



**KANSAS DEPARTMENT OF AGRICULTURE**  
Joshua Svaty, Acting Secretary of Agriculture

**DIVISION OF WATER RESOURCES**  
David W. Barfield, Chief Engineer

**Findings and Order**  
**In the Matter of the City of Wichita's**  
**Aquifer Storage and Recovery Project in**  
**Harvey and Sedgwick Counties, Kansas**

**Findings**

1. That in a Findings, Conclusion and Order dated August 8, 2005, on file in the office of the Chief Engineer, In the Matter of the City of Wichita's Applications To Operate an Aquifer Storage and Recovery Project in Harvey and Sedgwick Counties, Kansas ("Original Order"), the Chief Engineer approved Appropriation of 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 proposing the appropriation of water for beneficial use.
2. That the Order had 24 Conditions including, but not limited to designation of the basin storage area and index cells for the project area, locations of the index wells, approved model and accounting methodology, and reporting requirements.
3. That in a Findings and Order dated August 1, 2006, ("Modified Order"), the Chief Engineer modified the Original Order approving Appropriation of 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, specifically permit Condition Nos. 9, 12, 14, 17, 20, and 23, pertinent to bank storage wells.
4. That on September 12, 2006, the Chief Engineer approved a Change in Place of Use pursuant to Appropriation of Water, File Nos. 45,567 and 45,568.
5. That on February 19, 2007, Appropriation of Water, File Nos. 45,572; 45,573; 45,574; and 45,575 were dismissed by order of the Chief Engineer, and Appropriation of Water, File No. 46,578 was approved.
6. That because of the modifications concerning only specific appropriations related to the original Order and Modified Order, it is considered to be more accurate to refer to the original Order and Modified Order as the "City of Wichita's Aquifer Storage and Recovery Project in Harvey and Sedgwick Counties, Kansas", without referencing specific file numbers in the title of the Orders.
7. That Condition No. 23 of the Modified Order states "That the Chief Engineer also retains jurisdiction in this matter so that during 2009, GMD #2 can review all data from the Little Arkansas River, the alluvium and Equus Beds Aquifer, diversion records from the diversion wells, injection and diversion data from the ASR wells, water quality information, streamflow data, water level data, and all other data relevant to the evaluation of this aquifer storage and recharge project, to determine the following:

- a. Whether the portion of the aquifer in which the diversion wells are screened is hydraulically connected to the Little Arkansas River;
- b. Whether the portion of the aquifer where the diversion wells are screened is hydraulically connected to the upper part of the aquifer;
- c. Whether the naturally occurring and artificially induced recharge from the bed and banks of the stream when bank storage was occurring has been sufficient to:
  1. Equal or exceed the authorized rate of diversion of all diversion wells,
  2. Prevent impairment by all diversion wells, and
  3. Prevent groundwater mining from being caused by all diversion wells;
- d. Whether seven days after pumping of all diversion wells has ceased, the water level in each diversion well, or monitoring well located within 100 feet of the diversion well, has recovered to an elevation equal to or greater than the water level elevation immediately before the diversion well began to pump, adjusted for any regional groundwater changes not caused by the pumping of diversion wells;
- e. Whether the wells have been only operated during bank storage events; whether the pumpsite(s) have been operated only in accordance with Order Paragraph No. 12;
- f. The effect of the recharge on the water quality and water levels in the Equus Beds Aquifer in the basin storage area; and
- g. Whether the ASR project has delayed or stopped the migration of the Burrton brine plume into the basin storage area;

Based on the data and the GMD #2 review and recommendation, the Chief Engineer shall determine if the City may continue to operate the ASR project, be required to stop the ASR project in its entirety, be required to modify the project; and whether any of these permits should be revoked or modified.

8. That on December 16, 2009, a letter was received from Equus Beds Groundwater Management District No. 2 (GMD #2) in the office of the Chief Engineer, in which the District Board of Directors GMD 2 requested an extension of time until December 31, 2010 to complete their review of the project as described above.
9. That the intent of Modified Order Condition No. 23 was to mirror the approved ASR Phase I Memorandum of Understanding (MOU) between the City of Wichita and GMD 2, which states that the review would be completed prior to the end of the first four years of operation. The end of the first four years of operation would be December 31, 2010.
10. That because of the complexity of the Aquifer Storage and Recovery (ASR) project, the detailed review that is required, and in order to coincide with the MOU review period, extending the time to review period to December 31, 2010, appears to be reasonable, and will not prejudicially and unreasonably affect the public interest.

