply to the City's current water use and will continue to apply to protect the rights of other area water users, whether the Proposal is approved or not. DWR's impairment and MDS statutes and regulations have been discussed at length in separate sections of this Brief, and it is not necessary to analyze them in detail here. The analysis of those statutes and regulations set forth above is sufficient to conclude that the District's contention that the City's water use under the Proposal can only be adequately monitored via a MYFA or other term permit is baseless. The District's position in this regard ignores the existence of statutes and regulations that have been in place for years to do the very things it argues are necessary and advocates for a method of water resource planning that is

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<sup>228</sup>Transcript, Volume VII, p. 1798, lines 10-16.

<sup>229</sup>*Id.*

ill-suited to the City’s purposes. The City should not be forced to abandon the Proposal and enter a MYFA.

#### **XV. CLAWSON IS NOT CONTROLLING IN THIS MATTER**

The District contends that the Chief Engineer is prohibited from approving the Proposal because he does not have the authority to modify the City’s Project permits, relying on the Kansas Court of Appeals’ holding in *Clawson v. State, Dep’t of Agric., Div. of Water Res.* 49 Kan. App. 2d 789, 792, 315 P.3d 896 (2013).<sup>230</sup> In *Clawson*, the Chief Engineer attempted to retain jurisdiction over already-approved permits to later “make reasonable reductions in the approved rate of diversion and quantity authorized to be perfected, and such changes in other terms, conditions, and limitations...as may be deemed to be in the public interest.”<sup>231</sup> The Court of Appeals found this impermissible and did note, as the District points out, that “the KWAA does not give the Chief Engineer carte blanche authority to alter water appropriations.”<sup>232</sup>

However, *Clawson* is not on point here and certainly does not bar the Proposal. To apply *Clawson* in the manner the District advocates for would require a far broader reading of the case than the Court of Appeals intended. In *Clawson*, the court specifically stated that the question before it was whether the Chief Engineer had the authority to “reduce the approved rate of diversion or the quantity of the water rights authorized to be perfected...”<sup>233</sup> Here, neither the City nor the Chief Engineer have attempted to mandatorily reduce the rate or quantity that the City or any other water user is entitled to.<sup>234</sup> The Proposal would not alter the quantity or rate of

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<sup>230</sup>See District’s Motion to Dismiss, p. 5.

<sup>231</sup>*Clawson v. State, Dep’t of Agric., Div. of Water Res.*, 49 Kan. App. 2d 789, 794, 315 P.3d 896, 902 (2013).

<sup>232</sup>*Id.* at 807.

<sup>233</sup>*Id.* at 799.

<sup>234</sup>See generally City’s Exhibit 1, Proposal.



any Project water rights—they will continue to be governed by their existing rate and quantity limitations. *Clawson* is not controlling here and does not require dismissal of the Proposal.

#### **XVI. THE CITY WOULD NOT ACCUMULATE AQUIFER MAINTENANCE CREDITS THROUGH PASSIVE RECHARGE**

The District and the Intervenors argue that the Proposal should be dismissed because AMCs would constitute passive recharge, which Chief Engineer Pope prohibited when he originally approved the City’s Phase I permits.<sup>235</sup> It remains DWR’s opinion that passive recharge is not and should not be permitted. It is simply DWR’s opinion that the City accumulating AMCs as proposed would not constitute passive recharge. The parties’ opposing views on the topic of passive recharge stem from disagreement over whether DWR has formally defined “passive recharge”—the District and the Intervenors believe that the term has been defined in a way that would prohibit the City’s current AMC proposal, while it is DWR’s opinion that the term has not been truly defined at all. The District has also attempted to support its position by drawing parallels between the Proposal and other situations that would clearly constitute passive recharge. However, those comparisons are not apt, as there are key differences between the District’s examples and what would occur under the Proposal.

As to the dispute over whether “passive recharge” is a term with a binding legal definition, the District and the Intervenors argue that Chief Engineer Pope defined “passive recharge” when he ordered that the Phase I proceedings would address whether the City “[would] be considered to be recharging water into the Equus Beds by the concept of ‘passive

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<sup>235</sup>Phase I Findings and Orders, p. 11, para. 3 (Chief Engineer Pope concluded in the ASR Phase I Findings and Orders that the City should not be allowed to generate “passive recharge credits,” since such credits do not constitute “artificial recharge” as that term is defined in K.A.R. 5-1-1 because “no source water is being artificially recharged to create those credits).

recharge?’ – i.e., water which the City could have legally pumped, but did not pump.”<sup>236</sup> The District and the Intervenors contend that the definition of passive recharge can be no narrower than the characterization of the term Chief Engineer Pope set forth in the Phase I Findings and Orders and that passive recharge would thus be occurring any time the City does not pump water that it legally could have pumped. Accordingly, it is those parties’ position that AMCs as proposed would constitute prohibited passive recharge because, under the Proposal, the City will be credited for leaving water in the BSA that it could have legally pumped and used instead.

Conversely, it is DWR’s position that no legally binding definition of “passive recharge” exists. The term is not defined in statute or regulation, even though it easily could have been if the Kansas Legislature or DWR had intended to create a binding definition for it. DWR’s aquifer storage and recovery regulations are replete with definitions for Project-related terms similar to the concept of passive recharge, such as “recharge credit,” “artificial recharge,” and “source water.”<sup>237</sup> DWR clearly contemplated project-related terms that warranted binding and uniformly applicable definitions and chose not to create a definition for “passive recharge.” Chief Engineer Pope’s use of an “i.e.” clause to provide an illustrative example of his view of passive recharge in the context of the proposal that was before him more than a decade ago cannot override DWR’s clear lack of intent to create a definition for the term that would apply outside of that context.

