

Proposed development seen as threat to water quality for Kansas RWD

You've perhaps seen it before. Local politicians are often so anxious to help any development that they opt to ignore the concerns of future problems that the development might create. Too many times, local entities can be impacted. Opposing a rezoning is not always the popular thing to do - but that's why there are hearings. Anyone with concerns has the right to express what impact the proposed project will

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have on them and their neighbors. In this case, the lead opposition to a development is by Rural Water District No. 2, Ottawa, KS. They are caught in the middle of a rezoning battle. Their opposition has required the expenditure of time and financial resources to better educate themselves and political decision-makers concerning a potential 315-acre development immediately adjacent to the district's well sites.

Ottawa RWD No. 2 facts

Rural Water District No. 2, Ottawa County, serves more than 2,000 people with 778 connections in Northeast Saline, Southeast Ottawa and Western Dickinson Counties. Three water rights authorize the district's four wells located a few miles North of Salina. These wells range from 71 to 125 feet in depth. The

wells withdraw water from the Dakota Aquifer, which in this location has some lenses of shale but is mostly comprised of sandstone. The rock formation comprising the aquifer outcrops at the surface nearby and the aquifer is easily recharged by precipitation.

Ottawa RWD No. 2 was established in 1974. Their first permit to perfect a water right was issued in 1980, and the first wells were drilled in 1983. A second permit was approved for another well in

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1984; their last permit was approved in 1990. Currently, 103.51 million gallons of water per year are authorized for use by the district. Individually, the wells are authorized to divert 635 gallons per minute (gpm), but currently, the maximum rate of diversion into the system is never more than 360 gpm.

The surface topography of Saline County is similar to many counties of central and north-central Kansas, where the Dakota Formation, the Kiowa Formation and the Cheyenne Sandstone are present at the surface. The layers of sandstone

and shale in these formations, with varying degrees of erosional resistance, provide some of the most scenic landscapes in the State. In most other areas of Kansas, the



One of the water storage tanks that serves customers of Ottawa County RWD 2.

topography is dominated by relatively large expanses of level plain. The deposits of alluvial material in the West and the alternating beds of limestone and shale in nearly horizontal positions in the East have provided grist to the perception that Kansas is as flat as a pancake. We all know that to be untrue, of course, but we can't deny that parts are pretty level. It helps make Kansas a great setting for agricultural production, and we make no excuses.

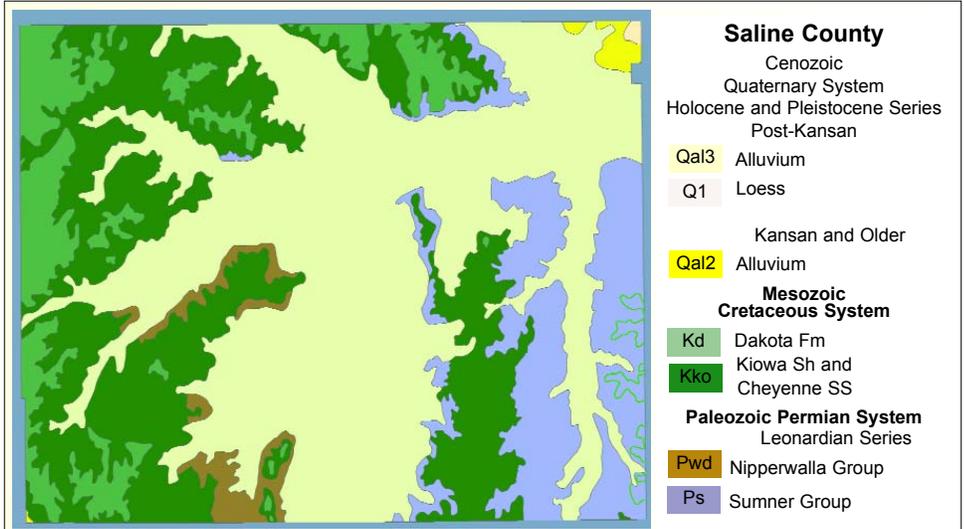
Saline County is different from the other areas where the

previously mentioned sandstone outcrops influence the topography. The Solomon River, the Saline River and the Smoky Hill River, as well as Spring and Mulberry Creeks, have cut wide flat valleys, leaving large hills between the valleys. These grass-covered hills were very attractive to farmers and ranchers when the county was settled. Today, these hills are even more attractive to developers and homeowners.

Scenic views and good well locations

The areas away from and above the valleys have been popular locations for rural water districts to drill wells and develop wellfields. Their customers live in these hills and the transportation from low, distant valleys to elevated towers would be more expensive than pumping water found closer to the customers. The water, where it is found and withdrawn in sufficient quantity, is also of very good quality. It usually has little contact with surface pollutants, owing to the pastures on which the rain and snow falls and the thin sandy soils lying in contact with the sandstone. But finding suitable locations for wells can be a challenge. The Dakota Aquifer (composed of the Dakota, Kiowa and Cheyenne Sandstone Formations) seems to have a limited number of locations where the permeability and the porosity are suitable to allow enough water to flow to wells.

These hills, offering dramatic views with a sense of country living and supplying groundwater recharged from local precipitation, have provided the setting for a conflict to develop. When new homes with onsite wastewater treatment systems are sited within the recharge areas of these wellfields, the potential for contamination increases.



Proposals to build subdivisions within water districts usually require information as to access to the water system, water line sizes and the cost of benefit units (connections).

Will development hurt current customers?

The district is not opposed to residential development within its boundaries. Such growth is likely to help the district with its

obligations to provide clean reliable water to all of its customers. Unfortunately, this growth was proposed to occur on the other side of the gravel road from two of their four water wells and may negatively affect the other customers of the district. If it becomes necessary to conduct groundwater exploration, water well replacement, and water treatment equipment installation,

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Private water system is proposed water provider . . .