ORDER

NOW, THEREFORE, It is the decision and order of the Chief Engineer, Division of Water Resources, Kansas Department of Agriculture, that effective the date of this order, Condition No. 23 as described in the Findings, Conclusions and Order of the Chief Engineer dated August 5, 2005 issued pursuant to 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, and as modified in the Findings and Order dated August 1, 2006, shall be further modified as follows:

That Condition No. 23 of the Modified Order shall be further modified to read:

23. That the Chief Engineer also retains jurisdiction in this matter so that during 2010, GMD #2 can review all data from the Little Arkansas River, the alluvium and Equus Beds Aquifer, diversion records from the diversion wells, injection and diversion data from the ASR wells, water quality information, streamflow data, water level data, and all other data relevant to the evaluation of this aquifer storage and recharge project, to determine the following:
- a. Whether the portion of the aquifer in which the diversion wells are screened is hydraulically connected to the Little Arkansas River;
  - b. Whether the portion of the aquifer where the diversion wells are screened is hydraulically connected to the upper part of the aquifer;
  - c. Whether the naturally occurring and artificially induced recharge from the bed and banks of the stream when bank storage was occurring has been sufficient to:
    1. Equal or exceed the authorized rate of diversion of all diversion wells,
    2. Prevent impairment by all diversion wells, and
    3. Prevent groundwater mining from being caused by all diversion wells;
  - d. Whether seven days after pumping of all diversion wells has ceased, the water level in each diversion well, or monitoring well located within 100 feet of the diversion well, has recovered to an elevation equal to or greater than the water level elevation immediately before the diversion well began to pump, adjusted for any regional groundwater changes not caused by the pumping of diversion wells;
  - e. Whether the wells have been only operated during bank storage events; whether the pumpsite(s) have been operated only in accordance with Order Paragraph No. 12;
  - f. The effect of the recharge on the water quality and water levels in the Equus Beds Aquifer in the basin storage area; and
  - g. Whether the ASR project has delayed or stopped the migration of the Burrton brine plume into the basin storage area;

Based on the data and the GMD #2 review and recommendation, the Chief Engineer shall determine if the City may continue to operate the ASR project, be required to stop the ASR project in its entirety, be required to modify the project; and whether any of these permits should be revoked or modified.

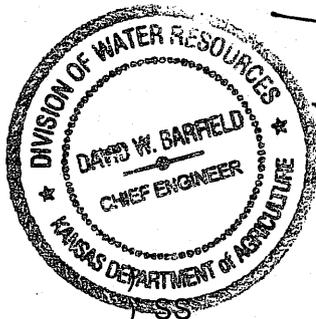
That any subsequent Findings and Orders related to the original Order and Modified Order, shall reference these orders as "City of Wichita's Aquifer Storage and Recovery Project in Harvey and Sedgwick Counties, Kansas", without referencing specific file numbers in the title of the Order.

In all other respects, the Findings, Conclusions and Order of the Chief Engineer dated August 5, 2005 issued pursuant to 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, and as modified in the Findings and Order dated August 1, 2006, remain as authorized.

This is a final agency action. If you choose to appeal this decision or any finding or part thereof, you must do so by filing a petition for review in the manner prescribed by the Kansas Act for Judicial Review and Civil Enforcement of Agency Actions (KJRA K.S.A. 77-601 et seq.) within 30 days of service of this order. Your appeal must be made with the appropriate district court for the district of Kansas.

The Chief Legal Counsel for the Kansas Department of Agriculture, 109 SW 9th Street, 4th Floor, Topeka, Kansas 66612, is the agency officer who will receive service of a petition for judicial review on behalf of the Kansas Department of Agriculture, Division of Water Resources. If you have questions or would like clarification concerning this order, you may contact the Chief Engineer.

Dated at Topeka, Kansas, this 21<sup>st</sup> day of December, 2009.



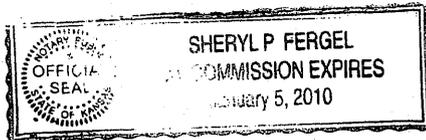
*David W. Barfield*

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

State of Kansas

County of Shawnee )

The foregoing instrument was acknowledged before me this 21<sup>st</sup> day of December, 2009, by David W. Barfield, P.E., Chief Engineer, Division of Water Resources, Kansas Department of Agriculture.



*Sheryl P. Fergel*  
Notary Public

### CERTIFICATE OF SERVICE

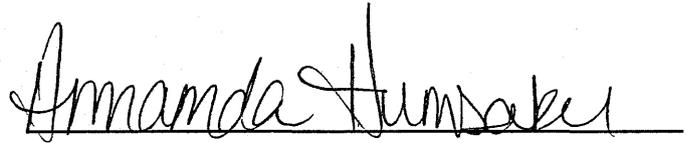
On this 30<sup>th</sup> day of December 2009, I hereby certify that the foregoing Findings and Order, City of Wichita ASR Project, dated December 21, 2009 was mailed postage prepaid, first class, US mail to the following:

CITY OF WICHITA  
WATER & SEWER DEPARTMENT  
455 N MAIN  
WICHITA KS 67202

With photocopies to:

EQUUS BEDS GROUNDWATER MANAGEMENT DISTRICT NO 2  
313 SPRUCE  
HALSTEAD KS 67046-1925

Stafford Field Office

A handwritten signature in cursive script, reading "Amanda Hunsaker", is written over a horizontal line.

Division of Water Resources