Moreover, the Project as it exists today has evolved immensely since Phase II was initially approved in 2009.<sup>238</sup> Chief Engineer Pope had no way of knowing at the time he

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<sup>236</sup>Phase I Findings and Orders, p. 2, para. 10; Transcript, Volume XV, p. 3612, lines 5-7.

<sup>237</sup>See K.A.R. 5-1-1.

<sup>238</sup>See Transcript, Volume II, p. 207, lines 15-23.

approved the Phase II permits that the Aquifer would rebound to the extent that there would be no room in the BSA for the City to inject water for the accumulation of physical recharge credits. He likewise could not have foreseen that the present-day Project infrastructure would allow the City to take treated Little Arkansas River surface water directly into town for municipal use. In the Phase I Findings and Orders, Chief Engineer Pope was simply providing a clarifying example of passive recharge in the narrow context of the specific Proposal that was before him at the time. He did not create a binding definition of the term and certainly cannot be said to have created a definition that is required to be applied to this very different Proposal.

The nature of the present-day Project infrastructure is the chief reason the District's attempts to draw parallels between the Proposal and other situations that would clearly constitute passive recharge are so off-base. Throughout these proceedings, several witnesses testified that the City should not earn credit for future pumping in the Equus Beds Wellfield as a result of leaving water in the BSA and instead using water from Cheney, El Dorado Reservoir, or the Arkansas River because to allow the accumulation of credits in those hypothetical scenarios would amount to crediting the City for passive recharge.<sup>239</sup> The District argues that it necessarily follows from such testimony that the accumulation of AMCs under the Proposal would also amount to passive recharge.<sup>240</sup>

DWR agrees that passive recharge would be occurring in the examples cited by the District. However, DWR does not agree with the District's conclusion that those examples mean that the accumulation of AMCs under the Proposal would also amount to passive recharge. First,

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<sup>239</sup>See Transcript, Volume XV, p. 3658, lines 3-14.

<sup>240</sup>*Id.*

the City is not proposing to be credited for using Cheney, El Dorado Reservoir, or the Arkansas River.<sup>241</sup> Any future proposal that did contemplate the City earning credits for use of those water sources would undoubtedly contain a new set of facts and nuances that are not present here and, as such, would have to be evaluated within its own specific context. Second, in all of the examples the District provided to support this aspect of its passive recharge argument, the water source in question is completely unconnected to any Project infrastructure.

Neither Cheney, El Dorado Reservoir, or the Arkansas River are connected to the City's Project treatment plant by any physical infrastructure. The City does not even have water rights allowing it to use El Dorado Reservoir at all. By contrast, the City has existing water rights on the Little Arkansas River, and physical Project infrastructure already exists that essentially artificially connects the Little Arkansas River and the BSA. Moreover, the City has proposed a permit condition that would prohibit its rate of accumulation of recharge credits from exceeding the rate of the physical diversion capacity of the Phase II surface water intake right.<sup>242</sup> Such a permit condition would be appropriate and reasonable and would further ensure that passive recharge does not occur by tying the accumulation of recharge credits to the Project's capacity for active surface water diversion.

Passive recharge is not defined in statute or regulation, and the term is not limited to Chief Engineer Pope's example in the Phase I Findings and Orders of "water which the City could have legally pumped, but did not pump." The Project has evolved significantly since Chief Engineer Pope approved Phase I, and the present-day state of the Aquifer and the Project's

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<sup>241</sup>See generally City's Exhibit 1, Proposal.

<sup>242</sup>See City's Exhibit 1, Proposal, p. 3-6.

infrastructure means that the recharge that would occur when the City generates AMCs under the Proposal would not be passive. Additionally, examples of passive recharge that the District has attempted to use to bolster its arguments in this area are poor comparisons because they simply do not reflect the present-day realities of the Project infrastructure or the specifics of the Proposal at issue. Furthermore, permit conditions explicitly tying the City's generation of AMCs to the active surface water diversion aspects of the existing Project infrastructure could easily be crafted. AMCs as proposed would not amount to passive recharge.

## **XVII. THE CITY'S WATER USE IF THE PROPOSAL IS APPROVED WILL NOT CONSTITUTE AN UNAUTHORIZED TAKING**

The District and the Intervenors further contend that both lowering the minimum index levels and allowing the City to withdraw water from the Aquifer based on AMCs it has accumulated would constitute an unauthorized Taking in violation of the United States and Kansas Constitutions.<sup>243</sup> Specifically, the District and the Intervenors cite the Takings Clause of the Fifth Amendment of the United States Constitution, which provides that private property shall not be "taken for public use, without just compensation."<sup>244</sup> The District further relies on a Kansas Supreme Court holding that expanded on this principle, noting that "a state...may not transform private property into public property without just compensation."<sup>245</sup>

The District and the Intervenors both argue that the City's water use under the Proposal would constitute a physical Taking of water.<sup>246</sup> The District also argues that the Takings Clause would be triggered because the Proposal would violate MOU provisions previously agreed to by

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<sup>243</sup>District's Motion to Dismiss, p. 6.

<sup>244</sup>U.S. Const. amend. V, Takings Clause.

