

Nebraska Wellhead Protection Network Meeting Notes

Thursday, October 7, 2004

10:30 a.m.-3:00 p.m.

**Frontier Co-Op
David City, Nebraska**

Attending: Daryl Andersen, Little Blue Natural Resources District (NRD); Deana Barger, Nebraska Department of Environmental Quality (NDEQ); Mary Beth Budz, Nebraska Rural Water Association; Jeff Fiegenschuh, City of David City; Russ Gierhart, Upper Big Blue NRD; Bruce Hanson, NDEQ; Rachael Herpel, The Groundwater Foundation (TGF); Jan Hygnstrom, University of Nebraska Cooperative Extension; Marlin Kliewer, Gage County Zoning Administrator; Jack Klosterman, Grass Valley Farms, Inc.; Jim Kruse, City of David City; Eric Lee, Lincoln Water System; Stephanie Lindberg, United States Environmental Protection Agency Region VII; Marty Link, NDEQ; David Miesbach, NDEQ; Jennifer Nelson, TGF; Charlie Pierce, Nemaha NRD; Ralph Pulte, Nebraska Health and Human Services; Bryant Reynolds, NDEQ; Kathryn Russell, Kearney County; Richard Sanne, Nebraska Department of Agriculture; Clint Schafer, TGF; EJ Schumaker, Lincoln-Lancaster County Health Department; Jackie Stumpff, Nebraska Environmental Partnerships Program, NDEQ; Don Vogel, Nebraska Corn Growers Association; Carrie Wiese, TGF.

I. Welcome

Rachael Herpel opened the meeting by informing the group that this would be the last meeting of the year, and that overall the project would be scaling back to 2-3 meetings per year instead of 4. Herpel then asked the group to do "round-table" introductions for the benefit of several new people attending and to get the group updated on recent wellhead protection (WHP) and source water protection (SWP) activities.

Jackie Stumpff informed the group that her program mainly awards grants to small towns for water and wastewater projects and community assessments.

Mary Beth Budz informed the group that she is the new SWP coordinator for Nebraska Rural Water Association.

Jim Kruse informed the group that he is David City's water and sewer supervisor, and would be presenting later on the David City wastewater recycling project.

Jeff Fiegenschuh, City Manager for David City, added that he would be also presenting on the wastewater recycling project.

Marty Link informed the group that she has been promoted to Associate Director of the Water Quality Division at NDEQ, and was formerly the Groundwater Unit Supervisor. Link also said that she is still involved in the WHP program, although not as much; she deals now more with

NPDES (National Pollutant Discharge Elimination System), TMDLs (Total Maximum Daily Loads), livestock waste and underground storage tanks.

Bryant Reynolds informed the group that he does the WHP area delineation maps for NDEQ.

Stephanie Lindberg informed the group that she works with SWP, primarily with communities in Nebraska and Missouri and also with tribes throughout EPA Region VII (covering Nebraska, Iowa, Kansas and Missouri).

EJ Schumaker informed the group that she works with the student “test-your-well night” program throughout the state of Nebraska (the program that originated with the Lincoln-Lancaster County Health Department).

Bruce Hanson informed the group that he is primarily responsible for reviewing the WHP plans that are submitted to the state for approval and offers suggestions for corrections and changes for approval.

Charlie Pierce informed the group that he is the new water resources technician at the Nemaha NRD and is currently working on getting communities in the district interested in WHP. Pierce has submitted a draft WHP plan for the City of Tecumseh, which will require some changes prior to approval.

David Miesbach introduced himself as the new Acting Groundwater Unit Supervisor for NDEQ. Miesbach also works with the underground injection control program and mineral exploration.

Jan Hyngstrom is with the University of Nebraska Cooperative Extension and conducts training on septic systems and lagoons. Hyngstrom also works with livestock producers to manage nutrient balances.

Richard Sanne is with the Nebraska Department of Agriculture’s new Livestock Friendly County program.

Marlin Kliewer is the Zoning Administrator for Gage County, which adopted a WHP ordinance in 2002. The ordinance is being enforced in Beatrice’s WHP area and another community is working on getting local approval.

