City of Auburn, Nebraska
Wellhead Protection Plan

Prepared by the Auburn Board of Public Works
Updated June 2018

AUBURN
BPW

Acknowledgements

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List of Abbreviations and Acronyms			
AO	Administrative Order	MG	Million Gallons
BMPs	Best Management Practices	MGD	Million Gallons per Day
BPW	Auburn Board of Public Works	NDEQ	Nebraska Department of Natural Resources
CCR	Consumer Confidence Report	NHHS	Nebraska Department of Health and Human Services
City	City of Auburn	NRCS	Natural Resources Conservation Service
CSI	Contaminant Source Inventory	NRD	Natural Resources District
DWPMP	Drinking Water Protection Management Plan	NRWA	Nebraska Rural Water Association
EPA	Environmental Protection Agency	PER	Preliminary Engineering Report
ETJ	Extraterritorial Jurisdiction	PWS	Public Water System
EQIP	Environmental Quality Incentive Program	RSS	Routine Sanitary Survey
GIS	Geographic Information System	TGF	The Groundwater Foundation
GPM	Gallons Per Minute	WhAEM	Wellhead Analytic Element Model 2000
LBG	Leggette, Brashears & Graham	WHP	Wellhead Protection
MCL	Maximum Contaminant Level		
NASS	National Agricultural Statistics Service	UNL	University of Nebraska - Lincoln
NNRD	Nemaha Natural Resources District	USDA	U.S. Dept. of Agriculture

Plan Summary

This plan follows the Nebraska Department of Environmental Quality's (NDEQ) voluntary Wellhead Protection (WHP) Program, which is intended to provide guidance and assist communities and public water suppliers in preventing contamination of their water supplies. State WHP Program activities include: delineating the zones of influence which may impact public supply wells, inventorying all potential sources of pollution within vulnerable zones, working with local officials to identify options for managing potential pollution sources, developing monitoring plans, and helping develop contingency plans to provide alternate water supplies and site new wells.

The Nebraska Legislature passed LB 1161 in 1998 (Neb. Rev. Stat. §46-1501 – 46-1509), authorizing the WHP Area Act. The Act sets up a process for public water supply systems, to use if they choose, to implement a local WHP Plan. In accordance with the WHP Area Act, all community public water supplies have a WHP Area map as of October 1, 2004.

The City of Auburn (City) Board of Public Works (BPW) established a new WHP Area in November 2017. This WHP Area was established using both the groundwater 50-year time-of-travel flowlines, along with watersheds of streams that recharge the alluvial aquifer, and is called a conjunctive delineation. This is due to the fact that pollutants in runoff from the watersheds have the potential to contribute pollutants to Auburn's drinking water aquifer. The City has enacted certain restrictions on specific activities occurring within its WHP Area. These existing controls are codified in Auburn Municipal Code Chapter 51.073 found in Appendix A.

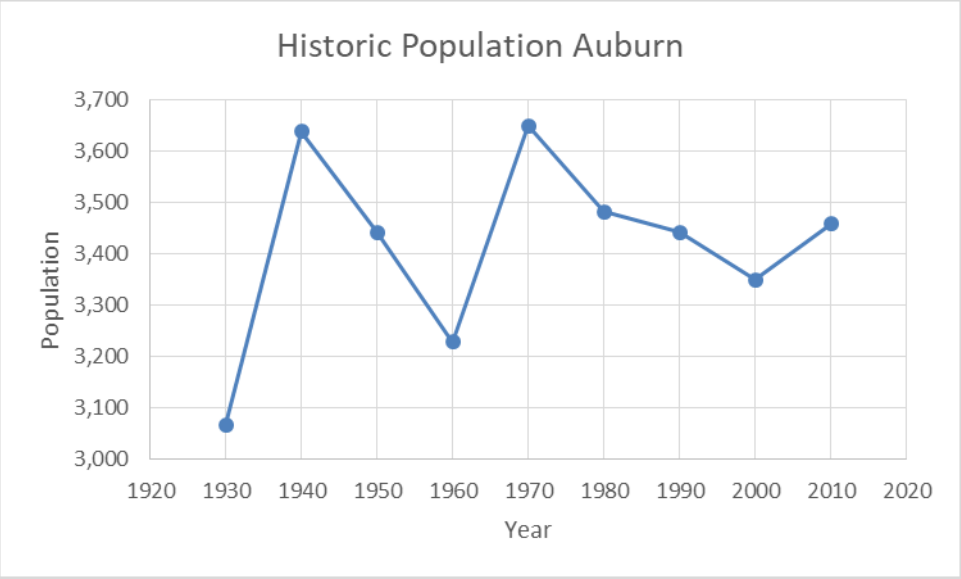
The Little Nemaha River alluvial aquifer that supplies Auburn's drinking water supply is sparse and threatened by the presence of multiple onsite wastewater treatment systems, surface water pollutants infiltrating through streams to the aquifer, among other sources of potential nitrate contamination. To address the threat from nitrate contamination, the BPW established a Drinking Water Protection Management Plan in 2018 (DWPMP). The goal of this project was to prepare a comprehensive management plan that works in collaboration with the WHP Plan and WHP Ordinance. Management options, such as use of cover crops, filter streams, grass waterways, onsite wastewater system upgrades, and other practices will aim to reduce or completely eliminate certain threats to Auburn's source of drinking water. The DWPMP includes a four year implementation strategy starting in 2018. This WHP Plan will be updated approximately every five years, along with an update to the DWPMP, in order to ensure that appropriate actions are in place that are protection the community water supply.

CHAPTER 1 - INTRODUCTION

1.1. Community Background

Auburn, the Nemaha County seat, is located in southeast Nebraska at the intersection of US Highways 75 and 136 (see Figure 1). The community lies in the Little Nemaha River Valley surrounded by intensive agriculture and rolling hills. Auburn's population, as seen in Table 1, was 3,459 in 2010, which is a steady increase from the 2000 population of 3,350 (US Census Bureau, 2017).

Table 1. Auburn Population Since 1930



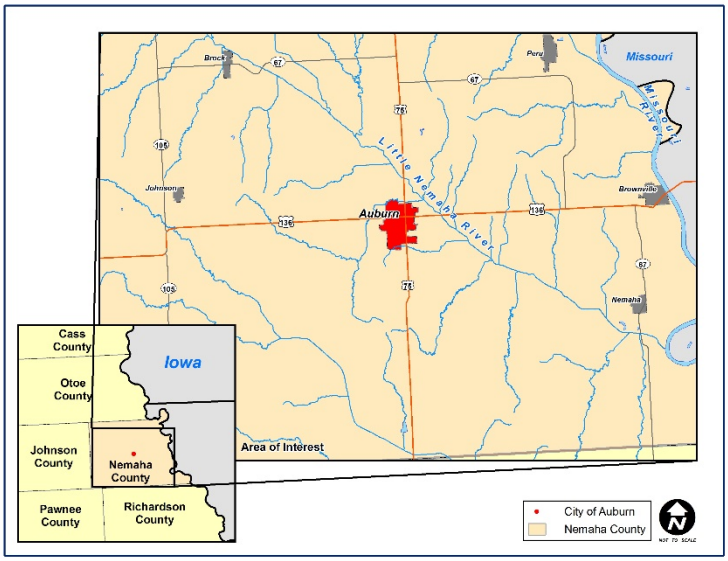


Figure 1. Auburn, NE Location

1.2. Nebraska's Wellhead Protection Program

NDEQ administers the WHP Program, which began after the Nebraska Legislature passed LB 1161 in 1998 (Neb. Rev. Stat. §46-1501 – 46-1509), authorizing the WHP Area Act. The intent of this program was to establish guidelines for communities and other public water suppliers to develop local wellhead protection plans. This Act sets up a process for public water supply systems, to use if they choose, to implement a local WHP Plan.

1.2.1. Wellhead Protection Program Activities

1) **Delineate the Wellhead Protection Area (WHPA)** - The NDEQ can provide a public water system with a WHP Area map that shows the area that is critical to supplying a community's groundwater and drinking water supply.
2) **Perform a Contaminant Source Inventory (CSI)** - Conducting a CSI involves locating and documenting activities, structures, and locations that may pose a threat to drinking water.
3) **Manage potential contaminants** - After identifying potential contaminant sources within the WHP Area, the community can use management such as zoning, ordinances, and work with landowners to install best management practices (BMPs), or other options to minimize the threat to drinking water.
4) **Develop emergency and contingency plans** - These plans will enable a community to react to events such as natural disasters, contamination, and drought. These and other issues, such as population growth, can be address through emergency/contingency plans, as well as by planning for new wells.
5) **Educate and involve the public** - Community awareness will help to provide citizens with the information they need to protect drinking water and increase the likelihood that a WHP Area is successful.

1.3. Auburn Wellhead Protection Contacts

In Table 2 below includes contact information for key agencies which were included in the establishment of the wellhead protection plan, or could provide technical assistance with wellhead protection activities. A full list of emergency contacts for the water system are listed on page 2 of the Emergency Plan.

Table 2. Auburn Wellhead Protection Contacts

Agency/Role	Name	Title	Phone/Email
City of Auburn	David Hunter, Jr.	General Manager BPW	402-247-4981 dhunter@auburnne.net
City of Auburn	Ken Swanson	Water/Wastewater Manager BPW	402-247-4981 kswanson@auburnne.net
Nemaha NRD	Chuck Wingert	Water Resources Manager	402-335-3325 cwingert@nemahanrd.org
NDEQ	Sam Radford	WHP Coordinator	402-471-3376 sam.radford@nebraska.gov
LBG	Jonathan Mohr	Environmental Planner	402-416-4667 jon.mohr@lbgmn.com
Nemaha County Parcel Information	Mallory Lempka	Assessor	402-274-3820 county.assessor@nemaha.nacone.org
NEHHS/Regulations	Tom Christopherson	Program Manager	402-471-0598 tom.christopherson@nebraska.gov
NRCS	Roger Reichmuth	District Conservationist	402-335-3377 ext. 3 roger.reichmuth@ne.usda.gov
Nemaha Co Emergency Management and Planning	J. Renee Critser	Emergency Management and Planning	402-274-7652 nemahaema@windstream.net
Midwest Assistance Program/Financial	Dennis Carroll	Regional Field Manager	402-419-6283 dcarroll@map-inc.org

CHAPTER 2 - AUBURN WATER SYSTEM

2.1. Water System Information

Auburn Board of Public Works operates the City's water system, which consists of a total of 12 groundwater source wells all located adjacent to the City all within the Little Nemaha River alluvial aquifer. Each well depth averages around 45 feet because the bedrock formation in the Auburn area limits the depth of the aquifer. Shallow source alluvial aquifers consisting of thin layers of sand and gravel are typically more vulnerable to potential contamination sources, such as nitrate, and confined to the extent of the clay and till outside of the valley within the uplands. In addition, Auburn's wells are under the influence of surface water from the nearby Little Nemaha River and several nearby tributaries, which is a potential health risk to the users of the drinking water system due to the potential for surface water contaminants, such as bacteria, to pass through the water system. During the summer of 2008, the Nebraska Health and Human Services (DHHS) listed the municipal wells as Groundwater Under Direct Influence (GUDI) of surface water.

Due to the GUDI classification, Auburn BPW constructed a new water treatment plant during the summer of 2009. Water under the influence of surface water requires a higher level of filtration and disinfection. Also, the treatment plant allows Auburn the long-term option to tap into the existing Nemaha wellfield near Nemaha, NE within the Missouri River alluvial aquifer. The treatment plant doesn't remove nitrates from the groundwater, therefore, nitrates remain a significant concern of the BPW.

The original water treatment plant was constructed in 1941 with a capacity of 600 gallons per minute (GPM), and was expanded in 1989 to 1,200 GPM with the installation of additional filters. All of the water in the Auburn system is treated and stored in a clear well consisting of two water storage units with a capacity of 335,000 gallons at the existing water treatment plant. From there, water is pumped and stored at the above ground storage unit of 1.5 million gallons. Two water pressure distribution systems move water around Auburn's hilly terrain. All water use is controlled and metered, with users being billed based upon usage. Tables 3 through 6 below display the general system summary for the Auburn water system. Auburn's Consumer Confidence Report, completed last in 2016, is available along with the most recent Sanitary Survey completed on July 22, 2016 in Appendix B.

Table 3. Auburn General Water System Information

General System Information:	
Population Served: 3,460	**Total Number of Meters Connected:** 1,700
Residential: 1,497 **Rural:** 1 **General Service:** 383	
System Interconnections: None	**Address of Treatment Plant:** 603 9th Street
Average Daily Production: .462 MGD	**Peak Daily Production:** .706 MGD
Total Emergency Production: 2.4 MGD	**Total Design Capacity:** 2.0 MGD
Total Annual Production: 168 MG	**Total Storage Capacity:** 0.335 MG Water Treatment Plan; Reservoir 1.5 MG
Average Summer Demand: .557 MGD	**Average Winter Demand:** .374 MGD

*Million gallons per day (MGD) * Million gallons (MG) Source: 2016 Emergency Plan

Table 4. Institutional, Commercial, and Industrial Water System Consumers

Name	Contact	Phone Number
Major Water User Severed by the System:		
Ariens Inc		402-274-8600
NPPD		402-825-3811
Westbury Heights Apartments		402-274-4017
Auburn Public Schools		402-274-4830
Magnolia Metal Corporation		402-274-3152
Medical Water User:		
Nemaha County Hospital		402-274-4366
Family Medical Clinic		402-274-4993
Elder Housing Units:		
Auburn Housing Authority		402-274-4525
Good Samaritan Home		402-274-5541
High Rise Apartments		402-274-4525
Long Creek Village		402-274-5511

Table 5. System Contact Information

System Contact Information:	
Mailing Address: PO Box 288	**Physical Address:** 1600 O Street
City / State / Zip: Auburn / Nebraska / 68305	
System Phone Number: 402-274-4981	**System Fax Number:** 402-274-4991
System E-Mail: bpw@auburnne.net	
Water System Owned By: City of Auburn	**Operated By:** Board of Public Works
Governing Body: Board of Public Works	
Administrative Contact Person:	
David Hunter	General Manager
Phone: 402-274-4981 (Work)	402-274-3680 (Home)
Financial Contact Person:	
Wende Bergmeier	Office & Financial Manager
Phone: 402-274-4981 (Work)	402-868-5165 (Home)
Operational Contact Person:	
Ken Swanson	Water / Waste Water Manager
Phone: 402-274-4981 (Work)	402-868-6675 (Home)
Legal Contact Person:	
Angelo Ligouri	City Attorney
Phone: 402-274-5484 (Work)	
Engineering:	
JEO Consulting Group – 402-873-6766;	HDR Engineering 402-742-2900

Operational Information:	
Operator in Responsible Charge: Ken Swanson	**Title:** Manager Water / Waste Water
Certification Grade: 1 **2** 3 4 5	**Certificate #:** 378
Expiration Date: 12/31/2017 **Home Address:** 72945 633 Ave., Auburn, NE 68305	
Phone Number: 402-274-4981	**Cell Phone Number:** 402-274-7437

Table 6. Auburn Public Water Supply Well Information

Local Well Name	Registration Number	Well Depth (feet bg)	Year Completed	Aquifer
Well No. 1	G-067034A	50.0	1981	Little Nemaha River Aquifer
Well No. 2	G-067034B	47.5	1981	Little Nemaha River Aquifer
Well No. 3	G-067034C	54.0	1981	Little Nemaha River Aquifer
Well No. 4	G-067034D	46.5	1981	Little Nemaha River Aquifer
Well No. 5	G-067034E	40.0	1981	Little Nemaha River Aquifer
Well No. 6	G-067034F	44.0	1981	Little Nemaha River Aquifer
Well No. 7*	G-072068	45.0	1989	Little Nemaha River Aquifer
Well No. 11	G-063101D	47.0	1946	Little Nemaha River Aquifer
Well No. 13	G-126226	48.0	2003	Little Nemaha River Aquifer
Well No. 18	G-063102A	46.0	1966	Little Nemaha River Aquifer
Well No. 19	G-063102B	45.0	1964	Little Nemaha River Aquifer
Well No. 20	G-063102C	46.2	1966	Little Nemaha River Aquifer

* Well No. 7 collapsed and is no longer in use.

2.2. Existing Water Quality

The BPW samples the water system on an annual basis as required by NHHS. Samples are collected from a blend of several wells from at the water treatment plant, which does not treat raw water for nitrate. Data shows that overall the water system does not have a concern with nitrates (see Figure 2). However, Well #4 and Well #11 are monitored by the BPW on a regular basis for high nitrates. Well #4, according to BPW data, has averaged 7.4 ppm NO3 since 2012, while Well #11 has averaged 6.5 mg/L. Random sampling of Longs Creek near Well #11 has raised concerns that runoff in Longs Creek may be attributing to the sporadic elevated NO3 level. It is unknown why Well #4 experiences elevated NO3 levels as nearby Wells 3,5, and 6 maintain a relatively low nitrate concentration. Figure 3 displays the most recently reported sample for wells within NDEQ's nitrate clearinghouse using only data from 2004 to 2013.

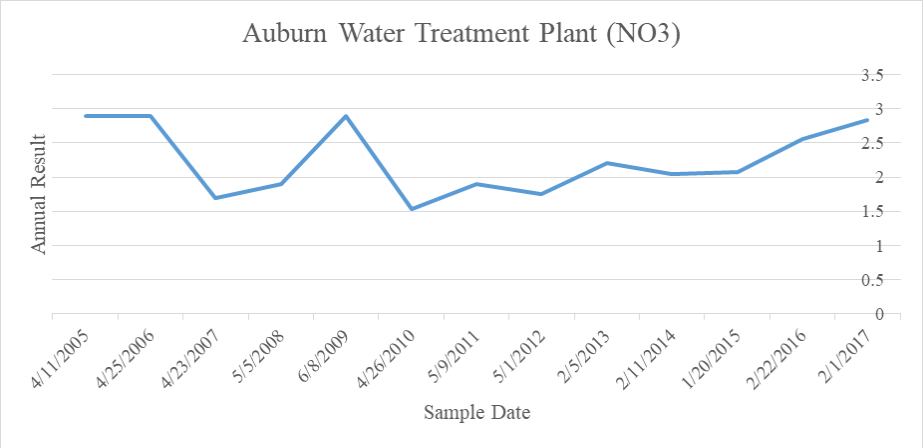


Figure 2. Auburn PWS Historical NO3 Levels

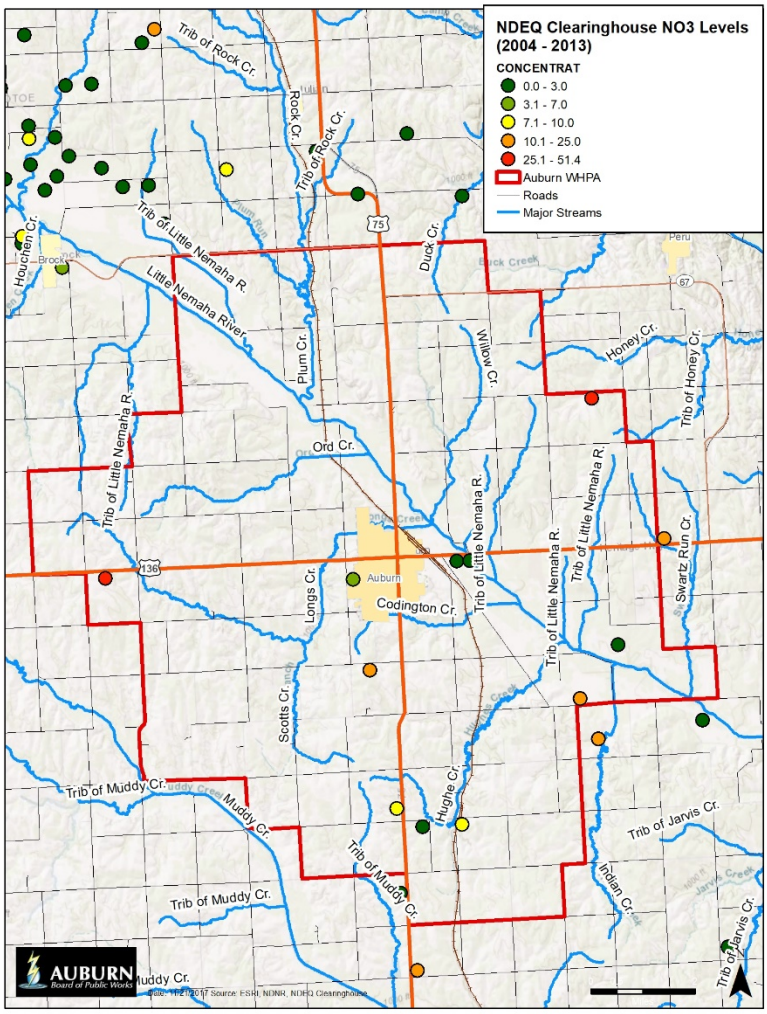


Figure 3. Auburn PWS Historical NO3 Levels

Auburn, like many Nebraska communities, relies on groundwater within an area that is intensely used for agriculture, which in turn raises the likelihood that the source is more vulnerable to contamination from pollutants, especially nitrates. This is primarily due to the use of commercial fertilizer and animal feeding operations within the WHP Area and the thin layer of protective material over the alluvial aquifer.

The Environmental Protection Agency (EPA) created a model to determine the general vulnerability for groundwater contamination as part of the *DRASTIC* model (EPA, 1987), which stands for: **D**epth to the water table, **R**echarge (amount of water that percolates down into the aquifer), **A**quifer media, **S**oil media, **T**opography (slope), **I**mpact of the vadose zone (time required for water to percolate through the unsaturated zone between the surface and the water table), and **C**onductivity (hydraulic conductivity of the soil). This model is not intended for site-specific vulnerability assessments, but instead to provide a regional prospective. Figure 4 illustrates the DRASTIC index around the Auburn WHP Area, which lies in an area that varies from 'low' to 'high'. Based on the DRASTIC model, the Auburn WHP area has areas that are very vulnerable to groundwater contamination.

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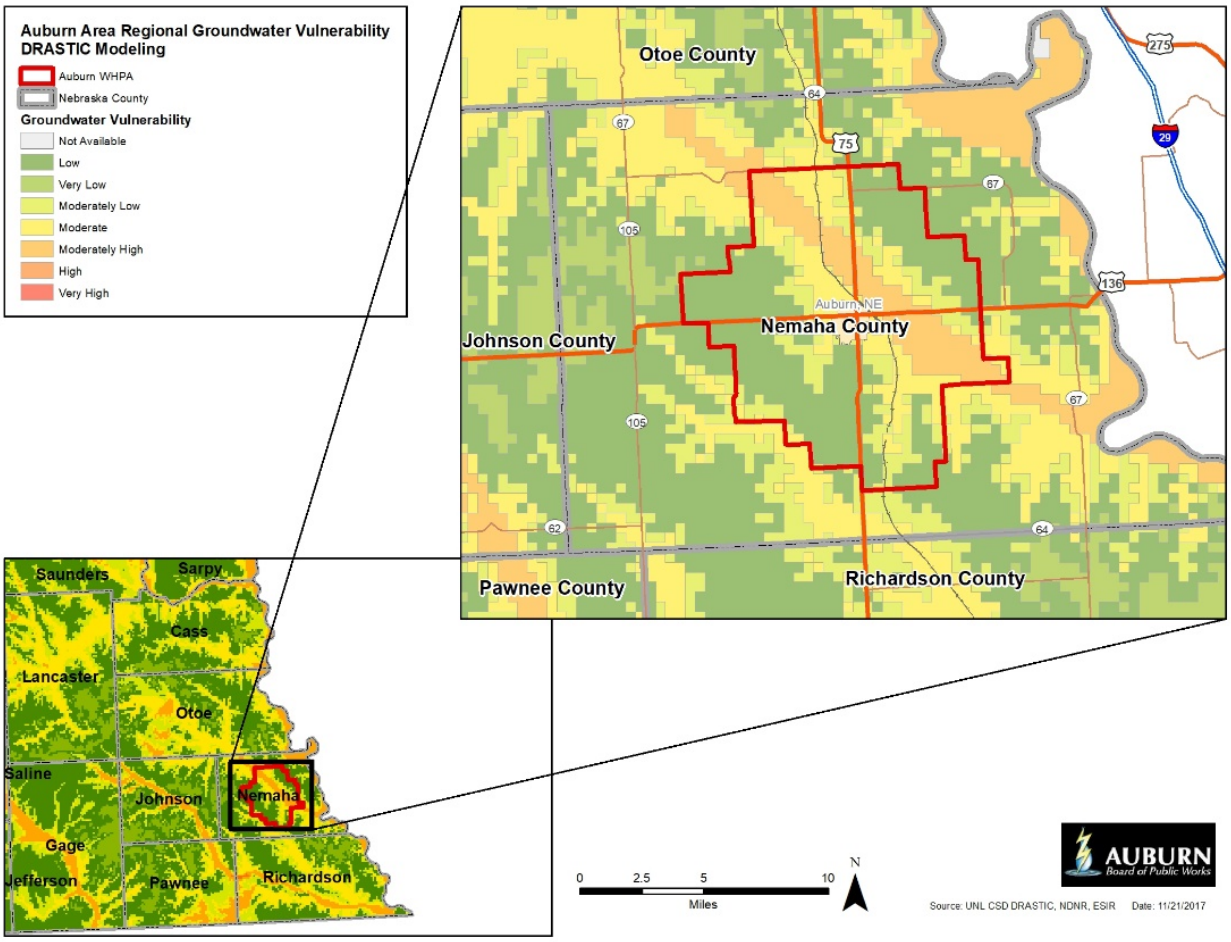


Figure 4. Auburn DRASTIC Model Regional Groundwater Vulnerability.

CHAPTER 3 - AUBURN WELLHEAD PROTECTION AREA

3.1. Past WHP Areas

Auburn's WHP Area map was delineated by NNRD and approved by NDEQ in August 2000. This map covered 3,936.5 total acres immediately around Auburn. The first map was updated in September 2009 by NDEQ using newer modeling software, better information, and included the new well #13. NDEQ used the modeling software called Wellhead Analytic Element Model (WhAEM) 2000, created by the US Environmental Protection Agency. WhAEM was designed to delineate capture zones and assist states in creating WHP areas protection maps . WhAEM uses geohydrologic modeling for steady pumping wells, including the influence of hydrological boundaries, such as the Little Nemaha River; annual recharge estimation, and no-flow boundaries, such as the local geological formations of bedrock.

WHP Areas are statutorily recognized as a boundary in which a community can manage potential contaminant sources though the WHP program. Boundaries typically encompass 20-year time-of-travel pathways and are defined along visible or recognizable features such as roads, rivers, sections lines, and parcels. Auburn's 2009 WHP Area covered 20,832 acres, including the City's entire corporate limits.

3.2. 2017 WHP Area Delineation

The WHP Area was updated in 2017 by Leggette, Brashears, & Graham (LBG) as part of the planning process to develop Auburn's Drinking Water Protection Management Plan. The City of Auburn officially recognizes the WHP Area and cooperates with Nemaha County in to protect Auburn's drinking water sources though an Interlocal Agreement, which has established the Auburn WHP Overlay Zone (found in Appendix A). Two methods were used to define the WHP area for the City wells. The first method included establishing a detailed conceptual hydrogeologic model to create a model boundary for the numerical groundwater model code MODFLOW that will delineate groundwater capture zones in the Little Nemaha River Aquifer. One product of the conceptual hydrogeologic model are cross sections, two of which are shown in Figures 5 and 6 (LBG, 2017).

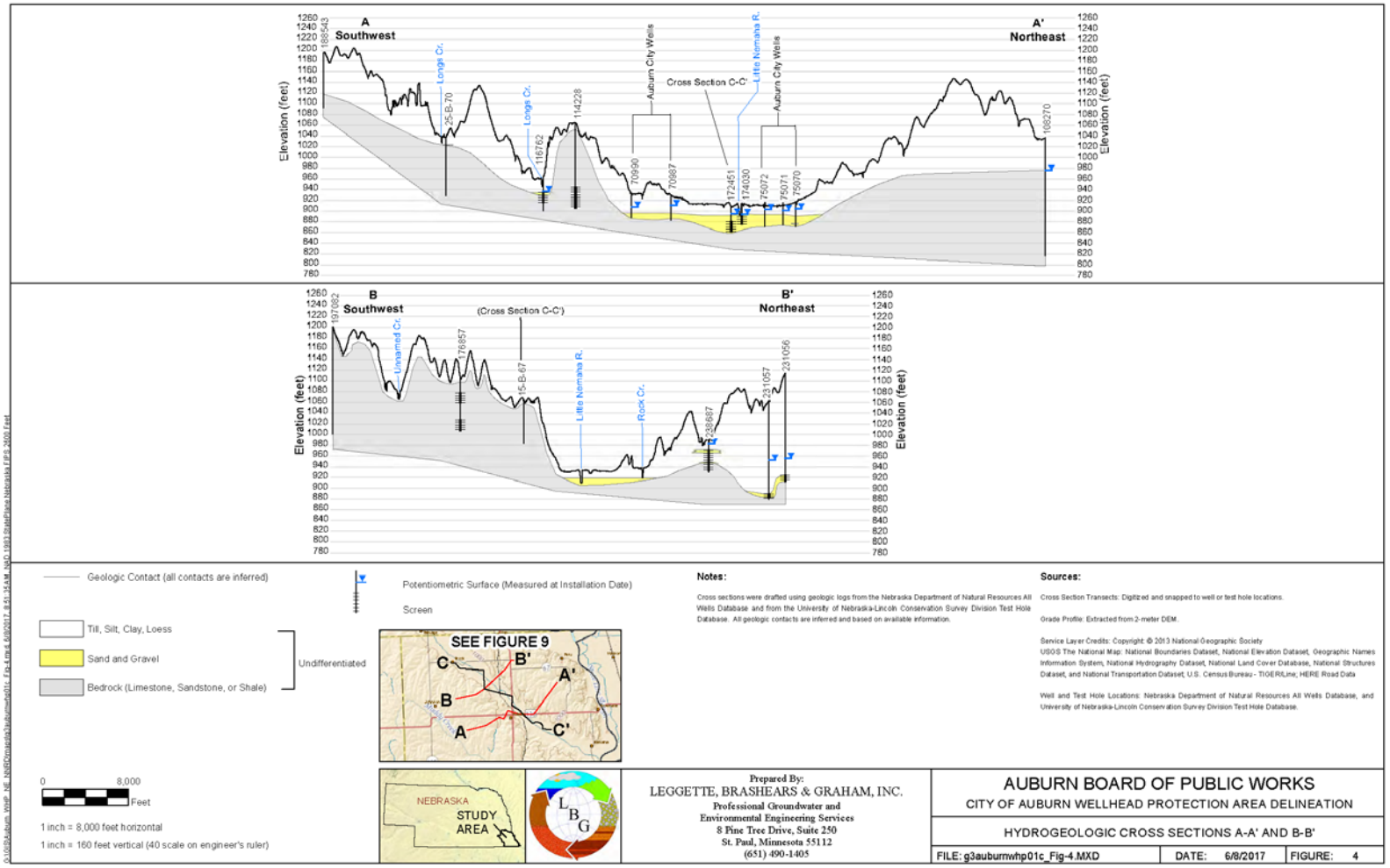


Figure 5. West to East Cross Sections of the Alluvial Aquifer

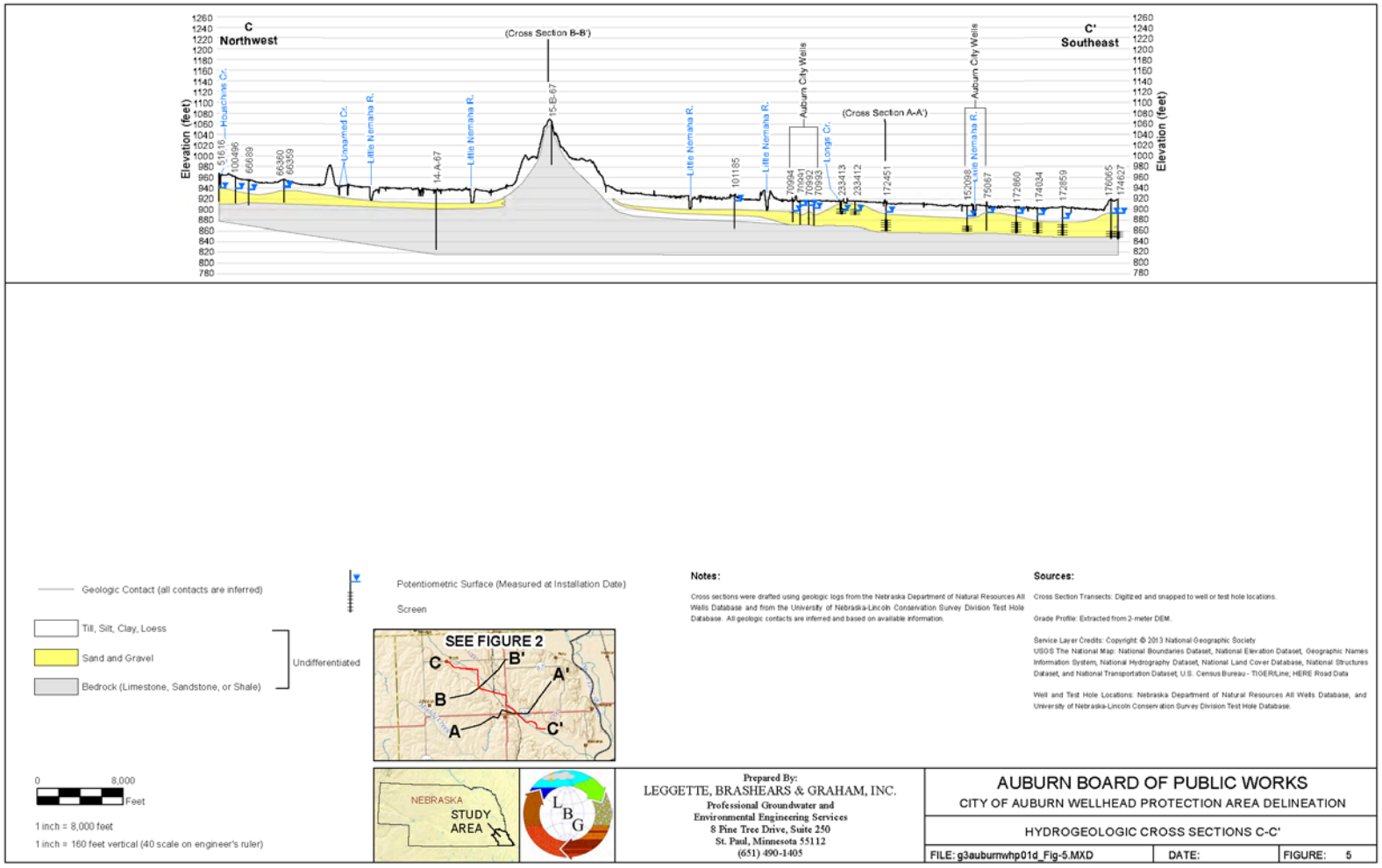


Figure 6. Northwest to Southeast Cross Section of the Alluvial Aquifer

Capture zones were based on a 50-year time of travel for each well, rather than the typical 20-year time of travel. The MODFLOW model was built, calibrated, and then modified to account for uncertainty related to the various input parameters (LBG 2017). The 50-year capture zone is shown in Figure 7. The model boundary was drawn to the outside extent of the alluvial aquifer because the amount of groundwater flow from the silt and clay is orders of magnitude lower than the groundwater flow in the valley.

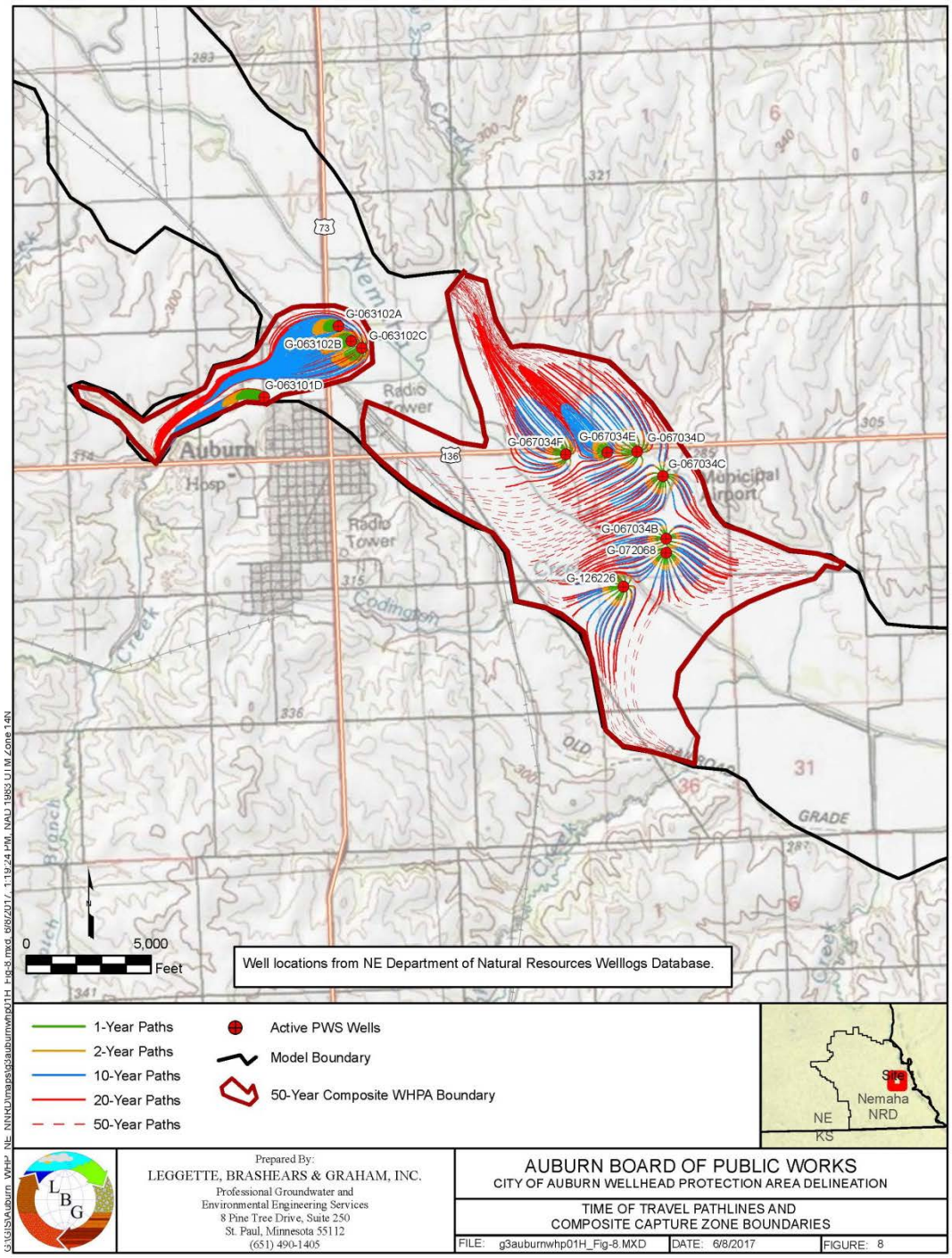


Figure 7. 50-Year Capture Zone

The second method was using a conjunctive delineation, based on the known connection between the alluvial aquifer and several streams in the area, to delineate the actual WHP Area. A conjunctive delineation outlines areas where surface water contributes to the groundwater reaching a well. When an analysis indicates that water extracted from a well is potentially coming from a nearby surface water body, the area that contributes water to that feature, or a portion thereof, is generally included in a conjunctive area as contaminants within this area have a direct path to the pumping well (LBG 2017). More details on the conjunctive delineation can be found in the 2017 DWPP and a description of this process is illustrated in Figure 8. In order to concentrate efforts on a local and more manageable area, the conjunctive delineation did not include the entire Little Nemaha River watershed.