<sup>245</sup>District's Motion to Dismiss, Page 6, *citing Creegan v. State*, 305 Kan. 1156, 1170, 391 P.3d 36, 46 (2017).

<sup>246</sup>*See* District's Motion to Dismiss; Intervenors' Pre-hearing Brief.

the City and the District, while the Intervenors put forward the additional argument that a Taking would result from the water quality degradation that they argue would occur under the Proposal.<sup>247</sup> The Takings Clause arguments put forth by the District and the Intervenors are inaccurate for a number of reasons: no physical Taking of water can occur unless a water right is impaired, the contractual obligation that the District argues would be violated never actually existed in the first place, and water quality degradation will not occur under the Proposal.<sup>248</sup> Finally, a Takings Clause action is not the appropriate remedy for someone who is damaged by a permitted water right owner's water use.<sup>249</sup>

a. No Physical Taking of Water Would Occur Under the Proposal.

In support of its Takings argument, the District first contends the Proposal would allow the City to physically divert water it is not entitled to, as the water the City would withdraw from the BSA based on its accumulation of AMCs “will be native groundwater already inherently in the Aquifer.”<sup>250</sup> This contention is not accurate and disregards the accounting adjustment that forms the basis of the AMC aspect of the Proposal. Currently, the water the City withdraws from the BSA originated as surface water on the Little Arkansas River. If the Proposal is approved, the water that the City withdraws from the BSA based on its accumulation of AMCs will be water that could have originated as Little Arkansas River surface water and is treated as such through the proposed accounting adjustment.<sup>251</sup> The proposed AMC accounting method would ensure the City only withdraws the amount of water that it could have physically injected into the BSA (and

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<sup>247</sup>District's Motion to Dismiss, p. 7-8; Intervenors' Pre-Hearing Brief, p. 21.

<sup>248</sup>See Phase II MOU, para. 6; City's Exhibit 1, Proposal, p. 2-16 (adverse impact to water quality is unlikely to occur with the Aquifer more than 80 percent full).

<sup>249</sup>See K.S.A. 82a-716.

<sup>250</sup>District's Motion to Dismiss, p. 7.

<sup>251</sup>See City's Exhibit 1, Proposal, p. 4-3.

will account for the natural loss of water that has occurred since the corresponding surface water diversion).<sup>252</sup> Thus, the City will never be entitled to more water than it could have physically injected into the BSA. It will certainly not be entitled to water that is allocated to another user.

In addition to ignoring the realities of the Proposal, the District's and the Intervenors' repeated contentions that the Proposal would allow the City to use water that is already earmarked for another user, essentially water that already "belongs" to someone else, fundamentally misconstrues applicable law.<sup>253</sup> The Proposal would not allow the City to take private property from anyone because water in state in an aquifer or a navigable stream is not private property at all. It is one of the most fundamental principles of Kansas water law that the right to pump groundwater is a usufruct right. That is, a groundwater right constitutes a right to use water, but not to own it or control it before it is put to beneficial use.<sup>254</sup> That principle was established in *Williams v. City of Wichita*, one of the most important Kansas water law cases. In *Williams*, the Kansas Supreme Court held:

...the ownership of land does not carry with it any ownership of vested rights to underlying ground water not actually diverted and applied to beneficial use. Nor do we regard such a landowner as having a vested right, as the plaintiff contends, to ground water underlying his land which he has not appropriated and applied to beneficial use.<sup>255</sup>

Accordingly, water in state in the Aquifer does not "belong" to anyone and is rightfully used by the water right owner who lawfully removes it from the ground. The mere fact that another water right overlies the same aquifer and could have also lawfully used that same water

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<sup>252</sup>*Id.*

<sup>253</sup>*See* Transcript, Volume II, p. 335, lines 14-18.

<sup>254</sup>K.S.A. 82a-707. An appropriation water right "shall not constitute ownership" of the water the right owner is entitled to use. *Id.*

<sup>255</sup>*Williams v. City of Wichita*, 190 Kan. 317, 339, 374 P.2d 578, 595 (1962).

had they withdrawn it first does not mean the first user has taken water that “belonged” to the second. The District says it acknowledges this point but argues in response that a water right is a real property right and that “if those are infringed upon, it can constitute a Taking.”<sup>256</sup> Even if that statement is accurate, it fails to account for the fact that a water right has been infringed upon only when that water right is impaired. As has been discussed at length herein, the City’s modeling indicates it is very unlikely that impairment will occur as a result of the Proposal.<sup>257</sup>

The Proposal would not violate the Takings Clause based on physical diversion of water for several reasons. The City would not pump native Equus Beds water in the form of AMCs under the Proposal—it would pump only from the BSA and only water that could have originated as Little Arkansas River surface water.<sup>258</sup> Further, groundwater that has not been applied to beneficial use does not belong to any one person, and a water right owner’s real property rights are not infringed on unless the owner’s water right is impaired.<sup>259</sup> DWR’s impairment regulations will provide a remedy if impairment does occur.<sup>260</sup>

b. The City Has Not Entered into Any Contractual Agreement That Could Conceivably Trigger the Takings Clause.

The District further contends that approval of the Proposal would alter the previously agreed-upon Phase II MOU, which the District argues would constitute a violation of a contractual obligation that would trigger the Takings Clause.<sup>261</sup> In making this argument, the District has blatantly misconstrued the Phase II MOU. The District states in its Motion to

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<sup>256</sup>Transcript, Volume XV, p. 3604, lines 3-5.

