#### APPENDIX F: DOCUMENTATION OF STAKEHOLDER INVOLVEMENT

#### **AGENDAS/MEETING SUMMARIES**

- Kickoff Meeting April 13, 2015
- Stakeholder Team Meeting #1 January 13, 2016
- Stakeholder Team Meeting #2 March 14, 2015

#### SIGN-IN SHEETS

- Kickoff Meeting April 13, 2015
- Stakeholder Team Meeting #1 January 13, 2016
- Stakeholder Team Meeting #2 March 14, 2015
- Open House May 23, 2016

#### **OPEN HOUSE NOTIFICATIONS**

- Poster
- Press Release

#### **OPEN HOUSE/WORKSHOP HANDOUTS**

- Blank Public Comment Form
- UBBNRD Handout
- FAQs Handout
- Related Statutes Handout

#### MEDIA/OTHER PUBLICATIONS

- April 18, 2015 York Times
- April 26, 2015 York Times
- April 29, 2016 Groundwater Foundation Blog Post
- May 13, 2016 York Times
- May 16 Screenshot of City of York Website
- May 23, 2016 NTV-ABC Article
- May 26, 2016 York Times
- May 26, 2016 News Clipping
- June 18, 2016 York Times

#### PUBLIC INPUT/ADOPTION PROCESS MATERIALS

Affidavit of Newspaper Publication

- Affidavit of Public Posting
- Minutes from Public Comments and Adoption Meeting

To be inserted after adoption



#### York Wellhead Protection Plan

**Kickoff Meeting Agenda** 

April 13, 2015, 11:00 AM City Hall

- 1. Introductions
- 2. Project Background
- 3. Wellhead Protection 101
  - Establish an NDEQ approvable Wellhead Protection Plan
  - Review Current Ordinances aimed at protecting drinking water
  - Investigate new or updated Wellhead Protection Ordinances or Zoning
  - Conduct Community Educational Efforts
- 4. Responsibilities of WHP Committee
  - Ensure local concerns/questions are addressed.
- 5. Review Existing Wellhead Protection Map
- 6. Management Options/Local Concerns
  - Specific Concerns of Planning Team
    - The City would like to locate new well locations and consider the new softball fields BMP's.
    - Abengoa has three new process wells nearby that will be included in the modeling effort if the well information proves to be valuable.
    - The City wants to ensure ample public involvement/comment opportunity through the Open House.
    - One well has uranium and another has nitrate issues but for the most part the wells meet quality standards. The new well field has had sulfur reducing bacteria issues and that seems to have been resolved.
  - Interest in specific BMPs, none discussed and tabled for a future meeting.
  - Interest in zoning/ordinances
    - Ordinance development could be modeled after the UBBNRD collaboration with Hastings Utilities or stand alone. Examples were handed out by JEO for group review.
    - The County would need an interlocal agreement with the City if the 50 year time of travel areas extend into County jurisdiction (outside city 2 mile ETJ)
  - NRD Assistance
    - The NRD has significant roles in managing the area groundwater and will assist with planning as needed.

#### 7. Other Questions/Needs

- New Well sites planned?
  - The group discussed the need to plan for future well sites in the plan so they are recognized.
- Public Involvement Concerns?

- The group discussed the need to involve the public at appropriate times to gain knowledge and furnish accurate information.
- Other Groups to involve?
- Any known Potential Contaminant Sources/Abandoned Wells
  - The City indicated there are many old wells in town that are not being used.
     The group discussed the potential for the NRD to commit funds to help with abandonment. They do not currently have such a program but if the NRD Board approved this they could see this happening.
  - The City has two wells that are only used as backup due to contamination: 88-1 for Nitrates, and 82-1 for Arsenic
- **8. Project Schedule**. JEO presented a tentative schedule to complete the approved work by January 2016.
- 9. Other Ideas, Question, Concerns, or Challenges?

#### **Contact Information**

JEO Consulting Group, Inc. Adam Rupe 402.474.8742 arupe@jeo.com

City of York
Mitch Doht, P.E.
402.363.2600
mdoht@cityofyork.net



## York Wellhead Protection Plan Stakeholder Meeting #1 Meeting Summary

Meeting: Stakeholder Meeting #1

Date/Time: January 13, 2016/10:30 AM

Place: City Hall

JEO Project Number: 140304.00

The first of two planned stakeholder meetings was held for the York Wellhead Protection Plan. The meeting was held to review the updated wellhead protection area map, review results of the potential contaminant source inventory, and discuss interest in management options. A total of 12 people attended. Below is a summary from the meeting.

#### **Meeting Attendees**

Name	Agency or Association	Title
Ryan Stanstny	City of York	Assistant Manager
Marie Krausnick	Upper Big Blue NRD	Water Department Manager
Benjamin Dans	York County	Zoning Administrator
Cindy Adkins	York	EHS Manager
Anthony Lowndes	The Groundwater Foundation	Program Manager
Dalton Johnson	Abengoa Energy	QSE Manager
Mitch Stuhr	Abengoa Energy	Plant Manager
Barry Redfern	City of York	City Council
Ken Ekeler	City of York	Water Operator
Mitch Doht	City of York	Director of Public Works
Adam Rupe	JEO Consulting Group, Inc.	Environmental Planner
Marc Rosso	JEO Consulting Group, Inc.	Project Manager

#### **Agenda Items**

- 1. Introductions
- 2. Wellhead Protection Planning 101
- 3. Project Background & Updated Schedule
- 4. Review DRAFT Potential Contaminant Source Inventory
- 5. Management Option/Local Concerns
- 6. How the Groundwater Foundation Can Assist
- 7. Other Ideas, Questions, Concerns, or Challenges
- 8. Next Steps