The Big Valley Subdivision, although located within the boundaries of Ottawa RWD No. 2, is proposed to be served by the private Howison Heights Water District, which is owned by one of the developers. Ottawa RWD No. 2 attorney Gary Hanson is aware of the situation and has reported to the district that the Kansas Corporation Commission (KCC) has jurisdiction over private water systems. The district is following a wait-and-see position regarding the standing and regulation of this private water system by KCC.

substantial increases in the cost to provide high quality water could result. The two wells likely affected are approximately 50 feet from the centerline of the road. The district's other two wells are located approximately a quarter mile from occupied residences, with at least one of these residences having a small livestock facility. These second two wells have higher concentrations of nitrate. Because of apparently negative effect of the residences, the district worries that an increase in the number of homes with septic systems near the wells will cause a corresponding increase in the levels of nitrate and other inorganic constituents

in the water diverted from all of their wells.

To determine the legitimacy of the district's concern, the Ottawa RWD 2 applied to the Kansas Department of Health and Environment for a grant to pay for a hydrologic study of the aquifer from which they pumped water. A grant in the amount of \$10,000 was awarded from funds available under the Non-Point Source Pollution Control Section of the State Water Plan to determine the extent and characteristics of the recharge area. Geologist Ned Marks of Terrane Resources, Inc. Stafford, KS, was hired to perform the study. In January 2002, the water

storage tanks in the district were filled to capacity, and the wells were turned off to allow the groundwater levels to recover overnight to as near a state of equilibrium as possible. Any longer period would have jeopardized the supply of water throughout the system.

The next morning, with the assistance of staff from the Kansas Department of Health and Environment, Ottawa RWD No. 2 and Kansas Rural Water Association, the water table was measured at the district's public water supply wells. This information provided a groundwater elevation map from which the probable direction of groundwater flow could be determined. After this was accomplished, the district's Well No. 2 was put into operation and the water levels were measured at the district's wells at the same specific times. With this information, the depth and extent of the cone of depression, and similarly, the capture zones of the wells, could be determined.

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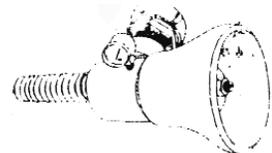
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Wellhead Protection Plan delineates potential for problems

Ottawa RWD 2 used this information, and the information gathered from their Source Water Assessment, to create a Wellhead Protection Plan. As the district has no regulatory powers, the Wellhead Protection Plan emphasized the importance of educating not only the individuals who lived and worked in the protection area, but also those government agencies that had the responsibility and power to prevent activities that would negatively affect the groundwater quality. In this case, the most influential agencies were the Saline County Zoning and Planning Department and Saline County Planning and Zoning Commission.

Before adoption of the Wellhead Protection Plan, the developers of the Big Valley Subdivision were denied approval of zoning changes and subdivision platting as far back as 1998, but not solely because of the water quality concerns. Denial was also based on the design and current condition of the county road that would be used by the new homeowners to travel to their places of employment and services. In November 2002, the Saline County Planning and Zoning Commission denied another preliminary plat of the subdivision, mainly over the unknowns regarding road paving between Interstate Highway 70 and the subdivision. County regulations prohibit the resubmission of a preliminary plat to the Commission for a year, so time was on the side of the district. With the completion of the aquifer study, the district was able to complete their wellhead protection plan before the next resubmission of the plat likely to occur in 2003. It was hoped that the District's adoption

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of the Wellhead Protection Plan would influence the Commission to deny the preliminary plat again or influence the developers to submit a plat with as little impact as possible. One year later, as anticipated, another preliminary plat was submitted.

Zoning Commission approves development plan

On November 5, 2003, the Saline County Planning and Zoning Commission approved the 315-acre, 42-lot Big Valley Subdivision preliminary plat, after road and water quality concerns were addressed. Lot sizes in the new plat range in size from 3.1 to 24.6 acres. The larger lots would be closest to the district's wells, with the smaller, more concentrated lots outside the capture zone of the wells. Deed restrictions would also require septic systems to be located as far away from the district's wells as possible. The septic systems would be of a relatively new design that reduces the amount of nitrate released into environment.

Later in November, an appeal of the approval was filed with the Saline County Commission. A nearby resident asked for the approval to be overturned because of the lack of a immediately suitable road to the subdivision, possible groundwater contamination by other contaminants besides nitrates and because one of the planning and zoning commissioners voting for the approval is a nephew of one of the developers. This commissioner had recused himself from previous decisions

regarding the subdivision. Had he done so again, there would not have been a quorum present when the matter was approved.

County sends plat back

The County Commission voted to resend the preliminary plat back to the Planning and Zoning Commission for reconsideration. On January 5, 2004, the Planning Commission, with more members present, voted again to approve the preliminary plat without discussion.

As the debate on the proposed development continues, it appears that the results of the aquifer test, the adoption of the wellhead protection plan and the diligence of the customers, employees and leadership of Ottawa RWD No. 2 to communicate their concerns, have influenced the decisions that have been made so far on this subdivision in Northeast Saline County. Without these efforts, a much different result would have already been given final approval.

Stay tuned to these pages for the next act concerning the Big Valley Subdivision. Looking ahead, this story will continue too, as more growth occurs in the area of the Ottawa RWD No. 2 wellfield, and also in other areas of the county. Those responsible for the success of Ottawa RWD No. 2 will continue to monitor the levels of nitrate and other constituents, measure water levels, and communicate their findings. In the end, we'll know if enough was done and if the decisions that were made were correct.