<sup>257</sup>See City’s Exhibit 1, Proposal, p. 2-16.

<sup>258</sup>See City’s Exhibit 1, Proposal, p. 4-3.

<sup>259</sup>See *generally Williams*.

<sup>260</sup>See K.A.R. 5-4-1.

<sup>261</sup>District’s Motion to Dismiss.



Dismiss, “The City, in Phase II MOU Issue No. 6, specifically states that the City can only pump recharge credits when the groundwater levels are above the historic low level (i.e. the currently established minimum index levels)...the City agrees that the recharge credits won’t be pumped below the established minimum index water levels...”<sup>262</sup>

Paragraph 6 of the Phase II MOU, however, actually does not state that at all, and in fact does not even directly pertain to the establishment of minimum index levels. The “Commitment” clause of Paragraph 6 of the Phase II MOU reads as follows:

Because the Project recharge and recovery wells can only be pumped if water levels in the aquifer are higher than the historic low level, no impairment is expected. Nonetheless, if a domestic water well, existing before the approval of this MOU and within 660 feet of an existing or new Project well, is adversely impacted by drawdown from such well, the City will re-drill or take other appropriate, affirmative action to restore productivity of such domestic well to the same rate and quality as existed before.<sup>263</sup>

Obviously, what the City was actually agreeing to in Paragraph 6 of the Phase II MOU was to make whole any existing domestic well within 660 feet of a Project well that was adversely impacted by the City’s operation of the Project.

The phrase at the beginning of Paragraph 6 that states, “Because the Project recharge and recovery wells can only be pumped if water levels in the aquifer are higher than the historic low level...” is simply a reference to the Phase II Findings and Orders, which states, “...recharge credits may be withdrawn from a cell only when...the static water level at its index well is above the lowest index level.”<sup>264</sup> The City has never “agreed” not to pump recharge credits if water levels in an index cell dropped below the established minimum index level—it was ordered not

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<sup>262</sup>*Id.* at 7-8.

<sup>263</sup>Phase II MOU, p. 3, para. 6.

<sup>264</sup>Phase II Findings and Orders, p. 3, para. G.

to do so pursuant to the very Phase II permit conditions it is now seeking to have modified. The Takings Clause is not triggered based on a violation of a contractual obligation pertaining to minimum index levels because such a contractual obligation never existed in the first place.

c. The Environmental Impact of the Proposal Would Not Constitute a Taking.

The District and the Intervenors also argue that the City did not adequately assess the environmental impact of the Proposal, and the Intervenors have tied this argument to their Takings Clause argument, asserting that the Proposal would result in a degradation of water quality that would constitute a Taking.<sup>265</sup> The District and the Intervenors have focused their environmental impact arguments mostly on potential chloride contamination but have also raised issues regarding contamination by arsenic and heavy metals.<sup>266</sup> First, all of the District's and the Intervenors' environmental impact arguments are predicated upon a dewatering of the Aquifer under the Proposal and are therefore unfounded in the first place, due to the fact that the Proposal would only allow the Project to operate in the top 20 percent of the Aquifer.<sup>267</sup>

Further, there has never been a finding that the lowering of the water table in the Aquifer to any degree will per se harm the public interest. The District and the Intervenors will undoubtedly counter that point with Chief Engineer Pope's Phase I finding that the public interest would be protected if recharge credits were not withdrawn when water levels were below the established Phase I minimum index levels.<sup>268</sup> However, Chief Engineer Pope was writing in the context of the Aquifer conditions that existed at the time Phase I was approved. Those conditions have changed dramatically since then—the Aquifer is much fuller and the City's

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<sup>265</sup>Intervenors' Pre-Hearing Brief, p. 21.

<sup>266</sup>Transcript, Volume XII, p. 3150, lines 11-24, 14-20.

<sup>267</sup>See City's Exhibit 1, Proposal, p. 2-16.

<sup>268</sup>Phase I Findings and Orders, p. 12, para. 13.

ability to generate physical recharge credits is basically non-existent.<sup>269</sup> Additionally, Chief Engineer's Pope's Phase I finding was simply that the proposed Phase I minimum index levels *would not* harm the public interest; he did not make any findings regarding a minimum index level that *would* do so.<sup>270</sup>

Further, as has already been discussed, the City is currently permitted to withdraw water below the current minimum index levels through the exercise of its base water rights in the Equus Beds Wellfield—the minimum index levels only apply in the context of the Project. If withdrawing water below the currently-established minimum index levels would per se impact migration of the Burrton salt plume to the extent that chloride contamination would become a real danger, DWR would not have approved the City's base water rights in the Equus Beds Wellfield (or any water rights subsequently approved there junior to those rights) in the first place. Moreover, again, the 19,000 acre-feet per year limit on the withdrawal of recharge credits would remain in place, and the City's operation of the Project would occur in only approximately the top 20 percent of the Aquifer, even if the Proposal is approved.<sup>271</sup>

As to the issue of chloride contamination specifically, the District and Intervenors argue that lowering the minimum index levels and the withdrawal of AMCs will lower the water table in the Aquifer, in turn increasing the hydraulic gradient and speeding up chloride migration.<sup>272</sup> However, as has already been discussed, the entire point of the Proposal is to keep the Aquifer fuller, thereby slowing chloride migration, during all of the times that a one-percent drought is

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<sup>269</sup>Transcript, Volume I, p. 151, lines 19-25, p. 152, lines 1-8; Transcript Volume I, p. 158, lines 23-25 and p. 159, lines 1-7.