#### **Handouts**

- Agenda
- Updated Schedule
- CSI Packet
- Ideas for Management Actions



## York Wellhead Protection Plan Stakeholder Meeting #1 Meeting Summary

#### **Meeting Summary**

- Meeting agendas and other handouts were distributed and introductions by all attendees were made.
   All attendees were signed in.
- Marc Rosso, JEO Project Manager started off the meeting by giving a general overview and purpose of the project.
- Adam Rupe, JEO Environmental Planner, led the rest of the meeting and presented on each of the meeting topics and meeting handouts.
- The group reviewed and studied the updated wellhead protection area map, based on the 50-year time of travel model. The consensus was the new map looked good, with only one change requested. The County requested two small pieces of the WHPA that stick outside of the ETJ to be moved in to make enforcement easier. The City agreed to contact NDEQ about this.
- JEO will be sending a draft ordinance to the City to assist them in formally adopting the map, once changes from NDEQ are received.
- Anthony Lowndes, was a guest speaker from the Groundwater Foundation. He presented on a number
  of programs the Foundation operates that would assist the City in gaining recognition for their efforts
  and that could help mobilize citizen to become more active in keeping the groundwater clean.
- Adam presented a list of ideas to generate discussion on what activities the group could see as valuable
  to pursue during the implementation of the plan. The most interest revolved around working with the
  Groundwater Foundation on public education projects and on properly sealing/abandoning old wells
  that are known to be in town.
- It was noted that the NDEQ Source Water Protection Grant (which also helped pay for the current planning effort) will be available again this spring. Anticipated due date is end of April. This would be a good source to help pay for some of the implementation projects.
- It was discussed and generally agreed upon that the Public Open House would be held at 5:30 before a City Council Meeting in March there will also be a second stakeholder meeting in February.
- The NRD discussed their ongoing testing program across the district for Uranium and Arsenic. It is a limited program at this time, but they will share information that is collected around York, if they have any. They also discussed a new program called the "Municipal Assistance Program" that provides funding to communities to improve their water works. This could be an option to help with implementation as well.
- Marc closed the meeting out by taking last questions and thanking everyone for their attendance and participation.

The Second Stakeholder Meeting is anticipated March 2016. A specific date/time/location will be identified and notice sent to stakeholders and the public.



## York Wellhead Protection Plan Stakeholder Meeting #2 Meeting Summary

Meeting: Stakeholder Meeting #2

Date/Time: February 14, 2016/10:30 AM

Place: City Hall

JEO Project Number: 140304.00

The second of two planned stakeholder meetings was held for the York Wellhead Protection Plan. The meeting was held to review the DRAFT wellhead protection plan, review the draft ordinance, and begin planning for the open house. A total of 11 people attended. Below is a summary from the meeting.

#### **Meeting Attendees**

Name	Jurisdiction/Interest Represented	Title
Ryan Stanstny	City of York	Asset Manager
Margaret Brink	City of York	City Council
Barry Redfern	City of York	City Council
Mitch Doht	City of York	Director of Public Works
Chuck Harris	City of York	Mayor
Adam Rupe	JEO Consulting Group, Inc.	Environmental Planner
Marc Rosso	JEO Consulting Group, Inc.	Project Manager
Courtney Widup	Upper Big Blue NRD	Resources Technician
Marie Krausnick	Upper Big Blue NRD	Water Department Manager
Cindy Adkins	UTC Aerospace	EHS Manager
Randy Obermier	York County	County Commissioner

#### **Agenda Items**

- 1. Introductions
- 2. Review DRAFT Wellhead Plan
- 3. Review Adoption Ordinances/Process
- 4. Other Management Options for Consideration
- 5. Source Water Grant Funds (2016)
- 6. Plan for Public Open House
- 7. Other Ideas, Questions, Concerns, or Challenges
- 8. Next Steps

#### **Handouts**

- Agenda
- DRAFT Plan
- Well Setback Memo
- DRAFT Protection Ordinance
- Ideas for Management Actions



## York Wellhead Protection Plan Stakeholder Meeting #2 Meeting Summary

#### **Meeting Summary**

- Meeting agendas and other handouts were distributed and introductions by all attendees were made.
   All attendees were signed in.
- Marc Rosso, JEO Project Manager started off the meeting by refreshing the stakeholders on the general project background and status and the purpose of the meeting.
- A DRAFT copy of the York Wellhead Protection Plan was provided to each attendee. Adam Rupe, JEO Environmental Planner, explained to the group the draft status and some of the items that needed updating. He requested that all comments be provided by March 31<sup>st</sup>, 2016. Following that a final draft will be prepared and posted online for review. The website address will be provided at that time.
- Marc led the group through a conversation on the various options of ordinance/zoning for protecting the WHPA. The group decided that incorporating the ordinance and updated map as part of the City Zoning would be most effective.
  - o Marie Krausnick, Upper Big Blue NRD, suggested the group should consider adding language requiring nitrogen inhibitors on fall fertilizer applications. This would bring the zoning language in line with the NRD Phase 3 requirements. All of the WHPA is already in Phase 3 management area, except a small portion. The group had quite a bit of discussion on this and thought those were good suggestions to be incorporated. JEO will work that into the next draft.
  - o There were questions on some of the requirements/restrictions. JEO will address those.
  - Adam explains that the DHHS well setback distances, which are mostly included in the ordinance, should specifically reference Title 179. The group agreed to those changes, and JEO will incorporate those.
- Adam reviewed the timeline and requirements for plan adoption and NDEQ approval.
- There were no additional management options for the immediate future beyond what was discussed at the previous meetings.
- Mitch Doht, City of York, reminded everyone that they will be working with the Groundwater Foundation on some educational activities
- Marc reminded the group that the NDEQ Sourcewater Grant RFP is expected to come out yet this spring, but not sure when. Once it does, the City may want to consider applying for funds to help implement items in the plan.
- A timeline was set for the final draft plan to be completed and reviewed by the public, the planning commission to review the draft ordinance, the open house to be held, and the plan/ordinance to be approved by the City in July.
- Marc closed the meeting out by taking last questions and thanking everyone for their attendance and participation.

