By Ken Kopp, Source Water Specialist

An irrigation well (left) in close proximity to the city of Coldwater's municipal well (right).

Too Close for Comfort in Coldwater

Under the cover of darkness, a small oilfield service truck capable of drilling shallow water wells puttered down a dirt road. It slowed as it approached its destination. The gate was open, and a man standing inside the fence whispered with a funny accent, "Come-a this a way." They were still there when dawn broke.

While it may not actually have happened that way, KRWA became aware of a new irrigation well that was being drilled last spring approximately 250 feet from one of the City of Coldwater's municipal water supply wells. Not only was the irrigation well drilled without a permit, a sprinkler irrigation system had been installed and the well had apparently already been used for irrigating upwards of ten (10) acres of pasture and wheat, primarily to develop habitat for deer hunting. Through contact with the KDA Division of Water Resources (DWR) and the City of Coldwater, it was discovered that an individual who had recently moved to Kansas from Louisiana may have commissioned the drilling of a well and installation of the irrigation system, without realizing the regulatory restrictions and permitting requirements in Kansas.

The Chief Engineer's rules and regulations require that the spacing between water wells must be sufficient to prevent direct impairment between wells located in a common aquifer or hydraulically connected aquifer.

The Kansas Water Appropriation Act requires that an application be filed and a permit issued by DWR's Chief Engineer before drilling a new well for essentially any use of water, except for domestic use. Domestic use includes the use of water by any person, or by a family unit or household, for household purposes, or for the watering of livestock, poultry, farm and domestic animals used in operating a farm and for the irrigation of up to two (2) acres in area for the growing of gardens, orchards and lawns. Household purposes means the use of water by a person for cooking, cleaning, washing, bathing, human consumption, rest room facilities, fire protection, and other uses normally associated with the operation of a household. All other uses of groundwater, such as municipal, industrial, irrigation and certain confined feeding facilities (stockwatering), require a permit.

Failing to file an application and receive a permit before constructing essentially anything except a domestic well is considered to be a threat to unlawfully divert water without a permit in violation of the Kansas Water Appropriation Act. Once DWR becomes aware of an illegal well, they will often issue a notice of non-compliance, and in most cases, a cease and desist order to prevent use of the well. The Chief Engineer also has the authority to seal the well or otherwise render the diversion works inoperable. Violating the Chief Engineer's cease and desist order is considered to be a "Category 3" offense, which can be punishable with a civil penalty.

This small irrigation well was completed approximately 250 feet from the City of Coldwater's municipal water supply well in 2016.

The Chief Engineer's rules and regulations require that the spacing between water wells must be sufficient to prevent direct impairment between wells located in a common aquifer or hydraulically connected aquifer. In and around Coldwater, the well spacing requirements that a new proposed irrigation well would need to meet are at least one-quarter (¼) mile or 1,320 feet from an existing permitted well, such as the city's municipal well. The well spacing requirements can vary depending on the source aquifer or whether the proposed well is located within one of the five groundwater management districts in Kansas, but in most cases there must be at least one-quarter mile between jurisdictional wells, such as municipal, industrial or irrigation wells. The Chief Engineer's rules and regulations allow considerable flexibility to allow greater or reduced spacing, if it can be shown in any specific instance where the spacing guidelines are insufficient to prevent direct impairment or where they may not be necessary to prevent direct impairment.

In the case of Coldwater, once it became evident that an irrigation permit could not be issued by DWR, due to well spacing requirements, the landowner/irrigator attempted to negotiate with the city in an effort to allow them to receive ownership and control of the pending DWR application and the new water well. Having already invested a considerable amount of money in the project, the landowner had hoped that DWR might instead be able to issue a municipal water use permit, so that water could be provided to him by the city for his existing irrigation project. While the details of such an arrangement had been negotiated, but not been finalized, this proposal was attractive to the city, since the well was already located near their existing infrastructure and they would have considerably more control over the well and over how much is actually pumped for irrigation. However, even if the parties had agreed to such an arrangement, there was no guarantee that an application for any type of non-domestic well, such as this irrigation well, could be approved with the reduced well spacing. In fact, the pending application has been denied and dismissed by DWR. The Chief Engineer's rules and regulations require an engineering or similar type of hydrologic analysis to show that well spacing can be decreased without impairing existing rights or prejudicially and unreasonably affecting the public interest. The rules and regulations further state that the burden shall be on the applicant to make such a showing to the satisfaction of the Chief Engineer. Complications can also arise, for instance, if the irrigator ultimately chooses not to follow the written agreement or if the land is sold and the new owner challenges these restrictions. With reduced funding and staff, public interest may not be served, if there is a greater potential for ongoing compliance and enforcement surrounding the new permit, where a landowner has developed some sort of legal water right, bearing in mind that

Proactive steps should be taken to be vigilant to all activities occurring around your public water supply wells and to have a plan of action to deter those activities which might be detrimental to your aquifer.

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While not an issue in Coldwater, remnants of the horizontal well drilling and hydraulic fracturing boom dot the landscape in south-central Kansas. Water used for oil well drilling requires a permit for industrial purposes from KDA/DWR. During the rush of 2011 and 2012, many industrial use wells were drilled illegally and may still be operating without proper authorization. This is another example of the types of activities that might pose a threat to your aquifer, especially when not adequately maintained.

water rights in Kansas are associated with the place of use, not the point of diversion or well location and the irrigation project was not within the city limits.

The city is contemplating whether to acquire the nearby well as a municipal standby well. Such a designation would only allow the well to be used when water is temporarily unavailable from the primary well due to mechanical failure, maintenance, power failure, or for an emergency such as fire protection. Since the well may not technically have been constructed to drinking water standards, KDHE might not ultimately permit the well to be used in such a manner.

Assuming the well cannot be used for either municipal or irrigation purposes, the well will likely need to be plugged and the considerable investment in that infrastructure will have been lost. The landowner has also filed another application in an attempt to obtain a permit for a different well location that could meet the minimum well spacing requirements. He is presumably waiting for that application to be processed before drilling yet another well.

This is not the first instance that KRWA has been involved in cases related to the drilling of questionable wells within the area of influence for a public water supply well. From a source water protection standpoint, allowing any kind of well, especially a new irrigation system near any public water supply well may be detrimental to the water source by allowing organic and inorganic compounds to infiltrate and contaminate the local aquifer. Moreover, the Coldwater case highlights the need to remain alert to any activities in and around your water wells that could potentially affect the groundwater quality or quantity. Every water system's legal advisor should draw up some pre-written directions to have in-hand to convince the local police department or sheriff's office to stop the commission of a water law violation. Should your system find itself in a similar circumstance, it would be prudent to also immediately alert the proper state regulatory agencies, such as DWR and KDHE. Having a source water protection plan in place may also help discourage such activities.

Ken Kopp, P.G., Water Rights/Source Water Specialist, joined KRWA as Water Rights/Source Water Specialist in early 2016. He previous worked for twenty-three years at the Kansas Dept. of Agriculture, Division of Water Resources and most recently was New Application Unit Supervisor.


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