<sup>270</sup>See Phase I Findings and Orders, p. 12, para. 13.

<sup>271</sup>See City's Exhibit 1, Proposal, p. 2-16.

<sup>272</sup>Transcript, Volume XII, p. 3150, lines 11-24.

not occurring. Even during severe drought, the Project's operations would still be confined to the top 20 percent of the Aquifer.<sup>273</sup> Additionally, the City has expressed its willingness to make whole any user within a 660-foot radius of a Project well who does have to drill their well deeper due to a lowered water table and/or contamination, and such a permit condition could easily be crafted.<sup>274</sup> Chloride contamination is not likely to result from the Proposal and certainly will not occur to a degree that would constitute an uncompensated Taking.

The District's position regarding arsenic contamination is that the City's water use under the Proposal would lower the water table in the Aquifer, thereby exposing previously submerged clay layers, which do contain some amounts of arsenic.<sup>275</sup> The District's theory is that arsenic could leach out of this newly exposed clay and contaminate the water supply.<sup>276</sup> DWR would first note that it is baffled by this newfound concern with arsenic contamination, as that issue has never been raised in the context of lowering the water table in the Aquifer in all the years DWR has worked with the City and the District. In fact, none of the District's expert reports contain the word "arsenic" even once.<sup>277</sup> Further, the first mention of arsenic during the formal phase public hearing only occurred within the last three days of weeks of testimony.<sup>278</sup> One would think something as dangerous as arsenic poisoning would have been raised at the outset of the proceedings if it was a genuine issue of concern.

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<sup>273</sup>*Id.*

<sup>274</sup>Transcript, Volume III, p. 627, lines 1-2

<sup>275</sup>See Transcript, Volume XII, p. 3208, lines 4-7.

<sup>276</sup>See Transcript, Volume XII, p. 3206, line 22 – p. 3207, line 2.

<sup>277</sup>See District's Expert Reports, [https://agriculture.ks.gov/docs/default-source/dwr-water-appropriation-documents/2019-02-18-expert-reports\\_ebgwmd2.pdf?sfvrsn=669285c1\\_4](https://agriculture.ks.gov/docs/default-source/dwr-water-appropriation-documents/2019-02-18-expert-reports_ebgwmd2.pdf?sfvrsn=669285c1_4).

<sup>278</sup>See Transcript, Volume XII, p. 3185, line 22.

Moreover, when Mr. Austin first mentioned arsenic in his testimony, he was not speaking in the context of the Proposal or even the Aquifer itself—he was speaking very generally and merely listing contaminants that “were of interest to the environmental community under the Environmental Protection Act....”<sup>279</sup> Mr. Austin even testified later (after the District’s counsel used subsequent questions to latch on to Mr. Austin’s out-of-context mention of arsenic) that any arsenic present in the clay layers of the Aquifer would be unlikely to leach into the water supply even if the Aquifer was dewatered because the arsenic would be chemically bonded to the clay, which renders it “fairly stable.”<sup>280</sup> The entire arsenic contamination argument amounts to nothing more than baseless and irresponsible fear-mongering by the District (whose counsel did not hesitate to point out that arsenic in a water supply could be a “life or death” situation, despite the aforementioned total lack of evidence of arsenic contamination even being a real issue here).<sup>281</sup> There is no real basis to believe that arsenic contamination will result from the Proposal—and it would be totally imprudent to use this unsupported argument as grounds to invoke the Takings Clause.

d. The District and the Intervenors are Not Entitled to Rely on the Takings Clause Even if They are Damaged by the City’s Water Use Under the Proposal.

Finally, even if the District or the Intervenors are damaged by the City’s water use under the Proposal, their reliance on the Takings Clause as a remedy is misplaced, as they have disregarded both the provision of the KWAA that exists to compensate those that are damaged because of a water right owner’s water use and the *Williams* holding, which specifically said that a Takings Clause action was not appropriate in a case like this. The KWAA, in K.S.A. 82a-716,

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<sup>279</sup>Transcript, Volume XII, p. 3185, lines 21-25.

<sup>280</sup>See Transcript, Volume XII, p. 3207, lines 10-12.

<sup>281</sup>*Id.* at lines 22-23.

provides a private right of action for any person injured by “any appropriation, or the construction and operation of authorized diversion works...”<sup>282</sup> The *Williams* court specifically invoked K.S.A. 82a-716 in rejecting the plaintiff’s argument that just compensation was required in exchange for “the taking of unused water underlying his land...”, writing:

If [plaintiff] thinks he has been damaged by the pumping of the ten water supply wells in question, the Act gives him a right to commence a suit for such damage (82a-716, 82a-721a). The suggestion that he has such rights in ground water underlying his land as must be acquired by eminent domain is untenable.<sup>283</sup>

K.S.A. 82a-716’s private right of action would provide an adequate remedy to any water user who is damaged by the City’s water use under the Proposal and would ensure protection even for water right owners whose wells are not within 660 feet of a Project well. This is just one more reason that it would be inappropriate to preemptively deny the entire Proposal.

All the Takings Clause arguments advanced by the District and the Intervenors are predicated upon either mistaken or purposely misconstrued applications of facts, law, or both. No physical Taking of water will occur under the Proposal unless an existing water right is impaired, and, as already discussed, possible (and unlikely) future impairment is not a reason to deny the entire Proposal. The contractual obligation that the District claims would be violated under the Proposal never even existed and therefore cannot serve as the basis for a Takings claim. Water quality degradation will not occur under the Proposal. Finally, K.S.A. 82a-716, not the Takings Clause, provides the appropriate remedy for anyone who is damaged by the City’s water use under the Proposal. The Takings Clause is not grounds for the Proposal to be dismissed.