The Public Open House is anticipated May, 23 2016 at 4:30 PM in City Hall. Additional details will be identified and notice sent to stakeholders and the public.



City of York, NE – Wellhead Protection Plan

"Kickoff Meeting" York, NE – Monday April 13, 2015; 11:00 AM

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City of York, NE – Wellhead Protection Plan "Stakeholder Meeting #1"

"Stakeholder Meeting #1"
York, NE – Wednesday, January 13, 2016, 10:30 AM
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City of York, NE – Wellhead Protection Plan
"Stakeholder Meeting #2"
York, NE – Monday, March 15, 2016, 2016, 10:30 AM
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City of York, NE – Wellhead Protection Plan "Open House"
York, NE – Monday, May 23, 2016, 2016, 4:30 PM PLEASE PRINT CLEARLY- THANK YOU!

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Marie Krausmich	World Dept Manager	WBGNRD		402 362-6601	mebel@ upper big blue org
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Bring your family and neighbors

Monday

May 23

4:30 PM

York City Hall 100 East 4th St.



For more information:

Ryan Stastny York Project Manager 402.363.2600









### You're Invited!

## Open House Public Meeting

for the

York Wellhead Protection Plan

## Come learn how the city is working to protect your drinking water!

- Review the draft Wellhead Protection Plan
- Study the new Wellhead Protection Area Map
- Ask questions of the city leaders, project team, and stakeholders involved
- Review the *draft* Wellhead Protection Ordinance

Additional information available on the city website: <a href="http://tinyurl.com/YorkWHPP">http://tinyurl.com/YorkWHPP</a>

#### **PRESS RELEASE**

For Immediate Release May 11, 2016

Media Contact: Ryan Stastny, CFM - City of York

Phone: 402.363.2600

Email: rstastny@cityofyork.net

#### THE CITY OF YORK IS WORKING DILIGENTLY TO PROTECT GROUNDWATER RESOURCES AND INVITES YOU TO AN OPEN HOUSE TO LEARN MORE ABOUT THE PROCESS

York, Neb. – The City of York is pleased to announce an open house public meeting to present a draft wellhead protection plan (WHPP). The city's selected firm, JEO Consulting Group, Inc., will be discussing the draft plan at the public meeting, which is set for 4:30 to 6:30 p.m. on May 23, 2016 at City Hall (100 East 4th Street). Light refreshments and beverages will be served.

The city is taking a proactive approach to protecting its water supply by using detailed groundwater modeling software to show how groundwater travels under York and through its well field. The model is able to predict contaminant travel, should any contaminant reach the city's groundwater supply. The city is also taking a long-term view of protecting our groundwater by studying the 50-year "time-of-travel" paths for the city's wells. This 50-year time-of-travel forms the basis for delineating the wellhead protection area (WHPA).

The goal of the May 23 open house public meeting is to offer the community an opportunity to learn more and get involved in the WHPA planning process. The public meeting is also an opportunity for the city to learn more about what its residents think of the plan. Members of the 10-person stakeholder group involved in this project will also be available to share their experiences with the planning process, which includes:

- Delineation of the WHPA;
- Potential contaminant source inventory;
- Review of management alternatives for potential contaminant sources;
- Emergency and contingency planning; and
- Public education.

For more information, please contact Ryan Stastny, Project Manager, City of York, at 402.363.2600 or <a href="mailto:rstastny@cityofyork.net">rstastny@cityofyork.net</a>. Additional materials are available on the city website at <a href="http://tinyurl.com/YorkWHPP">http://tinyurl.com/YorkWHPP</a>.

#### York Wellhead Protection Plan May 23 Open House Public Meeting Comment Form

How did you hear about the meeting?
What are the three most important things that you learned at the meeting?
1.
2.
3.
Was there anything you would have liked to have learned at this meeting that we did not cover?
Other Comments
Contact Information (optional, to be kept informed of future events):
Name:
Email:
Thank you for your input!

#### Thank you for your input!









#### **Upper Big Blue NRD**

#### **Phase II & III Management Areas**



#### **Phase I Requirements**

All operators within the District are subject to the requirements of Phase I.

1. Fall Applied Anhydrous Ammonia

Application of fall anhydrous ammonia before November 1 is prohibited.

2. **Pre-Plant Liquid or Dry Nitrogen Formulations** 

Pre-plant nitrogen applications in liquid or dry forms are prohibited before March 1.

- 3. Exemptions to Items 1 & 2
  - a. The application of nitrogen fertilizer for any purpose other than fertilizing spring planted crops.
  - b. The application of nitrogen fertilizer for spring planted small grains such as barley, oats and rye.
  - c. The application of fertilizer that is not considered a "nitrogen fertilizer" as defined in Rule 5 of the District Ground Water Management Rules and Regulations.
  - d. The spreading of manure, sewage and other by-products conducted in compliance with state laws and regulations.

#### **Phase II Requirements**

All operators of land within the District Management Zones 2, 3, 5, 6 and 11 are subject to the requirements of Phase II. Refer to the map on page 1 for Phase II areas. Phase II operators are required to follow all Phase I requirements in addition to the following.

1. Nitrogen Certification Training

Farm operators must attend a nitrogen certification training once every 4 years.

2. Irrigation Scheduling

Irrigation scheduling equipment is required in at least one field in a Phase II area. The equipment should be installed in the largest field you operate. Examples of irrigation scheduling equipment are:

- a. Capacitance Probes
- b. Resistance Blocks
- c. Other methods approved by the District

#### 3. Soil Sampling Requirements

Soil samples are required in years when corn or sorghum will be grown following a non-legume crop and/or when livestock, municipal or industrial waste has been applied within the last 12 months. A minimum of:

- 1 composite 0-8" sample per field analyzed for organic matter and residual nitrogen, and
- 1 composite 8-24" sample per field analyzed for residual nitrogen are required.