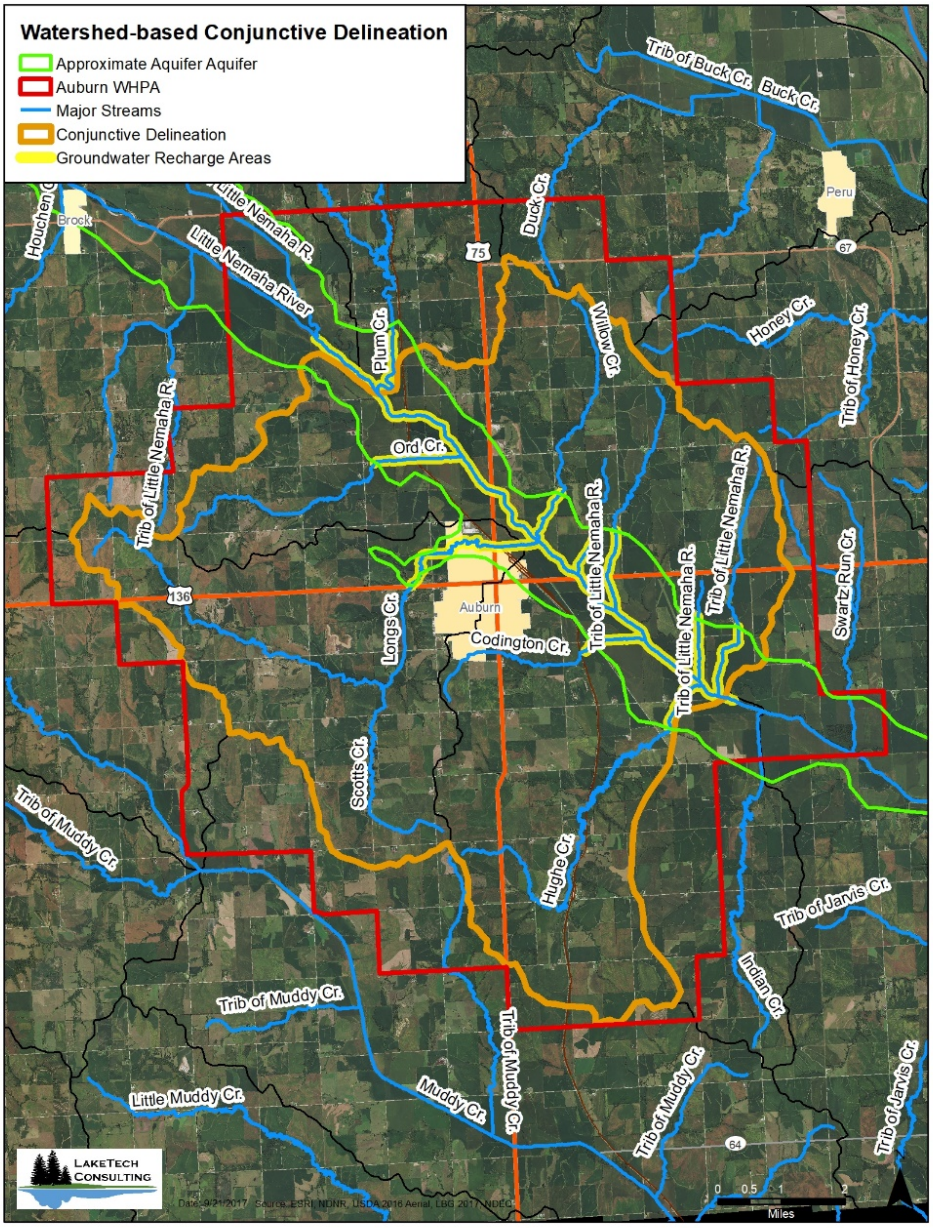


Figure 8. Conjunctive Delineation

The final WHP Area is a composite of all the areas identified as potentially contributing recharge to the aquifer used by the City wells and includes the entire 50-year time of travel. The new WHP Area totals 51,400 acres and was drawn in ArcMap using parcel boundaries and roads close to the watersheds included in the conjunctive delineation as illustrated in Figure 9.

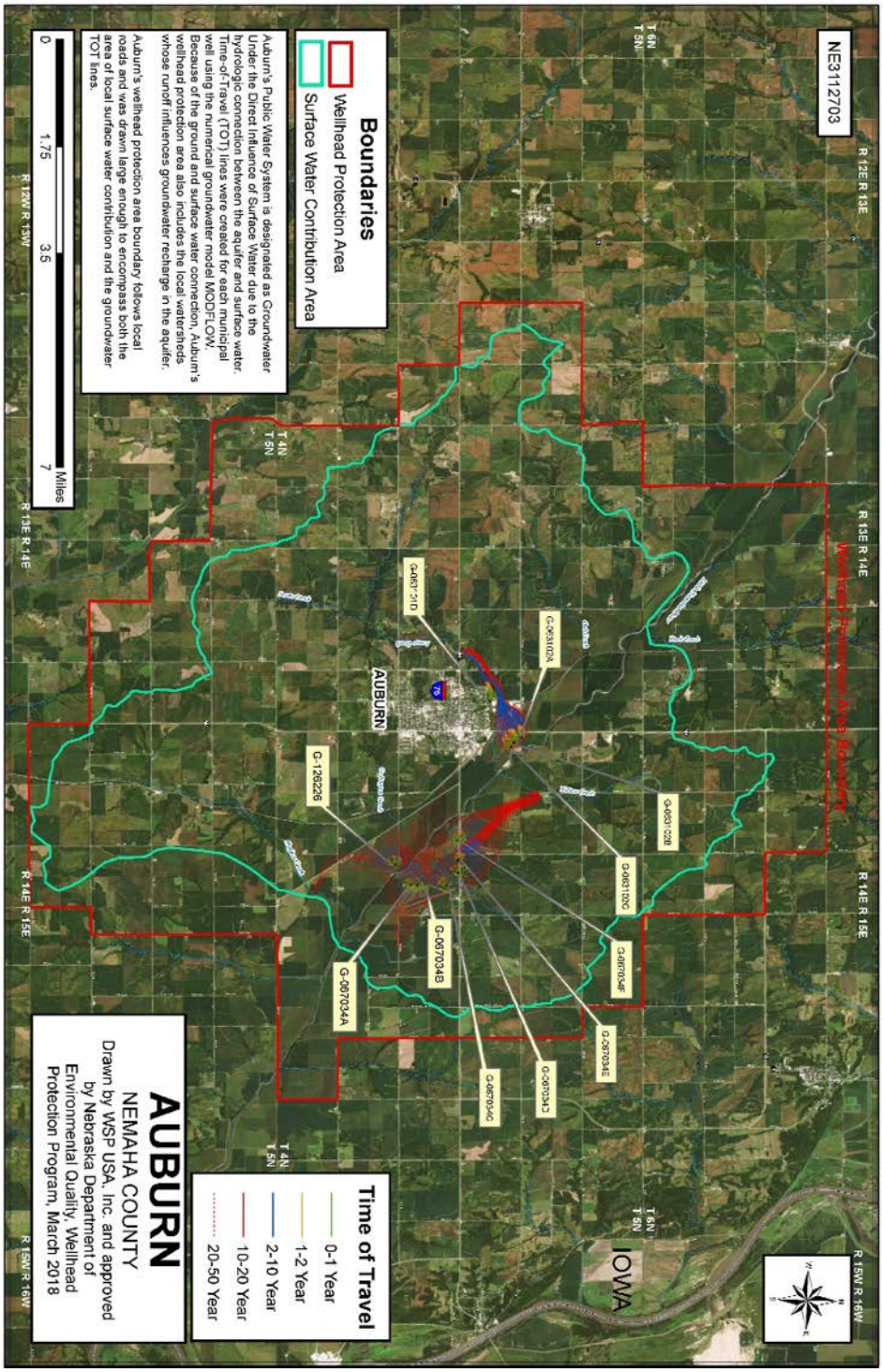


Figure 9. Auburn 2017 WHP Area

3.3. Wellhead Protection Area Land Cover

Land cover information provided below was taken from the 2017 DWPMP. The United States Department of Agriculture (USDA) National Agricultural Statistics Service (NASS) CropScape-Cropland Data Layer online platform was used to obtain land cover information (LakeTech 2017). A cover change analysis was performed by comparing cropped acres from 2009 to 2016. Cropped acres are all agriculturally related activities that involve annual seeding (i.e., corn, soybeans, wheat, etc.). All other categories are considered non-cropped. This analysis was performed on the entire WHP Area (see Table 7), and on the approximate area of the alluvial aquifer that is within the WHP Area (see Table 8). The 2016 land cover for the entire WHP Area, which also displays the approximate alluvial aquifer, is illustrated in Figure 10. Approximately 5,020 acres have been converted to row crop over an eight year period, or 9.7% of the total area. Conversion of ground to row crop is an important consideration when establishing a management strategy.

Table 7. WHP Area Land Cover Change (2009 to 2016)

Land Cover	2009	2016	Difference (Ac.)	% Change
Crop Farming	32,473	37,614	5,141	16%
Non Crop	18,854	13,834	-5,020	-27%

Source: NASS (2017).

Table 8. Aquifer Boundary within WHP Area Land Cover Change (2009 to 2016)

Land Cover	2009	2016	Difference (Ac)	% Change
Crop Farming	6,126	6,778	652.3	11%
Non Crop	2,180	1,547	-633.2	-29%

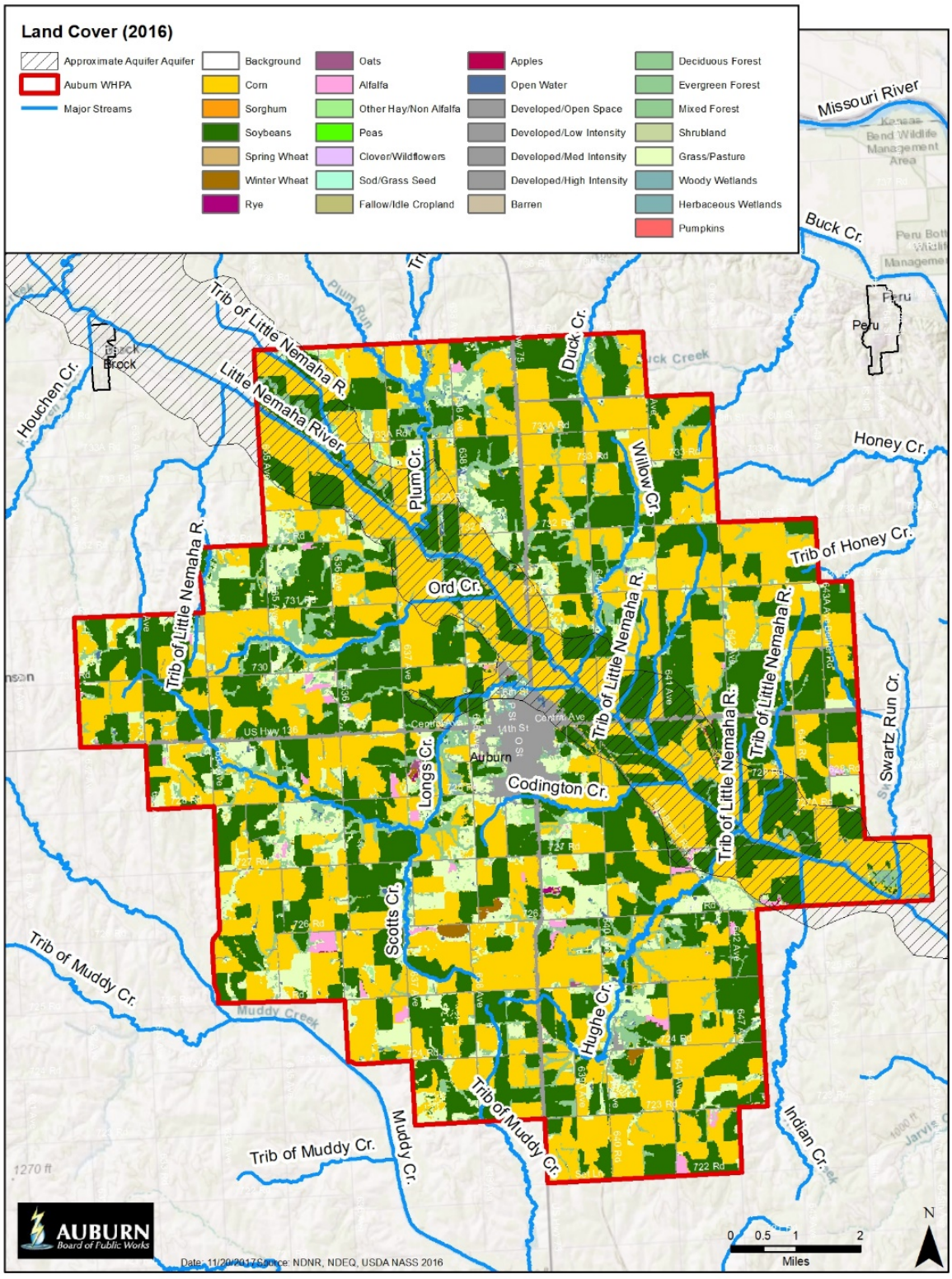


Figure 10. 2016 NASS Cropland Data Layer

3.4. Contaminant Source Inventory

As described previously, a CSI involves locating and documenting activities, structures, and locations that may pose a threat to drinking water. Auburn's CSI is a compilation of multiple sources as described below:

- Auburn BPW CSI - Compilation of all previous CSI into one GIS, including an update of new areas included in 2017
- State Fire Marshall database listing above and below ground storage tanks (from the 2009 WHP Plan)
- NDEQ Facilities Summary – provided in 2017

3.4.1. Auburn BPW Field and Desktop GIS CSI

The CSI is a major step in establishing a WHP Plan and includes recording locations and information on potential contaminant sources such as fuel storage, onsite wastewater systems, illegal wells, and many others. The original field inventory was completed using a tablet PC with GIS software and aerial photography as a CSI geodatabase that collected data on potential contaminant sources identified in the field. All sites were geo-referenced through parcel data provided by Nemaha County. Sites within the new WHP Area were acquired by a field review conducted by the BPW and a desktop review within GIS. A full description of Auburn's CSI is found below is a series of five maps. To inquire about details at sites within the CSI contact the BPW's Office at 1600 O Street in Auburn.

Wells are another key potential contaminant source. A total of 261 active registered wells are found in the WHP Area (see Figure 11). Of those, 120 (or, 46%) are monitoring wells. Due to the limited capacity of the alluvial aquifer, and tight soils within the uplands, there are very few irrigation wells. Auburn has maintained a strong effort to decommission abandoned wells.

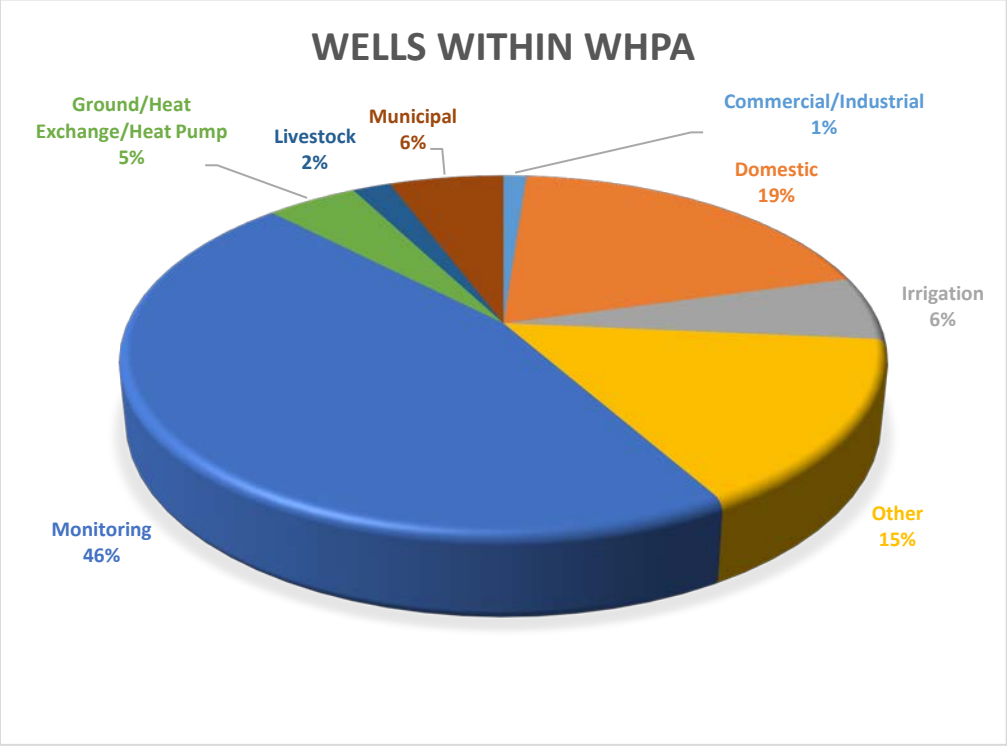


Figure 11. Registered Wells by Type

There are four figures (Figure 12 – 15) representing the expansive rural areas of the WHP Area and one figure showing the corporate boundaries (Figure 16). Field sheets were not used to collect data on potential contaminant sources as all information is stored within the GIS. Tables including CSI data are found in Appendix C.

There were a total of 499 potential contaminant sources within the compilation CSI GIS database. The majority of the sites were residences, 314 total, or 63%, which doesn't count homes within the city limits on sewer. It can be assumed that each of these sites has an onsite wastewater system, however the functioning condition of each system was not evaluated as part of the CSI. A total of 156 of the residences were farmsteads, or 31.2% of the total within the CSI and 158 were acreages at 32%. Farmsteads with what appeared to be active livestock operations were also flagged as another potential CSI with a total of 40 operations, or 8% of the total. There were a total of 17 automotive services (8%), nine machine shops (2%, not counting every farm shop).

Based upon the CSI, the priority for the BPW is any potential contaminant in the Little Nemaha River Valley due to the location of the wells within the thin sand and gravel alluvial aquifer. Other priority includes failing septic systems and runoff from livestock operations which contributes to nutrients and bacteria in stormwater runoff.

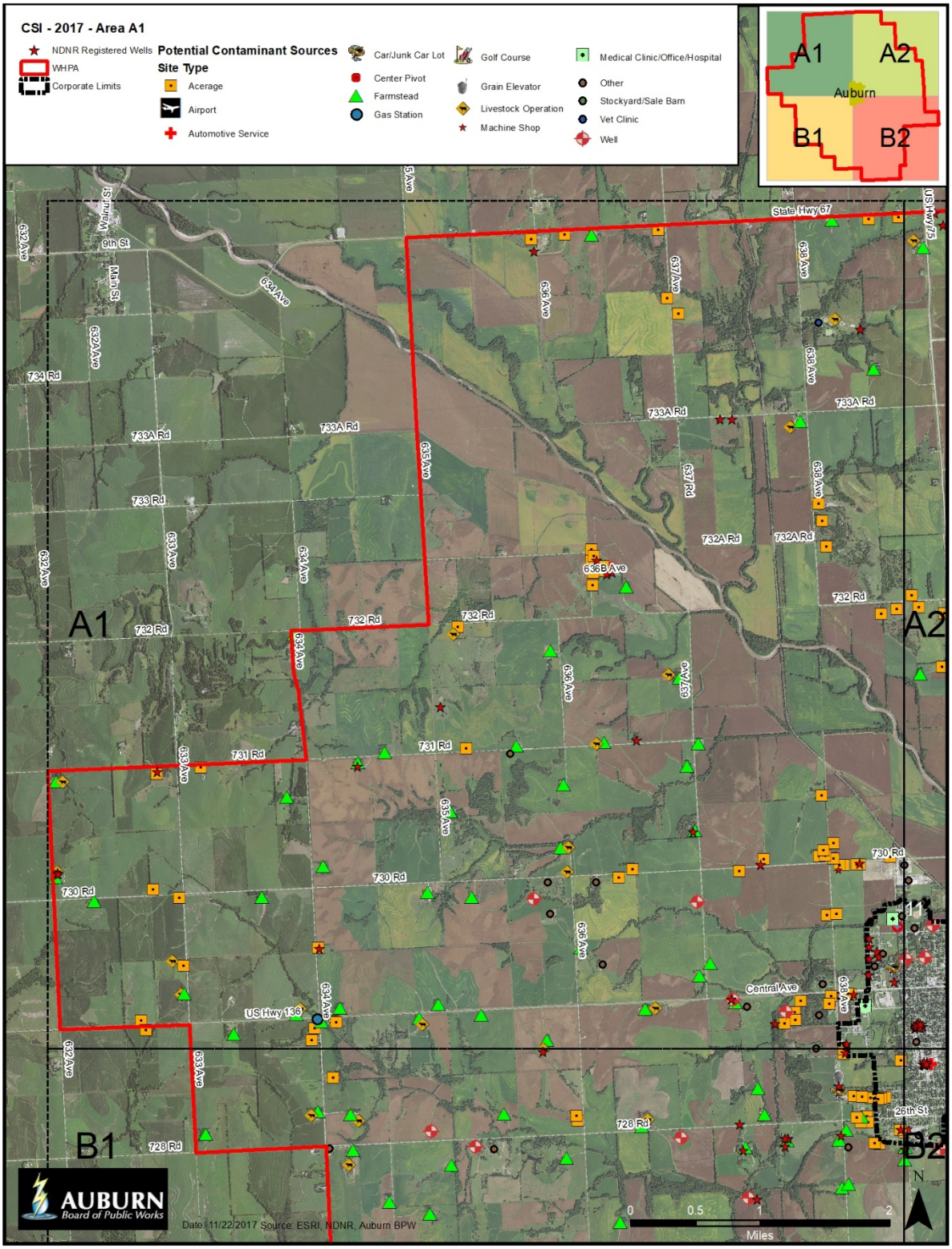


Figure 12. Auburn CSI Area A1

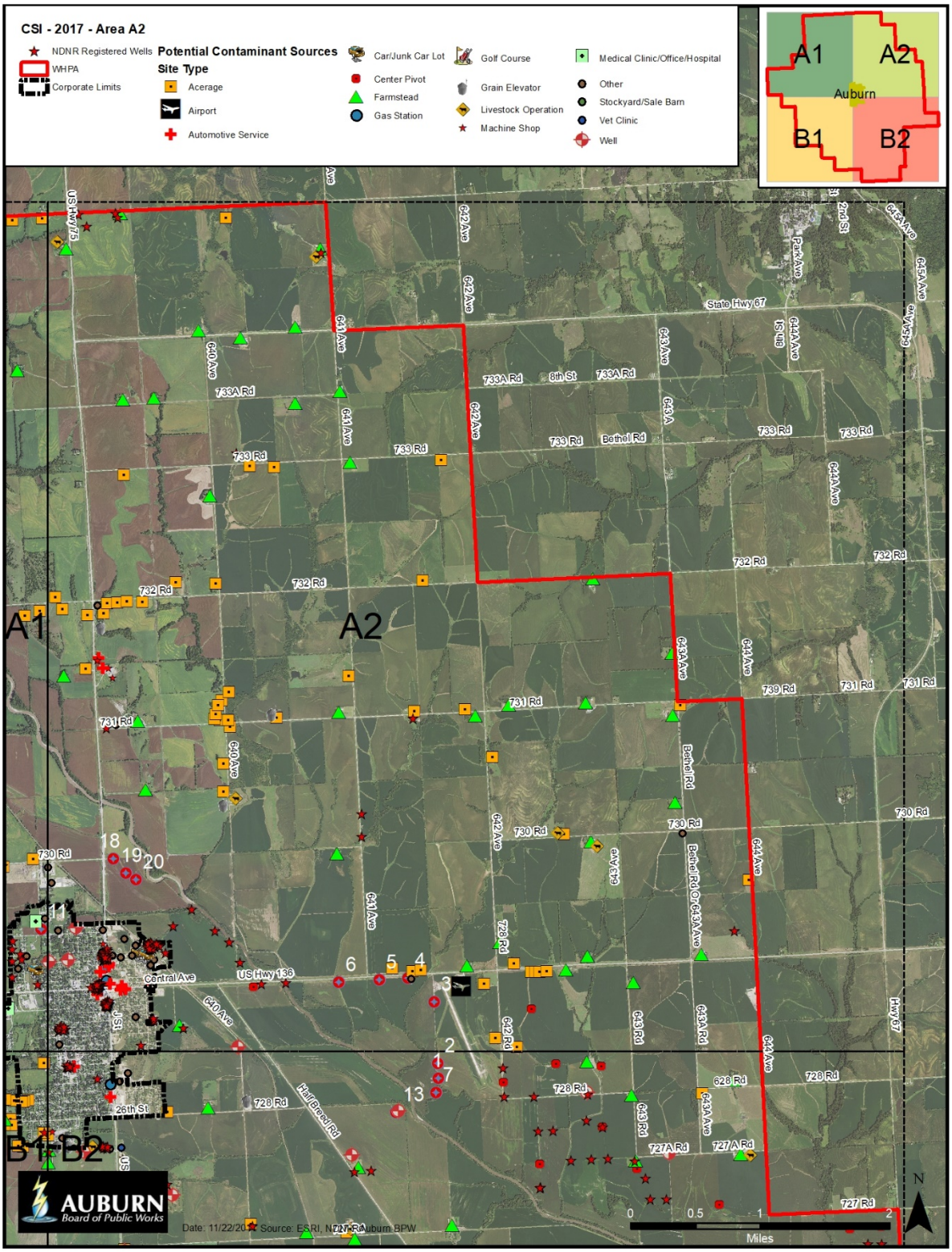


Figure 13. Auburn CSI Area A2

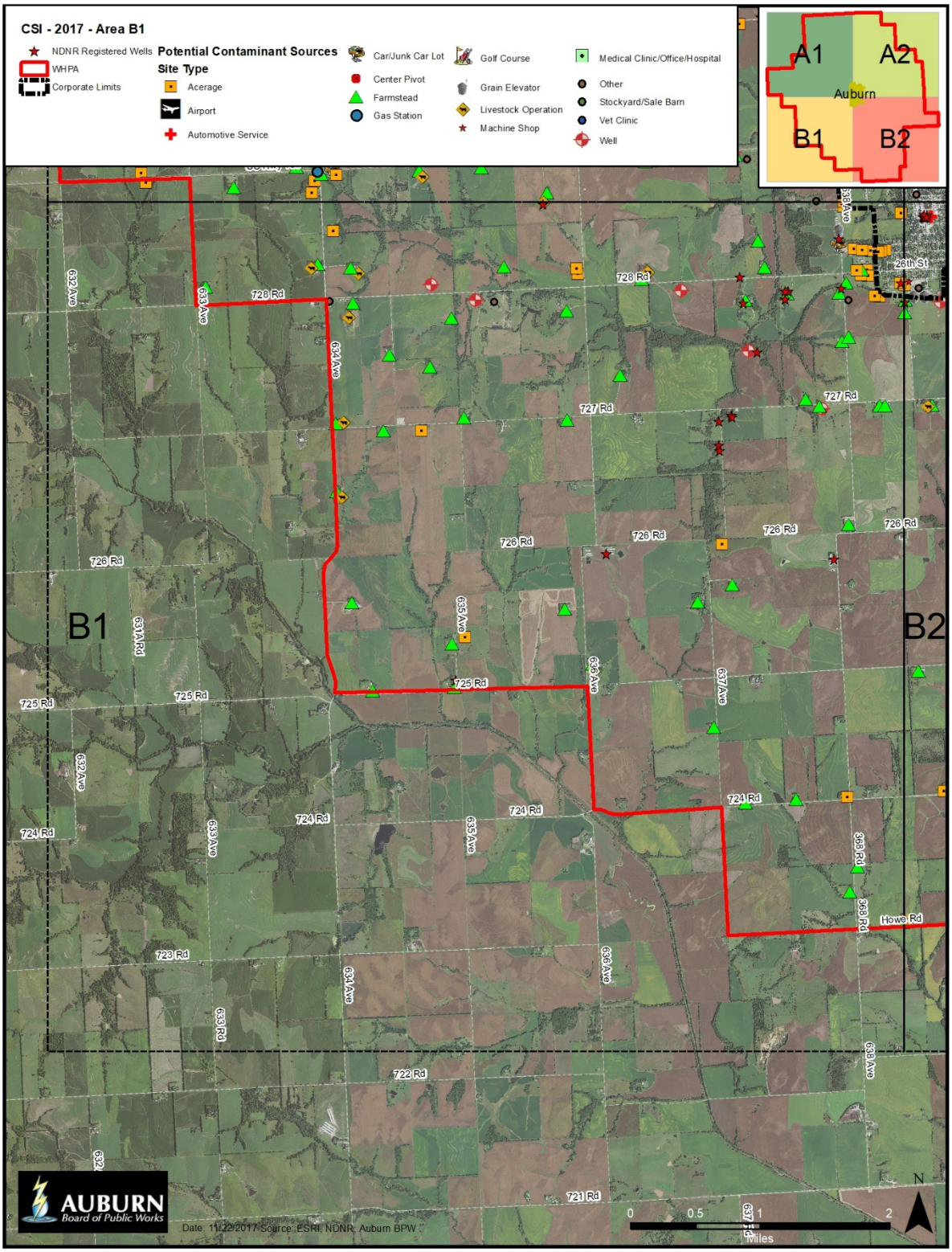


Figure 14. Auburn CSI Area B1

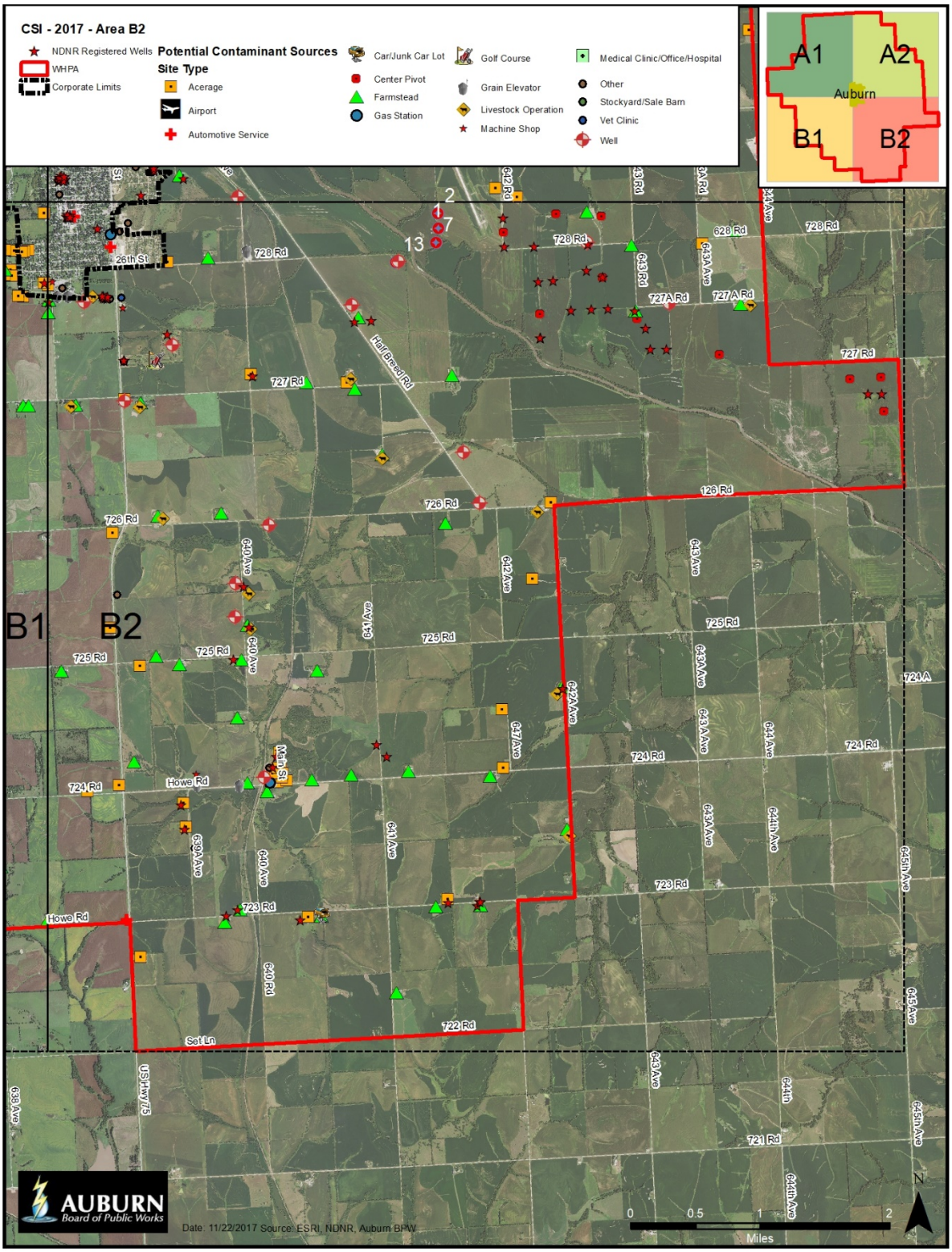


Figure 15. Auburn CSI Area B2

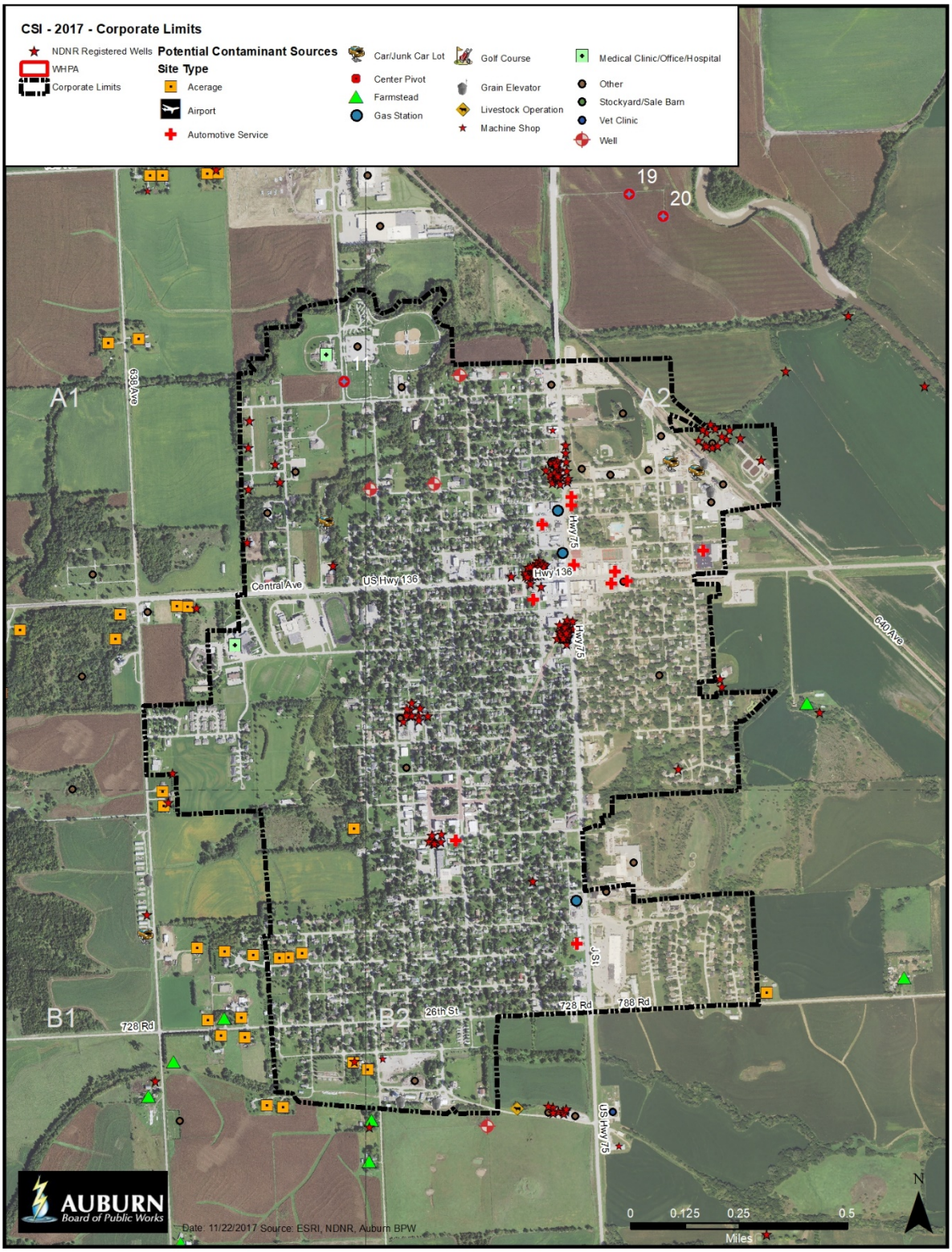


Figure 16. Auburn CSI Corporate Boundary

3.5. Above and Below Ground Storage Tanks

Information from the 2009 WHP Plan from the Nebraska State Fire Marshall database was used to identify above and below ground storage tanks. Figure 17 illustrated the locations of tanks within the Auburn WHP Area. There are a total of 10 known aboveground fuel tanks within the NDEQ database and 33 know underground fuel tanks. More information on all of these facilities is found in Appendix C.