Kathryn Russell is the Zoning Administrator for Kearney County and noted that she was particularly interested in livestock feeding operations and waste management.

Russ Gierhart helps communities develop WHP plans and informed the group that he had several in the works. Many will be submitted to NDEQ for approval and more would be coming up for public review.

Carrie Wiese coordinates a source water management assistance project in the Blue River Basin.

Ralph Pulte is the Nitrate Rule Manager for Nebraska Health and Human Services. Pulte works with communities who get off administrative orders to meet the nitrate MCL of 10 ppm.

Eric Lee is the Assistant Superintendent of Water Production at the City of Lincoln's Ashland Water Plant; WHP is a priority for the system's 40+ wells.

Deana Barger is NDEQ's SWP coordinator. Daryl Anderson helps communities develop WHP plans. Clint Schafer is the Coordinator of TGF's septic system project at Lake MacConaughy. Jennifer Nelson is director of TGF's Groundwater Guardian program.

II. Update

Deana Barger presented awards to the communities and agencies/organizations that received NDEQ's SWP grants in 2003. Each award recipient described their project.

- Little Blue NRD – purchased WHP area signs for communities and offered soil sampling and filter strips to farmers in WHP areas.
- TGF- made copies of a SWP Public Awareness Campaign Kit and a water quality/public health display available to small community water systems and their partners.
- David City – installed a berm at the city power plant to contain potential leakage from diesel tanks, printed WHP program brochures that were mailed to everyone in town and within the city's one-mile zoning jurisdiction, developed a page on the city's website featuring WHP information, and initiated the city's recycled water project.

Russ Gierhart informed the group that several WHP plans for communities in the Upper Big Blue NRD had been approved, and one was at NDEQ for approval. More plans will be submitted and information for three plans will be gathered this month. He offered encouragement to others working with communities, noting it was tough to get going, but now he has communities on a list waiting to be helped.

Marty Link suggested using examples of communities who had recently faced natural disasters (i.e. Hallam, Deshler) to show the importance of wellhead protection planning. Wellhead protection plans enable communities to easily identify where things used to be (e.g. land uses, facilities), while also making sure they have a contingency plan in place. Link described how Deshler's water system had a problem with bacteria after the town was hit by a tornado. The water system was drained, but when a fire started, Deshler had no water to fight it. In this case, Deshler's water-related emergency response made matters worse by creating another emergency. Deshler would have been much better prepared if a state-approved contingency plan had been in place.

Marlin Kliever commented that the Federal Emergency Management Agency and American Red Cross will and do help, but only local officials will be able to respond immediately after a disaster; therefore, it is very important that local officials are prepared to respond to a disaster on their own. Marty Link agreed and encouraged everyone to involve local fire departments in contingency planning because they will often be the first ones to respond.

Deana Barger informed the group that officials with the United States Inspector General's office visited Nebraska last week. The officials were interested in finding out how the source water assessments developed by state agencies were being used to develop and implement source water protection activities. The officials met with Jeff Fiegenschuh, Daryl Andersen, Jim Kruse, and Mike Sousek. Overall the officials were impressed with the work being done in Nebraska, and were astounded to find out that protection activities would not be getting done without the assistance provided by the NRDs. The officials left with the clear impression that additional funds were needed to provide additional assistance to communities.

Stephanie Lindberg made the point that Nebraska was chosen for the Inspector General's visit because Nebraska has a successful program and that the federal officials who visited were able to see what it takes to implement successful protection activities on the local level. She added that in other USEPA Region VII states, assistance is provided mostly by state agency people, whereas in Nebraska, assistance is provided locally, which is very important for small towns. Lindberg congratulated the network partners for being proactive. A total of 41 communities have state-approved wellhead protection plans.

Bruce Hanson informed the group that Kearney had hired a consultant to refine their maps and conduct a contaminant source inventory (CSI). Kearney is using grant funds from NDEQ's SWP program to conduct the CSI.