For soil sampling purposes, a field is defined as one where the crop and irrigation practices are the same.

#### 4. University of Nebraska Recommended Nitrogen Fertilizer Application Rate

Prior to applying nitrogen fertilizers, the operator must calculate the recommended application rate based on the University of Nebraska's nitrogen fertilizer recommendation equation. The UNL nitrogen recommendation equation takes into account the residual soil nitrogen from your soil analysis and other nitrogen credits.

#### 5. **Reporting Requirement**

An annual report is required for all dryland and irrigated fields by April 1. The report steps you through the University's Nitrogen Recommendation Equation. A copy of your soil analysis must accompany the report.

#### **Phase III Requirements**

All operators of land within the Districts Management Zone 5 are subject to the requirements of Phase III. Phase III operators are required to follow all Phase I and II requirements in addition to the following.

#### 1. Soil Sampling Requirements

Soil samples are required in years when corn or sorghum will be grown following a non-legume crop and/or when livestock, municipal or industrial waste have been applied within the last 12 months. A minimum of:

- 1 composite 0-8" sample per 40 acres or any portion thereof, analyzed for organic matter and residual nitrogen
- 1 composite 8-24" sample per 40 acres or any portion thereof, analyzed for residual nitrogen are required.

#### 2. Irrigation Water Sampling

All irrigation wells must be sampled and tested for nitrate once every 3 years. You are free to use any lab you wish, but the NRD offers nitrate testing free of charge. For more information about sampling protocol see the "Irrigation Water Nitrate Analysis" article in this newsletter.

#### 3. Fall and Winter Application of Anhydrous Ammonia

All anhydrous ammonia is applied between the dates of November 1 and February 29 must be applied with a District approved intrification inhibitor. The only District approved inhibitor is N-Serve.

#### York Wellhead Protection Plan

## Frequently Asked Questions About Groundwater



#### About the York Wellhead Protection Plan Project

Over the past year, the City of York and a 16-person stakeholder group have been working on a plan to improve the management of the area's groundwater, which is the source of the city's drinking water. Partnering with the Upper Big Blue NRD, the city retained the services of JEO Consulting Group to develop a wellhead protection plan and recommend city zoning code updates that will better protect groundwater from future contamination. Together, the wellhead protection plan and zoning updates will assist with future decision making regarding the community's water supply, as well as lay out a roadmap for pollution prevention over the next five to ten years.





#### What is groundwater?

It is slow-moving water that passes through the tiny spaces in soils and gravels, the fractures in rock layers, or through channels and caverns in limestone or dolomite. The spaces where groundwater moves are called "aquifers."

#### Who uses groundwater?

Groundwater is so much a part of our lives that we take it for granted. Some people do not know that the water they are consuming is derived from groundwater. Over 85% of Nebraskans get their drinking water from groundwater, and 100% of York's drinking water comes from groundwater.

#### How are surface water and groundwater connected?

Most groundwater originates as precipitation that falls on "recharge areas," or from the flowing water in rivers and streams. Both of these sources recharge groundwater; however, they can also introduce pollutants into the aquifer. Most groundwater does not remain underground until a well is dug. On average, about 30 percent of stream flow is from groundwater, which may increase to 100 percent during droughts. Streams, lakes, springs, and wetlands continuously receive groundwater discharge.

#### How can development be planned to protect the groundwater supply?

For existing water supply wells, the groundwater flow system that provides water to the wells needs to be understood in sufficient detail to identify the recharge areas. Boundaries of flow systems, which often encompass considerably more than the immediate vicinity of the wells, need to be determined to delineate the area through which groundwater flows before reaching the wells.

Activities that are potential contaminant sources need to be managed in recharge areas, and practices that reduce the potential for contaminant release need to be adopted.

For proposed water supply wells, the ability of the flow system to yield more water beyond the existing demand needs to be determined. Conservation measures may be needed to expand the supply. Proposed well site locations need to be evaluated for (1) possible interference with existing water supply wells and surface water systems and (2) existing potential sources of contaminants to the proposed wells.

For both existing and proposed wells, the element of time needs to be considered; groundwater travel times are generally from years to decades, and planning for groundwater protection is necessarily long term. Ultimately, limits on the extent and manner of development need to be planned.

#### Can a city's, county's, or town's comprehensive plan be a useful tool for groundwater protection?

The comprehensive plan is a logical starting point for groundwater protection since it provides the foundation for all programs and land use management tools at the local level. It sets forth goals and policies to guide future land use and development policies of a community. In the event that a community's groundwater protection program is ever challenged, one of the best defenses will be a well formulated comprehensive plan which provides the basis and rationale for the challenged action.

Area-wide planning studies for public wells might examine land use types and densities in relation to groundwater vulnerability, and result in designating areas where conservation and protective measures are needed. This evaluation process can help localities to understand the nature of any potential threats to their drinking water supply, and provide an impetus for establishing goals to protect these valuable resources.

Site specific studies around individual wells can provide the basis for planning and goal setting on a site by site basis. In some cases, the individual results may suggest that the community revisit its development concepts and policies in order to address recurrent issues or problems.

#### Can a Capital Improvements Program (CIP) play a role in groundwater protection?

Capital improvements planning is an important component of a groundwater protection program, given the role that local government infrastructure plays in fostering development. In planning areas for future development, local governments must ensure that there will be adequate potable water supplies. If groundwater is to be relied on as the primary source of drinking water, this means considering the need for and the location of new wellfields. In addition, furnishing infrastructure to a region, or not doing so, can act as a means of locating future development in areas away from wellheads in order to lower vulnerability to groundwater contamination. The CIP also plays a role in contingency planning. In the event that a public well needed to be phased out, replacement supplies — either from surface or groundwater sources — would need to be identified, planned and linked to a source of funding.