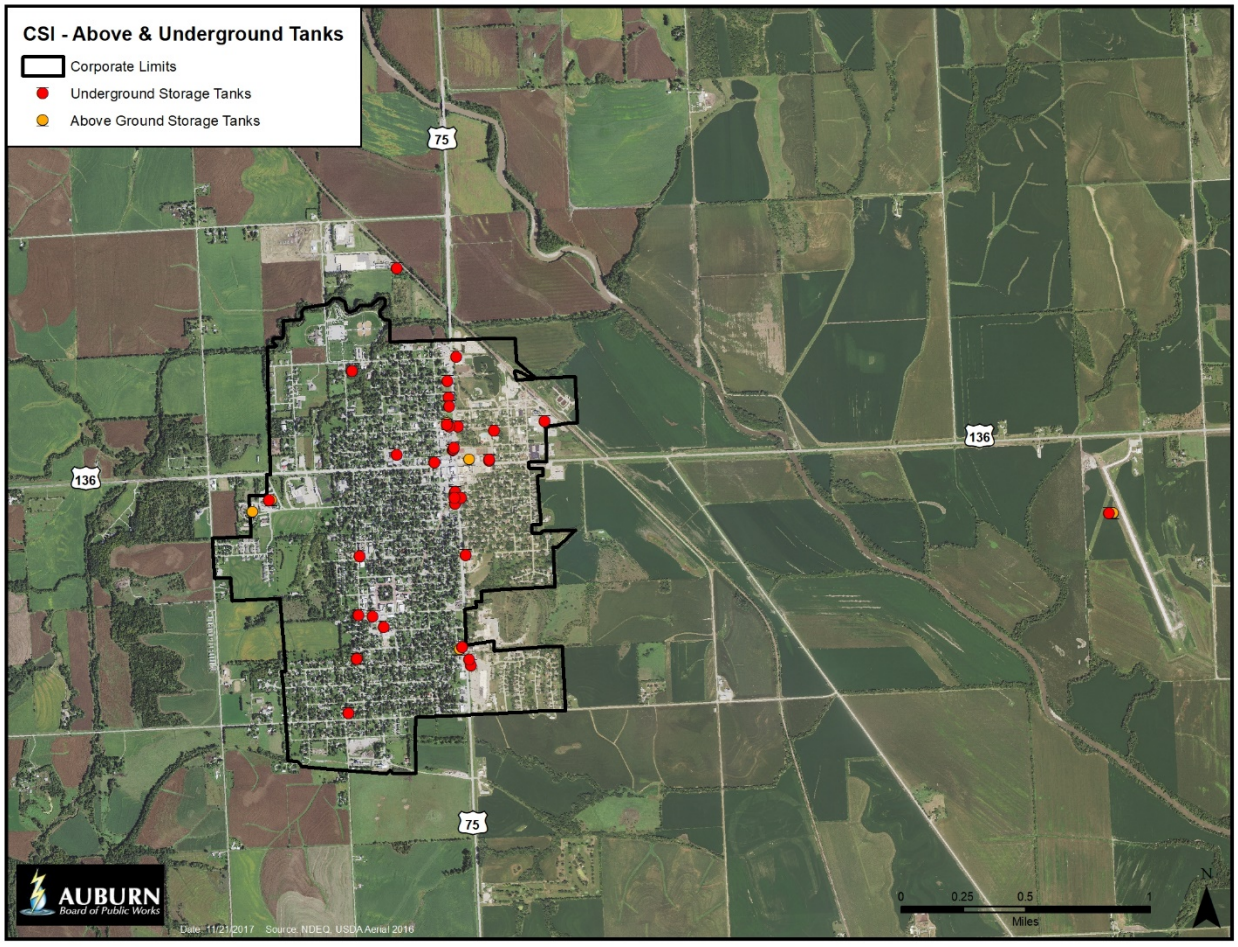
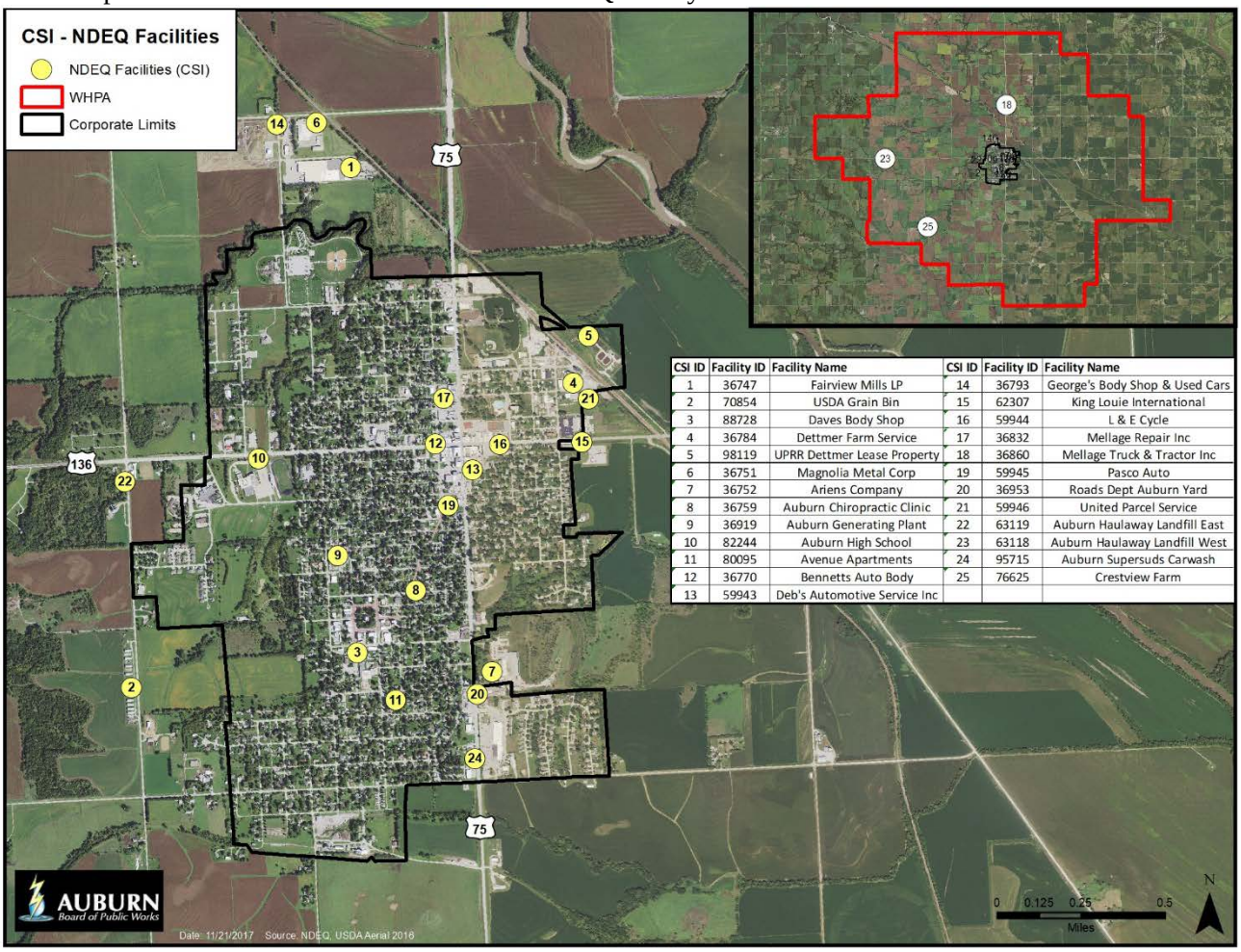


Figure 17. Above and Below Ground Fuel Tanks

3.6. NDEQ Facility Summary

In 2017, NDEQ provided a written summary of the status of relevant facilities within the WHP Area. Figure 18 has been provided to show the location of each NDEQ facility.



CSI ID	Facility ID	Facility Name	CSI ID	Facility ID	Facility Name
1	36747	Fairview Mills LP	14	36793	George's Body Shop & Used Cars
2	70854	USDA Grain Bin	15	62307	King Louie International
3	88728	Daves Body Shop	16	59944	L & E Cycle
4	36784	Dettmer Farm Service	17	36832	Mellage Repair Inc
5	98119	UPRR Dettmer Lease Property	18	36860	Mellage Truck & Tractor Inc
6	36751	Magnolia Metal Corp	19	59945	Pasco Auto
7	36752	Ariens Company	20	36953	Roads Dept Auburn Yard
8	36759	Auburn Chiropractic Clinic	21	59946	United Parcel Service
9	36919	Auburn Generating Plant	22	63119	Auburn Haulaway Landfill East
10	82244	Auburn High School	23	63118	Auburn Haulaway Landfill West
11	80095	Avenue Apartments	24	95715	Auburn Supersuds Carwash
12	36770	Bennetts Auto Body	25	76625	Crestview Farm
13	59943	Deb's Automotive Service Inc			

Figure 18. NDEQ Facilities

CHAPTER 4 - MANAGEMENT STRATEGIES

4.1. Comprehensive Management Strategy

Within the 2017 DWPMP, the BPW has established a comprehensive management strategy to layout the framework for on-the-ground actions to protect the drinking water source into the future. This plan is available at the BPW Office. Establishing a watershed based management plan was a goal within the 2009 WHP Plan that has since been achieved. Refer to the 2017 DWPMP to learn more about water quality and quality project goals. Implementation recommendations as listed within the 2017 DWPMP are provided below (LakeTech 2017).

1) Work with NNRD and the NRCS to make the Auburn WHP Area an NRCS Environmental Quality Implementation Program (EQIP) priority area.

2) Continue a long-term partnership with NNRD through their WHP Pilot Program.

3) Work with the NNRD on long-range water quality improvement strategies as a 'priority area' identified in the Nemaha River Basin Water Quality Management Plan (Basin Plan).

4) The DWPMP, established the Longs Creek watershed as the priority sub-watershed for focusing conservation efforts to reduce nutrient loading to the stream. Longs Creek watershed was shown to yield the highest nutrient load and is near two municipal wells, each of which have high nitrate concentrations.

5) Update and submit the Auburn WHP Plan to NDEQ for state approval including recognition of the 2017 DWPMP within the WHP Plan, and vice versa.

6) Conduct a feasibility study to understand the cost and benefits of installing grade control structures in recharging streams for purposes of artificial groundwater recharge and stream bank stabilization.

7) Work with the Nebraska Department of Transportation on acquiring the 19-acre borrow pit north of Longs Creek, west of Highway 75, for purposes of wetland enhancement, groundwater recharge, and establishment of an outdoor classroom.

8) Establish an adaptive management approach through the assessment of water quality and water quantity data to formulate a detailed strategy for additional projects after the initial four-year effort is complete.

9) Identify primary drainage paths within the City and construct bioswales, wetlands, or similar types of green infrastructure that trap, treat, and infiltrate stormwater runoff.

10) Educate property owners and lawn care professionals on proper ways to fertilize and manage lawns to reduce the quantity of fertilizer overall.

11) Utilize the 2017 DWPMP, and the NNRD's Basin Plan, to obtain various forms of funding to leverage local funding sources, or existing programs such as NRCS's EQIP.

12) Continue closing abandoned wells within the WHP Area.

13) Establish an onsite wastewater upgrade program intended to provide technical and financial support for property owners to ensure systems are functioning property. Target all failing systems within the WHP Area.

14) Erect signage to advertise to the public the efforts the BPW is taking to improve the health of the area watersheds.

15) Recognize the BMP goals within the 2017 DWPMP based on target installation recommendations.

4.2. Public Education and Involvement

The Stakeholder Group was responsible for providing input on a public education and involvement strategy for both the DWPMP and this plan. Education will lead to action. Auburn has continued to provide opportunities to educate all ages of citizens and property owners in and around the area about the importance of source water protection. Public education efforts in the future may include: focus groups, open houses, press releases, newsletters, websites, and other methods. Education topics to Auburn residents, businesses, and agricultural producers may include the following:

1) Water conservation,
2) Well decommissioning,
3) Importance of upgrading onsite wastewater systems,
4) Availability of cost-share and incentives for conservation practices,
5) Household hazardous waste disposal,
6) Providing information on the limited aquifer and vulnerability of the aquifer,
7) Benefits of urban practices such as bioswales, rain gardens, and rain barrels, and;
8) Environmental education.

4.3. Traditional WHP Plan Management Strategies

There are many standard management strategies that communities utilize to protect their drinking water source through management of potential contaminant sources. Below is a list of those strategies with a summary of past management practices completed since the 2009 WHP Plan.

Continuously Update CSI – The BPW will utilize GIS to regularly update the CSI as changes occur within the WHP Area.

Decommission Abandoned Wells – The BPW has decommissioned over 35 abandoned wells since 2001 and two monitoring wells, and continues to expand efforts to locate and decommission abandoned wells in and around the WHPA, in cooperation with NDEQ and Nemaha Natural Resources District.

Wellhead Protection Overlay Zone – The City has enacted a WHP overlay zone to allow for oversight of activities in the WHP Area beyond the City's extra-territorial jurisdiction (ETJ). The WHP ordinance would replace the existing rules as found in Auburn Municipal Code 3-743 and can be found in Appendix A. At the time of the planning period Nemaha County did not have zoning.

Wellhead Protection Area Signage – The BPW has posted WHP Area signs at the boundary of the area to provide education on the importance of drinking water protection. These signs can be supplemented with

information regarding the enforcement of land use regulations and directing property owners to contact the City of Auburn rather than the County.

Community Water Conservation Programs – Auburn will continue to pursue water conservation programs and incentives to limit water use in the city. Currently the City waters Auburn City Recreation Complex from Longs Creek. Other examples of these types of practices include provide no-cost equipment necessary to reduce water use from showers and toilets, promote rainwater harvesting, promote native vegetation in landscapes, and provide education on adequate frequencies of lawn watering.

Security Lighting – Auburn BPW has installed security lighting around the existing water reservoir and motion lights at each well house. Auburn BPW will continue to increase all levels of security at water production facilities.

Source Water Management Geographic Information System – As part of its regular GIS utilization, the BPW intends on continuing the use of GIS to manage and track potential contaminants. The GIS will include all potential contaminant sources, wells, and onsite wastewater systems. Auburn BPW intends to create a database of all exiting septic systems, including date of installation, system type, capacity, and many other attributes. The GIS will be updated on a regular basis.

Household Hazardous Waste Collection – The BPW continues to annually participate in a household hazardous waste collection program focused on reducing the number of potential contaminants in the WHP Area.

Soil Sampling – Deep soil sampling (36 inches in depth) enables producers to better manage fertilizer application by knowing what exists in the full crop root zone. Auburn will consider working with NNRD to create incentives for producers to perform deep soil sampling and ultimately reduce the nitrate introduction into the source aquifer.

Conservation Practices – A wide variety of conservation practices are available through the NRCS and NNRD. Practices such as the Conservation Reserve Program (CRP), buffer strips, filter strips, no-till, cover crops, and many others can help reduce pollutant loading to the alluvial aquifer. Auburn can encourage rural WHP Area landowners to sign up through the NRCS's EQIP program, as recommended in the 2017 DWPMP. In many cases, property owners in a WHP Area receive additional payment for conservation practices because they are within a target area. Auburn's 2017 WHP Area was declared a priority area for EQIP by NRCS in 2017.

On-site Wastewater Management and Planning – The BPW will work with property owners to ensure new onsite wastewater treatment systems are installed correctly, that existing systems are working property, and that illegal or abandoned systems are either properly closed or repaired to be compliant with NDEQ Title 124. Using NDEQ certified and trained staff, the BPW will be proactive in updating the GIS and databases to have an up-to-date inventory of all onsite wastewater systems in the WHP Area.

CHAPTER 5 - REGULATORY AUTHORITY

5.1. Nemaha County

Nemaha County does not have zoning code, therefore it is important for the City to continue using land control tools such as ordinances to protect the drinking water supply. If Nemaha County does enact zoning in the future, the best scenario for the City would be to amend language in the Nemaha County Zoning to establish an overlay zone to protect the source of drinking water. This approach allows all communities to take advantage of a consistent regulatory strategy and would involve significant community-county cooperation to develop the appropriate strategy, and may involve an Interlocal Agreement for enforcement.

Nebraska's legislature has created numerous statutes that allow local jurisdictions to protect public health and safety. NDEQ administers the wellhead protection program and provides technical assistance to any controlling entity designating a WHP Area and adopting controls to limit potential threats to the public water supply.

5.2. Wellhead Protection Statutes

State statues and laws are summarized below.

Sections 46-1501 to 46-1509 shall be known and may be cited as the Wellhead Protection Area Act.

46-1502 - Terms defined
For purposes of the Wellhead Protection Area Act:
(1) Controlling entity means a city, a village, a natural resources district, a rural water district, any other entity, including, but not limited to, a privately owned public water supply system, or any combination thereof operating under an agreement pursuant to the Interlocal Cooperation Act or the Joint Public Agency Act that operates a public water supply system;
(2) Department means the Department of Environmental Quality;
(3) Director means the Director of Environmental Quality; and
(4) 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.

46-1503 - Wellhead protection area; designation
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 designating a wellhead protection area and adopting controls pursuant to the act.

46-1504 - Wellhead protection area designation; controlling entity; duties
Any controlling entity proposing to designate a wellhead protection area and adopt controls shall:
(1) 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 controlling entity.

46-1505 - Proposed wellhead protection area; public notice and comment
The controlling entity shall publicize proposed boundaries for the wellhead protection area and the proposed controls and shall provide time for public comment at one or more regularly scheduled public meetings of the governing board of the controlling entity. Notice of the time for public comment shall be published in conjunction with notice of such regularly scheduled meeting. A description of the proposed boundaries and the text of the proposed controls shall be available at the office of the controlling entity for thirty days before such meeting. Persons shall be given the opportunity to speak on the proposed designation and the proposed controls or to submit written testimony for consideration by the controlling entity.

46-1506 - Boundaries of wellhead protection area; designation; procedure
Within sixty days after the last time for public comment under section 46-1505, the controlling entity shall make a final designation of the boundaries of the wellhead protection area and the controls necessary to protect the water in the wellhead protection area and shall submit them to the director for approval or disapproval. Such approval shall be based on whether the boundaries of the wellhead protection area are reasonably defined, the controls are reasonably related to the purpose of ground water protection in the area, and such approval is in the public interest. The director shall act on the proposed designation of boundaries and proposed controls within ninety days after the date the proposals are received by him or her.

If the director approves the proposed boundaries and controls, he or she shall so notify the controlling entity, but the boundaries and controls shall not be deemed effective until the controlling entity has adopted such boundaries and controls by ordinance or resolution. If the director disapproves either or both of the proposals, he or she shall return the proposals to the controlling entity with an explanation of the reasons for such disapproval. The controlling entity may revise such proposed designation of boundaries and proposed controls and, after notice and hearing as provided for in the original proposed designation of boundaries and proposed controls, submit the revised proposed designation of boundaries and proposed controls to the director for approval or disapproval.

If the director does not act on either the original or revised proposed designation of boundaries and proposed controls within ninety days after submission by the controlling entity, the proposed designation of boundaries and proposed controls shall be deemed approved by the director.

46-1507 - Existing wellhead protection areas; effect of act
Any wellhead protection area established before July 15, 1998, by resolution or ordinance of the controlling entity need not be reestablished under the Wellhead Protection Area Act unless controls are proposed. If such controls are proposed, the controls and the boundaries of the wellhead protection area are subject to the requirements of sections 46-1504 to 46-1506. Any wellhead protection area purported to have been established before July 15, 1998, other than by official action of a controlling entity shall be null and void beginning nine calendar months after July 15, 1998, unless reestablished by resolution or ordinance of the controlling entity.

46-1508 - Designated wellhead protection area; boundary area changes
A designated wellhead protection area may be amended as to boundaries and controls as provided for in the initial designation of a wellhead protection area in the Wellhead Protection Area Act.

46-1509 - Environmental Quality Council; rules and regulations
The Environmental Quality Council shall adopt and promulgate rules and regulations to carry out the Wellhead Protection Area Act.

5.3. Nemaha Natural Resources District

The NNRD has numerous programs and planning efforts that will benefit Auburn and all of the communities within the NRD. Below is a summary of the tools available from NNRD.

5.3.1. Ground Water Management Plan

NNRD regulates groundwater for quality, quantity, and also permits new well construction. Nemaha NRD established a groundwater management plan in 1986 (being updated in 2018) to create rules and guidelines to encourage best management practices to help prevent possible groundwater contamination. The plan was authorized by Nebraska Revised Statute Chapter 46, Article 6, Section 73.01. The plan was updated in 1995 to amend the management strategy to identify, manage, and establish goals concerning groundwater quality. In 1999, the entire District was placed into a Phase I Groundwater Management Area due to elevated nitrates.

NNRD also regulates the uses related to groundwater quantity. A portion of the NRD was placed into a Phase II Groundwater Quantity Management Area (GWQMA) designation based upon the thickness of the principle aquifer, which includes the Auburn WHP Area. Any areas designated absent or very thin are automatically designated as a Phase II GWQMA. These areas are regulated as described in the NRD groundwater management plan, Chapter 9, as listed below. The entire Auburn WHPA is located in Nemaha NRD's Groundwater Quantity Management Area Phase II.

CHAPTER 9 – PHASE II GROUDNWATER QUANTITY MANAGEMENT AREA DETERMINATION AND REQUIREMENTS

9.1 Phase II Groundwater Quantity Management Area (GWQMA) – The District will initiate the following actions when the Determination of District Groundwater levels indicates the static water level elevation has decreased by 15% or more below the upper elevation of the saturated thickness for any well in the Observation Well Monitoring Network for a two consecutive year period. When this trigger is actuated, the NRD will take the following actions:

- *9.1.1 Increase the number of wells monitored in the area to determine the extent of the problem, to serve as a basis for triggering a Phase II GWQMA, and to obtain the hydrogeologic information necessary to delineate a Phase II GWQMA. The intensified monitoring program described below applies to the entire District. The actual monitoring program for each problem area may vary according to the local hydrogeologic characteristics of the area.*
- *9.1.2 The District will determine an initial area to be monitored. The shape and size of the area will change as more information is gathered. A minimum area of 9 square miles will be monitored.*
- *9.1.3 The minimum number of monitoring sites will be 50% of the number of registered irrigation wells in the area that are suitable for use as groundwater level observation wells (taking into account criteria such as quality of well construction, total well depth and screened intervals). The District will also consider using registered industrial, livestock, monitoring, observation, public water supply, and domestic wells that would be suitable as monitoring sites.*
- *9.1.4 Develop a localized groundwater model to further delineate the area to be monitored.*
- *9.1.5 Install dedicated observation wells as deemed necessary to collect additional geologic and static water level data.*

9.2 All Phase I GWQMA requirements to collect additional geologic and static water level data.

9.3 All new permitted wells approved and constructed will be added to the District's observation well network.

9.4 All new permitted wells are required to have a fully functional flowmeter installed.

- *9.4.1 The flowmeter must be equipped with a totalizer gauge that reads acre inches and a flowrate gauge that reads in gallons per minute.*
- *9.4.2 Total annual groundwater withdrawal reports will be required by December 31st for the year.*

9.5 All existing wells pumping greater than 50 GPM are strongly encourages to install a flowmeter.

For a complete copy of the NRD Groundwater Management Area Rules and Regulations contact the NRD at (402) 335-3325.

In addition to the groundwater management plan regulations, the NRD was granted authority to regulate new well permits for any new construction designed for greater than 50 gallons per minute, including a stay on new well construction for a 180-day period in 2009, while groundwater appropriation determinations were made by the Nebraska Department of Natural Resources for the District. The stay was lifted after February 1, 2009.

5.3.2. Abandoned Well Program

Nemaha NRD provides 75 percent cost-share (up to $500 for drilled wells or $700 for hand dug wells) to properly close and seal abandoned wells. Closure must be completed by a licensed well driller within 90 days after approval. Typically a large number of abandoned wells in an area will be abandoned at one time.

Requirements:

1) NNRD well abandonment program application and aerial photo of the section with the location of the well denoted must be submitted prior to closure.
2) NNRD approval is required before the well abandonment procedures begin.
3) The well(s) must be closed according to the HHSS and NDEQ Title 178 regulations governing water well abandonment standards and a licensed well driller must conduct the work.
4) NNRD will pay 75 percent cost-share assistance on approved well abandonment costs up to a maximum of $500 for each cased well and $700 for each hand dug well.
5) Eligible cost-share does not include payment for removal of any exposed or buried pipes, tanks, pumps, tower, well house or other apparatus.
6) The landowner has 90 days to complete work after receiving an approval letter from the NNRD. It is the landowner's responsibility to keep the well driller on schedule.
7) NNRD may spot check the well(s) prior to, during, or after proper well abandonment.
8) A description of the abandonment process completed on the State's "Notice of Abandonment" form and a copy of the bill listing the materials used must be submitted prior to payment.

5.3.3. NNRD Wellhead Protection Pilot Program

In 2017, the NNRD established a WHP Pilot Program to develop BMPs that provide cost share or incentive payments to producers in a WHP Area that benefits groundwater quality and quantity. Payment levels will be aggressive enough to create interest in the program. Depending on the practice, some payments will be a single one-time payment while others might be an annual payment. The program will be similar to other large scale watershed based projects. Funding from a variety of grant sources with a local match will be required. Input from producers in the WHP Area will be used to develop BMPs and payment rates. The pilot project will include two or three WHP Areas and could be expanded to additional WHP Areas if it’s successful. Auburn formally joined the program in 2017.

5.4. Nebraska Department of Health and Human Services

Communities receive the ability to protect its water supply from potential harmful encroachments through the NHHS Title 179 – Public Water Systems (NHHS, 2010). Chapter 7 of Title 179 provides setbacks from a variety of items to protect public water suppliers. The BPW is the ultimate responsible party to ensure setbacks are met. Enforcement actions are the responsibility of NHHS on a complaint driven bases. These setbacks are shown in Table 9.

Table 9. Nebraska State Titles Specific to Public Water Supply Wells

Category	Distance	179	178	119	122	123	124	126	130	198
Water Well*	1,000	X	X							
Sewage Lagoon	1,000	X			X	X	X			
Land app of municipal/industrial waste material	1,000	X					X			
Feedlot or feedlot runoff/Livestock waste control facility	1,000	X								
Underground disposal system (septic, cesspool, etc.)	500	X			X		X			
Corral	500	X								
Pit/Vault toilet	500	X					X			
Wastewater holding tanks	500	X					X			
Sanitary landfill/Dump	500	X								
Chemical or petroleum product storage	500	X								
Sewage treatment plant	500	X								
Sewage wet well	500	X								
Sanitary sewer connection	100	X								
Sanitary sewer manhole	100	X								
Sanitary sewer line	50	X				X				
Class V domestic wastewater disposal wells	1,000				X					
Class V wells constructed above water table	1,000				X					
Class V well injecting into or constructed through uppermost aquifer	1,000				X					
Livestock waste control facility	1,000								X	
Fertilizer (paunch manure)	500							X		
Static pile or wind row paunch storage	500							X		
Paunch storage lagoon	500							X		
Paunch maure static pile or wind row storage	500							X		
Wastewater land application and effluent	500			X						
Absorption, infiltration, and evaporative Systems	500						X			
CAFO manure, litter, or process wastewater applied	100								X	
New Secondary Containment/Loadout Facility	100									X

Source: NDEQ WHP Program Coordinator 2017

5.5. Nebraska Department of Environmental Quality

The NDEQ approves WHP Areas and can assist communities with WHP Planning, including funding to support certain activities such as well closures, public meetings, incentives for BMPs, etc. The NDEQ also approves WHP Plans, which in certain situations can be helpful for enforcing local water protection ordinances.

5.6. Other Planning Partners

- **University of Nebraska (UNL) Extension** – UNL Extension has been and continues to be an active stakeholder in source water protection. UNL Extension provides property owner coordination, facilitation of meetings, education and outreach, and program administration services.
- **Natural Resources Conservation Service (NRCS)** – NRCS can provide assistance with implementation of conservation practices. NRCS can coordinate with property owners and assist with enrollment into federal programs.

- **Nebraska Rural Water Association (NRWA)** – NRWA provides communities technical assistance with water systems including cross connection, disinfection, water treatment, and operator certification. NRWA also assist communities with source water protection.
- **The Groundwater Foundation (TGF)** – TGF is a nonprofit located in Lincoln that can help communities with community outreach and education. TGF has several programs aimed at engaging communities to be active in protecting drinking water supplies.

CHAPTER 6 - EMERGENCY AND CONTINGENCY PLANS

6.1. Auburn Emergency Plan

Since February 2010, the City of Auburn has been a member of the Nebraska Water/Wastewater Agency Response Network (NEWARN). According to the website, www.newarn.org, NEWARN is a statewide water/wastewater agency response network of 'utilities helping utilities' to prepare for the next natural or human-caused emergency, organize response according to established requirements, and share personnel and other resources statewide, by agreement.

The City Public Water Supply Emergency Plan was prepared by the Board of Public Works and last updated March 25, 2015. A complete copy of the Emergency Plan has been placed in Appendix D. The plan summarizes key contacts, the organizational structure of the Auburn City Government, and actions to take if wells lose power or pressure, become inoperative, or contaminated. Steps are also outlined if security is breeched, vandals strike, or to address drought conditions. Alternative sources of drinking water or short-term sources are also listed.

6.2. Auburn BPW Regional Water Study/Future Water Needs

In 2008, Auburn completed a study to determine the feasibility of a regional water supply that would interconnect Auburn, Nemaha County RWDs #1 and #2, Brownsville, Peru, and Nemaha. The study, completed by HDR, analyzed the current water supply systems in Nemaha County based upon water quality, supply, and demands. Future water demands were established based upon population projections and current per capita water usage data. In addition, water treatment options for BPW were discussed based on water quality data from the existing Auburn well field and another southeast of the Village of Nemaha. The HDR Regional Water Study Report can be viewed at the Auburn Board of Public Works office at 1600 'O' Street in Auburn. In 2017, LBG updated HDR's original report and also reviewed how water levels in wells were affected by low flows in the river during dry and wet periods.

Based upon the regional study, Auburn's projected average flow was 590 GPM and the projected peak flow is 1,630 GPM through a design period of 2028. System demands vary across Nemaha County from 69 gallons/cap-day to 182 gallons/cap-day, with the average daily per capita water demand for Nemaha County being 157 gallons. As of 2017, no construction plans were in place for the Auburn BPW Regional Water System, however a public meeting was held with each of the stakeholders, facilitated by the NNRD, on April 17, 2017. The regional water survey recommends the Village of Nemaha, Nemaha Rural Water Districts #1 and #2, and the City of Auburn to work together to provide a low-cost of municipal water in the long-term at the lowest cost to the end user.

The City of Auburn Public Water System Master Plan (Two and Ten Year) was established on February 11, 2008, and last updated on January 28, 2015. The Master Plan lays out a direction for the short- and long-term plans for the water system. A copy of the Master Plan can be found in Appendix E.

6.3. Auburn BPW Potential Well Locations

Auburn BPW has looked at numerous potential well locations within their existing well field near Auburn. Five well sites have been identified and are displayed in Figure 19. In addition, the City has purchased a 36 - acre well field located east of the Village of Nemaha, Nebraska near the Missouri River, 11 miles southeast of Auburn. The BPW proposed to develop a new water supply at the new well field site to include three new vertical wells, with a potential for adding a fourth according to a Phase 1 – Well Construction report completed by HDR in May 2007. (The HDR well construction report can be viewed at the Auburn Board of Public Works

office at 1600 ‘O’ Street in Auburn.) Locations of the proposed wells are displayed in Figure 20. NDEQ delineated a provisional 20-year time-of-travel in 2010 based upon assumed productions rates and anticipated well locations. The Nemaha provisional wellfield WHP Area is displayed in Figure 21.

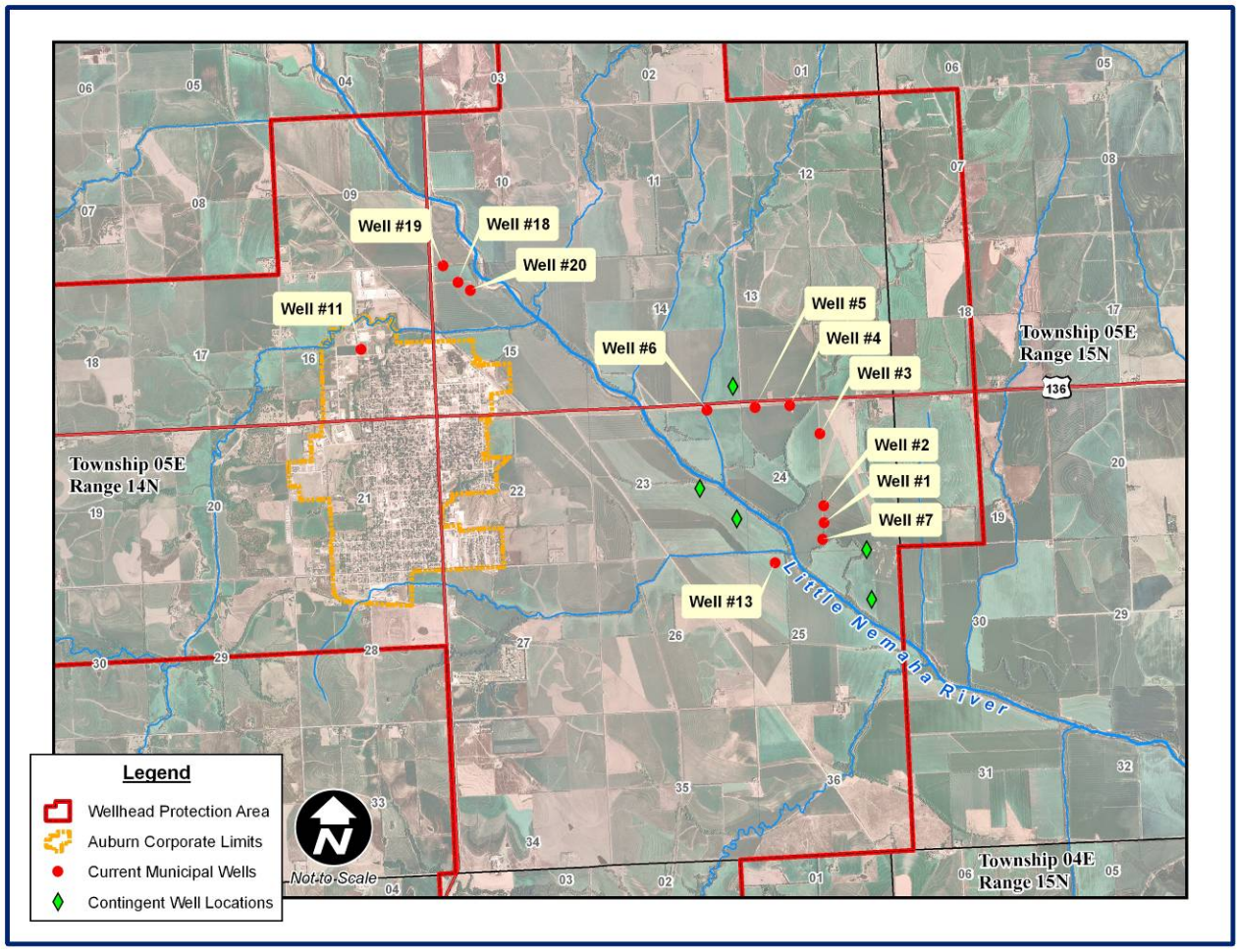


Figure 19. Auburn Well field Potential Well Sites

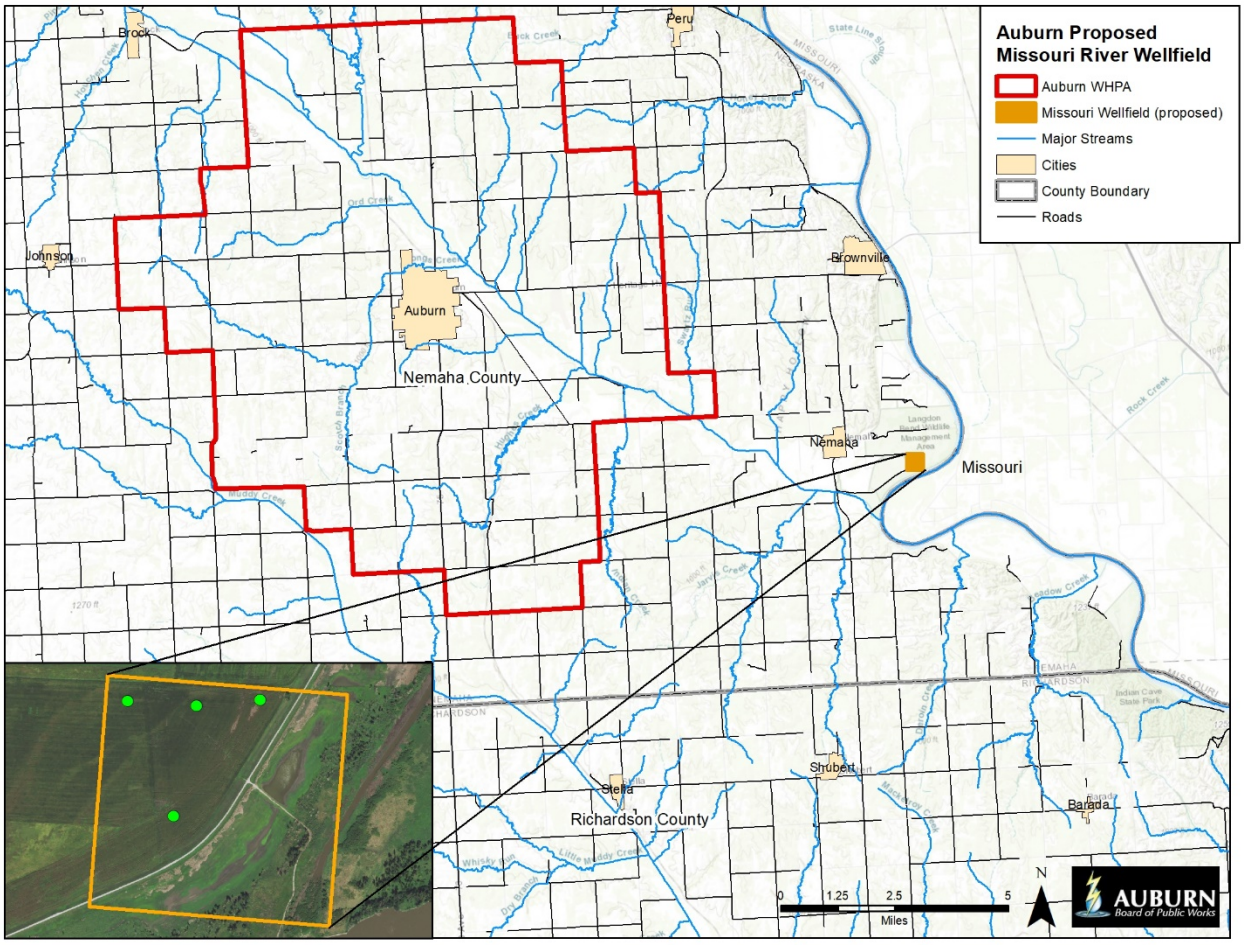


Figure 20. Auburn Well field Potential Well Sites

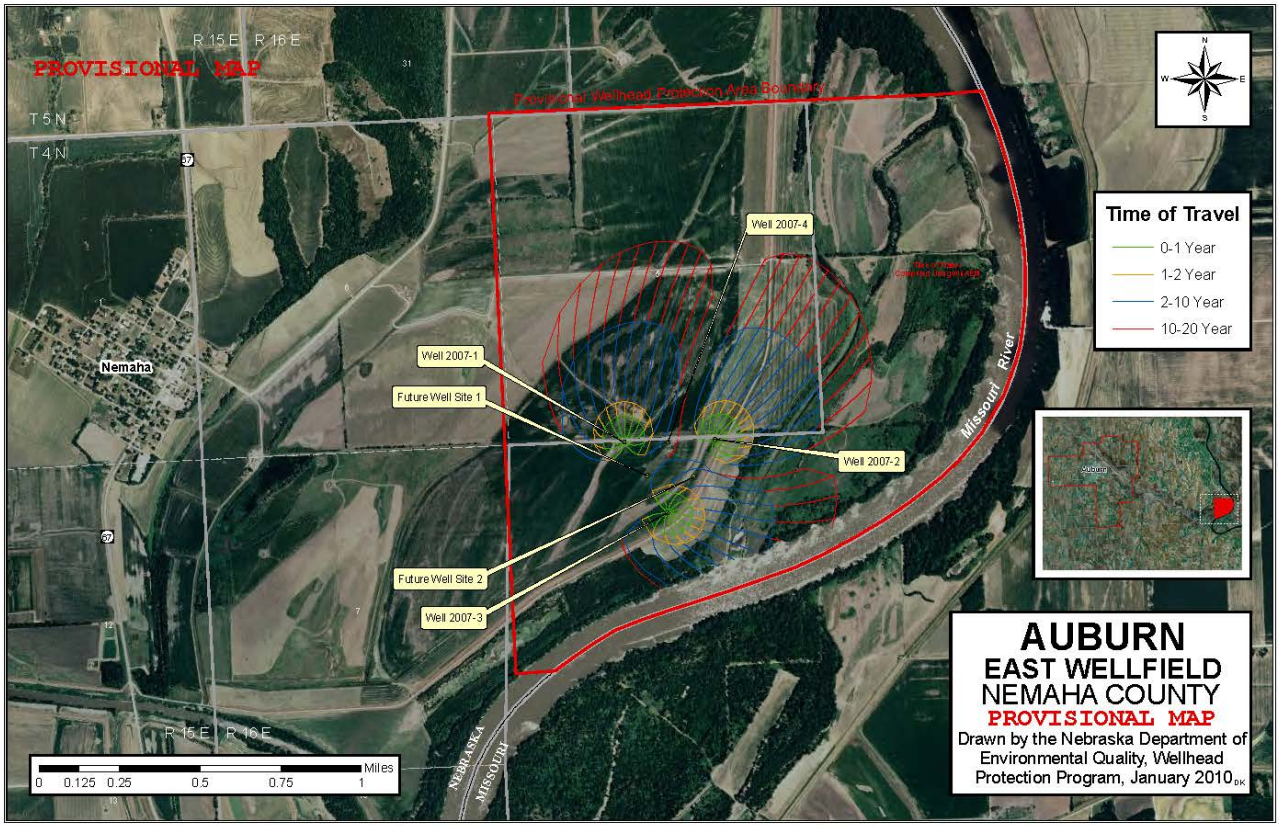


Figure 21. Auburn Nemaha Wellfield Preliminary WHPA

CHAPTER 7 - PUBLIC EDUCATION AND NOTIFICATION

7.1. Auburn Wellhead Protection Planning Committee

During establishment of the 2017 DWPMP, a stakeholder group was formed and met a total of three times. This stakeholder group also served as the WHP Committee. Feedback from this group was relevant to both the establishment of the DWPMP and the WHP Plan update. Additionally, a public open house was held towards the conclusion of the DWPMP and at the kickoff of the WHP Plan update. Feedback was summarized and incorporated into both the 2017 DWPMP and the 2017 WHP Plan. The WHP Committee is listed in Table 11.