Ralph Pulte informed the group that the number of communities currently under administrative order (AO) for nitrates is down to seventeen; and seven of the communities are using WHP as a way to return to compliance. Bayard and Smithfield are considering WHP. Bruce Hanson asked if any of these communities have reduces their nitrate levels. Pulte said that soil testing has been added to the process, but that prior to this recent addition there was no procedure in place to show evidence that WHP activities were reducing the levels of nitrate in the WHP area. (The communities using WHP to comply with the AO must now show improvement through the soil testing.) Dodge is showing that the nitrate is getting better, but no one else yet has shown definite improvement

III. David City Recycled Water Project

David City Manager Jeff Fiegenschuh and Water/Sewer Department Superintendent Jim Kruse provided a case study of the David City Recycled Water Project (project). The project grew out of the David City Golf Club's need to lower their utility costs. The golf club considered drilling a new well just for irrigation; however, the city had adopted a WHP ordinance that banned all private wells within the city limits. The city commissioned a study in March to examine the feasibility of other options. The cheapest option with no new funding was for the golf club to keep using the treated groundwater provided by the city for irrigation. Fiegenschuh noted that the golf course is owned by the city, but leased to a non-profit golf club organization to operate.

Fiegenschuh and Kruse pointed out that it was important for the golf club to find an alternative source of irrigation water for three reasons:

1. This was the first true test of the WHP ordinance and to let the golf club drill a private irrigation well within the city limits would send the wrong message. And because the city owned the property, the city had an opportunity to be an example of good stewardship by complying with the WHP ordinance.
2. The city had just raised water rates, and the city had to set an example by paying the higher rates or finding an alternative. (The residents of David City were not about to let the city and golf club have free water when they, the residents, were paying the higher rates.)
3. Alternatives were available. Other communities (e.g. Beatrice) used treated effluent to irrigate almost all their recreation areas.

The city held several meetings, which included folks from the University of Nebraska, to answer people's questions.

The city council was divided, three votes to three, on approving the use of recycled water. The mayor broke the tie by voting in favor of the proposal. It is still a very contentious issue.

Fiegenschuh pointed out that the city could save up to seven million gallons of water per year with this project. Fiegenschuh hopes that the city will eventually extend delivery of this water to a local football field and the city park. He emphasized that this water is safe and permitted by NDEQ and USEPA. Now the golf course uses recycled water at no cost to them. Consequently, they will be in good shape if the drought continues and water restrictions are implemented to protect local groundwater levels.

Kruse described the process used to deliver the recycled water. The treated effluent will be piped from the wastewater treatment plant's last holding cell. The pipe follows the existing sewer line, where the city already has an easement, to the golf course – a distance of about ¼ mile. The potential exists for other properties bordering the easement to use the recycled water as well. Kruse noted that the city is planning to improve the buffer strips along the surface water bodies in the discharge area (i.e. the lakes in the park) so that the recycled water will not flow directly into them.

Fiegenschuh informed the group that Beatrice and Nebraska City are looking into similar water reuse project. He has also been working to maximize press coverage and get dignitaries, including the governor, to the groundbreaking ceremony.

Kruse described the treatment process. Wastewater comes into two cells that allow the solids to settle. The water is then discharged into another cell and then another, before it is finally discharged into the irrigation lagoons.

Fiegenschuh commented that the project cost \$53,000 with about half the cost covered by the NDEQ SWP program grant they received this year. The Lower Platte North NRD also provided funds. The remaining funds were provided by the city, and the city plans to recover these funds by leasing to the golf club the pump that brings the recycled water on site. The golf club will basically end up paying for the city's contribution; so in the long run the in-town ratepayers will not pay for any of the project. The golf club will pay for any necessary maintenance costs. The golf club will be able to do this because they will no longer have to pay for the cost of the water.

Fiegenschuh said he intends to bring as much attention to this project as possible because it is an excellent way to address water supply and use concerns. Using recycled water is a good alternative to water shortages and rationing.

The group asked how they were able to sell the project in terms of biological safety. Fiegenschuh said the city council members and mayor that voted in favor of the project were sold on it right away; or in other words, they did not have to be sold on the project's biological safety. Those council members who voted against it were primarily concerned about water quality in the park's lakes. The city has addressed those concerns by installing buffer strips around the lakes.