#### How can community zoning and subdivision regulations be used as groundwater protection tools?

Zoning can be used as a tool to protect wellhead areas from contamination in a number of ways, depending on the level of development surrounding the wellfields. It is most effective for directing future development in a planned fashion – it is much less effective once an area is developed. This is a good reason to take a preventive and anticipatory approach in dealing with wellhead areas.

#### Are there other tools that can be used for groundwater protection?

Yes, these include conservation easements, purchase of development rights, water conservation, household/farm/business hazardous waste collection, "Best Management Practices" (BMPs), and cost share approaches.

Innovative public education programs on groundwater topics can develop interest in groundwater. These can cover the role of groundwater in meeting public needs, methods for preventing groundwater contamination, and helpful actions for residents, property owners, and business managers to take.

#### York Wellhead Protection Plan





#### Title 118 Groundwater Use and Classification

The Ground Water Quality Standards and Use Classification are intended to be the foundation for other ground water regulatory programs. Information can be found here.

http://www.sos.ne.gov/rules-and-regs/regsearch/Rules/Environmental\_Quality\_Dept\_of/Title-118.pdf

#### Title 119 Rules and Regulations Pertaining to the Issuance of Permits under the National Pollutant Discharge Elimination System

These regulations control wastewater discharges from treatment plants and septic systems. Information can be found here. http://www.deg.state.ne.us/ruleandr.nsf/pages/rules

#### **Title 126 Definitions**

Defines items such as Best Management Practices and Hazardous Waste. Information can be found here. http://www.sos.ne.gov/rules-and-regs/regsearch/Rules/Environmental\_Quality\_Dept\_of/Title-126/Chapter-1.pdf

#### **Title 195 Chemigation Regulations**

These regulations control the application of chemicals through irrigation systems. Information can be found here. http://www.deg.state.ne.us/ruleandr.nsf/pages/rules

#### Title 198 Rules and Regulations Pertaining to Agricultural Chemical Containment

These regulations control agricultural chemical storage and use. Information can be found here. http://www.deq.state.ne.us/ruleandr.nsf/pages/rules

#### Title 159

Specifies requirements for the design, installation, operation, and closure of underground storage systems. http://www.sos.ne.gov/rules-and-regs/regsearch/Rules/Fire Marshal State/Title-159.pdf

#### Title 178 Water Well Standards.

These regulations apply to the construction, location, and decommissioning of water wells, the installation of pumps and pumping equipment, the collection of water samples from water wells, and the inspection of installed water well equipment and chemigation regulation devices. Information can be found at:

http://www.sos.ne.gov/rules-and-regs/regsearch/Rules/Health\_and\_Human\_Services\_System/Title-178/Chapter-12.pdf

#### **Title 179 Public Water Systems**

These regulations establish standards for the siting, design, and construction of public water systems and the associated fees. The authority is found in Neb. Rev. Stat. §§ 71-5301 to 71-5313. Information can be found at:

http://www.sos.ne.gov/rules-and-regs/regsearch/Rules/Health and Human Services System/Title-179/Chapter-07.pdf







#### **Wellhead Protection Act**

Wellhead protection area means the surface and subsurface area surrounding a water well or well field, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or well field. Any controlling entity may designate a wellhead protection area and adopt controls pursuant to the Wellhead Protection Area Act for the purpose of protecting the public water supply system. The department shall provide technical assistance to any controlling entity. Any controlling entity proposing to designate a wellhead protection area and adopt controls shall:

- Designate the boundaries of the wellhead protection area following the procedure in section 46-1505. The wellhead
  protection area shall be based on all reasonably available hydrogeologic information on ground water flow, recharge,
  and discharge and other related information necessary to adequately determine the wellhead protection area for the
  purposes stated in this section;
- 2. Identify within each proposed wellhead protection area all potential sources of contaminants which may have any adverse effect on the health of persons;
- 3. Describe a program that contains, as appropriate, technical assistance, financial assistance, implementation of controls, education, training, and demonstration projects to protect the water supply within the wellhead protection area from such contaminants;
- 4. Include contingency plans for the location and provision of alternate drinking water supplies for each affected public water supply system in the event of water well or well field contamination by such contaminants; and
- 5. Propose the controls necessary to provide protection from contaminants which may have any adverse effect on the health of persons served by the public water supply system of each participating

#### Public Works Director: 'Clean water not city vs. county issue'

By Melanie Wilkinson Managing Editor | Posted: Saturday, April 18, 2015 12:00 am

YORK – This week, Orval Stahr, zoning consultant for the county, addressed the commissioners about the city's planned creation of a wellhead protection area.

He told the county board that the city is looking at the 50-year movement of its groundwater, versus the 20-year movement that is used by the Nebraska Department of Environmental Quality (DEQ) for modeling purposes.

Stahr said this could result in a larger wellhead protection area which could affect more farm ground. He also said the county's zoning regulations regarding wellhead protection areas pertain to 20-year modeling, so they might conflict with the city's plan.

Later this week, York Public Works Director Mitch Doht addressed Stahr's comments.

"Clean water is not a city vs. county issue," Doht said, "and it's not an urban vs. agriculture issue. The city's wellhead protection project is about protecting drinking water for over 2/3 of the population of York County. This is a health issue.

"The whole point of the wellhead protection committee was to include as many stakeholders as possible in the decisions that are made, and I think we have done that," Doht continued.

"We will most definitely consider both rural and urban interests. Our eventual boundary will not be arbitrary, it will be based on good science, and it may not follow political boundaries. It shouldn't be restricted to a line on a map. I realize that is pretty ironic, as our goal will be to draw a line on a map, but I think you get what I'm saying.

"Remember that thousands of acres of farm ground are already within the city's jurisdictional limits," Doht said. "I foresee our wellhead protection regulations regarding agriculture to mainly include suggested best management practices. These are most likely things that are already being done by the agriculture community, such as secondary containment at on-site fuel tanks, responsible use of fertilizers and pesticides, loading and unloading practices, etc.