Table 10. WHP Committee

Name	Represents	Name	Represents
Wes Debuhr	Ag Producer	Scott Teten	Ag Producer
Myron Gerdes	Ag Producer	Jim Wehenkel	Community
Bob Hemmingsen	Community	Bob Hilske	NNRD
Chuck Knipe	BPW / Ag Producer	Sam Radford	NDEQ
Joe Moody	Ag Producer	Carla McCullough	NDEQ
Phil Shaw	BPW / Community	Dave Hunter	BPW
Jonathan Mohr	Leggette, Brashears, & Graham	Ken Swanson	BPW

7.1.1. Meeting Summary

During the process of updating the WHP Plan, a total of two WHP Committee meetings were held in addition to the required 30-day plan review period and public hearing. The BPW also used these opportunities to identify locations of abandoned wells and provide feedback on information being provided as part of the 2017 DWPMP. Documentation of public involvement, including meeting invitations and sign-in sheets, are found in Appendix F.

Meeting #1: WHP Plan Project Kickoff – Auburn BPW Office – July 10, 2017 @ 6:30pm

The DWPMP Stakeholder Group agreed to also act as the WHP Committee. At this meeting the group discussed the status of the DWPMP, how the WHP Plan will be established and the differences between the two planning efforts, the WHP Area report and conjunctive delineation, the update of the CSI, water quantity issues, and potential conservation practices. Dave Hunter provided a hard copy of the 2009 WHP Plan to all members and a copy was made available at the BPW office for review and comment.

Meeting #2: Regular Committee Meeting – Auburn BPW Office – September 21, 2017, 5:30pm

At this meeting the group discussed the status of the DWPMP, WHP Plan update, on-the-ground actions to improve water quality, groundwater recharge projects, the final WHP Area, conservation practice goals, and discussed the implementation strategy.

Meeting #3: Community Open House – Auburn BPW Shop – September 21, 2017, 7:00pm

A total of four citizens attended an open house to learn about efforts to protect the drinking water supply. The majority of the WHP Committee also attended the meeting. The BPW's consultant provided an overview of the hydrogeology around the community, how the WHP Area was delineated, details on the implementation strategy, and answered questions from the audience.

CHAPTER 8 - REFERENCES

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Nebraska Department of Health & Human Services (NHHS, 2010). *Title 179 – Public Water Systems Rules and Regulations, Chapter 12*. Lincoln, NE.

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Appendix A: City of Auburn WHP Ordinance

ORDINANCE NO. 5-18

City of Auburn, Nebraska Wellhead Protection Ordinance

AN ORDINANCE TO PROVIDE FOR A WELLHEAD PROTECTION OVERLAY ZONE FOR THE CITY OF AUBURN, NEBRASKA IN NEMAHA COUNTY PURSUANT TO SECTION 17-536 OF THE REVISED STATUTES OF NEBRASKA BY ESTABLISHING LIMITATIONS UPON THE LOCATION OF POTENTIAL SOURCES OF POLLUTION OR INJURY TO THE CITY'S PUBLIC WATER SUPPLY; TO ESTABLISH RULES AND REGULATIONS DEFINING AND ENFORCING SUCH LIMITATION; TO PROVIDE PROCEDURES FOR IMPLEMENTATION OF RULES AND REGULATIONS; TO PROVIDE FOR REPEAL OF ALL ORDINANCES OR PARTS OF ORDINANCES IN CONFLICT HEREWITH; AND TO PROVIDE FOR AN EFFECTIVE DATE.

WHEREAS, Section 17-536 of the Revised Statutes of Nebraska provides that the jurisdiction of the City to prevent pollution or injury to the source of its water supply shall extend 15 miles beyond its corporate limits;

WHEREAS, Section 46-1503 of the Nebraska Wellhead Protection Area Act in the Revised Statutes of Nebraska provides that the City may designate a wellhead protection area (Exhibit 1) and adopt controls pursuant to said Act for the protection of the public water supply system;

WHEREAS, pursuant to the Nebraska Wellhead Protection Act, Sections 46-1501 *et. seq.* of the Revised Statues of Nebraska, the Mayor and City Council has previously adopted the Auburn Wellhead Protection Plan Ordinance No. 06-04, the 12th day of April, 2004;

WHEREAS, it is necessary to place limitations upon the location of potential sources of pollution or injury to the City's water supply and groundwater that is hydrologically connected thereto within the Wellhead Protection Area and to prescribe rules and regulations with respect to such limitation and the enforcement thereof;

"WHEREAS, based on data collected by the City's Engineers, the Nebraska Department of Environmental Quality has conducted studies and prepared a map reflecting recommended boundaries for the City of Auburn Wellhead Protection Area;"

WHEREAS, Nemaha County has not adopted zoning at the time of the enactment of this ordinance, this ordinance shall be precedent;

WHEREAS, the City of Auburn intends to enforce wellhead protection regulations of the City to the extent of the boundary recommended by the Nebraska Department of Environmental Quality and adopted **March 2018,** which includes the following described real estate:

In the County of Nemaha Nebraska at a point beginning at the center of the intersection of 724 Road and 636 Avenue proceed north to 725 Road then west to 634 Avenue then to 728 Road then to 633 Avenue then north to U.S. Highway 136 then west to 632 Avenue then north to 731 Road then east to 634 Avenue then north to 732 Road then east to 635 Avenue then north to 735 Road then east to 641 Avenue south to 733 Road then east to 642 Avenue then south to 732 Road then east to 643 A Avenue to U.S. Highway 136 then east to 644 Avenue then south to 722 Road then east to Highway 67 then south to 726 Road then east to 642 A Avenue then south to 723 Road then east to 642 Avenue then south to 722 Road then west to US Highway 75 then north to 723 Road then west to 637 Avenue then west to beginning point of intersection of 724 Road and 636 Avenue.

NOW THEREFORE BE IT ORDAINED BY THE MAYOR AND COUNCIL OF THE CITY OF AUBURN, NEBRASKA:

Section 1
The findings set forth above are hereby made a part of this ordinance as fully as if set out at length herein.

Section 2
Words or phrases used in this ordinance shall be interpreted so as to give them the same meaning as they have in common usage and so as to give this ordinance its most reasonable application.

Section 3
The area inside the bold lines on the attached map (Exhibit 1, Auburn Wellhead Protection Area) and made part of this ordinance, shall be the official Wellhead Protection Area for the City of Auburn, Nebraska.

Section 4
It shall be unlawful for any person, other than the City of Auburn, to place, install, construct or replace any of the following structures or conduct any of the following activities which shall be designated by the Board of Public Works ("BPW") as a potential threat to the water supply within the Wellhead Protection Area, except as may be provided herein, to-wit:

Activity or structure:

1) Non-potable water well
2) Sewage lagoon
3) Absorption or disposal field for waste
4) Cesspool (prohibited under NDEQ Title 124, Chapter 1, Section 032)
5) Dump
6) Feedlot or feedlot runoff (As defined by Title 130 of the regulations of the Nebraska Department of Environmental Quality)
7) Corral
8) Pit toilet (prohibited under NDEQ Title 124, Chapter 1, Section 032
9) Sanitary landfill
10) Chemical or petroleum product storage
11) Septic tank
12) Sewage treatment plant
13) Sewage wet well (prohibited under NDEQ Title 122, Chapter 3, Section 005)
14) Sanitary sewer connection
15) Sanitary sewer manhole
16) Sanitary sewer line

Section 5
Under the authority conferred by the City of Auburn to the BPW under section 17-802 of the Revised Statutes of Nebraska, the BPW shall be responsible for implementation and enforcement of the rules and regulations established by this ordinance and shall consider all applications filed pursuant hereto. All applications shall be approved or rejected by majority of the BPW with a roll call vote. The BPW shall designate one of its employees *Administrator.* This employee shall be charged with administration of the rules and regulations.

Section 6
The placing, installing, constructing or replacing of any structure or activity as set forth in Section 4 of this ordinance, hereinafter termed "wellhead structure or activity", within the Wellhead Protection Areas shall not be permitted after the effective date of this ordinance unless a permit, approved by the Board of Public Work, has been obtained. The owner of any wellhead structure or activity shall have the burden of establishing the existence and use of said wellhead structure or activity at the time of the effective date of this ordinance.

Section 7
No permit shall be issued by the BPW within the following setback distances from any City public water supply well:

ACTIVITY	MINIMUM DISTANCE (feet)
Non-potable water well	1,000
Sewage lagoon	1,000
Absorption or disposal field for waste	500
Cesspool	Not allowed
Dump	500
Feedlot or feedlot runoff	500
Corral	500
Pit toilet	500
Sanitary landfill	500
Chemical or petroleum product storage	500
Septic tank	500
Septic tank (greater than1,000 gallons per day)	1,000
Sewage treatment plan	1,000
Sewage wet well	1,000
Sanitary sewer connection	100
Sanitary sewer manhole	100
Sanitary sewer line	50
Sanitary sewer line (water tight)	10

Any prohibited activity or structure described above that is located within the defined setback distance is considered a hazard to the quality of groundwater that is hydrologically connected to, or likely to injure, restrict access, contaminate or pollute the City's water supply.

Section 8
For purposes of this ordinance, a permit issued by the BPW shall be revoked in the event conditions at an animal feeding operation, as defined by Title 130 of the regulations of the Nebraska Department of Environmental Quality ("DEQ"), indicate a potential for waste discharge which may threaten the City's water supply, including but not limited to surface and groundwater that is hydrologically connected thereto, unless the owner of the operation can provide evidence to the BPW that the threat has been eliminated. The determination of whether a threat has been eliminated is within the sole discretion of the BPW, which may seek guidance from the DEQ in making its determination.

Section 9
Prior to placing, installing, constructing, expanding or replacing any wellhead structure or activity, the owner of the real estate upon which the structure or activity is proposed shall file with the BPW an application for a wellhead structure or activity permit. Said application shall be on a form furnished by the BPW and shall include supporting information indicating why approval would not adversely impact the City's public water supply or why the proposed activity is unlikely to injure, restrict access, contaminate or pollute the City's public water supply. This application shall be submitted to the BPW Board for consideration. Any wellhead structure or activity not prohibited by Section 7 above shall be permitted upon a determination of the BPW, in its sole discretion, that such structure or activity does not constitute a hazard or threat, or is not likely to injure, restrict access to, contaminate, or pollute the City's water supply. Prior to acting upon such application, the BPW may request an engineering report, recommendations of the Nemaha Natural Resources District, the Nebraska Department of Environmental Quality or any other party or agency in evaluating the impact of the proposed structure or activity on the City's water supply. A permit shall be issued if BPW determines the structure or activity is unlikely to injure, restrict access, contaminate or pollute the City's water supply, including but not limited to surface and groundwater that is hydrologically connected thereto.

Section 10
If the Auburn Board of Public Works determines that an existing wellhead structure or activity presents a hazard, or is likely to injure, restrict access to, contaminate or pollute the City's public water supply, including but not limited to surface and groundwater that is hydrologically connected thereto, the BPW shall immediately notify the landowner in writing to cease and desist use of the injurious structure or operation of the injurious activity. The BPW shall deliver a copy of the cease and desist notice to the City Attorney, the City Council, and the Mayor. Should the Owner desire to continue use or operate after receiving notice to cease and desist, the landowner, within ten (10) days of receiving notice, shall make a written request for hearing to the Auburn City Hall, 1101 "J" St., Auburn, NE. 68305. A hearing before the City Council shall be held within thirty (30) days of receipt of request by City Hall. The landowner shall refrain from use of the injurious structure or operation of the injurious activity identified in the written notice from the BPW until resolution of the appeal to the City Council. At the hearing, the BPW shall present evidence of the proposed injurious structure, or activity causing harm or potential harm, to the City's public water supply, including surface and groundwater that is hydrologically connected thereto. The Owner may present evidence rebutting the BPW's allegations. The City Council shall make a final decision in writing within thirty (30) days of the hearing date, which shall be based upon the evidence presented to it at the hearing. The City Council shall send copies of its decision to the BPW and the Owner by e-mail or first-class mail.

Section 11
Any person found violating any provision of this ordinance shall be subject to a fine not to exceed $500.00. The continuation of a violation of this ordinance shall be deemed an additional crime for every 24 hours of such continued violation. In addition, the City may obtain injunctive relief and sue for damages and remediation, and pursue any other remedy available to it under the laws of the State of Nebraska or other authority having jurisdiction over such matters.

Section 12
Should any section, paragraph, sentence or word of this ordinance hereby adopted be declared, for any reason, to be invalid, it is the intent of the Mayor and City Council of the City of Auburn, Nebraska, that it would have passed all other portions of this ordinance independent of the elimination hereof of any such portion as may be declared invalid.

Section 13
All ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

Section 14
This ordinance shall take effect and be in full force and effect from and after its passage and publication according to law.

PASSED AND APPROVED this 11th day of June, 2018.

CITY OF AUBURN, NEMAHA COUNTY, NE

Mayor

Attest:

Sherry Heskett, City Clerk

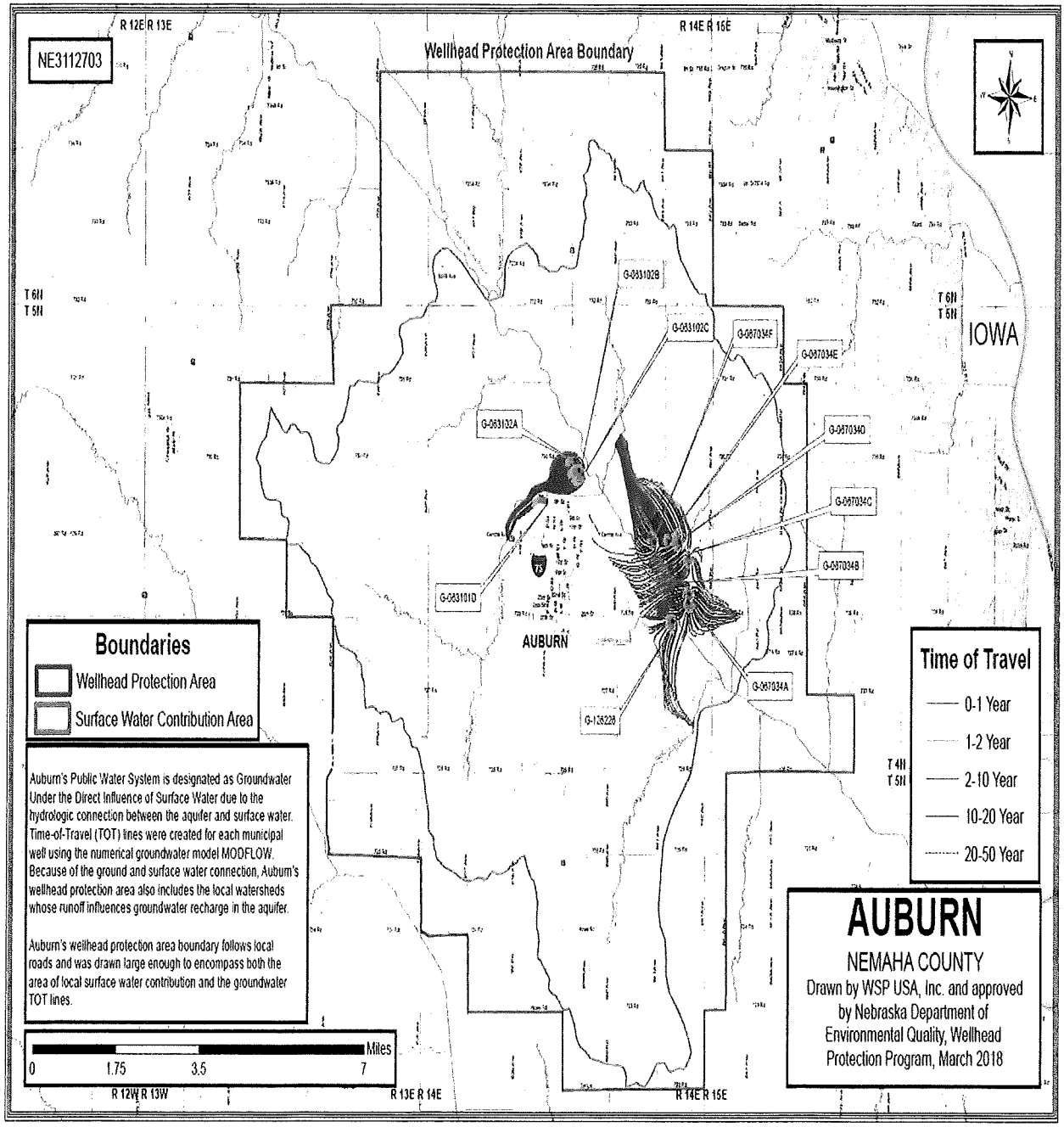
CITY OF AUBURN ★★★ SEAL ★★★ NEMAHA COUNTY, NEBRASKA

Approved as to form:

6-11-18

City Attorney

EXHIBIT 1 – Auburn Wellhead Protection Area Map



Appendix B: Consumer Confidence Report & Sanitary Survey

City Of Auburn

Annual Water Quality Report
For January 1 to December 31, 2016

This report is intended to provide you with important information about your drinking water and the efforts made by the City Of Auburn water system to provide safe drinking water.

Para Clientes Que Hablan Español: Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.

For more information regarding this report, or to request a hard copy, contact:

KENNETH SWANSON
402-274-4981 Ext: 112

If you would like to observe the decision-making processes that affect drinking water quality, please attend the regularly scheduled meeting of the Village Board/City Council. If you would like to participate in the process, please contact the Village/City Clerk to arrange to be placed on the agenda of the meeting of the Village Board/City Council.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

Source Water Assessment Availability:
The Nebraska Department of Environmental Quality (NDEQ) has completed the Source Water Assessment. Included in the assessment are a Wellhead Protection Area map, potential contaminant source inventory, vulnerability rating, and source water protection information. To view the Source Water Assessment or for more information please contact the person named above on this report or the NDEQ at (402) 471-6988 or go to www.deq.state.ne.us .

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Sources of Drinking Water:
The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

The source of water used by City Of Auburn is ground water under the direct influence of surface water.

Contaminants that may be present in source water include:
* Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
* Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming.
* Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
* Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
* Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

Drinking Water Health Notes:
Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791) or the Department of Health and Human Services, Division of Public Health, Office of Drinking Water at 402-471-2541.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. All Community water systems are responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have you water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800-426-4791), at http://www.epa.gov/safewater/lead or at the DHHS/DPH/Office of Drinking Water (402-471-2541).

The City Of Auburn is required to test for the following contaminants: Coliform Bacteria, Antimony, Arsenic, Asbestos, Barium, Beryllium, Cadmium, Chromium, Copper, Cyanide, Fluoride, Lead, Mercury, Nickel, Nitrate, Nitrite, Selenium, Sodium, Thallium, Alachlor, Atrazine, Benzo(a)pyrene, Carbofuran, Chlordane, Dalapon, Di(2-ethylhexyl)adipate, Dibromochloropropane, Dinoseb, Di(2-ethylhexyl)- phthalate, Diquat, 2,4-D, Endothall, Endrin, Ethylene dibromide, Glyphosate, Heptachlor, Heptachlor epoxide, Hexachlorobenzene, Hexachlorocyclopentadiene, Lindane, Methoxychlor, Oxamyl (Vydate), Pentachlorophenol, Picloram, Polychlorinated biphenyls, Simazine, Toxaphene, Dioxin, Silvex, Benzene, Carbon Tetrachloride, o-Dichloro- benzene, Para-Dichlorobenzene, 1,2-Dichlorethane, 1,1-Dichloroethylene, Cis-1,2,-Dichloroethylene, Trans-1,2-Dichloroethylene, Dichloromethane, 1,2-Dichloropropane, Ethylbenzene, Monochlorobenzene, 1,2,4-Trichloro- benzene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethylene, Vinyl Chloride, Styrene, Tetrachloroethylene, Toluene, Xylenes (total), Gross Alpha (minus Uranium & Radium 226), Radium 226 plus Radium 228, Sulfate, Chloroform, Bromodichloromethane, Chlorodibromomethane, Bromoform, Chlorobenzene, m-Dichlorobenzene, 1,1-Dichloropropene, 1,1-Dichloroethane, 1,1,2,2-Tetrachlorethane, 1,2-Dichloropropane, Chloromethane, Bromomethane, 1,2,3-Trichloropropane, 1,1,1,2-Tetra-chloroethane, Chloroethane, 2,2-Dichloropropane, o-Chlorotoluene, p-Chlorotoluene, Bromobenzene, 1,3-Dichloropropene, Aldrin, Butachlor, Carbaryl, Dicamba, Dieldrin, 3-Hydroxycarbofuran, Methomyl, Metolachlor, Metribuzin, Propachlor.

How to Read the Water Quality Data Table:
The EPA and State Drinking Water Program establish the safe drinking water regulations that limit the amount of contaminants allowed in drinking water. The table shows the concentrations of detected substances in comparison to the regulatory limits. Substances not detected are not included in the table. The state requires monitoring of certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Therefore, some of this data may be older than one year.
MCL (Maximum Contaminant Level) – The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
MCLG (Maximum Contaminant Level Goal) – The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
AL (Action Level) – The concentration of a contaminant which, if exceeded triggers treatment or other requirements which a water system must follow.
MRDL (Maximum Residual Disinfectant Level) – The highest level of a disinfectant allowed in drinking water.
N/A – Not applicable.

Units in the Table:
ND – Not detectable.
ppm (parts per million) = mg/L (milligrams per liter) – One ppm or one mg/L corresponds to 1 gallon of water in 1,000,000 gallons of water.
ppb (parts per billion) – One ppb corresponds to 1 gallon of water in 1,000,000,000 gallons of water.
pCi/L (Picocuries per liter) – Radioactivity concentration unit.
ug/L (micrograms per liter) – Measurement of radioactivity.
RAA (Running Annual Average) – An ongoing annual average calculation of data from the most recent four quarters.
90th Percentile – Represents the highest value found out of 90% of the samples taken in a representative group. If the 90th percentile is greater than the action level, it will trigger a treatment or other requirements that a water system must follow.
TT (Treatment Technique) – A required process intended to reduce the level of a contaminant in drinking water.

City Of Auburn

TEST RESULTS

Date Printed: 10/11/2017 NE3112703

Microbiological	Highest No. of Positive Samples	MCL	MCLG	Likely Source Of Contamination	Violations Present
No Detected Results were Found in the Calendar Year of 2016					

Lead and Copper	Monitoring Period	90th Percentile	Range	Unit	AL	Sites Over AL	Likely Source Of Contamination
COPPER, FREE	2014 - 2016	0.74	0.0636 - 0.814	ppm	1.3	0	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing.
LEAD	2014 - 2016	4.84	0.534 - 7.15	ppb	15	0	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing.

Regulated Contaminants	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Likely Source Of Contamination
ARSENIC	9/15/2015	2.35	2.35	ppb	10	0	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
BARIUM	1/4/2016	0.17	0.17	ppm	2	2	Discharge from drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
FLUORIDE	1/4/2016	0.807	0.807	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; Fertilizer discharge.
NITRATE-NITRITE	2/22/2016	2.56	2.56	ppm	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SELENIUM	1/4/2016	5.41	5.41	ppb	50	50	Erosion of natural deposits

Disinfection Byproducts	Monitoring Period	Highest RAA	Range	Unit	MCL	MCLG	Likely Source Of Contamination
TOTAL HALOACETIC ACIDS (HAA5)	4/1/2015 - 3/31/2016	3.785	2.74 - 4.83	ppb	60	0	By-product of drinking water disinfection.
TTHM	4/1/2015 - 3/31/2016	23	19.6 - 26.4	ppb	80	0	By-product of drinking water disinfection.

Radiological Contaminants	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Likely Source Of Contamination
GROSS ALPHA, INCL. RADON & U	4/15/2014	5.85	5.85	pCi/L	15	0	Erosion of natural deposits

Unregulated Water Quality Data	Collection Date	Highest Value	Range	Unit	Secondary MCL
NICKEL	2/23/2015	0.00256	0.00256	mg/L	0.1
SULFATE	2/23/2015	63.9	63.9	mg/L	250

During the 2016 calendar year, we had the below noted violation(s) of drinking water regulations.

Type	Category	Analyte	Compliance Period
No Violations Occurred in the Calendar Year of 2016			

There are no additional required health effects notices.

There are no additional required health effects violation notices.

2016

Department of Health & Human Services
DHHS
NEBRASKA

State of Nebraska
Pete Ricketts, Governor

July 22, 2016

Kenneth A. Swanson
City of Auburn
Board of Public Works
PO Box 288
Auburn, NE 68305

RE: Routine Sanitary Survey, City of Auburn, NE31-12703, Nemaha County.

Dear Mr. Swanson:

On June 9, 2016, a survey of the City of Auburn PWS (the system) was conducted by Fred Baumert, accompanied by you, representing the system, to determine compliance with Title 179 NAC Regulations Governing Public Water Supply Systems. Findings of the inspection were discussed with you at the completion of the inspection. This letter serves as official notification from the Department to the system that no deficiencies were found during the sanitary survey.

As a reminder, prior to making any modifications or alterations to your public water system, please contact DHHS Engineering Services at (402)471-0597 to determine if plans and specifications prepared by a Nebraska registered professional engineer are required.

With regard to backflow tests conducted within the City of Auburn, it is recommended that a space be provided on the City of Auburn Backflow Test Report Form so that the annual calibration date of the Backflow Test Equipment that is used by the Grade VI Water Operator to conduct the test may be recorded on the form.

If you wish to discuss the findings of this survey, please contact me at the address listed below, by E-mail at fred.baumert@nebraska.gov, or by phone at (402) 471-0519 (office) or (402) 440-4917 (cell).

Sincerely,

Fred Baumert
Water Supply Specialist
DHHS - DPH Field Area One Representative
301 Centennial Mall South
PO Box 95026
Lincoln, NE 68509-5026

Cc: David A. Hunter, Jr., General Manager
City of Auburn Files in Lincoln

Useful Links: DHHS DPH Public Water Supply Program - http://dhhs.ne.gov/publichealth/Pages/enh_pwsindex.aspx
Midwest Assistance Program - http://map-inc.org/
Nebraska Rural Water Association - http://www.nerwa.org/
League of Nebraska Municipalities - http://www.lonm.org/

Revised 8/1/2014
DLW

Department of Health & Human Services
DHHS
NEBRASKA

Nebraska Department of Health and Human Services
Division of Public Health – Office of Drinking Water
Public Water Supply Routine Sanitary Survey

PWS Name: City of Auburn PWSID #: NE31-12703 Permit Issue Date: 7/1/1977

Physical Address of NC PWS: 1600 O Street, Auburn, NE 68305

Is system a NeWARN Member? Y ☒ N ☐

County: Nemaha NRD #: 10 - Nemaha System Class: 2 Type of System: C

Accompanied By: Kenneth Swanson Title: Water / Wastewater Manager Governing Body: Board of Public Works

Is there a defined organizational structure for decision making: Y ☒ N ☐

RSS Date: 06/09/2016 Last RSS Date: 4/5/2013 Inspection By: Fred Baumert

Is the operator in responsible charge properly licensed: Y ☒ N ☐ License Grade and #: Grade II, #378

FINANCIAL INFORMATION

% Metered Connections: 100% # Residential Service Connections: 1411 # Non-residential Service Connections: 383

System Interconnections: None Reason: ☐ Purchase ☐ Sell ☐ Emergency

Comments: _____

Is operating budget available for inspection: Y ☒ N ☐ Planned or Actual for Year: 2015

SYSTEM RECORDS / PROGRAMS

	S	U	NA	Comments
System Maps	☒	☐	☐	Updated continuously
Water Quality / Sample results	☒	☐	☐	
Water Production Records	☒	☐	☐	
Chemical Use Records	☒	☐	☐	
Maintenance Records	☒	☐		Water Distribution System Maintenance Log
Customer Complaints	☒	☐		
Cross-Connection Control Requirements	☒	☐		
Copy of Sampling Plans	☒	☐	☐	Date approved: 1/28/2016
Wellhead Encroachment Policy	☐	☒	☐	In the process of being updated
Emergency Phone List	☒	☐		Date approved: 1/28/2016
Emergency Plan	☒	☐	☐	Date approved: 3/29/2016
Planning Records	☒	☐	☐	Master Plan updated 1/28/2015
CCR(s)	☒	☐	☐	
O&M Manual	☒	☐		Updated 5/27/2016
Provisions For Drought Mitigation/Management	☒	☐	☐	

Other Records and Comments: _____

NEBRASKA SUSTAINABILITY CHECKLIST FOR PUBLIC WATER SYSTEMS

CAPACITY ASSURANCE

SYSTEM NAME: City of Auburn ☒ Community ☐ NTNC

DATE: 6/9/2016 # Connections 1794 Population 3460 NE31-12703

ASSESSMENT COMPLETED BY: Fred Baumert

MANAGERIAL CAPACITY	Points	System
Asset Management Program	10	0
Documented Bylaws or Water System Ordinances - (Drought, Backflow, Rates, Fees, etc.)	5	5
Employee Handbook	5	5
Written Job descriptions	5	5
Secure and accessible water system records	5	5
Source water or wellhead protection plan	5	3
Regular communication with customers - (Not CCR)	5	5
Managerial Subtotal	40	28
FINANCIAL CAPACITY		
Formal water system budget	10	10
Water rate or fee structure meets expenses	10	5
Annual water rate review	10	10
Capital reserve fund	10	10
Monthly Expense & Revenue reports to Board/Council	10	5
Annual outside audit	10	10
Financial Subtotal	60	50
TECHNICAL CAPACITY		
Adequate source water capacity	10	10
Licensed Operator	5	5
Operations & Maintenance Manual	5	5
Up to Date Distribution Map	5	5
Water Loss Accounting	10	10
Water meters	10	10
Technical Subtotal	45	45
Capacity Subtotal	145	123
Outstanding Violations (Subtract from Capacity Subtotal)		
11 or more points on EPA's Enforcement Targeting Tool (ETT) list	-20	
Significant deficiencies - per deficiency	-10	
Maximum Contaminant Levels - per violation	-10	
Monitoring and reporting - per violation	-5	
Public Notice (CCR, other Public Notice) - per violation	-5	
Non-Compliance Subtotal	-50	
OVERALL CAPACITY RATING		

Minimum Capacity Rating = 100

Systems below this rating may be required to prepare a business plan and/or attend board training in addition to addressing all outstanding violations to re-establish adequate capacity.

LICENSED WATER OPERATOR NEEDS ASSESSMENT

Is the Designated Water Operator In Responsible Charge (DO) assigned full-time water system duties (is water all s/he does)?

Y ☐ N ☒

If No, what are the other duties that are assigned to the DO? Wastewater operations or and contract services for other utillities.

Do all licensed operators for the system have a commensurate grade of license compared to the system classification? Y ☐ N ☒

If No, what is the reason? Supervisor presently has Grade II and others are working toward that level

Other licensed operators duties: All

Are there unlicensed persons working on the water system? Y ☐ N ☒

If Yes, are they making any process control or system integrity decisions? Y ☐ N ☐

If Yes, what are those decisions? _____

Are there training needs that are currently not available to the systems licensed operators? Y ☐ N ☒

If Yes, what are those training needs? _____

What skills must an operator possess to work for this system? Recordkeeping, have water system know-how; be versatile

Are there any skills that the DO or other licensed operators need to develop for their jobs that they do not already possess?

Need more training opportunities specifically for youig, inexperiended water operators

Does PWS management have knowledge of the DO and other licensed operators training/continuing education needs? Y ☒ N ☐

Comments: _____

Is system management supportive of the DO/other licensed operators attending continuing education workshops/conferences? Y ☒ N ☐

If No, what assistance may the Department provide to improve this situation? _____

On average, how much training is each operator afforded every year? 5-10 hours

General comments on DO/Licensed Operator needs: _____

WATER SOURCE INFORMATION

Source Type: ☐ Surface Water ☐ Infiltration Gallery ☐ Spring ☒ Well

Other: _____

Does the system have a withdrawal (allocation) permit: Y ☐ N ☒

If yes, from whom and quantity: _____

Max. daily (24 hour) production capability: _____ X Total production for past year: 149 MG

Population: 3460

Comments: _____

**VOLUNTARY PROGRAMS

**Does the system have a Watershed Management Program:	Y ☐ N ☒	
**Does the system have a delineated Well Head Protection Area:	Y ☒ N ☐	
**Has the WHPA officially been adopted by the system:	Y ☒ N ☐ N/A ☐	Date: 08/2010
**Has a contaminant source inventory been completed:	Y ☒ N ☐	Date: 02/11/2003
**Has the contaminant source inventory been updated:	Y ☒ N ☐ N/A ☐	Date: 10/05/2009
**Does the system have a delineated WDA (surface sources only):	Y ☐ N ☐ N/A ☒	
**Has a contaminant inventory for the WDA been completed:	Y ☐ N ☐ N/A ☒	Date: _____
**Is there an ERP for spills within WHP or WDA Areas:	Y ☐ N ☐ N/A ☒	

(Items below required for systems over 3,300 population)

**Has an EPA Vulnerability Assessment (VA) been completed:	Y☒ N ☐ N/A ☐	Date: 02/05/2008
**Has certification documentation been submitted for the EPA VA:	Y☒ N ☐ N/A ☐	
**Has an EPA Emergency Response Plan (ERP) been completed:	Y☒ N ☐ N/A ☐	Date: 02/05/2008
**Have certification documents been submitted for the EPA ERP:	Y☒ N ☐ N/A ☐	

Comments: The EPA Vulnerability Assessment and Emergency Response Plan were completed using SEMS software. The Auburn Wellhead Protection Plan is in the process of being upgraded at the present time. The Plan is not a State-Approved Plan at this time.

DHHS-DPH will assess the following:

Is the source adequate to meet peak demands:	Y ☒ N ☐
Is all source water metered:	Y ☒ N ☐
Are any source water facilities located within a 100 yr. flood plain:	Y ☒ N ☐

If yes, list each facility: All Auburn wells

Have any source water facilities ever been flooded: Y ☐ N ☒

If yes, list each facility: _____

Comments on Water Source: All wells are located within a flood plain but are constucted and or bermed above the expected flood level. The City owns the immediate property on which Well 13 is located. All other well sites are leased from others.

CROSS-CONNECTION CONTROL PROGRAM

Name of person responsible for the administration and enforcement of the CCC Program: Kenneth Swanson

PWS Grade 6 Operators:

Name	License #	Expiration Date
Kenneth Swanson	6944	12/31/2017

Does the system have an adopted resolution, ordinance, or other enforceable instrument that assures the CCC requirements are being met: Y ☒ N ☐ N/A ☐ Comments: ____

If yes, provide the following information: Ordinance #: 13-98 Other: ____

Responsibility of PWS: Enforce regulations; provide public education; conduct surveys; keep records.

Responsibility of Consumer: Report cross connections; test backflow prevention devices.

Fines or Penalties for Noncompliance: Loss of water service

Date(s) of last cross-connection survey: 2012 New survey is to be completed during of before 2017.

How were (are) surveys distributed: Mailed

% of residential surveys returned: 100% % of non-residential surveys returned: 100%

What actions are taken if surveys are not returned: Phone customer; go door to door.

Have cross-connections been properly addressed: Y ☒ N ☐ Comments: ____

Required testing frequency of assemblies: Annually

Have all backflow preventers been tested by a properly licensed G6 operator: Y ☒ N ☐

Are testing records for the last 5 years available: Y ☒ N ☐ Is testing current: Y ☒ N ☐

Does the PWS enforce the requirements of their cross-connection control program: Y ☒ N ☐ Comments: ____

Is an on-going public information program being done (beyond the CCR addition): Y ☒ N ☐ Describe: Public education article(s) are printed each year in the BPW Newsletter that is mailed to all utility customers.

Comments: 1. BPW has a "containment" backflow protection policy. However, if backflow prevention assemblies are known to be used as "isolation" devices within the water system, then BPW requires annual testing of these assemblies as well.

2. There were 108 testable backflow prevention assemblies in the water system at the time of this survey, and this includes assemblies owned by the City. An inventory of assemblies was provided to DHHS. Annual testing is current.

3. Pressure vacuum breakers are typically required on new lawn irrigation installations. Annual testing of these devices is not required beyond the initial test. 4. Records indicate there are a total of 185 of these "non-testable" backflow preventions devices in the system.

4. BPW owns a Watts TK-99 Backflow Tester that was calibrated on March 4, 2016.

5. A backflow protection policy/program was begun in April 2013 that involves some 27 residential locations where boilers are used for heating. The program is ongoing; 100% compliance has not yet been achieved.

ANNUAL REVIEW – SHORT AND LONG TERM PLANNING

Are records being kept to facilitate an annual review of the capabilities of the system: Y ☒ N ☐

If yes, is an annual review being done: Y ☒ N ☐

Have the following items been included in the Annual Review of the PWS for the purpose of short (2 years) and long (10 years) term planning:

Item	Y	N	Comments
Source	☒	☐	
Storage	☒	☐	
Distribution System	☒	☐	
Population	☒	☐	
PWS Value	☒	☐	
Water Quality	☒	☐	
Security/Vulnerability	☒	☐	

Intended Capital Improvements for next 5 years:

1.) Complete line looping in the western part of the distribution system to minimize low water pressures.

2.) Obtain a permanent generator for East Wellfield

WATER QUALITY MONITORING

The Special Monitoring Evaluation was completed and the system is on an appropriate monitoring schedule for Total Coliform: Y ☒ N ☐

There are 4 total coliform monitoring zones in Auburn.