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<sup>282</sup>K.S.A. 82a-716

<sup>283</sup>*Williams v. City of Wichita*, 190 Kan. 317, 341, 374 P.2d 578, 595 (1962).

## **XVIII. THE PROPOSAL DOES NOT VIOLATE THE KANSAS WATER APPROPRIATION ACT**

The District contends that because the City's AMC water rights under the Proposal would be "junior" to other water rights in the Equus Beds Wellfield, the Proposal "flies in the face" of the KWAA and Kansas public policy, going so far as to call the Proposal and "illusionary trick" that "relies on voodoo science."<sup>284</sup> The District's argument in this regard mischaracterizes the required application of the doctrine of prior appropriation, one of the most fundamental concept of Kansas water law. It is true that the City would, at least at times, be exercising junior water rights under the Proposal. However, as the District itself points out, K.S.A. 82a-707 mandates the application of the prior appropriation doctrine to curtail use by junior water right owners only when "supply is not sufficient to satisfy all water rights."<sup>285</sup> In other words, Kansas law and public policy mandates the application of the prior appropriation doctrine when an impairment is occurring.

Nothing in the KWAA mandates the application of the prior appropriation doctrine to administer water rights when all water rights in an area have sufficient supply. Indeed, it would make no sense at all for the law to require such a thing, as there is no need to administer any water right, in accordance with prior appropriation or otherwise, when no impairment is occurring and there is not even a well-founded reason to believe that impairment will occur. In fact, to preemptively deny water use by a junior water right owner when all users have sufficient supply would discourage the full development of the waters of Kansas for beneficial use, which

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<sup>284</sup>Transcript, Volume XV, p. 3613, lines 11-17; District's Motion to Dismiss, Page 8; Transcript, Volume XV, p. 3621, line 5; Transcript, Volume XV, p. 3619, line 9.

<sup>285</sup>K.S.A. 82a-707.

is actually the outcome that would violate the public policy set forth in the KWAA.’’<sup>286</sup> The fact that the City would be exercising junior water rights under the Proposal is certainly not a reason to deny it.

While the concept of responsible, proactive, and forward-thinking groundwater management is apparently so foreign to the District that it can attribute the idea to nothing other than occult forces, the reality is that one does not need supernatural powers (or a magician’s box) to comprehend the City’s Proposal or to understand that it is permissible and will yield beneficial results for all water users who rely on the Aquifer. Though considerably less exciting, principled assessments of the Proposal, the science that supports it, and the laws that apply to it will suffice. For all of the reasons set out herein, the District’s argument that the Proposal “fundamentally violates” Kansas water law is baseless. There is nothing in the Proposal that contravenes the KWAA at all.

**XIX. NEITHER THE CITY’S PROPOSAL NOR THESE PROCEEDINGS HAVE VIOLATED THE DISTRICT’S PROCEDURAL DUE PROCESS RIGHTS**

The District argues in its Motion to Dismiss that these proceedings have violated its Procedural Due Process rights.<sup>287</sup> That argument was absurd when it was originally made, and, to the extent the District is still asserting it, it is even more so now. This hearing process, conducted at “lightning speed” according to the District, would not have been concluded until more than two years after the City submitted its Proposal to Chief Engineer Barfield even if the proceedings had not been delayed due to the COVID-19 pandemic.<sup>288</sup> Further, given the length of these proceedings, the breadth of subject matter that was explored, and the accommodations made in

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<sup>286</sup>K.S.A. 82a-702; K.S.A. 82a-711.

<sup>287</sup>District’s Motion to Dismiss, p. 8.

<sup>288</sup>*Id.*



light of the pandemic, no party can argue in good conscious that the Presiding Officer did not go to great lengths to ensure all parties were fully heard. Moreover, the District has and has always had the right to request review of the ultimate decision in this matter pursuant to the Kansas Judicial Review Act if it disagrees with the outcome.<sup>289</sup>

It is also worth pointing out that the District contradicts itself in making its Procedural Due Process argument, contending that its rights in this regard were violated despite its experts being permitted to submit reports “even after the initial deadline.”<sup>290</sup> The District also argues that the proceeding’s deadlines “made it difficult for the District to fully execute its strategy.”<sup>291</sup> It is difficult to fathom what the District’s full strategy in this matter must have been if the District’s enormously burdensome discovery requests, bevy of pre-hearing motions, and days-long cross examinations could not accomplish it. The District’s Procedural Due Process arguments are wholly unfounded and have been since they were first asserted.

## **XX. THE CITY HAS STANDING TO ADVANCE ITS PROPOSAL**

Finally, the District argues that the City lacks standing to advance the Proposal.<sup>292</sup> In support of this position, the District again raises its arguments that the City was required to file an application for a new appropriation or an application for a change to its water right and that *Clawson* applies to this matter.<sup>293</sup> The District further asserts that the City lacks standing because it is “simply seeking what is tantamount to an advisory opinion from the Chief Engineer” and because “many details of the City’s proposal are theoretical and speculative.”<sup>294</sup>

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<sup>289</sup>See K.S.A. 77-601, *et seq.*

<sup>290</sup>District’s Motion to Dismiss, p. 8.