"I know many farmers, personally, from my time as county engineer, and I'm confident that folks on the farms in York County are good stewards of their land and care greatly about our natural resources," he continued. "If they can do a few simple things to make sure they aren't polluting the groundwater, I'm sure they will be very receptive to that."

Doht also addressed the 50-year modeling issue.

"The 50-year time of travel model for predicting groundwater movement is not yet common in

Nebraska and I don't think it has anything to do with how long wells may remain in service," referring to Stahr's perception that this is the case. "Incidentally, York has wells that were built in the 1960s that are still in operation. I think the reason the 50-year model is not more common is because it is a much more complex, detailed and data intensive study. Many times, it is cost prohibitive.

"The city received a grant from the state to help pay for the study and for the city council, the benefits seemed to outweigh the costs, so the study was approved. In my opinion, this study is visionary and it is money well spent," Doht continued. "I will be dead, or 94 years old, in 50 years, but my kids and grandkids will still be drinking water in 2065. Why not plan ahead a bit? It's good science, so let's use it to help protect our most valuable resource."

Doht also wants to remind York County residents that many different entities are represented on the wellhead protection committee and this will be a public process.

"I don't think people realize to what extent the county, school districts, city, state, NRDs and other agencies in our area work together for the common good," Doht said.

"I think that's how it should be. I'm going to continue to foster these invaluable relationships as the city works aggressively to make lives better. I am sometimes overwhelmed at the number of projects and all the goals we are working towards at the city. But it helps to know that there are other agencies to partner with in meeting our common goals."

#### Work underway on city's wellhead protection plan

By Melanie Wilkinson Managing Editor

YORK – Over the past year, the City of York and a stakeholder group have been working on a plan to improve the management of the area's groundwater, which is the source of the city's drinking water.

Partnering with the Upper Big Blue Natural Resource District, the city retained the services of JEO Consulting Group to develop a wellhead protection plan and recommend city zoning code updates that will better protect groundwater from future contamination. Together, the wellhead protection plan and zoning updates will assist with future decision making regarding the community's water supply, as well as lay out a roadmap for pollution prevention over the next five to 10 years.

The stakeholder group, which has met three times since April of 2015, is comprised of representatives from city staff, city council, Upper Big Blue NRD, York County, The Groundwater Foundation and various area businesses. The stakeholder group was assembled to provide local guidance and input into the planning process. The Nebraska Department of Environmental Quality (NDEQ) also provided partial funding toward this effort.

With the planning process winding down, the draft plan and proposed zoning updates are being made available for public review and comment.

The planning commission plans to review the draft materials at its regularly scheduled meeting on Tuesday, May 10.

Then on Monday, May 23, an open house will be held from 4:30 to 6:30 p.m., in the council chambers of City Hall (100 East Fourth Street). Draft materials will be available at the open house, where the community will have an opportunity to view, comment and ask questions about these recent planning efforts.

For more information, contact Ryan Stastny, project manager, City of York, at 402-363-2600 or rstastny@cityofyork.net.



Friday, April 29, 2016

#### Thinking Globally and Acting Locally

by Anthony Lowndes, The Groundwater Foundation

The City of York, Nebraska recently earned Groundwater Guardian Green Site designation for the York City Parks and ballfields. The program recognizes managers of green spaces, such as college campuses, golf courses and parks, for their environmental stewardship. But York used the program as more than just recognition. Managers of the City's green spaces took the application process as an opportunity to evaluate their maintenance practices and realized more could be done to further conserve and protect water resources for their community. The Green Site designation is a part of ensuring the City is dedicated to protecting the community's water resource as the Wellhead Protection planning process continues.

The steps Green Sites take to protect and conserve groundwater are crucial to the future use of the resource. There is no substitute for dedication, which is why we are pleased to acknowledge the efforts of all Groundwater Guardian Green Sites. You don't have to be a green space manager to follow the basics of groundwater protection and conservation! Try implementing these practices at home:



- 1. Water in the early part of the day to reduce evaporation.
- Follow the label recommendations for fertilizer and pesticide applications and be sure to clean excess off sidewalks and driveways so

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#### The Groundwater Foundation

The Groundwater Blog is brought to you by The Groundwater Foundation, a nonprofit organization with a mission to educate people and inspire action to ensure sustainable, clean groundwater for future generations.

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it does not get washed into surface waters.

- 3. Choose native or drought tolerant plants when replacing landscaping.
- 4. Don't be afraid to get your hands a little dirty and control weed the old fashioned way by pulling them. I always find it to be more satisfying too.
- 5. Check out The Groundwater Foundation website for more tips and tools to conserve and protect water resources.



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- ► February (3)
- ► January (3)
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#### Meeting planned about wellhead protection plan

By News-Times Staff

YORK - The City of York will hold an open house public meeting to present a draft wellhead protection plan (WHPP).

The city's selected firm, JEO Consulting Group, Inc., will be discussing the plan at the meeting to be held from 4:30 to 6:30 p.m., on May 23 at city hall (100 East Fourth Street).

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Light refreshments and beverages will be served.

The city is taking a proactive approach to protecting its water supply by using detailed groundwater modeling software to show how groundwater travels under York and through its well field. The model is able to predict contaminant travel, should any contaminant reach the city's groundwater supply. The city is also taking a longterm view of protecting the groundwater by studying the 50-year "time-of-travel" paths for the city's wells. This 50year time-of-travel forms the basis for delineating the wellhead protection area (WHPA).

The goal of the May 23 open house public meeting is to offer the community an opportunity to learn more and get involved in the WHPA planning process. The public meeting is also an opportunity for the city to learn more about what its residents think of the plan. Members of the 10-person stakeholder group involved in this project will also be available to share their experiences with the planning process, which includes:

· Delineation of the WHPA;

Potential contaminant source inventory;

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- Review of management alternatives for potential contaminant sources;
- · Emergency and contingency planning; and
- · Public education.