If the system has an AO, are the requirements of the order being followed: Y ☐ N ☐ N/A ☒

If not, describe: _____

If the AO is for nitrate, list locations of all nitrate postings: _____

If the system has a current MCL violation, is the system taking the required actions: Y ☐ N ☐ N/A ☒

If not, describe: _____

Is compliance water testing equipment calibrated or standardized: Y ☒ N ☐ N/A ☐

Are calibration records readily available: Y ☒ N ☐

What non-compliance water testing, if any, is routinely done: Fluoride and nitrates are measured daily at the water treatment plant. Iron and manganese are measured weekly.

List any established water quality goals: Provide good safe water.

Comments on Water Quality Monitoring: Two Hach Pocked Colorimeters used for measuring chlorine residuals in the distribution system are comparison-checked daily against the Hach DR/2800 Portable Spectrophotometer. The three ATI Chlorine Analyzers used at the water treatment plant are also comparison checked against the DR/2800. The DR/2800 is calibrated annually by a Hach representative who visits on site. This occurred most recently on 10/28/2015.

DISTRIBUTION SYSTEM

☐ This is a non-community PWS without a distribution system.

Are there maps of the Distribution System(s): Y ☒ N ☐ Date of last update: Updated continuously by BPW

Are the following features shown on the distribution map(s):

Line and Valve Locations:	Y ☒	N ☐		Comments: ____
Line and Valve Sizes:	Y ☒	N ☐		Comments: ____
Line Materials:	Y ☒	N ☐		Comments: ____
Fire Hydrant Locations:	Y ☒	N ☐	N/A ☐	Comments: ____
Pressure-zone(s) Boundaries:	Y ☒	N ☐	N/A ☐	Comments: ____
Storage Facilities:	Y ☒	N ☐	N/A ☐	Comments: ____
Booster Pump Stations:	Y ☒	N ☐	N/A ☐	Comments: ____
Sampling sites and zone boundaries:	Y ☐	N ☒		Comments: Separate map
Does system have dead end mains:	Y ☒	N ☐		
Do dead-ends have flushing capability:	Y ☒	N ☐		

Distribution system map comments: Two pressure zones are isolated with shut-off valves

Does the System retain records or documentation on the following:

O&M Distribution System Repairs: Y ☒ N ☐

Leak Detection / Water Loss: Y ☒ N ☐ N/A ☐ Water Loss last year: 15%

R&R / Water Loss Comments: ____

Does the system have a flushing program:	Y ☒	N ☐		Frequency: Annually
Does the system utilize directional flushing:	Y ☐	N ☒		Frequency: ____
Does the system utilize pigging:	Y ☐	N ☒		Frequency: ____
Are valves inspected and exercised:	Y ☒	N ☐		Frequency: Bi--annually
Are fire hydrants inspected and operated routinely:	Y ☒	N ☐	N/A ☐	Frequency: Annually
Are sampling stations available:	Y ☒	N ☐		

Number: Three sampling stations. Two of the stations are used for monitoring TTHMs and HAA5s at far west end and far east end of the City

Is there a common POE for more than one source: Y ☒ N ☐

If yes, how many sources per POE? 12 wells, 10 of which are in use at present

Are the POE's metered? Y ☒ N ☐

What is the pressure at each common POE? n/a

Comments on POE's: Water Treatment Plant

DISTRIBUTION SYSTEM

Piping Materials	Pipe Size	Number of feet of pipe	
Cast Iron Pre-1965	4-inch	57183	
PVC 1980 to Present	4-inch	596	Total 4-inch Pipe: 57,779 feet
Cast Iron Pre-1965	6-inch	31707	
Ductile Iron 1970 to Present	6-inch	3367	
PVC 1980 to Present	6-inch	3626	Total 6-inch Pipe: 38,700 feet
Cast Iron Pre-1965	8-inch	15125	
Ductile Iron 1970 to Present	8-inch	7517	
PVC 1980 to Present	8-inch	8967	Total 8-inch Pipe: 31,609 feet
Cast Iron Pre-1965	10-inch	5023	
Ductile Iron 1970 to Present	10-inch	3667	
PVC 1980 to Present	10-inch	937	Total 10-inch Pipe: 9,627 feet
Ductile Iron 1970 to Present	12-inch	13278	
PVC 1980 to Present	12-inch	1670	Total 12-inch Pipe: 14,948 feet
Ductile Iron 1970 to Present	16-inch	8135	Total 16-inch Pipe: 8,135 feet
Ductile Iron 1970 to Present	18-inch	641	Total 18-inch Pipe: 641 feet
PVC 1980 to Present	24-inch	719	Total 24-inch Pipe: 719 feet

Comments: Pipeline dimensions provided 6/9/2016

The following applies to all PWS

Does the system have any lead service lines: Y ☒ N ☐ Unknown ☐

If yes, does the system have a removal or replacement method: Y ☒ N ☐ Describe: Remove when found

Where does the systems responsibility for the distribution system end (corp stop, curb stop, etc.): curb stop

Where is the point of maximum water residence time in the distribution system: 16th St. and F St., located in the east part of City at sampling station; 15th St. and Q St., located in the west part of City at sampling station.

Disinfectant Residual Check: POE: 0.70 mg/L Max. residence time: 0.23 mg/L, measured at 15th St. and Q St.

Frequency of checking distribution disinfectant residual: Four times per month at Total Coliform sample sites

Test kit used: Hach Colorimeter, one of two

Typical distribution system pressure range (pressure fluctuation): 1 psi

Pressure at highest elevation (lowest pressure): 32 psi Location (address or physical): 2012 24th Street, near ground storage reservoir

Are pressure readings routinely taken from the distribution system: Y ☒ N ☐

Frequency: Pressure readings at ground storage reservoir are collected continuously and monitored using SCADA

Comments on Distribution System: The City of Auburn water system has two pressure zones. 14th Street is roughly the dividing line between the "north zone" and the "south zone."
Point of Entry pressure of approximately 87 psi is the high pressure of the "north zone," and is maintained by the high service pumps at the water treatment plant.
Water pressure measured at the ground storage tank at the time of the inspection was 35 psi, maintained by continuous operation of VFD booster pumps that supply the "south zone."

CONTROL SYSTEMS

Age of Control System or Installation Date: Updated 2012 Control Type: SCADA Pres Xducer VFD

Mode of Communications: Phone: ☒ ____ Leased: ☐ ____ Owned: ☒ ____

Radio: ☒ ____ Hard wired: ☐ ____ Other: ____

Is there a backup communications system: Y ☒ N ☐ N/A ☐ Describe: Back-up computer at wastewater treatment plant

Is a UPS available: Y ☒ N ☐ If yes, at all sites?: Y ☒ N ☐ Duration of backup: 2 hr

Does control system automatically log system data: Y ☒ N ☐

If yes, what data is automatically logged: see below

Frequency of data logging: ten second intervals

Does control system generate automatic reports: Y ☒ N ☐

If yes, what are the reports: see below

Frequency of automatic reports: continuous

Is there manual override capability in the control system: Y ☒ N ☐

If yes, describe: Hand-Off-Auto Switches at wells and other locations

Who has the authority to make set-point changes: Grade 2 Water Operators Ken Swanson

Describe the security measures for the control system: All sites are kept locked when people are not on duty.

Is a spare parts inventory maintained on hand: Y ☒ N ☐ Comments: ____

Comments on Control Systems: All input signals go the the Main Controls System located at the water treatment plant. Alarms provide audible warning at the plant and dial water operator cellphones.

SCADA monitors: Water level of two clearwells; water level at south reservoir; Operating pressure and flow (gpm) of high service pumps at the water treatment plant and the south reservoir; Well flow (gpm) at all wells; Water levels at Wells #1, #2, #6, #13 and #20 as of this time; High service pump run times; Filter run times; Backwash recycle pit levels; and all turbidity, temperature, pH, and free chlorine residual levels at the water treatment plant. Individual Filter Turbidity Levels are now being recorded continuously.

EMERGENCY ELECTRICAL POWER

Auburn BPW owns the following emergency electrical power equipment:

1. 250 KW Portable Generator
2. 40 KW Portable Generator
3. Stationary Generator located outside Water Treatment Plant dedicated to WTP Controls
4. 100 KW Stationary Generator located at 26th St. Reservoir and Booster Pump Station

The Water Treatment Plant can be operated with the large portable generator, above. The Reservoir and Booster Pump Station now have full back-up power.

Individual wells / well fields have the ability to be operated with the portable generators. Future plans call for a centrally-located generator to power the East Well Field.

Well 2003-1 is the only well equipped with a ready-to-go generator connection and transfer switch at this time.

SOURCE FACILITIES – GROUNDWATER SUPPLY FACILITIES

(Complete one sheet per source or well.)

Well ID #: 81-1 Well Common Name: Well #1 DNR Registration #: G-067034A Well Status: Active

Comments: _____

If INACTIVE, is well disconnected from the system: Y ☐ N ☐ Decommissioned properly: Y ☐ N ☐

Is this well part of a combined POE to the distribution system: Y ☒ N ☐ N/A ☐ If yes, which one: 002

Frequency site is inspected by PWS: Weekly Describe other: _____

Is the well sealed properly at the surface: Y ☒ N ☐ Comments: _____

Casing extends min of 18"(CWS) or 12"(NCWS) above well slab, floor, or ground surface: Y ☒ N ☐

Motor HP: 10 Pump Type: Turb Well Depth: 50' Well Casing Dia: 24"

Screen Const. Type: SS Top of Screen Depth: 46.5' Casing Type: Steel Pump Setting: 45'

Is the well vent termination and screening acceptable: Y ☒ N ☐ Size: 1" Comments: _____

Well blow-off size: 2 1/2" Is blow-off properly capped or screened: Y ☒ N ☐

Is a sampling tap available: Y ☒ N ☐ Is the sample tap smooth nosed: Y ☒ N ☐

Is a pressure gauge available: Y ☒ N ☐ Working: Y ☒ N ☐ Observed pressure gauge reading: 33 psi Static

Is a chemical injection tap available: Y ☐ N ☒ Chemical tap size: _____"

Is an approved electrical outlet available for chemical tap: Y ☐ N ☒ Is this a GFI outlet: Y ☐ N ☐

Is well metered: Y ☒ N ☐ Type: Propeller Size: 4" Make/Model: Rockwell Serial #: 54968

Electric meter reading: _____ Water meter reading: 80644 x 1000 Hr. meter reading:

Are drawdown readings taken routinely: Y ☒ N ☐ Frequency: weekly Airline Length: 45'

Static Water Level: 22.5' Pumping Water Level: 26' Drawdown: 3.5' Avail. DD:

Are cross-connection requirements adequately met: Y ☒ N ☐

Are chemicals injected at the well: Y ☐ N ☒ If yes, what chemical(s): _____

Observed condition of piping and valving: Good, paint Ok and no corrosion

Observed condition of electrical systems: Good, everything appears OK

Is backup power available: Y ☒ N ☐ Type: X Describe Other: portable generators

Size: _____ Kwh _____ Hp _____ RPM for PTO or Belt Drive If exercised, how often _____? Under load Y ☐ N ☐

Is the facility well maintained and secure: Y ☒ N ☐ If yes, describe: well house is kept locked

If necessary, is appropriate signage in place: Y ☐ N ☐ N/A ☒

Does well meet criteria for potential GWUDI: Y ☒ N ☐ Unknown ☐

Has the source been deemed to be GWUDI: Y ☐ N ☒ Date of determination: _____

Are there any encroachments on this well: Y ☐ N ☒ If yes, are they pre-existing or new: ☐ Pre ☐ New

Current well vulnerability rating: ☐ Vulnerable ☒ Non-Vulnerable

Comments on this well: 1. Water level transducer is installed here at this well. 2. Well is bermed to prevent flooding. 3. No transfer switch at this location.

Aquaguard Preventive Maintenace Well System Installation has been recently completed at this well.

SOURCE FACILITIES – GROUNDWATER SUPPLY FACILITIES

(Complete one sheet per source or well.)

Well ID #: 81-2 Well Common Name: Well #2 DNR Registration #: G-067034B Well Status: Active

Comments: _____

If INACTIVE, is well disconnected from the system: Y ☐ N ☐ Decommissioned properly: Y ☐ N ☐

Is this well part of a combined POE to the distribution system: Y ☐ N ☐ N/A ☐ If yes, which one: 002

Frequency site is inspected by PWS: Weekly Describe other: _____

Is the well sealed properly at the surface: Y ☒ N ☐ Comments: _____

Casing extends min of 18"(CWS) or 12"(NCWS) above well slab, floor, or ground surface: Y ☒ N ☐

Motor HP: 10 Pump Type: Sub Well Depth: 47.5' Well Casing Dia: 24"

Screen Const. Type: SS Top of Screen Depth: 43' Casing Type: Steel Pump Setting: 45'

Is the well vent termination and screening acceptable: Y ☒ N ☐ Size: 1" Comments: _____

Well blow-off size: 2 1/2" Is blow-off properly capped or screened: Y ☒ N ☐

Is a sampling tap available: Y ☒ N ☐ Is the sample tap smooth nosed: Y ☒ N ☐

Is a pressure gauge available: Y ☒ N ☐ Working: Y ☒ N ☐ Observed pressure gauge reading: 37 psi Static

Is a chemical injection tap available: Y ☐ N ☒ Chemical tap size: _____"

Is an approved electrical outlet available for chemical tap: Y ☐ N ☒ Is this a GFI outlet: Y ☐ N ☐

Is well metered: Y ☒ N ☐ Type: Propeller Size: 4" Make/Model: Sensus Serial #: 54964

Electric meter reading: _____ Water meter reading: 072679 x 1000 gallon Hr. meter reading: _____

Are drawdown readings taken routinely: Y ☒ N ☐ Frequency: weekly Airline Length: 40'

Static Water Level: 22' Pumping Water Level: 27' Drawdown: 5' Avail. DD:

Are cross-connection requirements adequately met: Y ☒ N ☐

Are chemicals injected at the well: Y ☐ N ☒ If yes, what chemical(s

Observed condition of piping and valving: Good, paint Ok and no corrosion

Observed condition of electrical systems: Good, everything appears OK

Is backup power available: Y ☒ N ☐ Type: X Describe Other: portable generators

Size: _____ Kwh _____ Hp _____ RPM for PTO or Belt Drive If exercised, how often _____? Under load Y ☐ N ☐

Is the facility well maintained and secure: Y ☒ N ☐ If yes, describe: well house is kept locked

If necessary, is appropriate signage in place: Y ☐ N ☐ N/A ☒

Does well meet criteria for potential GWUDI: Y ☒ N ☐ Unknown ☐

Has the source been deemed to be GWUDI: Y ☐ N ☒ Date of determination: _____

Are there any encroachments on this well: Y ☐ N ☒ If yes, are they pre-existing or new: ☐ Pre ☐ New

Current well vulnerability rating: ☐ Vulnerable ☐ Non-Vulnerable

Comments on this well: 1. Well is bermed to prevent flooding. 2. Sensus meter is newly installed. 3. No transfer switch at this time.

Aquaguard Preventive Maintenance Well System Installation has been recently completed at this well. Vertical turbine pump has been replaced with submersible pump. Water –level transducer is newly installed. Has VFD.

SOURCE FACILITIES – GROUNDWATER SUPPLY FACILITIES

(Complete one sheet per source or well.)

Well ID #: 81-3 Well Common Name: Well #3 DNR Registration #: G-067034C Well Status: Active

Comments: _____

If INACTIVE, is well disconnected from the system: Y ☐ N ☐ Decommissioned properly: Y ☐ N ☐

Is this well part of a combined POE to the distribution system: Y ☒ N ☐ N/A ☐ If yes, which one: 002

Frequency site is inspected by PWS: Weekly Describe other: _____

Is the well sealed properly at the surface: Y ☒ N ☐ Comments: _____

Casing extends min of 18"(CWS) or 12"(NCWS) above well slab, floor, or ground surface: Y ☒ N ☐

Motor HP: 10 Pump Type: Sub Well Depth: 54' Well Casing Dia: 24"

Screen Const. Type: SS Top of Screen Depth: 43' Casing Type: Steel Pump Setting: 40'

Is the well vent termination and screening acceptable: Y ☒ N ☐ Size: 1" Comments: _____

Well blow-off size: 2 1/2" Is blow-off properly capped or screened: Y ☒ N ☐

Is a sampling tap available: Y ☒ N ☐ Is the sample tap smooth nosed: Y ☒ N ☐

Is a pressure gauge available: Y ☒ N ☐ Working: Y ☒ N ☐ Observed pressure gauge reading: 23 psi Static

Is a chemical injection tap available: Y ☐ N ☒ Chemical tap size: _____"

Is an approved electrical outlet available for chemical tap: Y ☐ N ☒ Is this a GFI outlet: Y ☐ N ☐

Is well metered: Y ☒ N ☐ Type: Propeller Size: 4" Make/Model: Sensus Serial #: 64962

Electric meter reading: _____ Water meter reading: 10953 x 1000 gallon Hr. meter reading: _____

Are drawdown readings taken routinely: Y ☒ N ☐ Frequency: weekly Airline Length: 40'

Static Water Level: 25' Pumping Water Level: 30' Drawdown: 5' Avail. DD:

Are cross-connection requirements adequately met: Y ☒ N ☐

Are chemicals injected at the well: Y ☐ N ☒ If yes, what chemical(s): _____

Observed condition of piping and valving: Good, paint Ok and no corrosion

Observed condition of electrical systems: Good, everything appears OK

Is backup power available: Y ☒ N ☐ Type: X Describe Other: portable generators

Size: _____ Kwh _____ Hp _____ RPM for PTO or Belt Drive If exercised, how often _____? Under load Y ☐ N ☐

Is the facility well maintained and secure: Y ☐ N ☐ If yes, describe: well house is kept locked

If necessary, is appropriate signage in place: Y ☐ N ☐ N/A ☒

Does well meet criteria for potential GWUDI: Y ☒ N ☐ Unknown ☐

Has the source been deemed to be GWUDI: Y ☐ N ☒ Date of determination: _____

Are there any encroachments on this well: Y ☒ N ☐ If yes, are they pre-existing or new: ☒ Pre ☐ New

Current well vulnerability rating: ☒ Vulnerable ☐ Non-Vulnerable

Comments on this well: 1. Well is vulnerable due to fuel storage at nearby airport. 2. Private well at airport has been capped. 3. No transfer switch at this time.

Aquaguard Preventive Maintenance Well System Installation has been recently completed at this well. Vertical turbine pump has been replaced with submersible pump. Water –level transducer is newly installed. Has VFD.

SOURCE FACILITIES – GROUNDWATER SUPPLY FACILITIES

(Complete one sheet per source or well.)

Well ID #: 81-4 Well Common Name: Well #4 DNR Registration #: G-067034D Well Status: Active

Comments: Well is used extensively; Operates at 190 gpm

If INACTIVE, is well disconnected from the system: Y ☐ N ☐ Decommissioned properly: Y ☐ N ☐

Is this well part of a combined POE to the distribution system: Y ☒ N ☐ N/A ☐ If yes, which one: 002

Frequency site is inspected by PWS: Weekly Describe other: _____

Is the well sealed properly at the surface: Y ☒ N ☐ Comments: _____

Casing extends min of 18"(CWS) or 12"(NCWS) above well slab, floor, or ground surface: Y ☒ N ☐

Motor HP: 10 Pump Type: Turb Well Depth: 46.5' Well Casing Dia: 24"

Screen Const. Type: SS Top of Screen Depth: 36' Casing Type: Steel Pump Setting: 35'

Is the well vent termination and screening acceptable: Y ☒ N ☐ Size: 1" Comments: _____

Well blow-off size: 2 1/2" Is blow-off properly capped or screened: Y ☒ N ☐

Is a sampling tap available: Y ☒ N ☐ Is the sample tap smooth nosed: Y ☒ N ☐

Is a pressure gauge available: Y ☒ N ☐ Working: Y ☐ N ☐ Observed pressure gauge reading: 39 psi Static

Is a chemical injection tap available: Y ☐ N ☒ Chemical tap size: _____"

Is an approved electrical outlet available for chemical tap: Y ☐ N ☒ Is this a GFI outlet: Y ☐ N ☐

Is well metered: Y ☒ N ☐ Type: Propeller Size: 4" Make/Model: Sensus Serial #: 54961

Electric meter reading: _____ Water meter reading: 14551 x 1000 gallon Hr. meter reading:

Are drawdown readings taken routinely: Y ☒ N ☐ Frequency: weekly Airline Length: 35'

Static Water Level: 6' Pumping Water Level: 10 Drawdown: 4' Avail. DD:

Are cross-connection requirements adequately met: Y ☒ N ☐

Are chemicals injected at the well: Y ☐ N ☒ If yes, what chemical(s): _____

Observed condition of piping and valving: Good, paint Ok and no corrosion

Observed condition of electrical systems: Good, everything appears OK

Is backup power available: Y ☒ N ☐ Type: X Describe Other: portable generators

Size: _____ Kwh _____ Hp _____ RPM for PTO or Belt Drive If exercised, how often _____? Under load Y ☐ N ☐

Is the facility well maintained and secure: Y ☒ N ☐ If yes, describe: well house is kept locked

If necessary, is appropriate signage in place: Y ☐ N ☐ N/A ☒

Does well meet criteria for potential GWUDI: Y ☒ N ☐ Unknown ☐

Has the source been deemed to be GWUDI: Y ☒ N ☐ Date of determination: 11/20/2009

Are there any encroachments on this well: Y ☒ N ☐ If yes, are they pre-existing or new: ☒ Pre ☐ New

Current well vulnerability rating: ☒ Vulnerable ☐ Non-Vulnerable

Comments on this well: 1. Well #4 was deemed to be Ground Water Under the Direct Influence of Surface Water (GWUDI) on 11/20/09 due to MPA results collected during July 2008 and April 2009. 2. Well #4 is vulnerable due to proximity to a private well. It is unknown whether or not chemicals are used at nearby grain storage facilities. 3. There is no transfer switch at this time.

No rehabilitation; No VFD at this time.

SOURCE FACILITIES – GROUNDWATER SUPPLY FACILITIES

(Complete one sheet per source or well.)

Well ID #: 81-5 Well Common Name: Well #5 DNR Registration #: G-067034E Well Status: Active

Comments: _____

If INACTIVE, is well disconnected from the system: Y ☐ N ☐ Decommissioned properly: Y ☐ N ☐

Is this well part of a combined POE to the distribution system: Y ☒ N ☐ N/A ☐ If yes, which one: 002

Frequency site is inspected by PWS: Weekly Describe other: _____

Is the well sealed properly at the surface: Y ☒ N ☐ Comments: _____

Casing extends min of 18"(CWS) or 12"(NCWS) above well slab, floor, or ground surface: Y ☒ N ☐

Motor HP: 10 Pump Type: Turb Well Depth: 40' Well Casing Dia: 24"

Screen Const. Type: SS Top of Screen Depth: 33.75' Casing Type: Steel Pump Setting: 30'

Is the well vent termination and screening acceptable: Y ☒ N ☐ Size: 1" Comments: _____

Well blow-off size: 2 1/2" Is blow-off properly capped or screened: Y ☒ N ☐

Is a sampling tap available: Y ☒ N ☐ Is the sample tap smooth nosed: Y ☒ N ☐

Is a pressure gauge available: Y ☒ N ☐ Working: Y ☒ N ☐ Observed pressure gauge reading: 46 psi Static

Is a chemical injection tap available: Y ☐ N ☒ Chemical tap size: _____"

Is an approved electrical outlet available for chemical tap: Y ☐ N ☒ Is this a GFI outlet: Y ☐ N ☐

Is well metered: Y ☒ N ☐ Type: Propeller Size: 4" Make/Model: Sensus Serial #: 54960

Electric meter reading: _____ Water meter reading: 41515 x 1000 gallon Hr. meter reading:

Are drawdown readings taken routinely: Y ☒ N ☐ Frequency: weekly Airline Length: 30'

Static Water Level: 8' Pumping Water Level: 15' Drawdown: 7' Avail. DD:

Are cross-connection requirements adequately met: Y ☒ N ☐

Are chemicals injected at the well: Y ☐ N ☒ If yes, what chemical(s): _____

Observed condition of piping and valving: Good, paint Ok and no corrosion

Observed condition of electrical systems: Good, everything appears OK

Is backup power available: Y ☒ N ☐ Type: X Describe Other: portable generators

Size: _____ Kwh _____ Hp _____ RPM for PTO or Belt Drive If exercised, how often _____? Under load Y ☐ N ☐

Is the facility well maintained and secure: Y ☒ N ☐ If yes, describe: well house is kept locked

If necessary, is appropriate signage in place: Y ☐ N ☐ N/A ☒

Does well meet criteria for potential GWUDI: Y ☒ N ☐ Unknown ☐

Has the source been deemed to be GWUDI: Y ☐ N ☒ Date of determination: _____

Are there any encroachments on this well: Y ☒ N ☐ If yes, are they pre-existing or new: ☒ Pre ☐ New

Current well vulnerability rating: ☒ Vulnerable ☐ Non-Vulnerable

Comments on this well: Well #5 is vulnerable due to proximity to a private well and spetic tank. 2. There is no transfer switch at this time.

Well 5 is next in line for installation of Aquaguard Preventive Maintenance Well System, replacement of vertical turbine pump with submersible pump, and installation of water –level transducer. Has AC Tech VFD.

SOURCE FACILITIES – GROUNDWATER SUPPLY FACILITIES

(Complete one sheet per source or well.)

Well ID #: 81-6 Well Common Name: Well #6 DNR Registration #: G-067034F Well Status: Active

Comments: _____

If INACTIVE, is well disconnected from the system: Y ☐ N ☐ Decommissioned properly: Y ☐ N ☐

Is this well part of a combined POE to the distribution system: Y ☒ N ☐ N/A ☐ If yes, which one: 002

Frequency site is inspected by PWS: Weekly Describe other: _____

Is the well sealed properly at the surface: Y ☒ N ☐ Comments: _____

Casing extends min of 18"(CWS) or 12"(NCWS) above well slab, floor, or ground surface: Y ☒ N ☐

Motor HP: 10 Pump Type: Sub Well Depth: 44' Well Casing Dia: 20"

Screen Const. Type: SS Top of Screen Depth: 38' Casing Type: Steel Pump Setting: 35'

Is the well vent termination and screening acceptable: Y ☒ N ☐ Size: 1" Comments: _____

Well blow-off size: 2 1/2" Is blow-off properly capped or screened: Y ☒ N ☐

Is a sampling tap available: Y ☒ N ☐ Is the sample tap smooth nosed: Y ☒ N ☐

Is a pressure gauge available: Y ☒ N ☐ Working: Y ☒ N ☐ Observed pressure gauge reading: 24 psi Dynamic

Is a chemical injection tap available: Y ☐ N ☒ Chemical tap size: _____"

Is an approved electrical outlet available for chemical tap: Y ☐ N ☒ Is this a GFI outlet: Y ☐ N ☐

Is well metered: Y ☒ N ☐ Type: Propeller Size: 4" Make/Model: Sensus Serial #: 54959

Electric meter reading: 4894 kwh Water meter reading: 47364 x 1000 gallon Hr. meter reading:

Are drawdown readings taken routinely: Y ☒ N ☐ Frequency: weekly Airline Length: 35'

Static Water Level: 12' Pumping Water Level: 18' Drawdown: 6' Avail. DD:

Are cross-connection requirements adequately met: Y ☒ N ☐

Are chemicals injected at the well: Y ☐ N ☒ If yes, what chemical(s): _____

Observed condition of piping and valving: Good, paint Ok and no corrosion

Observed condition of electrical systems: Good, everything appears OK

Is backup power available: Y ☒ N ☐ Type: X Describe Other: portable generators

Size: _____ Kwh _____ Hp _____ RPM for PTO or Belt Drive If exercised, how often _____? Under load Y ☐ N ☐

Is the facility well maintained and secure: Y ☒ N ☐ If yes, describe: well house is kept locked

If necessary, is appropriate signage in place: Y ☐ N ☐ N/A ☒

Does well meet criteria for potential GWUDI: Y ☒ N ☐ Unknown ☐

Has the source been deemed to be GWUDI: Y ☐ N ☒ Date of determination: _____

Are there any encroachments on this well: Y ☐ N ☒ If yes, are they pre-existing or new: ☐ Pre ☐ New

Current well vulnerability rating: ☐ Vulnerable ☒ Non-Vulnerable

Comments on this well: 1. Well has water level sensor for SCADA monitoring. 2 A new submersible pump was installed to replace an existing vertical turbine pump. 3. New Sensus meter installed. (All three improvements were completed prior to the Sanitary Survey of 4-5-13) 4. A common electrical meter that serves the seven east wells is located here. 5. There is no transfer switch at this time

The electrical power configuration at this location could be used to feed all (six) downstream wells using one emergency power generator.

SOURCE FACILITIES – GROUNDWATER SUPPLY FACILITIES

(Complete one sheet per source or well.)

Well ID #: 89-7 Well Common Name: Well #7 DNR Registration #: G-072068 Well Status: Inactive

Comments: _____

If INACTIVE, is well disconnected from the system: Y ☐ N ☐ Decommissioned properly: Y ☐ N ☐

Is this well part of a combined POE to the distribution system: Y ☒ N ☐ N/A ☐ If yes, which one: 002

Frequency site is inspected by PWS: Weekly Describe other: _____

Is the well sealed properly at the surface: Y ☒ N ☐ Comments: _____

Casing extends min of 18"(CWS) or 12"(NCWS) above well slab, floor, or ground surface: Y ☒ N ☐

Motor HP: 15 Pump Type: Turb Well Depth: 45' Well Casing Dia: 18"

Screen Const. Type: SS Top of Screen Depth: 48.5' Casing Type: Steel Pump Setting: 45'

Is the well vent termination and screening acceptable: Y ☒ N ☐ Size: 1" Comments: _____

Well blow-off size: 2 1/2" Is blow-off properly capped or screened: Y ☒ N ☐

Is a sampling tap available: Y ☒ N ☐ Is the sample tap smooth nosed: Y ☒ N ☐

Is a pressure gauge available: Y ☒ N ☐ Working: Y ☒ N ☐ Observed pressure gauge reading: 16 psi Static

Is a chemical injection tap available: Y ☐ N ☒ Chemical tap size: _____"

Is an approved electrical outlet available for chemical tap: Y ☒ N ☐ Is this a GFI outlet: Y ☐ N ☐

Is well metered: Y ☒ N ☐ Type: Propeller Size: 4" Make/Model: McCrometer Serial #: 894697

Electric meter reading: _____ Water meter reading: 39965 x 1000 gallons Hr. meter reading: 23837.8

Are drawdown readings taken routinely: Y ☒ N ☐ Frequency: weekly Airline Length: 45'

Static Water Level:___' Pumping Water Level:___' Drawdown:___' Avail. DD:'___

Are cross-connection requirements adequately met: Y ☒ N ☐

Are chemicals injected at the well: Y ☐ N ☒ If yes, what chemical(s): _____

Observed condition of piping and valving: Good, paint Ok and no corrosion

Observed condition of electrical systems: Good, everything appears OK

Is backup power available: Y ☒ N ☐ Type: X Describe Other: portable generators

Size: _____ Kwh _____ Hp _____ RPM for PTO or Belt Drive If exercised, how often _____? Under load Y ☐ N ☐

Is the facility well maintained and secure: Y ☒ N ☐ If yes, describe: well house is kept locked

If necessary, is appropriate signage in place: Y ☐ N ☐ N/A ☒

Does well meet criteria for potential GWUDI: Y ☒ N ☐ Unknown ☐

Has the source been deemed to be GWUDI: Y ☐ N ☒ Date of determination: _____

Are there any encroachments on this well: Y ☐ N ☒ If yes, are they pre-existing or new: ☐ Pre ☐ New

Current well vulnerability rating: ☐ Vulnerable ☒ Non-Vulnerable

Comments on this well: 1. Well is bermed to prevent flooding . 2. There is no transfer switch at this time.

This is a previous record.

Well #7 and Well #18 are permanantly out of service as of this Sanitary Survey

SOURCE FACILITIES – GROUNDWATER SUPPLY FACILITIES

(Complete one sheet per source or well.)

Well ID #: 46-1 Well Common Name: Well #11 DNR Registration #: G-063101D Well Status: Active

Comments: Well is located in northwest part of City, near Nursing Home.

If INACTIVE, is well disconnected from the system: Y ☐ N ☐ Decommissioned properly: Y ☐ N ☐

Is this well part of a combined POE to the distribution system: Y ☒ N ☐ N/A ☐ If yes, which one: 002

Frequency site is inspected by PWS: Weekly Describe other: _____

Is the well sealed properly at the surface: Y ☒ N ☐ Comments: _____

Casing extends min of 18"(CWS) or 12"(NCWS) above well slab, floor, or ground surface: Y ☒ N ☐

Motor HP: 7.5 Pump Type: Turb Well Depth: 44' Well Casing Dia: 18"

Screen Const. Type: PVC-Slot Top of Screen Depth: 32' Casing Type: PVC Pump Setting: 40'

Is the well vent termination and screening acceptable: Y ☒ N ☐ Size: 1/2" Comments: _____

Well blow-off size: 2" Is blow-off properly capped or screened: Y ☒ N ☐

Is a sampling tap available: Y ☐ N ☒ Is the sample tap smooth nosed: Y ☐ N ☐

Is a pressure gauge available: Y ☒ N ☐ Working: Y ☒ N ☐ Observed pressure gauge reading: 38 psi Static

Is a chemical injection tap available: Y ☐ N ☒ Chemical tap size: _____"

Is an approved electrical outlet available for chemical tap: Y ☐ N ☒ Is this a GFI outlet: Y ☐ N ☐

Is well metered: Y ☒ N ☐ Type: Propeller Size: 3" Make/Model: Sensus Serial #: 54966

Electric meter reading: 32061 kwh Water meter reading: 194384 x 100 gallon Hr. meter reading:

Are drawdown readings taken routinely: Y ☒ N ☐ Frequency: weekly Airline Length: 34'

Static Water Level: 11' Pumping Water Level: 15' Drawdown: 4' Avail. DD:

Are cross-connection requirements adequately met: Y ☒ N ☐

Are chemicals injected at the well: Y ☐ N ☒ If yes, what chemical(s): _____

Observed condition of piping and valving: Good, paint Ok and no corrosion

Observed condition of electrical systems: Good, everything appears OK

Is backup power available: Y ☒ N ☐ Type: X Describe Other: portable generators

Size: _____ Kwh _____ Hp _____ RPM for PTO or Belt Drive If exercised, how often _____? Under load Y ☐ N ☐

Is the facility well maintained and secure: Y ☒ N ☐ If yes, describe: well house is kept locked

If necessary, is appropriate signage in place: Y ☐ N ☐ N/A ☒

Does well meet criteria for potential GWUDI: Y ☐ N ☐ Unknown ☒

Has the source been deemed to be GWUDI: Y ☐ N ☒ Date of determination: _____

Are there any encroachments on this well: Y ☒ N ☐ If yes, are they pre-existing or new: ☒ Pre ☐ New

Current well vulnerability rating: ☒ Vulnerable ☐ Non-Vulnerable

Comments on this well: Has VFD and a fairly new water meter. There is no water level transducer nor transfer switch at this location.

SOURCE FACILITIES – GROUNDWATER SUPPLY FACILITIES

(Complete one sheet per source or well.)

Well ID #: 57-2 Well Common Name: Well #18 DNR Registration #: G-063102A Well Status: Inactive

Comments: Last operation of this well was in 2012. Electricity and pupp have been removed.

If INACTIVE, is well disconnected from the system: Y ☐ N ☐ Decommissioned properly: Y ☐ N ☐

Is this well part of a combined POE to the distribution system: Y ☒ N ☐ N/A ☐ If yes, which one: 002

Frequency site is inspected by PWS: Other · Describe other: Well not used

Is the well sealed properly at the surface: Y ☐ N ☐ Comments: ____

Casing extends min of 18"(CWS) or 12"(NCWS) above well slab, floor, or ground surface: Y ☒ N ☐

Motor HP: 7.5 Pump Type: Turb Well Depth: 46' Well Casing Dia: 18"

Screen Const. Type: X Top of Screen Depth: 31' Casing Type: Steel Pump Setting: 45'

Is the well vent termination and screening acceptable: Y ☒ N ☐ Size: 1/2" Comments: ____

Well blow-off size: 2" Is blow-off properly capped or screened: Y ☒ N ☐

Is a sampling tap available: Y ☒ N ☐ Is the sample tap smooth nosed: Y ☒ N ☐

Is a pressure gauge available: Y ☒ N ☐ Working: Y ☐ N ☒ Observed pressure gauge reading: ____ psi X

Is a chemical injection tap available: Y ☐ N ☒ Chemical tap size: ____"

Is an approved electrical outlet available for chemical tap: Y ☐ N ☒ Is this a GFI outlet: Y ☐ N ☐

Is well metered: Y ☒ N ☐ Type: Turbine Size: 3" Make/Model: Badger Serial #: 96303733

Electric meter reading: ____ Water meter reading: n/a Hr. meter reading: n/a

Are drawdown readings taken routinely: Y ☐ N ☒ Frequency: ____ Airline Length: 40'

Static Water Level: ____' Pumping Water Level: ____' Drawdown: ____' Avail. DD: ____'

Are cross-connection requirements adequately met: Y ☒ N ☐

Are chemicals injected at the well: Y ☐ N ☒ If yes, what chemical(s): ____

Observed condition of piping and valving: Good, paint Ok and no corrosion

Observed condition of electrical systems: Electricity disconnected

Is backup power available: Y ☐ N ☐ Type: X Describe Other: na/

Size: ____ Kwh ____ Hp ____ RPM for PTO or Belt Drive If exercised, how often ____? Under load Y ☐ N ☐

Is the facility well maintained and secure: Y ☒ N ☐ If yes, describe: well house kept locked

If necessary, is appropriate signage in place: Y ☐ N ☐ N/A ☒

Does well meet criteria for potential GWUDI: Y ☒ N ☐ Unknown ☐

Has the source been deemed to be GWUDI: Y ☐ N ☒ Date of determination: ____

Are there any encroachments on this well: Y ☐ N ☒ If yes, are they pre-existing or new: ☐ Pre ☐ New

Current well vulnerability rating: ☐ Vulnerable ☒ Non-Vulnerable

Comments on this well: Well house is built of concrete block and is raised six feet above ground level.

This is a previous record.

Well #7 and Well #18 are permanantly out of service as of this Sanitary Survey

SOURCE FACILITIES – GROUNDWATER SUPPLY FACILITIES

(Complete one sheet per source or well.)