<sup>291</sup>*Id.* at 9.

<sup>292</sup>District’s Motion to Dismiss, p. 9; Transcript, Volume XV, p. 3620, lines 1-3.

<sup>293</sup>District’s Motion to Dismiss, Page 9.

<sup>294</sup>*Id.* at 9-10.

The District’s arguments regarding standing are completely unfounded. First, as has been discussed at length herein, the District’s contentions regarding new appropriation or change applications and the applicability of *Clawson* are incorrect. Second, the City is not seeking an advisory opinion from the Chief Engineer—it is asking him to modify, in a very concrete way, permit conditions that govern the City’s use of its water rights.<sup>295</sup> Third, the details of the City’s Proposal are not theoretical or speculative—they are based on detailed work undertaken by credentialed engineers, geologists, and water resource planning experts.<sup>296</sup> The City obviously has standing to pursue the Proposal.

## **XXI. AQUIFER STORAGE AND RECOVERY REGULATIONS**

K.A.R. 5-12-1 through K.A.R. 5-12-4 are the DWR regulations that govern aquifer storage and recovery projects. However, most of those regulations are not directly applicable to the Proposal. K.A.R. 5-12-1 speaks to applications to appropriate water as part of an aquifer storage and recovery system.<sup>297</sup> As set forth above, the Proposal does not constitute an application to appropriate water.<sup>298</sup> K.A.R. 5-12-3 pertains to the location of hearings related to aquifer storage and recovery projects.<sup>299</sup> That regulation has been complied with in this matter and is not directly relevant to analyzing the Proposal.<sup>300</sup> K.A.R. 5-12-4 pertains to a groundwater management district’s authority to recommend rules and regulations related to aquifer storage and recovery monitoring and accounting requirements.<sup>301</sup> That regulation is also not directly

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<sup>295</sup>See generally City’s Exhibit 1, Proposal.

<sup>296</sup>*Id.*

<sup>297</sup>See K.A.R. 5-12-1.

<sup>298</sup>See generally Phase II Findings and Orders; City’s Exhibit 1, Proposal.

<sup>299</sup>See K.A.R. 5-12-3.

<sup>300</sup>See, e.g., Agreed Waiver of K.A.R. 5-12-3.

<sup>301</sup>See K.A.R. 5-12-4.

applicable to the Proposal, as no rules and regulations are at issue here.

## **XXII. APPLICABLE STANDARDS**

As set forth herein, the District and the Intervenors have asserted numerous standards that do not actually apply to the Proposal. The properly applicable standards are actually only two aquifer storage and recovery-related definitions and one requirement relating to the proposed accounting method that was established by the Phase I Findings and Orders. First, K.A.R. 5-1-1, which sets forth definitions relevant to aquifer storage and recovery systems, provides that “minimum index level” means 20 feet above the bedrock elevation or an alternatively proposed minimum elevation for storage within a basin storage area...” The City has proposed definitive minimum index levels for each index cell within the Basin Storage Area (“BSA”) and all such proposed levels are more than 20 feet above the Aquifer’s bedrock elevation.<sup>302</sup>

K.A.R. 5-1-1 also provides that “recharge credit” means “the quantity of water that is stored in the basin storage area and that is available for subsequent appropriation for beneficial use by the operator of the aquifer storage and recovery system.”<sup>303</sup> As already discussed, the water the City would withdraw from the BSA based on its accumulation of AMCs under the Proposal would be stored in the BSA. AMCs would be available for subsequent appropriation because the volume of water the City would be permitted to withdraw based on its accumulation of AMCs would continue to be limited by the annual authorized quantity of each Project recharge and recovery well. Finally, the City is the operator of the Project.<sup>304</sup>

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<sup>302</sup>City’s Exhibit 1, Proposal, p. 2-25, table 2-11.

<sup>303</sup>K.A.R. 5-1-1.

<sup>304</sup>See Phase I Findings and Orders; Phase II Findings and Orders.

Finally, as discussed above, the Phase I Findings and Orders required that any proposed change in the Project’s recharge credit accounting method improve the existing accounting method and be adequate to allow the City to comply with K.A.R. 5-12-2(a) and (b), which governs aquifer storage and recovery accounting reports.<sup>305</sup> K.A.R. 5-12-2(a) provides that an aquifer storage and recovery system permit-holder is required to file an annual accounting report that accounts for all water entering and leaving the basin storage area and specifically computes the amount of recharge credits held in the basin storage area.<sup>306</sup> K.A.R. 5-12-2(b) provides that the annual accounting report shall “address the items in the water balance for the basin storage area” and lists eight items that the report “may” include.<sup>307</sup> K.A.R. 5-1-1(0000) provides that “water balance” means “the method of determining the amount of water in storage in a basin storage area by accounting for inflow to, outflow from, and changes in storage in that basin storage area.”<sup>308</sup>

The accounting method that the City has proposed to track its accumulation of AMCs would improve the existing accounting method used to track physical recharge credits because it greatly simplifies the current method, which requires multiple model runs and detailed analyses and is fundamentally ill-suited to tracking AMCs.<sup>309</sup> The Proposal sets forth in detail how the City proposes to account for inflow, outflow, and changes within the BSA and ultimately arrive at the amount of recharge credits available to the City.<sup>310</sup> The City’s accounting reports are not required to include the things that “may” be included in an accounting report pursuant to K.A.R.

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<sup>305</sup>Phase I Findings and Orders, p. 12, para. 16.