For more information, contact Ryan Stastny, project manager, City of York, at 402.363.2600 or rstastny@cityofyork.net. Additional materials are available on the city website at http://tinyurl.com/YorkWHPP.



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Protection Plan Open House on May 23rd! You are welcome to attend our Wellhead

THE CITY OF YORK DIVITES CITIZENS TO TAKE PART BY PLANNING FOR THE COMMUNITY'S WELLHEAD PROTECTION AREA

York is pleased to announce an open house to present the DRAFT of the Wellhead Protection Plan (WHPP). The City's selected firm, JEO Consulting Group, Inc. will be discussing the Plan at an informal meeting from 4:30pm to 6:30pm on May 23, 2016 at City Hall located at 100 East 4th Street in York.

York is taking a proactive approach to protecting our water supply by using detailed groundwater modeling software to show how groundwater travels under York, and brincuph its well field. The model is able to predict contaminant reach our groundwaters toplay. York is taking a long term view of procecting our groundwater by studying the E0 year "time-of-travel" paths for the City's wells. This 50 year time-of-travel forms the basis for delineating the Wellhead Protection Area (WHPA).

The goal of this open house is to get the community involved in the planning process and to learn more abour what our critizens think of the Plan. This open house gives contributors a chance to share ideas and learn more about the process of planning for the WHPA. At the open house stakeholders will be able to describe the planning process, which includes:

- Delineation of the WHPA
- Potential Contaminant Source Inventory
  Review of Management Alternatives for Potential Contaminant Sources
  Emergency and Contingency Planning

Below are links to the Draft Plan and associated documents, as well as the Draft Ordinance that will be presented at the Open House.

Click HERE for a brief fact sheet about groundwater,

# Associated Documents

- Wellhead Protection Plan
   Wellhead Protection Plan Draft
  - Appendix A Appendix A Appendix B
    - Appendix B Appendix C

Appendix C

- · Appendix D
- Appendix D
   Appendix E Appendix E
  - Appendix F · Appendix F
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Story

### York Shares Plan to Protect Well Field, Keep Drinking Water Safe

Posted: May 23, 2016 11:48 PM CDT Updated: May 24, 2016 8:46 AM CDT

By Sara Kirkley, Weekend Anchor / Reporter CONNECT

York, NE - Eighty-five percent of Nebraskans get their drinking water from groundwater.

Some of them are from York, Like many others, that community is working to keep that water safe.

York has a few contamination sites that the Environmental Protection Agency and Nebraska Department of Environmental Quality are focusing on, but Monday the public got a look at what the city is doing to keep its drinking water safe from future contamination.

Life-long York resident Max Ronne attended the open house.

He wasn't a fan of where the city placed its well field years ago, so he's keeping a close eye on the plans to protect it now.

"Probably have to come to a few more to see what they're up to," said Ronne.

The city showed off its plan for the next 50 years, part of Nebraska's Wellhead Protection Program.

"We know where the water is going to come from for the next 50 years and that's really important. We want to do what we can to protect that," said York Public Works Director Mitch Doht.

"Probably the main concern is nitrates in the drinking water. The area around here has got high nitrates in the water," said Adam Rupe, a natural resources specialist for JEO Consulting Group.

Rupe has been working with the city for more than a year and said its well field is fine. To keep it that way, his consulting group has a plan that centers around education in schools and out.

"The [Natural Resources District is] working with landowners out there on nitrogen management practices and offering training and some best management practices information to them," he said.

"We want people to know what the potential impacts of these regulations might be to them. The farmers are out there, they may be facing secondary containment on fuel tanks. Other than that we're pretty much mirroring the existing NRD rules," said Doht.

The city is also working on water conservation in its parks and ball fields - something they received a plaque for Monday.

"We're trying to do the right thing. It's so important. We just have to; we have to protect our groundwater," said Doht.

While Ronne may not be convinced of a solution just yet, he says he knows what he doesn't want.

"We got enough regulations. Every year they come up with new regulations. We got enough of them," he said.

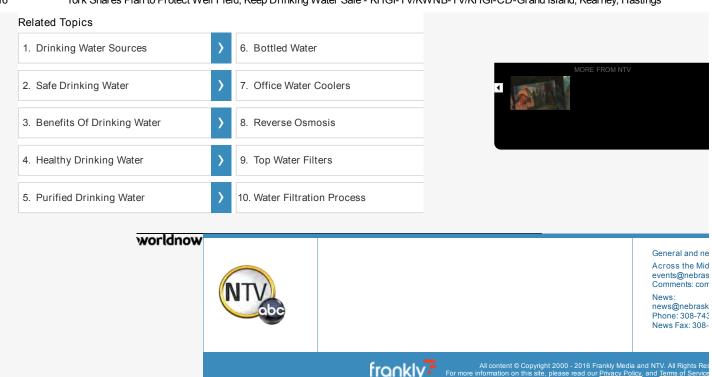
The city has also drafted a zoning ordinance around the well field, but none of this is a done deal without council approval.

Rupe said they'll take feedback from Monday's open house and put together a final plan to be presented to council. The public will get a chance to weigh in on that plan as well.

For more information, click on the links below.

City of York - Wellhead Protection Plan

JEO Consulting - Wellhead Protection Plan



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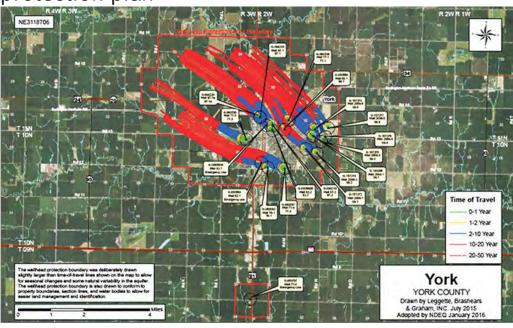
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City holds public open house for wellhead protection plan



Map courtesy of the JEO, DEQ, City of York, NRD and drawn by Leggette, Brashears & Graham, Inc. - This map shows York's wellhead protection area (the boundary is drawn in the solid red line) around the city. The red diagonal swatches indicate the 10-20-year movement of groundwater. The blue areas show the 2-10-year travel paths. The dotted red lines indicate the projected movement in the 20-50-year period.