Well ID #: 64-1 Well Common Name: Well #19 DNR Registration #: G-063102B Well Status: Active

Comments: _____

If INACTIVE, is well disconnected from the system: Y ☐ N ☐ Decommissioned properly: Y ☐ N ☐

Is this well part of a combined POE to the distribution system: Y ☒ N ☐ N/A ☐ If yes, which one: 002

Frequency site is inspected by PWS: Weekly Describe other: _____

Is the well sealed properly at the surface: Y ☒ N ☐ Comments: _____

Casing extends min of 18"(CWS) or 12"(NCWS) above well slab, floor, or ground surface: Y ☒ N ☐

Motor HP: 7.5 Pump Type: Turb Well Depth: 45' Well Casing Dia: 18"

Screen Const. Type: SS Top of Screen Depth: 37' Casing Type: Steel Pump Setting: 45'

Is the well vent termination and screening acceptable: Y ☒ N ☐ Size: 1/2" Comments: _____

Well blow-off size: 2" Is blow-off properly capped or screened: Y ☒ N ☐

Is a sampling tap available: Y ☒ N ☐ Is the sample tap smooth nosed: Y ☒ N ☐

Is a pressure gauge available: Y ☒ N ☐ Working: Y ☒ N ☐ Observed pressure gauge reading: 30 psi Dynamic

Is a chemical injection tap available: Y ☐ N ☒ Chemical tap size: _____"

Is an approved electrical outlet available for chemical tap: Y ☒ N ☐ Is this a GFI outlet: Y ☐ N ☐

Is well metered: Y ☒ N ☐ Type: Turbine Size: 3" Make/Model: Sensus Serial #: 54958

Electric meter reading: 65457 kwh Water meter reading: 495837 x 100 gallon Hr. meter reading:

Are drawdown readings taken routinely: Y ☒ N ☐ Frequency: weekly Airline Length: 40'

Static Water Level: 19' Pumping Water Level: 21' Drawdown: 2' Avail. DD:

Are cross-connection requirements adequately met: Y ☒ N ☐

Are chemicals injected at the well: Y ☐ N ☒ If yes, what chemical(s): _____

Observed condition of piping and valving: Good, paint Ok and no corrosion

Observed condition of electrical systems: Good, everything appears OK

Is backup power available: Y ☒ N ☐ Type: X Describe Other: portable generators

Size: _____ Kwh _____ Hp _____ RPM for PTO or Belt Drive If exercised, how often _____? Under load Y ☐ N ☐

Is the facility well maintained and secure: Y ☒ N ☐ If yes, describe: well house is kept locked

If necessary, is appropriate signage in place: Y ☐ N ☐ N/A ☒

Does well meet criteria for potential GWUDI: Y ☒ N ☐ Unknown ☐

Has the source been deemed to be GWUDI: Y ☐ N ☒ Date of determination: _____

Are there any encroachments on this well: Y ☐ N ☒ If yes, are they pre-existing or new: ☐ Pre ☐ New

Current well vulnerability rating: ☐ Vulnerable ☒ Non-Vulnerable

Comments on this well: 1. Well house is built of concrete block and is raised six feet above ground level. 2. There is no transfer switch. 3. Well is equipped with AC Tech VFD.

SOURCE FACILITIES – GROUNDWATER SUPPLY FACILITIES

(Complete one sheet per source or well.)

Well ID #: 66-1 Well Common Name: Well #20 DNR Registration #: G-063102C Well Status: Active

Comments: _____

If INACTIVE, is well disconnected from the system: Y ☐ N ☐ Decommissioned properly: Y ☐ N ☐

Is this well part of a combined POE to the distribution system: Y ☒ N ☐ N/A ☐ If yes, which one: 002

Frequency site is inspected by PWS: Weekly Describe other: _____

Is the well sealed properly at the surface: Y ☒ N ☐ Comments: _____

Casing extends min of 18"(CWS) or 12"(NCWS) above well slab, floor, or ground surface: Y ☒ N ☐

Motor HP: 7.5 Pump Type: Turb Well Depth: 45.5' Well Casing Dia: 18"

Screen Const. Type: SS Top of Screen Depth: 38' Casing Type: Steel Pump Setting: 37.5'

Is the well vent termination and screening acceptable: Y ☒ N ☐ Size: 1/2" Comments: _____

Well blow-off size: 2" Is blow-off properly capped or screened: Y ☒ N ☐

Is a sampling tap available: Y ☒ N ☐ Is the sample tap smooth nosed: Y ☒ N ☐

Is a pressure gauge available: Y ☒ N ☐ Working: Y ☐ N ☒ Observed pressure gauge reading: 32 psi Static

Is a chemical injection tap available: Y ☐ N ☒ Chemical tap size: _____"

Is an approved electrical outlet available for chemical tap: Y ☐ N ☒ Is this a GFI outlet: Y ☐ N ☐

Is well metered: Y ☒ N ☐ Type: Turbine Size: 3" Make/Model: Sensus Serial #: 54968

Electric meter reading: 84543 kwh Water meter reading: 648722 x 100 gallon Hr. meter reading:

Are drawdown readings taken routinely: Y ☒ N ☐ Frequency: weekly Airline Length: 40'

Static Water Level: 24' Pumping Water Level: 31' Drawdown: 7' Avail. DD:

Are cross-connection requirements adequately met: Y ☒ N ☐

Are chemicals injected at the well: Y ☐ N ☒ If yes, what chemical(s): _____

Observed condition of piping and valving: Good, paint Ok and no corrosion

Observed condition of electrical systems: Good, everything appears OK

Is backup power available: Y ☒ N ☐ Type: X Describe Other: portable generators

Size: _____ Kwh _____ Hp _____ RPM for PTO or Belt Drive If exercised, how often _____? Under load Y ☐ N ☐

Is the facility well maintained and secure: Y ☒ N ☐ If yes, describe: well house is kept locked

If necessary, is appropriate signage in place: Y ☐ N ☐ N/A ☒

Does well meet criteria for potential GWUDI: Y ☒ N ☐ Unknown ☐

Has the source been deemed to be GWUDI: Y ☐ N ☒ Date of determination: _____

Are there any encroachments on this well: Y ☐ N ☒ If yes, are they pre-existing or new: ☐ Pre ☐ New

Current well vulnerability rating: ☐ Vulnerable ☒ Non-Vulnerable

Comments on this well:

Aquaguard Preventive Maintenance Well System Installation has been completed at this well. Vertical turbine pump has been replaced with submersible pump. Water –level transducer is installed. Has AC Tech VFD.

SOURCE FACILITIES – GROUNDWATER SUPPLY FACILITIES

(Complete one sheet per source or well.)

Well ID #: 2003-1 Well Common Name: Well #13 DNR Registration #: G-126226 Well Status: Active

Comments: _____

If INACTIVE, is well disconnected from the system: Y ☐ N ☐ Decommissioned properly: Y ☐ N ☐

Is this well part of a combined POE to the distribution system: Y ☒ N ☐ N/A ☐ If yes, which one: 002

Frequency site is inspected by PWS: Weekly Describe other: _____

Is the well sealed properly at the surface: Y ☒ N ☐ Comments: _____

Casing extends min of 18"(CWS) or 12"(NCWS) above well slab, floor, or ground surface: Y ☒ N ☐

Motor HP: 15 Pump Type: Sub Well Depth: 48.5' Well Casing Dia: 36"

Screen Const. Type: SS Top of Screen Depth: 38.5' Casing Type: Steel Pump Setting: 38.5'

Is the well vent termination and screening acceptable: Y ☒ N ☐ Size: 1" Comments: _____

Well blow-off size: 4" Is blow-off properly capped or screened: Y ☒ N ☐

Is a sampling tap available: Y ☒ N ☐ Is the sample tap smooth nosed: Y ☒ N ☐

Is a pressure gauge available: Y ☒ N ☐ Working: Y ☒ N ☐ Observed pressure gauge reading: 22 psi Dynamic

Is a chemical injection tap available: Y ☒ N ☐ Chemical tap size: 3/4"

Is an approved electrical outlet available for chemical tap: Y ☐ N ☒ Is this a GFI outlet: Y ☐ N ☐

Is well metered: Y ☒ N ☐ Type: Mag Meter Size: 6" Make/Model: Sparling Serial #: M142860410

Electric meter reading: _____ Water meter reading: 134639 x 1000 gallon Hr. meter reading: _____

Are drawdown readings taken routinely: Y ☒ N ☐ Frequency: weekly Airline Length: _____'

Static Water Level: 16' Pumping Water Level: 31' Drawdown: 15' Avail. DD: _____'

Are cross-connection requirements adequately met: Y ☒ N ☐

Are chemicals injected at the well: Y ☐ N ☒ If yes, what chemical(s): _____

Observed condition of piping and valving: Excellent, new or fairly new paint, no corrosion

Observed condition of electrical systems: Excellent, all boxes covered, no exposed wire

Is backup power available: Y ☒ N ☐ Type: X Describe Other: Portable generators are available. Well has a generator connection and transfer switch

Size: _____ Kwh _____ Hp _____ RPM for PTO or Belt Drive If exercised, how often _____? Under load Y ☐ N ☐

Is the facility well maintained and secure: Y ☒ N ☐ If yes, describe: well house is kept locked

If necessary, is appropriate signage in place: Y ☐ N ☐ N/A ☒

Does well meet criteria for potential GWUDI: Y ☐ N ☐ Unknown ☒

Has the source been deemed to be GWUDI: Y ☐ N ☒ Date of determination: _____

Are there any encroachments on this well: Y ☐ N ☒ If yes, are they pre-existing or new: ☐ Pre ☐ New

Current well vulnerability rating: ☐ Vulnerable ☒ Non-Vulnerable

Comments on this well: 1. Well is elevated approximately eleven feet above grade on a concrete base in order to minimize the effects of flooding. 2. Well has water level sensor for SCADA monitoring and is equipped with ABB VFD's..

DISTRIBUTION SYSTEM PUMPS AND PUMP FACILITIES

(Booster Pump Stations, etc. Excluding Well and Other Source Water Facilities)

	Facility Name	Pump Type	Application	Motor HP	Var. Speed	PM Prog.	Backup Power	Comments
1	**Finished Water Pump 1**	**VT**	**high service**	**60**	**Yes**	**Yes**	**Yes**	**700 gpm**
2	**Finished Water Pump 2**	**VT**	**high service**	**60**	**Yes**	**Yes**	**Yes**	**700 gpm**
3	**Finished Water Pump 3**	**VT**	**high service**	**40**	**Yes**	**Yes**	**Yes**	**400 gpm**
4	**Finished Water Pump 4**	**VT**	**high service**	**40**	**Yes**	**Yes**	**Yes**	**400 gpm**
		X			**X**	**X**	**X**	
5	**9th & G Pump 1**	**VT**	**high service**	**30**	**No**	**No**	**No**	**See note below**
6	**9th & G Pump 2**	**VT**	**high service**	**30**	**No**	**No**	**No**	**360 gpm**
7	**26th Street Reservoir Pump 1**	**VT**	**high service**	**5**	**No**	**Yes**	**Yes**	**135 gpm**
8	**26th Street Reservoir Pump 2**	**VT**	**high service**	**10**	**Yes**	**Yes**	**Yes**	**225 gpm**
9	**26th Street Reservoir Pump 3**	**VT**	**high service**	**15**	**Yes**	**Yes**	**Yes**	**350 gpm**
10	**26th Street Reservoir Pump 4**	**VT**	**high service**	**25**	**Yes**	**Yes**	**Yes**	**770 gpm**

Type Codes: **PDP = Positive Displacement Pump** **SR = Helical or Spiral Rotor** **C = Centrifugal Pump** **VT = Vertical Turbine**
E = Ejector Pump **RT = Regenerative Turbine** **ES = End Suction** (vertical) **S = Submersible**
RP = Reciprocating Pump **SC = Split Case** (horizontal) **O = Other**

Are all pumps operational: Y ☒ N ☐ **Comments:** _____ **Are spare-parts on hand for repairs:** Y ☒ N ☐ **Comments:** _____

Are the pump facilities located in a flood plain: Y ☐ N ☒ **If yes, what are the provisions for facility access:** _____

Are all drains and vents properly screened: Y ☒ N ☐ N/A ☐ **Comments:** _____

Are the following adequate for operation at all facilities: **Lighting:** Y ☒ N ☐ **Signage:** Y ☒ N ☐ **Ventilation:** Y ☒ N ☐

Type of Heating: Electric **Interior Drainage:** Y ☒ N ☐ **Describe security measures:** facilities kept locked

Comments: 9th & G Pumps 1 and 2 are located at the booster pump house at the north side of Clearwell No. 1 and 2.. The two pumps were the system's High Service Pumps at the time when the old water treatment plant was in operation. Pumps 1 and 2 are operational but not used at the present time.

Water Meters in use at the 26th Street Pumping Station: **Pump 1 = Sensus Omni, 2"** **Pump 2 = Toshiba Electromagnetic, 3-inch**
Pump 3 = Toshiba Electromagnetic, 4-inch **Pump 4 = Toshiba Electromagnetic, 4-inch**

PUMPS AND PUMP FACILITIES USED AT WATER TREATMENT PLANT

(Booster Pump Stations, etc. Excluding Well and Other Source Water Facilities)

	Facility Name	Pump Type	Application	Motor HP	Var. Speed	PM Prog.	Backup Power	Comments
1	Polishing Chlorine Booster Pump	C	booster	1	Yes	Yes	Yes	16 gpm
1	Finished Filter Effluent Pump 1	C	transfer	10	Yes	Yes	Yes	Est 1000 gpm
2	Finished Filter Effluent Pump 2	C	transfer	10	Yes	Yes	Yes	Est 1000 gpm
3	Finished Filter Effluent Pump 3	C	transfer	10	Yes	Yes	Yes	Est 1000 gpm
4	Filter Backwash Pump 1	VT	transfer	30	Yes	Yes	Yes	2625 gpm
4	Filter Backwash Pump 2	VT	transfer	30	Yes	Yes	Yes	2625 gpm
5	Backwash Recycle Pump 1	S	transfer	10	Yes	Yes	Yes	210 gpm
6	Backwash Recycle Pump 2	S	transfer	10	Yes	Yes	Yes	210 gpm
7	Backwash Waste Pump 1	S	transfer	2.7	Yes	Yes	Yes	200 gpm
8	Backwash Waste Pump 2	S	transfer	2.7	Yes	Yes	Yes	200 gpm

Type Codes: PDP = Positive Displacement Pump; E = Ejector Pump; RP = Reciprocating Pump; SR = Helical or Spiral Rotor; RT = Regenerative Turbine; SC = Split Case (horizontal); C = Centrifugal Pump; ES = End Suction (vertical); O = Other; VT = Vertical Turbine; S = Submersible

Are all pumps operational: Y ☒ N ☐ Comments: _____ Are spare-parts on hand for repairs: Y ☒ N ☐ Comments: _____

Are the pump facilities located in a flood plain: Y ☐ N ☒ If yes, what are the provisions for facility access: _____

Are all drains and vents properly screened: Y ☒ N ☐ N/A ☐ Comments: _____

Are the following adequate for operation at all facilities: Lighting: Y ☒ N ☐ Signage: Y ☒ N ☐ Ventilation: Y ☒ N ☐

Type of Heating: Elevtric Interior Drainage: Y ☒ N ☐ Describe security measures: Facilities kept locked

Comments on Pumps and Pump Facilities: _____

TRANSMISSION OF SOURCE WATER

(For purposes of this survey, if the Transmission main exceeds 300' in length this sheet must be completed)

If the system treats, does the transmission main deliver all raw water to a treatment plant: Y ☒ N ☐

If no, explain: _____ **Number of Transmission mains:** Four

Length	Construction Date	Type of Material	# Air Relief	# Blow Off
A. 1.0 Mile	1940	Cast Iron	0	1
B. 3.4 Mile	1981	C 900 PVC	0	2
C. 1.7 Mile	1940	Cast Iron	0	2
D. 1.8 Mile	2010	C 909 PCV, 12-inch	2	1

Does the air relief(s) terminate above ground level: Y ☐ N ☐ N/A ☒

Transmission Mains A, B and C: There were 6-7 air relief valves originally installed, each located in manholes. As the air relief valves were located in flood plains, each valve was capped and their supply lines valved off in order to prevent possible cross connections.

Transmission Main D: The discharge for both Air Relief Valves are piped to atmosphere and above the flood plain.

Is (are) the air relief(s) screened: Y ☐ N ☐ N/A ☐

Is (are) the blow off(s) capped: Y ☒ N ☐ N/A ☐

Is there a valve exercising program: Y ☒ N ☐ N/A ☐ **Frequency:** annually

Are repair materials available on-site: Y ☒ N ☐

Comments on Transmission Mains:

Transmission Main A is dedicated to Well #11

Transmission Main B is used for the six (6) wells located east of Auburn: Wells #1, #2, #3, #4, #5, #6

Transmission Main C is used for the two (2) wells located north of Auburn: Wells #19, #20

Transmission Main D is dedicated to Well #13

TREATMENT FACILITIES AND PROCESSES

Is the treatment plant located within 100-year floodplain: Y ☐ N ☒ Comments: _____

Are there any potential contamination sources in the vicinity of the plant: Y ☐ N ☒

If yes, describe: _____

Are the grounds and facility well maintained: Y ☒ N ☐

Is the facility staffed 24/7: Y ☐ N ☒

If not, what are the normal operating shifts: 7:30 am - 4:00 pm Monday through Friday

Is the facility secure from trespassers and vandalism: Y ☒ N ☐

If yes, describe security measures: facility kept locked; door alarm

Is the system currently using or participating in any type of optimization programs: Y ☐ N ☒

Historical Daily Maximum production over last 3 years: .979 MGD (2012)

Are there any limitations to plant flows: Y ☒ N ☐ Two of three filters can operate at any one time at the nominal capacityof 700 gpm per filter.

Is there an emergency power source: Y ☒ N ☐ Type: Portable generators

Frequency of testing of emergency power source: monthly

Is there a Preventative Maintenance Program for the treatment plant, associated equipment and facilities: Y ☒ N ☐

TREATMENT PROCESS BEING USED

Conventional Filtration: ☒ _____ Direct Filtration: ☐ _____ In-Line Filtration: ☐ _____

Slow-Sand Filtration: ☐ _____ Single-Stage Softening: ☐ _____ Two-Stage Softening: ☐ _____

Conventional Filtration / Softening: ☐ _____ Are there Split and Complex Treatment Trains: Y ☐ N ☒

Membrane Filtration: ☐ _____ Micro-Filtration: ☐ _____ Ultra-Filtration: ☐ _____

Nano-Filtration: ☐ _____ Reverse Osmosis: ☐ _____ Greensand Filtration: ☐ _____

Ion-exchange: ☐ _____ Purpose: _____

Aeration: ☒ _____ Type: ☒ Cascading

Disinfection: ☒ Chlorine Pre: ☐ _____ Post: ☒ _____ Other: _____

Oxidation: ☒ Sodium Permangate Purpose: Manganese removal

Sequestering: ☐ _____ Purpose: _____

Fluoridation: ☒ _____ Other Processes: _____

Individual processes or package plant: Package plant

If Package plant/treatment unit, brand name and model of unit: Siemens Trident TR-420 STR

Comments on Treatment Facilities and Processes: The Water Treatment Plant went into operation during the summer of 2011. The Water Treatment Plant began Surface Water Treatment Rule Compliance on September 1, 2011.

CHEMICALS AND CHEMICAL FEED SYSTEMS

(This sheet needed for any system required to comply with 179 NAC 22-005 Item 6)

Chemical Name	Day Tank capacity in gal.	Average Daily Feed	Certified By	Measured By	Safety Equip.	MSDS Avail.	Labeling & Signage	Spill Containment	Comments
Gas Chlorine	n/a	3.5 #/Day	1	S	Yes	Yes	Yes	No	4 x 150 Lb. cylinders stored
Sodium Permanganate	15	4 #/Day	1	S	Yes	Yes	Yes	No	70 gallons stored
Hydrofluorosilicic Acid	15	7#/Day	1	S	Yes	Yes	Yes	No	60 gallons stored

Certification Codes: 1 = NSF 2 = UL 3 = AWWA Standards Measurement Codes: S = Scale L = Labeled T = Tank Marked O = Other

Safety Equip., MSDS Avail., Labeling & Signage, Spill Containment, Storage Secure & Safe = Yes or No

Are MSDS(s) readily accessible to all personnel: Y ☒ N ☐ Comments: _____

Is the appropriate chemical safety equipment available to all personnel: Y ☒ N ☐ Comments: _____

Are there any visible problems with the application points: Y ☐ N ☒ Comments: _____

Describe security measures for chemical storage: Locked in chemical room(s)

CHEMICAL FEED EQUIPMENT SPECIFICATIONS

Description	Make	Model #	Feed Range	NSF 61 Cert. (Y or N)	Method of setting Feed Rate			
					Well or Motor Paced	Flow Paced	Manual	Other
Rotameter	Siemens	V10K	0-35 #/Day	Yes		XX		Chlorine
Rotameter	Siemens	V10K	0-35 #/Day	Yes		XX		Polishing Chlorine
Diaphragm pump	LMI (2 each)	AA951-393SI	1 GPH	X		XX		Sodium Permanganate
Diaphragm pump	LMI (2 each)	AA941-45951	.58 GPH	Yes		XX		Hydrofluorosilicic Acid

Are backup units available for all feeders: Y ☒ N ☐ Comments: _____

Is appropriate cross-connection control in place for chemical feeders: Y ☒ N ☐ Comments: _____

Are these chemicals fed at a chemical feed facility: Y ☒ N ☐ If not, where are they fed: _____

Comments on Chemicals, Chemical Feed System(s) and Chemical Feed Equipment: All chemical feed equipment and chemical feed areas are newly installed and in excellent condition. The water treatment plant has the ability to feed a cationic polymer if needed using chemical feed equipment that is already in place.

SEDIMENTATION / CLARIFICATION

(If non-similar multiple units, complete one sheet for each one.)

Type: Cross-flow Basin: ☐ ____ Radial-flow Basin: ☐ ____ Up-flow Clarifier: ☒ ____

Number of Basins: 3 Baffling Factor: n/a

Basin(s) Measurements: Length: 8' Depth: 7.5' Width: 8' Diameter: ____'

Does flow appear to be evenly distributed: Y ☒ N ☐

Is there evidence of short-circuiting: Y ☐ N ☒

Method of Sludge Removal: Mechanical: ____ Type: N/A

Manual: ____ Frequency: ____

Average Settled Turbidity: ____ NTU Historical Settled Turbidity Range: ____ NTU

Sludge Disposal Location: ____

Comments on Sedimentation/Clarification: Adsorption clarifier utilizes a high rate clarification process through media composed of HDPE beads.

FLOW CONTROL AND METERING

Source Water Influent Metered: Y ☒ N ☐ Finished Water Outlets Metered: Y ☒ N ☐

Water Treatment Plant

Meter Type	Size	Make	Model	Location & Use
Mag Meter	8"	Siemens	Sitrans FM Mag 5100W	Source Filter #1 Influent
Mag Meter	8"	Siemens	Sitrans FM Mag 5100W	Source Filter #2 Influent
Mag Meter	8"	Siemens	Sitrans FM Mag 5100W	Source Filter #3 Influent
Mag Meter	8"	ABB	Mag Master	Source Filter Effluent
Mag Meter	8"	ABB	Mag Master	Source Filter Effluent
Mag Meter	8"	ABB	Mag Master	Finished To Distribution
Mag Meter	8"	ABB	Mag Master	Finished To Distribution
Mag Meter	6"	ABB	Mag Master	Finished To Distribution
Mag Meter	6"	ABB	Mag Master	Finished To Distribution

Comments: ____

GRAVITY FILTERS

Number of Filters: 3 Filter ID (name or number): #1, #2, #3 Installation Date: 2010

Filter Technology: Rapid Sand: ☒ Slow Sand: ☐

Filter Media (check all that apply): Sand: ☒ Anthracite: ☒ GAC: ☐

Gravel: ☐ Garnet: ☒ DE: ☐ Other:

Filter Dimensions: Length: 22' Depth: 8' Width: 8' Diameter: _____' Baffling Factor: n/a

Date of last media installation or replacement: new in 2010

Are there any visible problems with filter media: Y ☐ N ☒ Comments: _____

Type of under drain system: Siemens Multi-Block System

Frequency under drain system is inspected: n/a

Designed filtration rate: 4 gpm /ft^2 Current filtration rate: 2 gpm /ft^2

Design media depth: 30" Current media depth: 30"

Criteria for initiating backwash: Run-time minutes (presently 4020 minutes) or head pressure loss

Monitoring Equipment: Rate-of-Flow Controller(s): X Are these variable or set: Variable

Filter Effluent Turbidimeters: X Head Loss gauges: X

% media expansion during backwash: 20 - 30% Average filter run time: 4020 minute

Is there a Surface Wash System for the filter: Y ☐ N ☒ Air Scour: Y ☒ N ☐

Is there filter to waste capability: Y ☒ N ☐ Comments: properly air-gapped

How are recently washed filters brought back on line: Filter to waste until filter turbidity remains less than 0.28 NTU's for a minimumof two minutes. Repeat process if necessry. Return to normal filter operation when this level is achieved.

Condition of pipe gallery: Excellent

Has a filter profile been developed for the filter: Y ☐ N ☒ Comments: _____

Has a filter self-assessment been completed for the filter: Y ☐ N ☒ Comments: _____

Where is filter effluent turbidity monitored (list all locations): at discharge header of each filter

Turbidity monitored via: Continuous monitor ☒ or by grab sample ☐

How often are the readings recorded: every 15 minutes

Date of last filter effluent turbidimeter calibration: 3/8/2016, all three filters Calibration frequency: Every 90 days

Are calibration records current and accessible: Y ☒ N ☐ Comments: _____

How are required turbidimeter readings recorded: ☐ Chart Recorder ☐ Strip Chart ☒ Data-logging

Frequency of readings: Continuous while filter is operating via SCADA

Is redundancy provided for readings: Y ☒ N ☐ Turbidity readings are cross checked with hand-held unit a minimum of every 90 days. (O & M Manual calls for this to be done weekly)

Are filter-aides added prior to filtration: Y ☒ N ☐ If yes, what chemical(s): sodium permanganate

Dosage rate: 0.6 - 1.0 mg/L Does it meet NSF-60, UL, or AWWA standards: Y ☒ N ☐

Are appropriate cross-connection devices installed, where necessary: Y ☒ N ☐ RPZ on process water

Is backwash water retained for recycle: Y ☒ N ☐ If yes, method: ☐ Lagoons ☒ Direct Recycle

Comments on Gravity Filters: DHHS-approved plant capacity of 1400 gpm, based on a single filter capacity of 700 gpm. Effective 1/1/2016: A back-up computer has been installed at the WTP. Each filter is now monitored individually for turbidity, and alarms on each filter indicate high turbidity conditions.

DISINFECTION PROCESSES

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Pre-Disinfectant Used: ☐ Chlorine ☐ Ozone ☐ Chlorine Dioxide ☐ Other: _____

In-plant Disinfectant: ☒ Chlorine ☐ Ozone ☐ Chlorine Dioxide ☐ Other: _____

Distribution (plant effluent) Disinfectant Used: ☒ Chlorine ☐ Chloramines ☐ Chlorine Dioxide ☐ Other: _____

Chlorine Type Used: ☒ Gas – 150 lb. Cylinder ☐ Gas – 1T Cylinder ☐ Gas – RR Tank Cars ☐ Liquid – Sodium Hypochlorite:_____% ☐ Calcium Hypochlorite: _____%

Primary Purpose: ☐ Oxidation ☒ Disinfection ☐ Both

Chlorine Dioxide:

On-site generated: Y ☐ N ☐ If yes, number of generators: _____

Size of chlorine cylinders: _____ Bulk chlorite storage: _____ gal

Primary Purpose: ☐ Oxidation ☐ Disinfection ☐ Both

Frequency of generator yields: _____ Average yield %: _____%

Method used to detect residuals: _____

Is there a PM Program for the generators: Y ☐ N ☐

Date of last preventative maintenance on generators: _____

Ozone:

Number of Generators: _____ Capacity of Generators: _____

% Ozone being generated: _____%

Primary Purpose: ☐ Oxidation ☐ Disinfection ☐ Both

Are all applicable residual monitors operational: Y ☐ N ☐

Are excess ozone destructors operational: Y ☐ N ☐

Is there a PM Program for the generators: Y ☐ N ☐

Date of last PM on ozone generators: _____

DISINFECTION APPLICATION POINTS

Disinfectant Type	Application Point
Gas Chlorine	Post filtration at the header pipe to Clearwells #1 and #2
Gas Chlorine	At POE (Used only if "polishing" is required)

DISINFECTION PROCESSES

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SW & GWUDI PWS

How are the T10 Times calculated: Tracer Study: _____ Theoretical: xx

Date Tracer Study was Conducted: _____ By: _____

Identify the CT Sampling Sequences:

A.) Clearwell #1 and #2 Baffling Factor: 0.5

B.) _____ Baffling Factor: _____

C.) _____ Baffling Factor: _____

D.) _____ Baffling Factor: _____

Where are disinfectant residuals, flow, pH and temperatures being monitored for CT purposes: POE

What is frequency of CT calculations: Daily at peak hourly flow of 700 gpm constant

Are at least 3 years of daily CT calculations available: Y ☐ N ☒

Are the CT calculations being performed correctly: Y ☒ N ☐

Testing Equipment for CT Calculations in each zone:

Chlorine Residual: ☐ Grab or ☒ Continuous Inst. Model: ATI Model Q 45H Calib. Freq.: Quarterly

pH: ☐ Grab or ☒ Continuous Inst. Model: ABB TB 82 Calib. Freq.: _____

Temperature in C: ☐ Grab or ☒ Continuous Inst. Model: ABB TB 82 Calib. Freq.: _____

Comments: _____

All PWS That Disinfect

Monitoring for disinfectant residuals: Continuous ☒ or grab sampling ☐ (frequency _____)

List all locations where disinfectant residuals are monitored: At total coliform sample sites four times per month

Model of Continuous Monitor: ATI - Model Q 45H

Is there an adequate spare parts inventory: Y ☒ N ☐ Reagent supply: Y ☒ N ☐

Residual Information Recording: ☐ Chart-recorder ☐ Strip-charts ☒ Data-logging

Is there a level of redundancy: Y ☒ N ☐ Comments: _____

What is the frequency of verifying the continuous read testing results by another method: daily comparison against Hach DR 2800 Bench Top Unit

What is that method: DPT

Are backflow preventers installed where necessary: Y ☒ N ☐

Comments: on lines to domestic and process water

Comments on Disinfection Process: _____

GROUND AND ELEVATED TANK STORAGE FACILITIES

Facility Name	Type	Const. Mat.	Tank ht.	Over-flow ht.	Corrosion Control (Y or N)	Date of Last Inspection	Date of Last Cleaning	Date Interior Painted	Interior Paint Type	Date Exterior Painted	Exterior Paint Type
26th St. Reservoir	PB	C	24'	23'	No	8/6/2015	8/6/2015	n/a	X	n/a	X
Clearwell #1	PB	C	8'	n/a'	No	5/26/2016	5/26/2016	n/a	X	n/a	X
Clearwell #2	PB	C	8'	n/a'	No	5/26/2016	5/26/2016	n/a	X	n/a	X
Finished & Backwash Water Clearwell at WTP	B	C	n/a'	na/'	No	8/6/2015	8/6/2015	n/a	X	n/a	X

Type: G = Ground Storage PB = Partially Buried B = Buried E = Elevated HP = Hydro-pillar UC = Uncovered Facility SP = Stand Pipe

Construction Material: C = Concrete S = Steel O = Other Describe: _____

Paint System Type: E = Epoxy G = Glass Coating W = Wax UK = Unknown O = Other Describe: _____

Current condition of tank exterior(s): 26th St. Reservoir = fair

Any apparent structural problems: Y ☐ N ☒ Comments: _____

Is there a routine inspection and cleaning program: Y ☒ N ☐ Comments: All reservoirs and clearwells are inspected annually by BPW staff.

Were any deficiencies noted during the last inspection: Y ☒ N ☐

If yes, have they been corrected: Y ☐ N ☒ If no, what was not corrected: 26th Street Reservoir continues to leak minimally0 above ground level.

How is the water supply maintained with storage facilities out of service: VFD operation of pumps

Are the facilities well maintained: Y ☒ N ☐ Describe security measures for storage facility: security fences are kept locked

GROUND AND ELEVATED STORAGE TANK FACILITIES COMPONENTS

(If unable to inspect the following, obtain information from the most recent storage facility inspection report)

Facility Name	Roof Leaks	Access Hatch Locked	Roof Vent Cond	Level Measure Operational	Tank Drain	Overflow 12-24" above ground on splash pad	Overflow Cover	Access Ladders	Valves Operable	Bypass Present / Operable	Level Controls Type	Alarm System
26th St. Reservoirc	S	S	S	S	UI	S	S	NA	S	NA	SCADA	S
Clearwell #1	S	S	S	S	S	NA	S	NA	S	S	SCADA	S
Clearwell #2	S	S	S	S	S	NA	S	NA	S	S	SCADA	S
Finished & Backwash Water Clearwell at WTP	S	NA	NA	S	S	NA	S	NA	S	S	SCADA	S

S = Satisfactory U = Unsatisfactory N = Not Present, but should be UI = Unable to Visually Evaluate NA = Not Applicable

Overall Comments on Ground and Elevated Storage Facilities:

THE FOLLOWING MARKED SANITARY SURVEY COMPONENTS ARE NOT APPLICABLE TO THIS PWS.

CROSS-CONNECTION CONTROL PROGRAM	☐
SOURCE FACILITIES—GROUNDWATER SUPPLY FACILITIES	☐
WELL INFORMATION	☐
SURFACE WATER SUPPLIES AND FACILITIES	☐
INFILTRATION GALLERY FACILITIES	☒
SPRING SOURCE FACILITIES	☒
PUMPS AND PUMP FACILITIES	☐
TRANSMISSION OF SOURCE WATER	☐
TREATMENT FACILITIES AND PROCESS	☐
PRESEDIMENTATION BASINS	☒
FLOW CONTROL AND METERING	☐
AERATION / OXIDATION	☐
RAPID MIX PROCESS	☒
CHEMICAL AND CHEMICAL FEED SYSTEMS	☐
CHEMICAL EQUIPMENT SPECIFICATIONS	☐
COAGULATION AND FLOCCULATION	☒
SEDIMENTATION / CLARIFICATION	☐
PRESSURE FILTERS	☒
GRAVITY FILTERS	☐
DISINFECTION PROCESSES	☐
GROUND AND ELEVATED TANK STORAGE FACILITIES	☐
GROUND AND ELEVATED STORAGE FACILITIES COMPONENTS	☐
HYDROPNUEMATIC AND PRESSURE TANKS	☒

Inspector's Signature: [signature]

System Representative: Kenneth Swanson

Date Inspection Completed: 6-9-16

Appendix C: Contaminant Source Inventory Tables (Fuel Tanks and CSI GIS Table)

Aboveground Fuel Tanks - Auburn CSI						
FACILITY_ID	**PARCEL**	**CURRENT OWNER**	**MAILING ADDRESS**	**CITY, STATE**	**ZIP**	**SITUS ADDRESS**
12120	640002536	KISTNER/ELDON W & SONIA S	2212 P ST	AUBURN, NE	68305	2212 \P ST
12115	640034985	NEBRASKA DEPARTMENT OF ROADS	PO BOX 94759	LINCOLN, NE	68509	1301 \COURTHOUSE AVE
12119	640037941	CASEY'S RETAIL COMPANY	PO BOX 3001	ANKENY, IA	50021	2208 \J ST
12112	640034896	CRSMT, INC	1004 14TH ST	AUBURN, NE	68305	1004 \14TH ST
12117	640044247	NEMAHA COUNTY HOSPITAL	2022 13TH ST	AUBURN, NE	68305	2022 \13TH ST
12111	640053564	CITY OF AUBURN	1101 J ST	AUBURN NE	68305	24-5-14 \SEC AIRPORT
12116	640053270	EVAN LUTHERAN GOOD SAMARITAN SOCIETY	1322 U ST	AUBURN, NE	68305	1322 \U ST
12118	640035558	NEBRASKA PUBLIC POWER DISTRICT	PO BOX 499	COLUMBUS NE	68602	902 \CENTRAL AVE
12114	640037011	FARMERS UNION COOPERATIVE SUPPLY	PO BOX 64	BEATRICE, NE	68310	922 \J ST
12113	640037011	FARMERS UNION COOPERATIVE SUPPLY	PO BOX 64	BEATRICE, NE	68310	922 \J ST

Underground Fule Tanks - Auburn CSI						
FACILITY ID	**PARCEL**	**OWNER**	**ADDRESS**	**CITY, STATE**	**ZIP**	**SITUS**
5066	640069363	NEMAHA COUNTY	1824 N ST	AUBURN, NE	68305	601 \J ST
3080	640038867	SCHOOL DISTRICT #29 CALVERT SCHOOL	2103 O ST	AUBURN, NE	68305	2103 \O ST
3563	640002536	KISTNER/ELDON W & SONIA S	2212 P ST	AUBURN, NE	68305	2212 \P ST
725	640034985	NEBRASKA DEPARTMENT OF ROADS	PO BOX 94759	LINCOLN, NE	68509	1301 \COURTHOUSE AVE
3879	640034985	NEBRASKA DEPARTMENT OF ROADS	PO BOX 94759	LINCOLN, NE	68509	1301 \COURTHOUSE AVE
5601	640035078	CRSMT, INC	1004 14TH ST	AUBURN, NE	68305	1402 \J ST
11207	640037941	CASEY'S RETAIL COMPANY	PO BOX 3001	ANKENY, IA	50021	2208 \J ST
1485	640044735	MASON/ERIC D	611 P ST	AUBURN NE	68305	611 \P ST
4353	640035213	FIRST NATIONAL BANK OF JOHNSON	PO BOX 215	JOHNSON, NE	68378	1315 \J ST
3622	640035930	BROWN/JAMES W	2002 O ST	AUBURN, NE	68305	2002 \O ST
1484	640036082	MASON/ERIC DOUGLAS	611 P ST	AUBURN NE	68305	700 \J ST
3079	640087981	AUBURN PUBLIC SCHOOLS	1713 J ST	AUBURN NE	68350	1713 \J ST
666	640035981	CLUGSTON OIL COMPANY	8400 I ST	OMAHA, NE	68127	802 \J ST
3624	640037852	BENNETT/RANDY L	1100 CENTRAL AVE	AUBURN NE	68305	1100 \CENTRAL AVE
4379	640035205	TRIANGLE PACIFIC CORPORATION	PO BOX 3001	LANCASTER PA	17604	72976 \638A AVE
3623	640034896	CRSMT, INC	1004 14TH ST	AUBURN, NE	68305	1004 \14TH ST
1509	640044247	NEMAHA COUNTY HOSPITAL	2022 13TH ST	AUBURN, NE	68305	2022 \13TH ST
6996	640033822	GILBERT/MICHAEL E & MARILYN K	73358 633 AVE	BROCK NE	68320	917 \J ST
6255	640035957	CARSON NATIONAL BANK	PO BOX 290	AUBURN, NE	68305	2301 \DAHLKE AVE
6151	640036031	C & W	725 16TH ST	AUBURN, NE	68305	922 \ALDEN DR
5373	640053564	CITY OF AUBURN	1101 J ST	AUBURN NE	68305	24-5-14 \SEC AIRPORT
3895	640036252	TINCHER INVESTMENTS INC	814 CENTRAL AVE	AUBURN, NE	68305	814 \CENTRAL AVE
6186	640036252	TINCHER INVESTMENTS INC	814 CENTRAL AVE	AUBURN, NE	68305	814 \CENTRAL AVE
7426	640001459	MYERS/ANDREW W & EDNA N	1410 CENTRAL AVE	AUBURN, NE	68305	2517 \Q ST
3003	640045006	CITY OF AUBURN	1101 J ST	AUBURN NE	68305	E ST
2636	640045197	CITY OF AUBURN	1101 J ST	AUBURN NE	68305	
8137	640033660	HOUSING AUTHORITY-CITY OF AUBURN	1017 H ST	AUBURN NE	68305	1017 \H ST
3081	640039286	NEBRASKA PUBLIC POWER DISTRICT	PO BOX 499	COLUMBUS NE	68602	1110 \M ST
663	640037917	RITE WAY OIL & GAS COMPANY INC	8400 I STREET	OMAHA, NE	68127	802 \J ST
31	640037011	FARMERS UNION COOPERATIVE SUPPLY	PO BOX 64	BEATRICE, NE	68310	922 \J ST
3121	640037011	FARMERS UNION COOPERATIVE SUPPLY	PO BOX 64	BEATRICE, NE	68310	922 \J ST
6545	640036627	AUTOMOTIVE DIESEL INC	1100 J ST	AUBURN NE	68305	1100 \J ST
12110	640036627	AUTOMOTIVE DIESEL INC	1100 J ST	AUBURN NE	68305	1100 \J ST