Because this idea is relatively new to this part of the state, there were concerns about what could happen if there was flooding or pipe breakage, etc. Smell was another concern; residents have a lot of pride in their park, and they did not want the smell to become a problem.

Kruse commented that, because they are treating the water using by chlorinating it, they will have to dechlorinate the water before it is applied to the land. The city is checking into UV treatment. Off-hand Kruse was not certain what the chlorine level would have to be.

The group asked which alternatives the three council members who voted against the project would have preferred. Fiegenschuh said they were not in agreement - one wanted to stick with status quo, and the others were interested in letting the golf course have their own well.

Jan Hynstrom commented that the National Small Flows Clearinghouse's magazine, *Small Flows Quarterly*, had an article in their most recent issue on wastewater reuse and how it conserves water and protects waterways. A copy of the article is available on their website at http://www.nesc.wvu.edu/nsfc/nsfc_sfq.htm.

Fiegenschuh commented that everyone he talked to in David City was in support of the project once they learned about it and the fact that it was safe. He then offered copies of David City's WHP brochure to the group.

IV. Waste Management by a Livestock Operation – What WHP Advocates Should Look For: Grass Valley Farms, Inc. Case Study

Jack Klosterman shared a few comments about David City's Recycled Water Project. Klosterman owns land near the wastewater treatment lagoons, coaches at Aquinas (on whose football field recycled water may be applied) and served on the golf club board. Overall, he was very pleased with the project. He noted that the three council members who voted against the project had decided from the beginning that they were against it and no amount of information or science would have caused them to vote differently - they were just flat against it. Last year, the golf course used around 8 million gallons for irrigation, but that was a heavy-use year; normally they would use 4-6 million gallons. Generally, he has not had any complaints from parents about the prospect of having their kids play on grass irrigated with recycled water. For him it was a

question of whether they use a low cost water resource that served their needs, or bankrupt the golf course by irrigating it with relatively expensive drinking water. Klosterman's cattle run along the creek downstream from the wastewater treatment lagoons. He feels good about the fact that this water is going to be perceived as better because the lagoons will not be discharging all their treated effluent into the creek anymore.

Klosterman described his operation as having 4,000 head, and they are not looking to get any larger anytime very soon. Klosterman serves as a committee chairman for Nebraska Cattlemen and has worked in the industry for around 15 years. He also does work with the University of Nebraska Animal Science Department.

Grass Valley Farm's process of nutrient and manure management is very basic – they spread manure only where soil tests indicate that it is needed. They have access to about 2000 acres on which they can land apply waste. They remove the manure from the pens with a dump truck, put it into piles, stir it, test it for its content, and then put it where it needs to go. They have had only one problem that occurred a couple of years ago – when they applied manure upwind from a school on a windy day. They take the manure out to the farmers as needed; the farmers then spread it. They are looking into the possibility of lining and covering the lagoons, but they are trying to avoid that, since there are methods that may be used to manage the waste without liners and covers. Klosterman concluded that their operation is fortunate because they are located above a thick layer of clay – they are not concerned about lagoon seepage. They consistently measure the amount of effluent in their waste lagoons, and there is no seepage.

V. Open Forum

Don Vogel provided the group with information about of the Nebraska Corn Grower's Husker Farmers Advocating Resource Management (FARM) program. Husker FARM offers farmers a free review of their operation by a professional consultant to help determine which management practices are best for their farm. The review includes free analysis of the farmer's home drinking water. *Nebraska Farmer* will be doing a cover story on the Husker FARM program, probably this December.

Jeff Fiegenschuh asked Jack Klosterman about how his beef is marketed, or more specifically, how people could buy his beef. Niman Ranch markets the beef produced by Grass Valley Farms, Inc. - a list of their products, mainly pork, lamb and beef, is available at www.Nimanranch.com. Gourmet food stores in California and New York City are their biggest markets.

VI. Tours

After lunch, members of the group visited the David City Wastewater Treatment Plant and Grass Valley Farms, Inc. Our thanks go to Jim Kruse and Jack Klosterman for leading these tours!