By Melanie Wilkinson Managing Editor

YORK - Questions were asked and information was dispersed this week regarding the implementation of the city's wellhead protection plan.

While the city has always had a wellhead protection area, this is the first time an official written plan has been created for long-term protection measures.

> Over the past year, city officials and a 16-person stakeholder group have been working on a plan to improve the management of the area's groundwater - which is the source of 100 percent of the city's drinking water.

> The city partnered with the Upper Big Blue Natural Resource District and retained the services of JEO Consulting Group to develop a wellhead protection plan and recommend city zoning code updates that "will better protect groundwater from future contamination. Together the wellhead protection plan and zoning updates will assist



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with future decision making regarding the community's water supply, as well as lay out a road map for pollution prevention over the next five to 10 years."

"This allows the city to make scientific decisions, not arbitrary decisions," explained Marc Rosso, senior project manager from JEO.

Rosso and Adam Rupe, natural resources specialist from JEO, explained that "the planning process includes identifying the land surrounding the public water supply wells to be protected, indentifying potential sources of groundwater contamination within this area, and managing the potential contaminant sources. Emergency, contingency and long-term plans are also developed for the community water supply, all the while educating and involving the public."

This plan takes a look at the city's 50-year time of travel of groundwater – York is one of three communities to take a look that far into the future as most are concerned with the 20-year water travel patterns.

The establishment of the wellhead protection plan does not change anything automatically and normal zoning practices will be observed, officials say. It provides a guide for future protection and zoning decisions that may arise over the next few decades.

Officials say that in creating the plan, numerous potential contamination sources were identified, which include 635 registered wells, 223 regulated facilities and 158 other sites.

Yes, the city of York is plagued by two groundwater contamination plumes that are currently in the remediation process being undertaken by the Environmental Protection Agency (EPA). And there are high nitrate levels in this area.

City and JEO officials say the quality of the water at the municipal well field is good – the wellhead protection plan is to ensure it stays that way.

York's wellhead protection area (WHPA) is made up of two areas and covers approximately 15,200 acres. The size of a wellhead protection area is calculated from geologic material information and groundwater flow.

The WHPA map does not give a community any additional authority or protection of the public water supply – rather, additional authority and enhanced protection come from local ordinances, zoning updates or other voluntary activities in the area.

"Now the city has the tools to make those decisions," Rosso said.

Some proposed zoning language will be presented to the city council in the future. It appears that the zoning regulations around the wellhead protection area will pretty much mirror the existing NRD rules that are already observed.

Interested persons may garner more information by going to the city's website at www.cityofyork.net.

Groundwater questions answered

What is groundwater?

It is slow-moving water that passes through the tiny spaces in soils and gravels, the fractures in rock layers, or through channels and caverns in limestone or dolomite. The spaces where groundwater



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moves are called "aquifers."

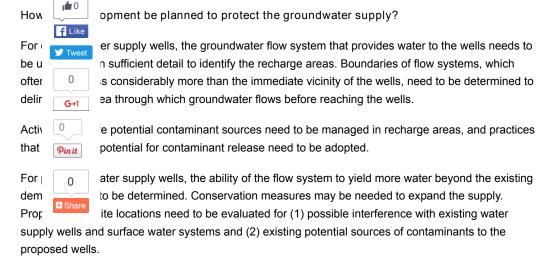
Who uses groundwater?

Groundwater is so much a part of our lives that we take it for granted. Some people do not know that the water they are consuming is derived from groundwater. Over 85 percent of Nebraskans get their drinking water from groundwater, and 100 percent of York's drinking water comes from groundwater.

How are surface water and groundwater connected?

Most groundwater originates as precipitation that falls on "recharge areas," or from the flowing water in rivers and streams. Both of these sources recharge groundwater; however, they can also introduce pollutants into the aquifer. Most groundwater does not remain underground until a well is dug.

On average, about 30 percent of stream flow is from groundwater, which may increase to 100 percent during droughts. Streams, lakes, springs, and wetlands continuously receive groundwater discharge.



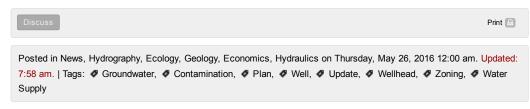
For both existing and proposed wells, the element of time needs to be considered; groundwater travel times are generally from years to decades, and planning for groundwater protection is necessarily long term. Ultimately, limits on the extent and manner of development need to be planned.

#### More about **Groundwater**

- ARTICLE: Council to have light agenda
- ARTICLE: Meeting planned about wellhead protection plan

#### More about **Plan**

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#### Wellhead protection map approved by council

By Melanie Wilkinson Managing Editor

YORK - The York City Council unanimously approved an ordinance this week which adopts the city's wellhead protection map.

Over the past year, city officials and a 16-person stakeholder group worked on a plan to improvement the management of the area's groundwater.



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The city partnered with the Upper Big Blue Natural Resource District and retained the services of JEO Consulting Group to develop a plan and recommend city zoning code updates.

Officials said the overall formal plan would "lay out a road map for pollution prevention, allowing the city to make scientific decisions, not arbitrary decisions."

The process included taking a look at the city's 50-year time of groundwater travel. Most communities in the state have 20-year plans.

During Thursday night's meeting, York Public Works Director Mitch Doht said this particular ordinance only pertained to the map and the protection boundaries.

"The rest will come before the council at a later date," Doht

"And people will still have an opportunity to discuss this more," offered Councilman Barry Redfern, meaning the establishment of the plan is not yet complete.

Doht said that was the case.

"All of this will come before the council in July," added York City Administrator Tara Vasicek.

The map was approved and the rest of the associated matters will be discussed in public hearings.

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