OBJECTID	SiteType	AGFuel	BGFuel	AutoChem	Solvents	FertStor	ChemStor	Septic	PWell	GFumigant	SFumigant	SiteDesc	MatDesc	FacilityName	Owner	Address
23	Livestock Operation	No	No	No	No	No	No	No	No	No	No	40 cow			James Ramsey Et al	72696 - 75 HWY
25	Other	Yes	No	No	No	No	No	No	No	No	No	coop	deisel gas	Farmers Union Cooperative Supply		PO Box 64, beatrice 68310
26	Other	Yes	No	No	No	No	No	No	No	No	No	coop	propane amonia	Farmers Union Cooperative Supply		PO Box 64 Beatrice 68310
27	Vet Clinic	No	No	No	Yes	No	Yes	Yes	No	No	No				Mike Speece	72774 - 75 HWY
28	Golf Course	Yes	No	No	No	Yes	No	Yes	Yes	No	No			Auburn County club		PO BOX 501
29	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No					
30	Livestock Operation	No	No	No	No	No	No	No	No	No	No	200 hog			Charles and Barbara Knipe	PO BOX 172
31	Acerage	No	No	No	No	No	No	Yes	Yes	No	No			Schlange Trustee	Gary and Mary Schlange	64086 - 727 RD
32	Livestock Operation	No	No	No	No	No	No	No	No	No	No		300 hog	Schlange Trustee	Gary and Mark Schlange	64086 - 727 Rd
33	Pivot	No	No	No	No	No	Yes	No	Yes	No	No	2 wells 500gal tank			Dwaine Rogge	1835 Monterey Dr, Lincoln 68506
34	Acerage	No	No	No	No	No	No	Yes	No	No	No				Barbara Bolen	1012 - 23rd St.
35	Acerage	No	No	No	No	No	No	Yes	No	No	No				Jason Cihal	64134 - 136 HWY
36	Acerage	No	No	No	No	No	No	Yes	No	No	No			Theodore Smith	Berdie Banks	64140 - 136 HWY
37	Other	No	No	No	No	No	No	No	No	No	No	Grain Bins			Richard Alden	
38	Airport	Yes	No	No	No	No	No	Yes	No	No	No			Farington Field	City of Auburn	1101 J St.
39	Acerage	No	No	Yes	No	No	No	Yes	Yes	No	No				Timothy and Shelly Nichols	64187 - 136 HWY
40	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No				Dwaine and Wanda Rogge	1835 Monterey Dr; Lincoln 68506
41	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Jerry and Laurena Sayer	72847 - 642 Ave
42	Acerage	No	No	No	No	No	No	Yes	Yes	No	No			Wonda Beth Conn	Lonnie Sierks	72838 - 642 Ave
44	Farmstead	Yes	No	No	Yes	No	Yes	Yes	Yes	No	No				Lynn Rogge	72799 643 Ave.
45	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Lynn and Jana Rogge	64274 728 RD
46	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Jaunalee Alden	2320 Whitlow Ave
47	Farmstead	No	No	No	Yes	Yes	No	Yes	Yes	No	No				Herb Lash	64270 136 Hwy
48	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Elaine McGrath	23664 W Main St.; Plainfield, IL 60544
49	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No			David Thomas Revoc Liv Trust	Susan Thomas Revoc Liv Trust	72922 - 642 Ave
50	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No			Gribbs Farms INC	Gibbs Farms INC,	PO BOX 218, Nebraska City 68410
51	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Sally Lavigne	73056 - 75 HWY
52	Other	No	No	Yes	No	No	No	No	No	No	No	construction storage			Jim Winkelman	64736 - 730A RD
53	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Ralph and Patricia Lampe	63930 - 731 RD
54	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				John and Tina Kahanca	73103 - 640 Ave
55	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Joe and Rita Ingersoll	63992 - 731 RD
56	Acerage	No	No	No	No	No	No	Yes	No	No	No				Joe and Rite Ingersoll	63992 - 731 RD
57	Acerage	No	No	No	No	No	No	Yes	No	No	No				Donald and Marcia Goering	73119 - 640 Ave
58	Acerage	No	No	No	No	No	No	Yes	No	No	No				Kenneth Schlange	64003 - 731 RD
59	Acerage	No	No	No	No	No	No	Yes	No	No	No			Sterling and Elaine Bray Trustee	Sterling and Elaine Bray	73067 - 640 Ave
60	Livestock Operation	No	No	No	No	No	No	Yes	Yes	Yes	No	500 hog			Wayne and Barbara Schlange	73046 - 640 Ave
61	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Wayne and Barbara Schlange	73046 - 640 Ave
62	Grain Elevator	No	No	No	No	No	No	No	No	Yes	Yes				Richard and Jane Andrew	22239 C Ave Box 173; Rockport, MO 64482
63	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Terry and Melisa Fulton	64088 - 731 RD
64	Other	Yes	No	Yes	Yes	No	Yes	No	No	No	No	Magnolia Metal Works	Propane Tank, Trucks, Warehouse	Magnolia Metal Corporation		PO BOX 34370; Omaha, NE 68134
65	Acerage	No	No	No	No	No	No	Yes	No	No	No	abandoned house, city water		Eggers Brothers INC.		72302 - 105 HWY
68	Parking Lot	No	No	Yes	No	No	No	No	No	No	No	trailer storage		Triangle Pacific Corporation		PO BOX 3001; Lancaster, PA 17604
69	Other	No	No	No	No	No	No	No	No	No	No	Wood Shop/Manufacturing		Armstrong Cabinets	Triangle Pacific Corporation	PO BOX 3001; Lancaster, OA 17604
70	Acerage	No	No	No	No	No	No	Yes	No	No	No				Muriel and Mary Estes	63825 - 730 RD
71	Acerage	No	No	No	No	No	No	Yes	No	No	No				Robert and Helen Hummel	63821 - 730 RD
72	Acerage	No	No	No	No	No	No	Yes	Yes	No	No			Casey 1st Trust	Audrey Casey	63811 - 730 RD
73	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				David and Dianna Hunter	63809 - 730 RD
74	Machine Shop	No	No	Yes	Yes	No	No	No	No	No	No				David and Dianna Hunter	63809 - 730 RD
75	Acerage	No	No	No	No	No	No	Yes	No	No	No				Gina Long	63800 - 730 RD
76	Acerage	No	No	No	No	No	No	Yes	No	No	No				John and Nancy Hawley	73016 - 638 Ave
77	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Michael Clarke	63796 - 730 RD
78	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Michael Clarke	63796 - 730 RD
79	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Michael Clarke	63796 - 730 RD
80	Acerage	No	No	No	No	No	No	No	Yes	No	No				Steven Rogge	10113 Charisslen Lane; highlands Ranch, CO 80126
81	Acerage	No	No	No	No	No	No	No	Yes	No	No	Abandoned			Terry and Deborah Ratliff	106 E thomas Ave; shenandoah, IA 51601
82	Acerage	Yes	No	No	No	No	No	Yes	Yes	No	No	propane		Michael chambers	Janice Klingman	63729 - 730 RD
83	Acerage	Yes	No	Yes	No	No	No	Yes	Yes	No	No		fuel and deisel 250 gals	Duane Huddart	Judy Clarke	72959 - 638 Ave
84	Acerage	No	No	Yes	No	No	No	Yes	Yes	No	No				Terry and Deborah Ratliff	106 E Thomas Ave; Shanandoah, IA 51601
85	Other	No	No	No	No	No	No	No	No	No	No	cemetery		Sheridan Cemetery		
87	Acerage	No	No	No	No	No	No	Yes	No	No	No				Darin and Paula Randall	
88	Acerage	No	No	No	No	No	No	Yes	No	No	No				Mark and Elizabeth Andrew	1305 Spring Oak Estates
89	Acerage	No	No	No	No	No	No	Yes	No	No	No				Terry and Marnie Argo	1307 Spring Oak Estates
90	Acerage	No	No	No	No	No	No	Yes	No	No	No				Brent and Amanda Meyer	1309 Spring Oak Estates
91	Well	No	No	No	No	No	No	No	Yes	No	No				Brent and Amanda Meyer	1309 Spring Oak Estates
92	Car/Junk Lot	No	No	Yes	Yes	No	No	No	No	No	No				John Henderson	63703 - 733A RD
95	Car/Junk Lot	No	No	Yes	Yes	No	No	No	No	No	No	old junk yard with 100+ cars		Daniel and Karen Overgaard	Gary Valasek	PO BOX 467
96	Medical Clinic	No	No	No	No	No	No	No	No	No	No			Nemaha County Hospital	Nemaha County	2022 13th At.
97	Medical Clinic	Yes	No	No	No	No	No	No	No	No	No		deisel 50 gals	Good Sumaritan Assisted Living	Evangelical Lutheran	418 Q St.
98	Other	No	No	No	No	No	No	No	No	No	No	rotary lake		Nemaha County Aricultural Soceity	Nemaha Agricultural Society	Fairgrounds, 68305
99	Other	Yes	No	No	No	No	Yes	No	No	No	No	concrete plant	water storage tank	Union Pacific Railroad		
100	Gas Station	No	Yes	Yes	No	No	No	No	No	No	No			Shell	Clugston Oil Company	802 J St.
101	Gas Station	No	Yes	Yes	No	No	No	No	No	No	No			Farmers Cooperaitve		PO Box 64 Beatrice, NE 68310
102	Other	No	No	No	No	No	No	No	No	No	No	fairgrounds		Nemaha County Agricultural Society	Nemaha County Agricultural Society	Fairgrounds
103	Grain Elevator	No	No	No	No	No	No	No	No	Yes	Yes			Union Pacific Railroad		
104	Grain Elevator	No	No	No	No	No	No	No	No	Yes	Yes			5500 "L" Street Properties Co, LLC		
105	Other	Yes	No	No	No	Yes	Yes	No	No	No	Yes	chemical plant		Union Pacific Railroad		
106	Car/Junk Lot	No	No	Yes	Yes	No	No	No	No	No	No			concrete Industries INC.		1815 Y St. Lincoln, NE 68501
107	Other	No	No	No	No	No	No	No	No	No	No	Fuel Storage		City Street Department	City of Auburn	1101 J St.
108	Other	No	Yes	No	No	No	No	No	No	No	No	city owned	3 - 20,000gal tanks	Board of Public Works	City of Auburn	1101 J St.
109	Auto Service	No	No	Yes	Yes	No	No	No	No	No	No			Striggow Body Shop	Randy and Sharon Striggow - Trustees	2000 N St
110	Other	Yes	No	No	Yes	No	No	No	No	No	No	factory		J Street LLC	Stewart M Witkov, Ariens Co	655 W Ryan Rd; Brillion, WI 54110
111	Other	Yes	No	Yes	Yes	No	Yes	No	No	No	No	STATE ROAD		Nebraska Department of Roads	State of Nebraska	2318 S St.
112	Other	Yes	No	No	No	No	No	Yes	No	No	No		propane	Auburn County Club		
113	Parking Lot	No	No	Yes	No	No	No	No	No	No	No			Hinky Dinky Auburn	Darland Properties	4115 S 133rd St. Omaha, NE 68137
114	Acerage	No	No	No	No	No	No	Yes	No	No	No			Robert Giles	Teresa Bailey-Giles	82 Clark Cove RD; Leceister, NC 28748
115	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Robert Kinghorn	63809 - 136 HWY
116	Other	No	No	No	No	No	No	Yes	No	No	No	CARPET UPOLSTERY BUSINESS			Connie Dorsch	72896 - 638 Ave
117	Acerage	No	No	No	No	No	No	Yes	No	No	No				Andrew and Monica Oestmann	72895 - 638 Ave
119	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Terry Georges	72893 - 638 Ave
120	Acerage	No	No	No	No	No	No	Yes	Yes	No	No			Duane Huddart	Judy Clarke	72959 - 638 Ave
121	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Charles and Shirley Hines	63635 - 730 RD
122	Other	No	No	No	No	No	No	No	No	No	No	ABBANDONED ROCK QUARRY		GEE Family Farms LLC/E and A	Ronald E Keedy	711 I RD Palmyra 68418
123	Livestock Operation	No	No	No	No	No	No	No	No	No	No	ABBND HOG CONFINEMENT		Joan Harms REvoc Living Trust	Joan Harms	63600 - 730 RD
124	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No				Joan Harms	63600 730 Rd
125	Other	No	No	No	No	No	No	No	No	No	No	SLUDGE APPLICATION AREA			Hiedi Henningson	12525 Main St.; Springfield 68059
126	Well	No	No	No	No	No	No	No	No	No	No	WINDMILL			Heidi Henningson	12525 Main St.; Springfield 68059
127	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Carol Mitchell	500 Newton St.; Lincoln 68506

OBJECTID	SiteType	AGFuel	BGFuel	AutoChem	Solvents	FertStor	ChemStor	Septic	PWell	GFumigant	SFumigant	SiteDesc	MatDesc	FacilityName	Owner	Address
128	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Lonnie Oestmann	63489 730 Rd.
129	Other	No	No	No	No	No	No	No	No	No	No	OLD FARMSTEAD			Heidi Ann Henningson	12525 Main St.; Springfield, NE 68059
131	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No				Mark and Judith Debuhr	64043 - 725 RD
135	Other	No	No	No	No	No	No	No	No	No	No	OLD ROCK QUARRY			Mark and Judith Debuhr	64043 - 725 RD
136	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No				Walter and Huldah Lunzman	63571 - 136 HWY
137	Farmstead	No	No	No	No	No	No	No	No	No	No				James and Nichole Jansen	21450 Ruff Rd; Gretna 68028
138	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No			Patricia Rogge	Kristen Rogge Et al.	PO Box 241, Johnston 68378
139	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No				Dough Stahl	63475 136 Hwy
140	Livestock Operation	No	No	No	No	No	No	No	No	No	No		Feedlot		Doug Stahl	63475 136 Hwy
141	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No				Myron Gerdes	63649 - 136 HWY
142	Livestock Operation	No	No	No	No	No	No	No	No	No	No		ABBANDONED		Myron Gerdes	63649 - 136 HWY
143	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No				Andrew and nicole Perry	72915 - 637 Ave
144	Farmstead	Yes	No	No	Yes	No	No	Yes	No	No	No				Kenneth and Genene Broers	72928 - 637 Ave
145	Well	No	No	No	No	No	No	No	No	No	No		OLD HOMESTEAD	Markamp INC		725 Arbor DR, Nebraska City 68410
146	Farmstead	Yes	No	No	Yes	No	No	Yes	No	No	No				Robert and Susan Hogrefe	63729 - 136 HWY
147	Well	No	No	No	No	No	No	No	No	No	No				Robert and Susan Hogrefe	63729 - 136 HWY
148	Other	No	No	No	No	No	No	No	No	No	No		CEMETARY	Sheridan Cemetery		
149	Other	No	No	No	No	No	No	No	No	No	No	OLD CITY DUMP			Terry Georges	72893 - 638 Ave
150	Other	No	No	No	No	No	No	No	No	No	No	OLD DUMP & ROCK QUARRY			Mark Harms	73083 - 637 Ave
151	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Larry and Connie Dorsch	72852 - 638 Ave
152	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Marlene Volkmer	72854 - 638 Ave
153	Grain Elevator	No	No	No	No	No	No	No	No	Yes	Yes	OLD GOVT GRAIN STORAGE		St. Joseph Catholic Church	Greg Pawloski	PO BOX 406
154	Car/Junk Lot	No	No	Yes	Yes	No	No	No	No	No	No			St. Joseph Catholic Church	Greg Polowski	PO BOX 406
155	Acerage	Yes	No	No	No	No	No	Yes	No	No	No				Duane and Linda Volker	72818 - 638 Ave
156	Farmstead	Yes	No	No	Yes	No	No	Yes	No	No	No				Rachel Rieger	1218 N St.
157	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Kimberly and Lloyd Buchmeier	72749 - 638 Ave
158	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No			Suki and Jay Fischer	72756 - 638 Ave	
159	Farmstead	No	No	No	Yes	No	No	No	No	No	No	ABBND FARMSTEAD			John and Theressa Lindinger	63811 - 728 RD
160	Other	No	No	No	No	No	No	No	No	No	No	CEMETARY		S. Paul Even Ltheran Church Cemetary	Church Cemetery Association	2012 O St.
161	Farmstead	Yes	No	No	Yes	No	No	Yes	No	No	No			St Joseph Catholic Parish	Greg Pawloski	PO Box 406
162	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No				Jack and Phyllis McConnaughey	63740 - 728 RD
163	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Jack and Phyllis McConnaughey	63740 - 729 RD
164	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No				Dennis and Devon Volkman	63725 - 728 RD
165	Well	No	No	No	No	No	No	No	No	No	No	OLD FARMSTEAD			Inez Gebers	402 1st St., Johnson, NE
166	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No				Eric and Francisca Bohling	63648 - 728 RD
167	Livestock Operation	No	No	No	No	No	No	No	No	No	No				Eric and Francisca Bohling	63648 - 728 RD
168	Acerage	No	No	No	No	No	No	Yes	No	No	No			Lois Bohling	Larry Bohling	72809 - 636 Ave
169	Acerage	No	No	No	No	No	No	Yes	No	No	No			Lois Bohling	Larry Bohling	72809 - 636 Ave
171	Livestock Operation	No	No	No	No	No	No	No	No	No	No				Walter and Huldah Lunzman	63571 - 136 HWY
173	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No				Wesley Debuhr	63930 - 726 RD
174	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No				Bohling co-Trustees	63548 - 728 RD
175	Other	No	No	No	No	No	No	No	No	No	No	OLD ROCK QUARRY		Steffens L E Et al.	Pearl Steffens	1213 23rd St.
176	Well	No	No	No	No	No	No	No	No	No	No	OLD FARMSTEAD		Steffens L E Et al.	Pearl Steffens	1213 23rd St.
177	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No				Clarence Ehlers	63531 - 727 RD
178	Well	No	No	No	No	No	No	No	No	No	No	Old Windmill			Evelyn Rogge	
179	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No				Fred Ehlers	63622 727 Rd
180	Well	No	No	No	No	No	No	No	No	No	No				Fred Ehlers	63622 - 727 RD
181	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No				Wilber Kinghorn	63768 727 Rd
182	Well	No	No	No	No	No	No	Yes	No	No	No				Jane Smith	Box 96, Brownville, NE
183	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Kent Volkmer	63821 727 Rd
184	Farmstead	Yes	No	No	Yes	No	No	Yes	No	No	No				Laverne and Helen Norvell Liv Trust	72767 - 638A Ave
185	Farmstead	Yes	No	No	Yes	No	No	Yes	No	No	No				Eugene and Catherine Mace	72775 - 638A Ave
186	Grain Elevator	No	No	No	No	No	No	Yes	No	Yes	Yes			Andrew Bros LLC		PO BOX 5; Brownville, NE 68321
187	Acerage	No	No	No	No	No	No	Yes	No	No	No				Alma Dettmer Revoc Liv Trust	PO Box 128
188	Acerage	No	No	No	No	No	No	Yes	No	No	No				Alma Dettmer Revoc Liv Trust	PO Box 128
189	Grain Elevator	No	No	No	No	No	No	No	No	Yes	Yes				Wilber Sherman	2800 O St.
190	Acerage	No	No	No	No	No	No	Yes	No	No	No				Cheryl Horne	2720 Q st.
191	Other	No	No	No	No	No	No	No	No	No	No	OIL & RECYCLING		Nemaha County		1824 N St.
192	Machine Shop	Yes	No	Yes	Yes	No	No	No	No	No	No	COUNTY MAINT		Nemaha County		1824 N St.
193	Acerage	No	No	No	No	No	No	No	Yes	No	No				David and Virginia Hunter	1719 27th St.
194	Acerage	No	Yes	No	No	No	No	Yes	No	No	No				Lawrence and Alberta Hector	63820 - 728 RD
195	Acerage	No	No	No	No	No	No	Yes	No	No	No				William Stonebarger	63819 - 728 RD
196	Acerage	No	No	No	No	No	No	Yes	No	No	No				John and Theresa Lindinger	63811 - 728 RD
197	Farmstead	No	No	No	No	No	No	Yes	No	No	No				Tony and Amy Hector	63816 - 728 RD
198	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				John and Violice O'Connor	5825 Newton St. Lincoln 68506
199	Acerage	No	No	No	No	No	No	No	No	No	No				Cynthia Kruger	2318 S St.
200	Acerage	No	No	No	No	No	No	No	No	No	No				Kevin and Christy Tanner	1914 24th St.
201	Acerage	No	No	No	No	No	No	No	No	No	No				David and Mary Parker	1920 24th St.
202	Acerage	No	No	No	No	No	No	No	No	No	No				Joseph and Michelle Dixon	2012 24th St.
203	Acerage	No	No	No	No	No	No	No	No	No	No		POSSIBLE WELL		Lavell and Harriet Clark	2322 U St.
204	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Theodore and Melba Davison	1922 Q St.
205	Gas Station	No	Yes	Yes	No	No	No	No	No	No	No			Casey's	Casey's Retail Company	1 SE convenince Blvd; Ankeny, IA 50021
206	Auto Service	No	No	Yes	Yes	No	No	No	No	No	No				Richard and Marylyn Schneider	PO Box 270
207	Well	No	No	No	No	No	No	No	No	No	No	WINDMILL			James Ramsey Et al.	72696 - 75 HWY
208	Machine Shop	No	No	Yes	Yes	No	No	No	No	No	No				Richard and Juanalee Alden	2320 Whitlow Ave
209	Well	No	No	No	No	No	No	No	No	No	No			Auburn County Club		PO BOX 501
210	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Albert Ramsey	72696 - 75 HWY
211	Well	No	No	No	No	No	No	No	No	No	No	WINDMILL			Albert Ramsey	72696 - 75 HWY
212	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No				Albert Ramsey	72696 - 75 HWY
213	Livestock Operation	No	No	No	No	No	No	No	No	No	No				Albert Ramsey	72696 - 75 HWY
214	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No				Linn Debuhr Revoc Trust	72787 - 636 Ave
215	Acerage	No	No	No	No	No	No	Yes	No	No	No				Kathie and Harold King	63895 - 726 RD
216	Other	No	No	No	No	No	No	No	No	No	No	CEMETARY		St. Joseph Catholic Church	Greg Pawloski	PO BOX 406
217	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Randy and Celeste	72527 - 75 HWY
218	Acerage	No	No	No	No	No	No	Yes	No	No	No				Denise Brown	63921 - 725 RD
219	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Herman and Alice Moenning	5327 W Luke St, Lincoln 68524
220	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No			Kenneth Heidzig Trustee	Kenneth Heidzig	63947 - 725 RD
221	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Mark and Carla Patterson	72497 - 640 Ave
222	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Gary and Mary Henne	72457 - 640 Ave
223	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Eric Shelton	64163 726 RD
224	Livestock Operation	No	No	No	No	No	No	No	No	No	No				Kenneth Heidzig	63947 - 725 RD
225	Well	No	No	No	No	No	No	No	No	No	No				Kenneth Heidzig	63947 - 725 RD
226	Livestock Operation	No	No	No	No	No	No	No	No	No	No			Kenneth Heidzig Trustee	Kenneth Heidzig	63947 - 725 RD
227	Well	No	No	No	No	No	No	No	No	No	No	OLD WINDMILL		Kristin Dearing	Harshman Land Co	916 Courtney Dr, Nebraska city 68410
228	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No				Mark and Judith Debuhr	64043 - 725 RD
229	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Cirtis Bischoff	64074 - 724 RD
230	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Perry and Lesa Backstrom	85174 - 574 Ave; Wayne 68787

OBJECTID	SiteType	AGFuel	BGFuel	AutoChem	Solvents	FertStor	ChemStor	Septic	PWell	GFumigant	SFumigant	SiteDesc	MatDesc	FacilityName	Owner	Address
231	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Richard and Debra Cox	106 Center St.
232	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Marjorie Dahlenburg	120 Center St
233	Grain Elevator	No	No	No	No	No	No	No	No	Yes	Yes				Clinton and Glendolyn Bantz	63874 - 724 RD
234	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Stewert or Joyce Kite	64022 - 724 RD
235	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Bradley and Linda Petersen	117 East St.
236	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Wendell jones	211 East St.
237	Acerage	No	No	No	No	No	No	No	Yes	No	No				Wendell Jones	211 East St.
238	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Barry Bogan	202 North St.
239	Acerage	No	No	No	No	No	No	Yes	Yes	No	No			Debruce Ag Service	Debruce Ag Serivce	4100 N Mulberry Dr. Kansas City, MO 64116
240	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Craig and Cheryl Caples	210 North St.
241	Acerage	No	No	No	No	No	No	No	Yes	No	No				Edith Oetjen	72113 - 644 Ave; Stella 68442
242	Other	No	No	No	No	No	No	No	No	No	No		FUTURE ANHYDROUS STORAGE	Debruce Ag Service	Debruce Ag Service	4100 N Mulberry Dr, Kansas City, MO 64116
243	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Dale and Kathryn Bohling	72268 - 75 HWY
244	Gas Station	No	Yes	Yes	No	No	No	No	No	No	No	POSSIBLY REEMOVED			George Jergensmeier	64373 - 724 RD Nemaha 68414
245	Other	Yes	No	No	No	No	No	No	No	No	No			Union Pacific Railroad		
246	Well	No	No	No	No	No	No	No	No	No	No	Possibly Two Underground Wells		Union Pacific Railroad		
247	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No			Regina Rhodes	Everett and Paul Rhodes	PO BOX 284 bridgeport 69336
248	Grain Elevator	No	No	No	No	No	No	No	No	Yes	Yes			Regina Rhodes	Everett and Paul Rhodes	PO BOX 284 bridgeport 69336
249	Machine Shop	Yes	No	Yes	Yes	No	No	No	No	No	No				Dale and Kathryn Bohling	72268 - 75 HWY
250	Grain Elevator	No	No	No	No	No	No	No	No	Yes	Yes				Dale and Kathryn Bohling	72268 - 75 HWY
251	Acerage	No	No	No	No	No	No	Yes	No	No	No				Clinton and Clendolyn Bantz	63874 - 724 RD
252	Farmstead	No	No	No	No	No	No	No	Yes	No	No			Mooarkegin Farms LLC	Mooarkegin Farms LLC	72568 - 634 Ave
253	Livestock Operation	No	No	No	No	No	No	No	No	No	No				Linn Debuhr Revoc Trust	72787 - 636 Ave
254	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Darrel Volker	63974 - 726 RD
255	Well	No	No	No	No	No	No	No	No	No	No			Regina Rhodes	Everett and Paul Rhodes	PO Box 284 Bridgeport 69336
256	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No			GGG Farms INC	Glade Goings	64113 - 727 RD
257	Livestock Operation	No	No	No	No	No	No	No	No	No	No			GGG Farms INC	Glade Goings	64113 - 727 RD
260	Well	No	No	No	No	No	No	No	No	No	No			GGG Farms INC	Glade Goings	64113 - 727 RD
261	Well	No	No	No	No	No	No	No	No	No	No				James Grant III	1603 F St.
262	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No				James Grant III Et al.	1603 F St.
263	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Marvin Caspers	63558 - 724 RD
264	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Eric and Pamela Adams	64052 - 727 RD
265	Acerage	No	No	No	No	No	No	Yes	Yes	No	No			Auburn Energy	E Energy Auburn LLC	6511 Winding Ridge Ct. Lincoln 68512
266	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				James and Nancy Kite	64244 - 726 RD
268	Well	No	No	No	No	No	No	No	No	No	No				James and Nancy Kite	64244 - 726 RD
269	Well	No	No	No	No	No	No	No	No	No	No	UNDEVELOPED WELL			Alan and Kelly Rippe	PO BOX B, Syracuse 68446
270	Grain Elevator	No	No	No	No	No	No	No	No	Yes	Yes				Juananlee Alden	2320 Whitlow Ave
271	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No				Robert and Delta Boden	63970 - 728 RD
272	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Joh and Jean Chatelain	4528 S 187th St.; Omaha 68135
273	Well	No	No	No	No	No	No	No	No	No	No				Juanalee Alden	2320 whitlow Ave
274	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No			Nixon Family Trust	C Dana Nixon	7510 Margarita Pl; Colorado Springs, CO 80919
275	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Jimmie and Patricia Jarvis	64218 - 136 HWY
276	Pivot	No	No	No	No	No	No	No	Yes	No	No				Lynn and Jana Rogge	64274 - 728 RD
277	Pivot	No	No	No	No	No	No	No	Yes	No	No				Lynne Rogge	64274 728 Rd
278	Well	No	No	No	No	No	No	No	No	No	No				Lynn and Jana Rogge	64274 - 728 RD
279	Pivot	No	No	No	No	No	No	No	Yes	No	No				Lynn Rogge	64274 - 728 RD
280	Acerage	No	No	No	No	No	No	Yes	No	No	No				Larry and Debra Morris	73131 - 641 Ave
281	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Alan and Paula Bysfield	64040 - 731 RD
282	Grain Elevator	No	No	No	No	No	No	No	No	Yes	Yes			Family LTD Partnership	Allan and Edine Moody	2003 - 24th St.
283	Acerage	No	No	No	No	No	No	Yes	No	No	No				Brian and Sandy Bradley	73104 - 640 Ave
284	Acerage	No	No	No	No	No	No	Yes	No	No	No				Landora Laplant	73124 - 640 Ave
285	Auto Service	No	No	Yes	Yes	No	No	No	No	No	No			Gilbert Services	Michael and Marilym Gilbert	73358 - 633 Ave
286	Gas Station	No	Yes	Yes	No	No	No	No	No	No	No			Automotive Diesel INC		1100 J St.
287	Auto Service	No	No	Yes	Yes	No	No	No	No	No	No				Lynn and Vicki Erisman	1816 J St.
288	Other	No	No	No	No	No	No	No	No	No	No	DRY CLEANERS			Dale and Susan Thomas	809 Central Ave
289	Auto Service	No	No	Yes	Yes	No	No	No	No	No	No			NAPA Auto Parts		817 Central Ave.
290	Auto Service	No	No	Yes	Yes	No	No	No	No	No	No			5500 "L" Street Properties Co, LLC	Meyer Earp Auto Center	1100 E St.
291	Auto Service	No	No	Yes	Yes	No	No	No	No	No	No			5500 "L" Street Properties Co, LLC		1100 E St.
292	Auto Service	No	No	Yes	Yes	No	No	No	No	No	No			Tincher investments		814 Central Ave
293	Auto Service	No	No	Yes	Yes	No	No	No	No	No	No			Car Smart, Inc	Michael Henderson	1004 14th St.
294	Auto Service	No	No	Yes	Yes	No	No	No	No	No	No				Jack and Romelle Humphrey	1322 8th St.
295	Auto Service	No	No	Yes	Yes	No	No	No	No	No	No				Randy Bennett	1100 Central Ave
296	Auto Service	No	No	Yes	Yes	No	No	No	No	No	No			Mellage Truck and Tractor	Whitlow & Mellage Inc.	1017 10th St.
298	Other	No	No	No	Yes	No	No	No	No	No	No	Mortuary			Graham Carver	707 15th St.
299	Other	No	No	No	No	No	No	No	No	No	No	MORTUARY		Hemmingsen Funeral Hone, INC		801 S St.
300	Other	No	No	No	No	No	No	No	No	No	No	POWER PLANT			City of Auburn	1101 J St.
312	Parking Lot	No	No	Yes	No	No	No	No	No	No	No	Parking Lot & Warehouse for Armstrong Cabinets		Armstrong Cabinets	Triangle Pacific Corp	PO Box 3001; Lancaster, PA 17604
313	Auto Service	No	No	Yes	Yes	No	No	No	No	No	No	Car Wash		Speedwash	Rite Way Oil & Gas Company Inc	PO Box 27049; 8400 I St.; Omaha, NE 68127
314	Auto Service	No	No	Yes	Yes	No	No	No	No	No	No			Eggers Brothers	Eggers Brothers Inc	909 J St.
315	Other	No	No	No	No	No	No	Yes	No	No	No		Insectary - bees/honey	Draper Super Bee	Larry & Brenda Draper	9147 S St.
316	Well	No	No	No	No	No	No	No	No	No	No				Jeffrey Ehlers	820 P St.
317	Well	No	No	No	No	No	No	No	No	No	No				Fred & Rose Eggert	820 N St.
319	Machine Shop	No	No	Yes	Yes	No	No	No	No	No	No			Kruger Trucking	Eric Mason	700 J St.
321	Other	No	No	No	No	No	No	No	No	No	No		Ag Runoff	County Fairgrounds & Facilities	Nemaha County	
322	Other	No	No	No	No	No	No	No	No	No	No			City Water Plant	City of Auburn	818 G St.
323	Car/Junk Lot	No	No	Yes	Yes	No	No	No	No	No	No	Auto Salvate/Auto Service		Beard's Salvage	James & Louan Beard	604 9th St.
324	Other	No	No	No	No	Yes	No	No	No	No	No		Anhydrous Ammonia	Dettmer Farm Service	Dettmer & Biere Farm Service Inc.	504 10th St.
325	Other	No	No	No	No	No	No	No	No	No	No			Darling Cafe	Ralph Darling Trust	520 J St.
326	Well	No	No	No	No	No	No	No	No	No	No				Thomas & Camille Stanley	504 M St.
327	Other	No	No	No	No	No	No	No	No	No	No	Private Storage	Multiple Unknown Contaminants Possible	Store-N-Lock	Store-N-Lock LLC	1502 6th St.
328	Other	No	No	No	No	Yes	No	No	No	No	No	Auburn Rec Complex	Potential Runoff and Fertiilizer from fields and parking	Auburn Rec Complex	City of Auburn	
329	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Wayne and Judy Feighner	64227 136 Hwy
330	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Paula Winkelman	64231 136 Hwy
331	Acerage	No	No	No	No	No	No	Yes	Yes	No	No			Boondocks Restaurant	Paula Winkelman	64233 136 Hwy
332	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Clarence and Donna Jeanneret	64259 136 Hwy
334	Auto Service	Yes	No	Yes	Yes	No	No	Yes	No	No	No			Auto Repair	Tad Petersen	63898 723 RD
335	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No	Farmstead	Bulk fuel	Wheeler Farm	Gale Wheeler	63859 725 RD
336	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No	Livestock		Biaggi Farm	Jim Biaggi	63733 725 RD
337	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Brett Mattee	73113 640 AVE
338	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				J. Drasler	63711 726 RD
339	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				E. Schlange	63808 638 AVE
340	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Wendy Paessly	72565 637 AVE
341	Farmstead	No	No	No	Yes	No	Yes	Yes	Yes	No	No		3 Trailers with chemicals		Elmer Schlange	63808 638 AVE
342	Farmstead	No	No	No	Yes	No	Yes	Yes	Yes	No	No				Chris Vinson	72557 637 AVE
343	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Kevin Schlange	63829 727 RD
344	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Jane Smith	
345	Farmstead	No	No	No	Yes	No	No	No	No	No	No	Abandoned			Linda Philips	63737 727 RD