<sup>306</sup>K.A.R. 5-12-2.

<sup>307</sup>*Id.*

<sup>308</sup>K.A.R. 5-1-1.

<sup>309</sup>*See* City’s Exhibit 1, Proposal, p. 4-1.

<sup>310</sup>*Id.* at 4-1 through 4-3.

5-12-2(b), and a detailed analysis of whether the Proposal will allow the City to include those items in its accounting reports is thus not necessary. The Proposal comports with all of the applicable requirements contained in DWR's aquifer storage and recovery regulations and the Project's governing Findings and Orders.

### **XXIII. CONCLUSION**

The numerous incorrect arguments raised by the District and the Intervenors have bogged these proceedings down in irrelevant issues, often taking them off-course entirely and making meaningful or constructive dialogue on this topic all but impossible. The District and the Intervenors have asserted numerous standards and requirements that do not apply to the Proposal, and their positions are rife with incorrect statements of fact and erroneous applications of law. K.S.A. 82a-709 does not apply to the Proposal because the City is not seeking a new appropriation water right and the Proposal would not entitle the City to any more water than it is already authorized to use. The City's water use under the Proposal would be municipal use, which is the only consumptive use that the City currently makes of its water under the Project. One "cycle" of the Project under the Proposal would yield the City two municipal uses of water, the same as it is entitled to now.

K.S.A. 82a-708b does not apply to the Proposal because the City is not seeking a true "change" to any of its water rights as that term is used in the change application statute. The City's points of diversion, places of use, and use made of water would remain the same under the Proposal as they are now. Even if K.S.A. 82a-708b did apply to the Proposal, the Proposal itself and the City's modeling constitutes a more than adequate showing that the Proposal will not result in impairment to existing water rights and is reasonable and in the public interest and that

the City's water use under the Proposal would relate to the same local source of supply as it currently does. Further, DWR's impairment procedures are designed to remedy an impairment that is already occurring, not to preemptively deny water use because of a hypothetical possibility of future impairment. To apply those procedures in the way the District and the Intervenors advocate for would contravene the public policy of the KWAA by discouraging the application of water to beneficial use (but would also not change DWR's position here, as the City's modeling work constitutes a more than adequate showing that the Proposal will not cause impairment).

The Proposal will not cause streamflow on the Little Arkansas River to fall below MDS levels, and DWR's MDS administration procedures, like its impairment procedures, are intended to be applied retroactively after it has been shown that MDS is not being met. Moreover, the City's Phase II surface water intake right will not be pumping if MDS is even close to being impacted, and DWR never undertakes administration of groundwater rights in the Little Arkansas River basin in order to remedy MDS. The Proposal is exempt from a safe yield assessment. The Proposal should not be denied due to saturated thickness concerns, as it will leave the Aquifer 80 percent full at the end of a one-percent drought in which the City has used all of the water the Proposal would entitle it to.

A MYFA is not an adequate alternative to the Proposal and there is no legal or policy reason to force the City to abandon the Proposal in favor of one. The *Clawson* holding is not applicable to the Proposal. The City's proposed method of generating AMCs would not amount to passive recharge. The Proposal would not result in a Taking, and a Takings Clause action is not the proper remedy for a water user who is harmed by the City's water use under the Proposal.

The Proposal would not violate the KWAA or Kansas public policy—the positions advanced by the District and the Intervenors would. These proceedings have not violated the District’s Procedural Due Process rights, and the City clearly has standing to advance the Proposal.

Most of DWR’s aquifer storage and recovery regulations do not directly pertain to the Proposal. The properly applicable standards are as follows: the proposed minimum index levels are required to comport with the K.A.R. 5-1-1 definition for “minimum index level,” AMCs must meet the K.A.R. 5-1-1 definition for “recharge credit,” and the proposed AMC accounting method must comply with the requirement set out in the Phase II Findings and Orders that any proposed new accounting method improve the existing accounting method and allow the City to comply with K.A.R. 5-12-2(a) and (b).

The minimum index levels contained in the Proposal comport with the regulatory definition for minimum index levels, and AMCs meet the definition for recharge credit. The City’s proposed AMC accounting method would improve the existing physical recharge credit accounting method and would allow the City to comply with K.A.R. 5-12-2(a) and (b). The Proposal would facilitate the maintenance of the Aquifer at a full level during all of the times a one-percent drought is not occurring and will allow the Aquifer to come out of a one-percent drought only marginally depleted. The District’s accusations that the Proposal constitutes some kind of mystifying trickery and the Intervenors’ dramatic comparisons to historical disasters<sup>311</sup> indicate either a total lack of understanding of the Proposal and its governing requirements or willful disregard for the same. The Proposal is lawful and is based on sound hydrology and

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<sup>311</sup>See Intervenors’ Pre-Hearing Brief, p. 32 (comparing the Proposal to the sinking of the Titanic and the Challenger disaster).

engineering, and the City has done more than its due diligence in ensuring the Proposal will not harm other water users and is in the public interest. Simply put, the Proposal advances sound groundwater management. It should be approved subject to the conditions discussed herein and set out in DWR's accompanying Proposed Findings of Fact and Conclusions of Law.

Respectfully submitted,

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## **CERTIFICATE OF SERVICE**

I certify that on this 30th day of July 2021, the above *Memorandum in Support of Proposed Findings of Fact and Conclusions of Law of DWR* was electronically filed with the Presiding Officer for this matter and that copies were sent via e-mail to the following:

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