



# "Recycling" Groundwater Stewardship

## Groundwater Guardian Featured Activity

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For the past three years, conserving and protecting groundwater has been a high priority for the Mayor and City Council of David City, Nebraska. Two major conservation projects included a wellhead protection plan and a water reuse project. The City of David City has also worked closely with the Nebraska Department of Environmental Quality (NDEQ) through source water protection grants.

### Wellhead Protection Plan and Ordinance

In 2003, the City Council adopted a wellhead protection (WHP) plan to protect the drinking water supply of the residents of David City. The plan, which is enforced by a city ordinance, protects David City's groundwater and municipal wells extending one mile past the city's corporate limits. By implementing a WHP area and plan, the city identified potential contaminants and included a plan of action for prevention and response.

In addition to establishing minimum setbacks to the municipal wells for potential source contaminants, the WHP plan established a permitting process for entities or activities that may impact groundwater. While the WHP plan established the protected area, an ordinance codified identifiable potential contaminant sources and included enforcement measures.

### Wastewater for Irrigation

In December 2003, the David City Golf Club met with city officials to discuss the high cost of using treated city water for course irrigation. The city owns the golf course and leases the course property to the private golf association.

The golf club was seeking alternatives to lower costs of course irrigation and proposed a private well, which was prohibited by ordinance and contradicted the intent of the WHP plan. It was suggested the city take ownership of the well and provide the course with free water but council members questioned the fairness to other residents who purchase city

and irrigation concept has been used in various parts of the nation, it is new to Nebraska.

The study addressed the associated costs of three alternatives, including continuing to use city water, allowing the golf club to install their own well, or piping treated wastewater to the golf course. It concluded that the increasing costs of using city water would quickly outpace the ability of the club to pay, while the initial capital costs of a private well and a reuse water project were about the same.

In July 2004, the city received a source water protection grant from NDEQ to fund the project. A \$33,000 grant will fund 50% of the total project cost. The Lower Platte North Natural Resource District recognized the conservation aspects of the project and awarded \$9,100 to the city to ensure the project's success. In July 2004, the City Council voted to move forward, with anticipated completion in May 2005.

By using treated wastewater for irrigation, the city will conserve an average of seven million gallons of water each year and the costs to the golf club will be a fraction of the amount they were spending to use municipal water. The project also allows the city to monitor the line and conduct

water sampling, which will ensure runoff from golf course chemicals does not enter the city's water supply. In addition, this effort allows the city to expand the use of treated wastewater for irrigation of the municipal park, stadium and other city owned property.

In commenting on the project, David City Mayor Steve Smith stated, "It is our hope that this project will inspire other communities throughout Nebraska, Iowa and Kansas to look at alternative ways of conserving water while providing services to city owned property." City Council member Bill Schatz, a chief proponent of the WHP plan and the recycled water project, saw this as a way for the city to promote groundwater protection and conservation. "With continued drought problems concerning our state, I felt that the city had a responsibility to find alternative ways to save on water consumption. This project sends a strong message that our community is serious about water conservation and groundwater protection."

City Administrator Jeff Fiegenschuh is confident the project will be successful and other city properties will use recycled water for irrigation within the next few years. "Our city government will continue to work with both public and private entities to promote resource conservation and development within the community." ♦

*Editor's note: David City earned Groundwater Guardian designation for its first year in 2004.*



▲ On hand for the groundbreaking ceremony, from left, Mayor Steve Smith; Nebraska State Senator Curt Bromm, Nebraska Governor Mike Johanns, State Senator-Elect Chris Langemeier, NDEQ Director Mike Linder, NDEQ Source Water Protection Coordinator Deana Barger, and a representative from David City golf course.

water for watering lawns and the need to tap the aquifer with another well.

After numerous meetings with representatives of the golf course, the City Council voted to conduct a feasibility study to determine the requirements of using treated wastewater from the city wastewater treatment plant. While this conservation