OBJECTID	SiteType	AGFuel	BGFuel	AutoChem	Solvents	FertStor	ChemStor	Septic	PWell	GFumigant	SFumigant	SiteDesc	MatDesc	FacilityName	Owner	Address
346	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No	Inactive well			Harlan Bohling	63502 727 RD
347	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No		2 inactive wells		Lee Ehlers	72742 634 Ave
348	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Sohnholz	72753 634A Ave
349	Other	No	No	No	No	No	No	Yes	No	No	No			Hickory Grove Church		72796 634 AVE
350	Livestock Operation	No	No	No	No	No	No	No	No	No	No	Old feedlot			Jeff Oestmann	72513 636 AVE
351	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No		Inactive well		Jeff Oestmann	72513 636 AVE
352	Farmstead	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	No				Jim Steffens	72823 634 AVE
353	Livestock Operation	No	No	No	No	No	No	No	No	No	No	Feedlot		Feedlot		
355	Airport	No	No	No	No	No	No	No	No	No	No				Jim Steffens	72823 634 AVE
356	Livestock Operation	No	No	No	No	No	No	No	No	No	No		Feedlot		Jim Steffens	72824 634 AVE
357	Farmstead	No	No	No	Yes	No	Yes	Yes	Yes	No	No				Jim Steffens	72824 634 AVE
358	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Mary Lynn Wininger	72850 634 AVE
360	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Sandra Wilson	72877 634 AVE
361	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Steve Westenburg	72887 634 AVE
362	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Eiber Alberts	72892 634 Ave
363	Gas Station	No	Yes	Yes	No	No	No	No	No	No	No	Possible underground tanks		Old Gas Station	Gary Volker	63399 HWY 136
364	Car/Junk Lot	No	No	Yes	Yes	No	No	No	No	No	No		Junk Cars		Tim Alberts	63411 136 HWY
365	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Tim Alberts	63411 136 HWY
366	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No		2 inactive wells		Gary Rogge	63418 136 HWY
367	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Tom Dunekacke	72950 634 AVE
368	Livestock Operation	No	No	No	No	No	No	No	No	No	No				Nathan Cowley	63382 136 HWY
369	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	No	No				Nathan Cowley	63382 136 HWY
370	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Gary Behrends	63326 136 HWY
371	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Matt Oestmann	63329 136 HWY
372	Livestock Operation	No	No	No	No	No	No	No	No	No	No		Old Pig Barn		Russ Smith	72939 633 AVE
373	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Ken Swanson	72945 633 Ave
374	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Alta Wagner	72977 633 AVE
375	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Jim Blinde	63274 730 RD
376	Farmstead	No	No	No	No	No	No	Yes	Yes	No	No		Inactive Onsite WW		Elaine Hippen	63361 730 RD
377	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No		Inactive well		Chad Hoover	73012 634 RD
378	Farmstead	No	No	No	No	No	No	Yes	Yes	No	No				Kevin Huhlmann	73056 635 AVE
381	Livestock Operation	No	No	No	No	No	No	No	No	No	No			Old hog barn	Ken Harms	63600 730 RD
382	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Brian Smith	63522 731 RD
383	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Junior Simpson	63562 731 RD
385	Other	No	No	No	No	No	No	No	No	No	No	Cemetery		Lyndon Cemetery		S. of 63562 731 RD
386	Farmstead	No	No	No	No	No	No	Yes	Yes	No	No				Terry Borgan	63599 731 RD
387	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No		Inactive wll		Brian Murphy	73157 636 AVE
388	Farmstead	No	No	No	No	No	No	Yes	Yes	No	No				Barb Tritsch	63628 731 RD
390	Livestock Operation	No	No	No	No	No	No	No	No	No	No	Small feedlot			Barb Tritsch	63628 731 RD
391	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Dennis Meyer	73027 637 AVE
392	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No		Inactive well		Jason Koch	73031 637 AVE
393	Farmstead	Yes	No	No	Yes	No	No	Yes	Yes	Yes	No				Mark Harms	73083 637 AVE
394	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No		Inactive well		Pat Collins	73098 637 AVE
395	Livestock Operation	No	No	No	No	No	No	No	No	No	No		4 large pins		Dave Stahl	73143 637 AVE
396	Farmstead	Yes	No	No	Yes	No	Yes	Yes	Yes	Yes	No				Dave Stahl	73143 637 AVE
397	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Ralph Drier	73224 637B AVE
398	Well	No	No	No	No	No	No	No	No	No	No		2 inactive wells		Milo Leslie	NE of 636B&732A
399	Acerage	No	No	No	No	No	No	Yes	No	No	No			Glenrock	Kim Pinney	73237 636B Ave
400	Acerage	No	No	No	No	No	No	Yes	No	No	No		1 inactive village well	Glenrock	Ted Barnett	73232 636A Ave
401	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Mel Greenwade	73226 636A Ave
402	Acerage	No	No	No	No	No	No	Yes	Yes	No	No			Glenrock	Richard Swenson	73242 636A Ave
403	Acerage	No	No	No	No	No	No	Yes	No	No	No			Glenrock	Ted Barnett	63634 732A RD
404	Acerage	No	No	No	No	No	No	Yes	No	No	No			Glenrock	Ted Barnett	63633 732A RD
405	Acerage	No	No	No	No	No	No	Yes	No	No	No			Glenrock	Sheila Carfield	73241 636B AVE
406	Acerage	No	No	No	Yes	No	Yes	Yes	No	No	No				Brian Moody	73272 638 AVE
407	Acerage	No	No	No	No	No	No	Yes	No	No	No				Brandon Bakker	73264 638 AVE
408	Acerage	No	No	No	No	No	No	Yes	No	No	No				Connie Bridgewater	73240 638 AVE
409	Acerage	No	No	No	No	No	No	Yes	No	No	No				Chuck Comstock	63847 732 RD
410	Acerage	No	No	No	No	No	No	Yes	No	No	No				Jim Dedic	63865 732 RD
411	Acerage	No	No	No	No	No	No	Yes	No	No	No				Dennis Meyer	63874 732 RD
412	Acerage	No	No	No	No	No	No	Yes	No	No	No				Dick Moody	63873 732 RD
413	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Randy Perry	73191 HWY 75
414	Acerage	No	No	No	No	No	No	Yes	No	No	No				Marv Biere	73182 HWY 75
415	Auto Service	No	No	Yes	Yes	No	No	No	No	No	No					
416	Machine Shop	Yes	No	Yes	Yes	No	Yes	No	No	No	No			Mellage Truck & Tractor	Brian Mellage	73160 HWY 75
417	Acerage	No	No	No	No	No	No	Yes	No	No	No				Benjamin Gerdes	73147 HWY 75
418	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Nevin Miller	73145 HWY 75
420	Machine Shop	No	No	Yes	Yes	No	No	No	No	No	No			Stutheit Implement	Stanley Stutheit	73136 HWY 75
421	Auto Service	No	No	Yes	Yes	No	No	Yes	No	No	No			Stutheit Implement	Stanley Stutheit	73136 HWY 75
422	Machine Shop	No	No	Yes	Yes	No	No	No	No	No	No			Stutheit Implement	Stanley Stutheit	73136 HWY 75
423	Grain Elevator	No	No	No	No	No	No	No	No	Yes	Yes			Abrahams Seed	John Abraham	73176 HWY 75
424	Other	No	No	No	No	No	No	Yes	No	No	No			Horizons Christian Res Center		63905 732 RD
425	Acerage	No	No	No	No	No	No	Yes	No	No	No				R. Brown	63911 732 RD
426	Acerage	No	No	No	No	No	No	Yes	No	No	No				Jim Biere	63919 732 RD
427	Acerage	No	No	No	No	No	No	Yes	No	No	No				Roy Radloff	63927 732 RD
428	Acerage	No	No	No	No	No	No	Yes	No	No	No				Vernon Goliday	63941 732 RD
429	Acerage	No	No	No	No	No	No	No	Yes	No	No				Steve Rademacher	63966 732 Rd
430	Acerage	No	No	No	No	No	No	Yes	No	No	No				Patsy Bohling	73207 640 AVE
431	Farmstead	Yes	No	No	Yes	No	Yes	Yes	Yes	No	No				Richard Allgood	73275 640 AVE
432	Acerage	No	No	No	No	No	No	Yes	No	No	No				Adam Wenzl	63925 733 RD
433	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Jason Armknecht	63934 733A RD
434	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Richard Stivers	63958 733A RD
435	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Bruce Kirkendall	64047 733RD
436	Acerage	No	No	No	No	No	No	Yes	Yes	No	No		Abandoned well		Bruce Kirkendall	64047 733 RD
437	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No	Abandoned well			Wrightsman Farms	64107 733 RD
438	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Diane Stalcup	64156 732 RD
439	Acerage	No	No	No	No	No	No	No	Yes	No	No				Andy Behrends	64186 731 RD
440	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Dorothy Smith	64186 731 RD
441	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No	1 abandoned well			Ken Schlange	64222 731 RD
442	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Terry Whitney	64278 731 RD
443	Acerage	No	No	No	No	No	No	Yes	No	No	No		1 abandoned well		William Fulton	64256 730 RD
444	Livestock Operation	No	No	No	No	No	No	No	No	No	No				William Fulton	64256 730 RD
445	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No		4 inactive wells		Blaine Boellstorff	64275 730 RD
446	Livestock Operation	No	No	No	No	No	No	No	No	No	No		Active pins		Blaine Boellstorff	64275 730 RD
448	Other	No	No	No	No	No	No	Yes	No	No	No				Bethel Church	72999 643A AVE
449	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				J. McKenney	73023 643A AVE
450	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Herb Lash	64362 HWY 136

OBJECTID	SiteType	AGFuel	BGFuel	AutoChem	Solvents	FertStor	ChemStor	Septic	PWell	GFumigant	SFumigant	SiteDesc	MatDesc	FacilityName	Owner	Address
451	Pivot	No	No	No	No	No	No	No	Yes	No	No					
452	Pivot	No	No	No	No	No	No	No	Yes	No	No					
453	Pivot	No	No	No	No	No	No	No	Yes	No	No					
454	Pivot	No	No	No	No	No	No	No	Yes	No	No					
455	Pivot	No	No	No	No	No	No	No	Yes	No	No					
456	Pivot	No	No	No	No	No	No	No	Yes	No	No					
458	Pivot	No	No	No	No	No	No	No	Yes	No	No					
460	Pivot	No	No	No	No	No	No	No	Yes	No	No					
467	Farmstead	Yes	No	No	Yes	No	Yes	Yes	Yes	No	No				LeRoy Able	72751 727A RD
468	Well	No	No	No	No	No	No	No	No	No	No		Abandoned well	Exact location unknow	Scott Linn	1/4 east of 72751 727A RD
469	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Kyle Brinkerhoff	64161 726 RD
471	Farmstead	No	No	No	No	No	No	Yes	No	No	No		Lagoon		Curtis Aue	64139 723 RD
472	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Justin Davison	72232 641 AVE
473	Farmstead	No	No	No	No	No	No	Yes	Yes	No	No	Inactive well			Steve Boden	64047 723 RD
474	Car/Junk Lot	No	No	Yes	Yes	No	No	No	No	No	No				Steve Boden	64047 723 RD
475	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Steve Boden	64039 723 RD
476	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Timothy Mueller	64146 723 RD
477	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Dennis Bantz	63971 723 RD
478	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No		1 Inactive well		Dale Nelson	63984 723 RD
479	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				John Gimenez	72371 639A AVE
480	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				John Taylor	72391 639A AVE
481	Other	No	No	No	No	No	No	No	No	No	No				Bedford Cemetery	724 & 723 RD
482	Acerage	No	No	No	No	No	No	Yes	Yes	No	No					
483	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Dale Michel	63263 HWY 136
484	Livestock Operation	Yes	No	No	No	No	No	No	No	No	No			633 AVE	Duane Palmer	PO Box 284
485	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No			633 AVE	Duane Palmer	PO Box 284
486	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Lyle Haneline	63231 730 RD
487	Farmstead	No	No	No	Yes	No	No	Yes	Yes	Yes	No				Steven Lunzmann	73018 632 AVE
488	Livestock Operation	Yes	No	No	No	No	No	No	No	No	No				Steven Lunzmann	73018 632 AVE
489	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				John Westhart	73090 632 AVE
490	Livestock Operation	No	No	No	No	No	No	No	No	No	No				John Westhart	73090 632 AVE
491	Acerage	No	No	No	No	No	No	Yes	No	No	No				Ryan Lunzmann	63283 731 RD
492	Acerage	No	No	No	No	No	No	Yes	No	No	No				Raymond Woerlen	63319 731 RD
493	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				James Badgett	73069 634 AVE
494	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Evelyn Jensen	13012 Briar RD
495	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Mark Bergmeier	63466 731 RD
496	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Daniel Gerdes	PO Box 262 Johnson
497	Acerage	No	No	No	No	No	No	Yes	No	No	No				Mark Baltensperger	63523 732 RD
498	Livestock Operation	No	No	No	No	No	No	No	No	No	No				Mark Baltensperger	63523 732 RD
499	Acerage	No	No	No	No	No	No	Yes	Yes	No	No					
500	Acerage	No	No	No	No	No	No	Yes	No	No	No					
501	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No					
502	Acerage	No	No	No	No	No	No	Yes	No	No	No					
503	Acerage	No	No	No	No	No	No	Yes	No	No	No					
504	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Robert Teten	73430 637 AVE
505	Livestock Operation	No	No	No	No	No	No	No	No	No	No	2 large hot units			Barbara Stukenholtz	73339 638 AVE
506	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Barbara Stukenholtz	73339 638 AVE
507	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Gerald Ruskamp	73365 HWY 75
509	Vet Clinic	No	No	No	No	No	No	No	No	No	No					
510	Livestock Operation	No	No	No	No	No	No	No	No	No	No				Hears United for Animals	73420 638 AVE
512	Acerage	No	No	No	No	No	No	Yes	Yes	No	No					
513	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No					
514	Acerage	No	No	No	No	No	No	Yes	Yes	No	No					
515	Acerage	No	No	No	No	No	No	Yes	Yes	No	No					
516	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No					
517	Livestock Operation	No	No	No	No	No	No	No	No	No	No					
518	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No					
519	Acerage	No	No	No	No	No	No	Yes	Yes	No	No					
520	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No					
521	Livestock Operation	No	No	No	No	No	No	No	No	No	No					
522	Farmstead	Yes	No	No	Yes	No	No	Yes	No	No	No				Roger Gerdes	63996 HWY 67
523	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Mark Moody	64029 HWY 67
524	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Rodney Groff	64067 733A RDccccc
525	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Jeff Vonbergen	73348 641 AVE
526	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Daryl Long	64070 HWY 67
527	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Christopher Ryan	64287 732 RD
528	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Jerry Pasco	73139 643A AVE
529	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Martin Fattig	73091 643A AVE
530	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				William Fulton	73098 643A AVE
531	Acerage	No	No	No	No	No	No	Yes	No	No	No				Kenneth Rogge	72963 644 AVE
532	Acerage	No	No	No	No	No	No	Yes	No	No	No				James Gerdes	73064 642 AVE
533	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Richard Snyder	64191 731RD
537	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Thomas Heidzig	63308 728 RD
538	Livestock Operation	No	No	No	No	No	No	No	No	No	No	Large feedlot			Linda Oestmann	63414 727 RD
539	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Linda Oestmann	63414 727 RD
540	Other	No	No	No	No	No	No	Yes	No	No	No	Church			St. Paul's Luthern	72796 634 AVE
541	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No					
542	Livestock Operation	No	No	No	No	No	No	No	No	No	No					
543	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Dennis Grable	63445 727 RD
544	Acerage	No	No	No	No	No	No	Yes	No	No	No				Roger Alexander	63471 727 RD
545	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Dennis Norvell	72652 634 AVE
546	Livestock Operation	No	No	No	No	No	No	No	No	No	No	Small lots			Dennis Norvell	72652 634 AVE
547	Farmstead	Yes	No	No	Yes	No	Yes	Yes	Yes	Yes	No				Mooarkegin Farms	72568 634 AVE
548	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Gene Remmers	63432 725 RD
549	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Dustin Eggers	72535 635 AVE
550	Acerage	No	No	No	No	No	No	Yes	No	No	No				Daniel Shaffer	72538 635 AVE
551	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Glen Dunkleman	72501 635 AVE
552	Farmstead	Yes	No	No	Yes	No	No	Yes	No	No	No				Robert Mayer	63718 724 RD
553	Farmstead	Yes	No	No	Yes	No	No	Yes	No	No	No				Thomas Jones	63756 724 RD
554	Acerage	No	No	No	No	No	No	Yes	No	No	No				Rose Bowman	72405 638 AVE
555	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Steven Schmidt	72346 638 AVE
556	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Randy Sikyta	72329 638 AVE
557	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Steven Schmidt	72346 638 AVE
558	Livestock Operation	No	No	No	No	No	No	No	No	No	No	Small lot			Steven Schmidt	72346 638 AVE
560	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Dennis Blount	64378 728 RD
561	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Anthony Janssen	64355 728 RD
562	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Anthony Janssen	64355 728 RD

OBJECTID	SiteType	AGFuel	BGFuel	AutoChem	Solvents	FertStor	ChemStor	Septic	PWell	GFumigant	SFumigant	SiteDesc	MatDesc	FacilityName	Owner	Address
563	Livestock Operation	No	No	No	No	No	No	No	No	No	No	Small lot			Anthony Janssen	64355 728 RD
564	Acerage	No	No	No	No	No	No	Yes	No	No	No				James Kite	64244 726 RD
565	Livestock Operation	No	No	No	No	No	No	No	No	No	No	Medium sized lot			Elelyn Kite	64227 726 RD
566	Acerage	No	No	No	No	No	No	Yes	No	No	No				Nadene Bergmann	72545 642A AVE
567	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Heidzig Fam Tst	72463 642A AVE
568	Livestock Operation	No	No	No	No	No	No	No	No	No	No	Small lot			Heidzig Fam Tst	72463 642A AVE
570	Acerage	No	No	No	No	No	No	Yes	No	No	No				James Findlay	64335 719 RD Stella
571	Acerage	No	No	No	No	No	No	Yes	No	No	No				Matthew Wroblewski	641196 724 RD
572	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Francis Seid	PO Box 96 Falls City
573	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Eldon Wellman	64120 724 RD
574	Farmstead	No	No	No	Yes	No	No	Yes	No	No	No				Raynell Able	72355 642A AVE
575	Livestock Operation	No	No	No	No	No	No	No	No	No	No	Small lot			Raynell Able	72355 642A AVE
576	Farmstead	No	No	No	Yes	No	No	Yes	Yes	No	No				Raynell Able	24-4-14
577	Acerage	No	No	No	No	No	No	Yes	Yes	No	No				Dale Bohling	72268 638 AVEW
578	Acerage	No	No	No	No	No	No	Yes	No	No	No				Brett Adams	64175 733 RD

Appendix D: Emergency Plan

EMERGENCY PLAN

CITY OF AUBURN PUBLIC WATER SYSTEM

APPROVED BY
BOARD OF PUBLIC WORKS
OCTOBER 13, 2003

(Updated March 21, 2006)
(Updated 5/23/2007-contact personnel)
(Updated February 13, 2009)
(Updated January 27, 2010)
(Updated January 20, 2012)
(Updated January 15,2014)
(Reviewed and updated January 15,2015)
(Additions made March 25, 2015)

Copies of Plan Located at:
General Manager's Office
Water/Wastewater Manager's Office
Purchasing Agent/Dispatcher's Office
Power Plant Control Room
Vehicle Units #2, 22 & 31
City Hall
Local NEMA/FEMA Office
State of Nebraska – HHS Headquarters

CITY OF AUBURN EMERGENCY PLAN

(NEMAHA COUNTY)

CHAIN OF COMMAND/NECESSARY PERSONNEL

1)	Tom Gulizia. BPW Board Chairman		Home:	(402) 274-3827
2)	David A. Hunter Jr., BPW General Manager		Office: Home: Cell:	(402) 274-4981 (402) 274-3575 (402) 274-7436
3)	Kenneth A. Swanson, BPW Water/ Wastewater Manager (Designated Operator in Charge)		Office: Home: Cell:	(402) 274-4981 (402) 868-6675 (402) 274-7437
4)	Scott Kudrna, Mayor - City of Auburn		Work: City Hall: Home:	(402) 274-4333 (402) 274-3420 (402) 274-3981
5)	Sherry Heskett, Auburn City Clerk		Office: Home:	(402) 274-3420 (402) 824-6575
6)	Renee Critser - Nemaha County Civil Defense Director		Office: Cell: Home:	(402) 274-2552 (402) 274-7652 (402) 414-1422
7)	Police Department	**911**	Office:	(402) 274-4977
8)	Brent Lottman, Nemaha County Sheriff	**911**	Office:	(402) 274-3139
9)	Randy Bennett, Auburn Fire Chief	**911**	Work: Cell:	(402) 274-5033 (402) 274-1577
10)	NeRWA – Main Office, Wahoo NE		Office:	(402) 443-5216
11)	Russ Topp, NeRWA		Home: Cell:	(402) 788-2732 (402) 480-4196
12)	Randy Hellbusch, NeRWA		Home: Cell:	(402) 947-9791 (402) 443-8535
13)	Barney Whatley, NeRWA		Home: Cell:	(402) 727-1418 (402) 480-2982
14)	HHS Emergency (24-Hour)		Work:	(402) 499-6922
15)	Fred Baumert, HHS Field Services Representative		Office: Cell:	(402) 471-0519 (402) 440-4917
16)	Andy Kahle, HHS Program Manager- Field Services		Office:	(402) 471-0521
17)	Howard Isaacs, HHS Program Manager- Monitoring & Compliance		Office:	(402) 471-0930
18)	VACANT- HHS Administrator, Environmental Health Services		Office:	(402) 471-0510
19)	JEO Consulting Group, City of Auburn Engineer Nebraska City NE		Office:	(402) 873-6766
20)	HDR, BPW Consulting Engineers Lincoln NE		Office:	(402) 742-2906

21)	NeWARN Local Members		newarn.org
	Nebraska City – LeRoy Frauna	Office	(402) 873-3353
	Wilbur – Jerry Petracek	Office	(402) 821-3233
	Tecumseh – Doug Goracke	Office	(402) 335-2102
22)	Gary Ensz, M.D., City of Auburn Physician	Office:	(402) 274-4993
		Home:	(402) 274-3641
23)	Kevin Cluskey, SE District Health Dept.	Office:	(402) 274-3993
24)	Gage County Red Cross Chapter	Office:	(402) 223-4211
		Pager:	(402) 230-9748
25)	Board of Public Works - Electric Utility	Office:	(402) 274-4981
		Night:	(402) 274-3316
26)	Black Hills Energy - Gas Utility:	Office:	(888) 890-5554
		24 hr.:	(888) 694-8989
27)	Kevin Reiman, School Superintendent	Office:	(402) 274-4830
	(Calvert Elementary, Auburn Middle School,	Home:	(402) 274-5331
	Auburn Senior High)	Cell:	(402) 274-8845
28)	NE League of Municipalities, Utilities Section	Office:	(402) 476-2829
29)	Harold Reynolds - Midwest Assistance Program		
	Waynel NE	Phone:	(402) 833-5036
30)	Layne Christensen - Well Driller, Valley NE	Office:	(402) 359-2042
	Brad Harris	Home:	(402) 453-3414
		Cell:	(402) 980-627
31)	Sargent Drilling – Well Driller,	Office:	(402) 759-3902
	Geneva NE, Doug Yantze, Municipal Manager	Cell:	(402) 759-2929
32)	Bob Hutton, Nemaha County Board	Work:	(402) 274-4285
	Chairperson	Home:	(402) 824-6725
		Cell:	(402) 274-7513
33)	Ron Behrends – BPW Backup Operator	Office:	(402) 274-4981
		Home:	(402) 274-3449
		Cell:	(402) 274-8808
34)	Robert Wintz – BPW Backup Operator	Office:	(402) 274-4981
		Cell:	(402) 274-7069
35)	Jeremy Griepenstroh – BPW Backup Operator	Office:	(402) 274-4981
		Cell:	(402) 874-0070
36)	Jay Theye – BPW Backup Operator	Office:	(402) 274-4981
		Cell:	(402) 230-0235

LOSS OF ELECTRIC POWER

1. Notify Electric Department. Hook up emergency generation where needed.

WELLS INOPERATIVE

1. Notify BPW General Manager and designated operator in charge.
2. Notify public (water conservation notice).
3. Monitor situation continuously.
4. Evaluate problem and try to isolate. If possible, do so, then operate useable wells as needed. Make repairs where needed.
5. If water pressure drops below 20 psi in more than 10% of the system contact HHS Field Services Representative.
6. Perform required coliform sampling in affected zones.

WELLS CONTAMINATED

1. Notify BPW General Manager and designated operator in charge.
2. Notify public of the contamination and the procedures that need to be followed for their protection.
3. Notify HHS Field Services Representative.
4. Notify Nebraska Rural Water Association (NeRWA).
5. Try and isolate the problem by closing appropriate valves.
6. Take water samples to ensure water is safe for consumption.
7. Take corrective action to fix the problem.
8. Supply bottled water if necessary.

WELLS – RIVER CROSSING LOST

1. Notify BPW General Manager and designated operator in charge.
2. Isolate line by closing valve on west side of Little Nemaha River.
3. Operate Well #13 and North Well field until temporary line can be installed or repairs made.
4. If high usage event occurs, restrict water usage.

LOSS OF TREATMENT

1. Notify BPW General Manager and designated operator in charge.
2. Disconnect affected portion of treatment plant. If entire treatment plant is lost at 603 9th St, run a line from pigging station directly to the clear wells for supply at 818 G St. (old filter plant site) If booster pumps at the 603 9th St filter plant are inoperable, use the two standby booster pumps at 818 G St to pump to the reservoir. Emergency chlorination equipment will need to be hooked up. Closely monitor residuals.
3. Maximize remaining treatment facilities.
4. Restrict water usage as needed.
5. Keep public informed of situation.
6. Return to normal use when repairs are made and affected portions have been properly disinfected and appropriate sampling has completed.

7. Contact NHHS field representative and keep him informed

BREECH OF SECURITY

1. Contact Local Law Enforcement.
2. Contact HHS Field Services Representative.
3. Notify FBI (Local Law Enforcement to make call).
4. Notify system owner (BPW General Manager, BPW Board Chairman, etc.)
5. Contact Nebraska Rural Water Association (NeRWA) for assistance.
6. In the event additional qualified personnel and/or material are needed, contact NeWARN. Local Members are Nebraska City (402-873-3353), Tecumseh (402) 990-6930 and Wilbur (402-821-3233) – entire member list found on www.newarn.org.
7. Isolate affected system component if necessary (use alternate well, isolate reservoir, etc.).
8. Determine if system has been tampered with (sanitary seal still intact, vent screens still in place, anything broken or disturbed, etc.).
9. Follow State of Nebraska's instructions or recommendations.
10. Notify public if necessary.
11. Secure alternate drinking water source if necessary.
12. Sample as instructed by State of Nebraska.
13. Notify local health officials.

LOSS OF MAIN RESERVOIR OR 16" MAIN

1. Notify BPW General Manager and designated operator in charge.
2. Notify HHS Field Services Representative.
3. Contact Nebraska Rural Water Association (NeRWA).
4. Isolate main Reservoir: (Type of isolation depends on situation.)
   A. The booster pumps at the filter plant have vfd's that can be set to maintain the desired pressure.
   B. To stop water flow between the Main Reservoir and the North Pressure Zone, close the 16" valve in N-S line on 25th Street, between T & U Streets (behind 2003 24th Street).
   C. To stop water flow from the Main Reservoir into the South Pressure Zone, close the 12" valve in the E-W line on 25th Street between T & U Streets (behind 2003 24th Street) **OR** close the 16" valve at the alley on 23rd street between T & U Streets **OR** close the 16" valve on 21st Street between T & U Streets. There are no customers connected to the 16" line between the Main Reservoir and 21st Street. (See system map. These valves are labeled for this purpose.)
   D. To stop all water flow in and out of the Main Reservoir, close the two 18" butterfly valves #1 & #2 in the basement and open the 16" bypass valve #3 - all in the Main Reservoir basement - see operating diagram on page 11.
   E. Install pressure regulating valve at fire hydrant on 24th Street and U Street. Set regulator to discharge at 25 psi.
   F. To combine the north and south pressure systems as one, open the valves at: #1 – 14th & J Street (south side), 14th & N Street (south side). If needed valves at 14th & F Street (south side), 12th & O Street (south side) and 12th & P Street (south side) could be opened later after completing the other steps,

but may not need to be opened. (See system Map. These valves are labeled for this purpose)

G. At the Water Plant, turn on as many Booster Pumps as needed to restore pressure and make the 24th Street & U Street regulator discharge. Once a stable condition is reached, raise the 24th Street & U Street regulator setting and adjust VFD maintained pressure setting at the filter plant booster pumps to the required pressure to maintain <20 psi at 24th and U. If Booster Pumps at the old 818 G Street booster station need to be started and stopped, allow the pressure to stabilize between stops of more than one pump because these pumps aren't equipped with vfd's and do not have ramp up and ramp down capability that would lesson the chance of water hammer. Closely monitor system pressure and make adjustments when needed.

5. Notify Fire Department, Police Department and local Civil Defense coordinator.
6. Notify the Public and enforce water restrictions as needed.
7. Perform required sampling if 20 psi was not maintained in affected zones.
8. Test chlorine residuals in affected areas.
9. When repairs or conditions have been resolved to where the reservoir is able to be put back into service there will have to be sufficient water in the reservoir to supply enough head pressure to the north system and enough water to supply the reservoir booster pumps for the south system. Once this has been accomplished the isolation valves that were opened along 14th and 12th streets can be closed. When closing the last isolation valve between the two systems coordinate to start the booster pumps at the reservoir simultaneously to minimize pressure extremes. The vfd's at the filter plant should be set to maintain a desired set pressure and will adjust as the two systems become isolated again. If any valves on the 16" supply main to the reservoir were closed they can now be opened. Monitor the two system's pressures to see if they are adequate and make adjustments if needed.

H. If the event was on the 16" supply main. Isolate by closing valves nearest to problem. If repairs can be made in a timely fashion, monitor the reservoir levels to assure there is adequate supply for the south system. Check the operation of the vfd controls on the filter plant finished water pumps to see if they are properly maintaining the pressure in the north system. If the reservoir level drops to a level that the south system's supply may be affected follow the steps to combine the two systems as one until the situation has been corrected.

I. If the system pressure transducer at the reservoir fails and reads zero or low pressure the SCADA will start all the pumps to try and compensate for the pressure loss. This could create a high pressure situation that will require some pumps manually shut down to lower the pressure to an acceptable range. The pressure will have to be monitored physically at the reservoir pressure gauge until the transducer can be replaced. Check the operation of the bypass pressure relief valve to make sure it is functioning properly. If the pressure cannot be controlled to an acceptable range, hook up the fire hydrant pressure relief valve to help control high pressure situations.

EXPLOSION

1. Notify BPW General Manager and designated operator in charge.
2. Notify City of Auburn Fire Department.

3. Notify Nemaha County Civil Defense and Local Law Enforcement.
4. Insure that the water system is unaffected. If affected attempt to isolate damaged area to help maintain pressure. Follow procedure for low pressure in affected zones.
5. If water system is affected, notify HHS Field Services Representative and Nebraska Rural Water Association (NeRWA). If assistance is needed, notify NeWARN.
6. If possible, insure that there is sufficient water for fire fighting.

FLOODED FACILITIES

1. Notify BPW General Manager and designated operator in charge.
2. Inform Nemaha County Civil Defense of the situation.
3. Inform Local Law Enforcement.
4. Inform HHS Field Services Representative.
5. Inform public and keep them informed.
6. Inform Nebraska Rural Water Association (NeRWA) and NEWARN to ask for assistance if needed.

TORNADO OR SEVERE STORM DAMAGE

1. If damage is extensive enough notify BPW General Manager, Dave Hunter Jr. 402-274-7436, Ken Swanson BPW Water/WW Manager 402-274-7437 to assess damage so necessary authorities and recovery procedures can be initiated. Contact area HHS field representative and keep him informed. Notify the public. If extra personnel and material are needed contact NEWARN for assistance.
2. If power has been lost to pump facilities and can not be quickly restored. Hook up back up power supply where it is needed, to most critical areas first.
3. If there are areas of major water leaks attempt to isolate areas so the least disruption to the rest of the system occurs. Be prepared to supply emergency water supply to affected areas (bottled and bulk).
4. Check sewer lift stations to see if they are functioning or need emergency power supplied or other procedures initiated.
5. Once pump facilities have been evaluated and restored if necessary, move out into the distribution system to start leak repair or isolation to minimize water loss as much as possible. Mark areas, (main valves, service curb stops, fire hydrants, etc.) that have been evaluated, isolated or repaired so those assisting know what has been completed or needs attention.
6. Once repairs are made, lines flushed and system pressure restored, collect bacti samples in affected areas to assure water quality before notifying public that it is safe to consume.
7. Keep public and authorities updated on progress.

EQUIPMENT AND CONTRACTORS AVAILABLE

1. Tony Hector:	Home:	(402) 274-5868
Backhoe & pipe installation	Cell:	(402) 274-7486

2. Repair clamps and necessary fittings for all sizes of mains and other spare equipment (list attached).
3. If needed, check resources list on NEWARN website for help.

WELL CONTRACTORS

1.	Layne Western, Valley NE	Office: (402) 359-2042
	Brad Harris	Cell: (402) 980-6271
2.	Sargent Drilling, Geneva NE	Office: (402) 759-3902
	(Doug Yantze)	Cell: (402) 759-2929

EMERGENCY BOTTLED WATER SUPPLIERS

1.	Ideal Pure Water	Office:	(402) 392-2600
2.	Pepsi-Cola Bottling Company	Office:	(402) 862-2591
3.	Coca-Cola Bottling Company	Office:	(402) 873-7781

4. See Pages #11 and #12 for additional information.
5. S.E. Health Department has available water containers.
6. Keim Trucking, Sabetha, Ks. Bulk tank trucks Office: (785) 284-2147

LOCAL MEDIA

1.	KNCY Radio	Phone:	(402) 873-3348
		Fax:	(402) 274-4531
2.	KLZA Radio	Phone:	(402) 245-6010
		Fax:	(402) 245-6040
3.	KTNC Radio	Phone:	(402) 245-2453
		Fax:	(402) 245-5862
4.	Time-Warner	Phone:	(800) 206-1562

SYSTEM INFORMATION

Is System Metered: Y X N _____ Other: _____

Total Service Connections: 1,700

1,411 Residential: 383 Commercial: Other

Physical Address of Treatment Plant: 603 9th Street, Auburn NE 68305

Physical Address or Location of Wells: (Well ID#, 911 or physical address)

11-43-1, 18-57-2, 19-64-1, 20-66-1, 1-81-6, 2-81-6, 3-81-6, 4-81-6, 5-81-6, 6-81-6, 7-89-1, 13-03-1

Average Daily Production:

0.462 MGPD

Total Design Capacity: 2 MGPD

Total Emergency Capacity:

2.4 MGPD

Total Yearly Production: 168.0 MG

Average Summer Daily Demand:

0.557 MGD

Peak Daily Demand: .706 MGD

Average Winter Daily Demand:

0.374 MGD

System Total Storage Capacity: 1.835 MG

Storage Facilities:

Local Name	Capacity	Address/Location

**Water Treatment Plant	0.335 MG	603 9th Street
**Reservoir	1.5 MG	63814 728 Road

Total Number of Wells: 12
Range of Production: 80 gpm to 200 gpm

Number of Wells on Active Status: 11
Inactive: 1
Emergency: 0

**Please do not make public the location of our Water Treatment Plant or Reservoir for security reasons.

SPECIAL INSTITUTIONAL, COMMERCIAL AND INDUSTRIAL USERS

Nemaha County Hospital ..... (402) 274-4366

Nemaha County Good Samaritan Center ..... (402) 274-4954

Longs Creek Village ..... (402) 274-5511

Auburn Housing Authority ..... (402) 274-4525

Westbury Heights Apartments ..... (402) 274-4017

Auburn School Superintendent ..... (402) 274-4830

Auburn High School ..... (402) 274-4328

Auburn Middle School ..... (402) 274-4027

Calvert Elementary School ..... (402) 274-4129

Education Service Unit #4 ..... (402) 274-4354

Ariens ..... (402) 274-8600

Magnolia Metal Corporation ..... (402) 274-3152

TOXIC SUBSTANCES WITHIN 1,000 FT. OF PUBLIC WATER SUPPLY SYSTEM WELLS

Well #4	Septic Tank
Well #5	Septic Tank
Well #11	Septic Tank & Diesel Storage at Longs Creek

BOARD OF PUBLIC WORKS - AUBURN NE
WATER DEPARTMENT - EMERGENCY MAJOR EQUIPMENT INVENTORY

Quantity	Item	Location
1	Fire hydrant regulating valve	Warehouse
1	Well motor for north well field pumps	Warehouse
8	Control relays	Service Center
1	Control boards	Power Plant
57’	Water main – 4”	Reservoir
18’	Water main – 6”	Reservoir
69’	Water main – 8”	Reservoir
12’	Water main – 10”	Reservoir
6’	Water main – 12”	Reservoir
20’	Water main- 16”	Service Center
2	Repair clamps – 2”	Service Center
5	Repair clamps – 4”	Service Center
4	Repair clamps – 6”	Service Center
2	Repair clamps – 8”	Service Center
1	Repair clamps – 10”	Service Center
1	Repair clamps – 12”	Service Center
1	Repair clamps – 16”	Service Center
2	Dresser Coupling – 4”	Service Center
6	Dresser Coupling – 6”	Service Center
2	Dresser Coupling – 8”	Service Center
2	Dresser Coupling – 10”	Service Center
2	Dresser Coupling – 12”	Service Center
2	Dresser Coupling – 16”	Service Center
2	MJ Coupling – 4”	Service Center
2	MJ Coupling – 6”	Service Center
2	MJ Coupling – 8”	Service Center
2	MJ Coupling – 10”	Service Center

2	MJ Coupling – 12”	Service Center
2	MJ Coupling – 16”	Service Center
1	Gate Valve – 4”	Service Center
1	Gate Valve – 6”	Service Center
1	Gate Valve – 8”	Service Center
2	Fire hydrant	Reservoir
1	Hydraulic Pump (450 GPM)	Service Center
1	Spare Chlorine Injection Pump	WW Treatment Plant
1	Chemical Injection Quill	Water Plant
1	150 lb. cylinder chlorine gas	Water Plant
1	12.5% Sodium hypochlorite - bulk	Waste Water Plant or Peru Water Treatment Plant
2	4-gas gas monitors	WW Treatment Plant & Service Center
2	Portable Generators 250 KW 480 volts 3/0 50 KW 480/240/120 volts 3/0	Water Plant

January 17, 2012

Per Lisa Bloss, Emergency Response Coordinator, Southeast District Health Department, the sanitary water containers stored in the vault at the Wellness Center in Auburn, 601 J St. are ready to be used in an emergency situation. Lisa checked with the supplier, General Films. The stated shelf life is 5 years, but Lisa was assured that the containers are still safe for use in an emergency situation. Please refer to letter received from Southeast District Health Department, dated June 24, 2005. (See page 13)

Appendix E: Master Plan

MASTER PLAN

(TWO AND TEN YEAR)

CITY OF AUBURN PUBLIC WATER SYSTEM

APPROVED BY
BOARD OF PUBLIC WORKS
FEBRUARY 11, 2008
(Updated February 13, 2009)
(Updated February 13, 2012)
(Updated January 15, 2014)
(Updated January 28,2015)

SHORT AND LONG TERM PLAN
CITY OF AUBURN WATER SYSTEM

TWO YEAR PLAN

1. WELL (SOURCE) CAPACITY:

   a) Conduct yearly maintenance tests on wells and re-hab as necessary. Phase wells into new treatment technology that we have contracted with Utility Services as necessary.

   b) Continue weekly drawdown measurements during drought conditions – monthly during winter season.

   c) Prevent rust and corrosion by keeping well piping painted when & where needed.

   d) Research and develop a plan to assure adequate recharge from Little Nemaha River for wells.

   e) Develop new wells to increase water availability.

   f) Develop a plan to determine when the cost & short duration of well re-habs can no longer be justified and either capping or re-drilling should be considered.

   g) Finish converting pump motors to VFD at wells that haven't been converted yet.

2. STORAGE:

   a) Monitor water pumped vs. water sold to better calculate water loss percentages.

   b) Line the main reservoir to minimize water loss.

   c) Investigate the purchase and installation of an Emergency Generator at the reservoir. **Done**

   d) Monitor Chlorine levels to insure proper levels are maintained.

   e) Meter Booster Pump #4 at the Reservoir

   f) Determine if booster pump #2 @ reservoir could be resized to match booster #3 pumping capacity for better flow and pressure control

3. SYSTEM DEMAND:

a) Monitor water usage to see if recent increases are due to drought or are long-term trends.
b) Perform leak survey on distribution system and make necessary repairs to minimize loss. Survey was done Summer of 2014

4. POPULATION:

a) Population in system has been decreasing, and no new industry is currently expected.

5. WATER SYSTEM VALUE:

a) Continue to monitor system reserve fund to determine if the revenue supply to this fund needs to be increased.

b) Educate the public and the board on the need to run the utility as a business.

c) Inventory vacant properties with active water service.

6. WATER QUALITY:

a) Adopt an encroachment ordinance to protect the system wells inside and outside the zoning limits.

    1. Continue with the program to cap unused wells in the Wellhead Protection area.
    2. Conduct our next round of Backflow Customer Surveys. STATUS – last done 2012

b) Explore the use of county zoning to protect the system wells outside the zoning limits.

7. GENERAL SYSTEM IMPROVEMENTS:

a) Start replacing old Corey Hydrants in the system.

b) Update system map, which is an ongoing project. Include a program to inventory shut-off valves, hydrants, and mains and GPS locations.

c) Acquire emergency generators for wells if possible.

d) Upgrade system security.

e) Replace and/or repair other system components as needed.

f) Increase pressure in south system and change pressure zone boundaries.

g) Develop and implement a plan to address water pressure issues at Terrace Heights Development. HAVE DONE A *PER* FOR THIS, trying to acquire funding and is at a stalemate at City Hall.

h) Continue to cap off unused services and eliminate lead services when encountered.

8. MAIN EXTENSIONS:

a) Tie 8” main on R Street to 16” transmission main to the reservoir when Highway 136 is repaved. Scheduled for summer of 2014 or 2015 (Done September 2015)

b) Water District for recent city annexations as needed.

c) Loop 8” main from City Rec. across creek to the north and tie in at the Industrial site.

d) Design water main to serve Industrial Tract to meet needs of entire site.

TEN YEAR PLAN

1. WELL (SOURCE) CAPACITY:

    a) Replace older wells as needed or re-drill.

    b) Develop a new well north of Well 13 and extend transmission main to it.

    c) Acquire backup power for one or more wells.

    d) Loop raw water line from east well field to Well 13.

    e) Install fire hydrants on each side of the river crossing to allow for the potential of a temporary line.

2. STORAGE:

    a) Line storage tanks in the clear well reservoir to minimize water loss.

3. SYSTEM DEMAND:

    a) Continue to monitor system use to determine if current distribution mains are adequate for future demands.

    b) Figure out a way to loop the Hospital & Good Samaritan water mains. Searching for funding possibilities.

4. POPULATION:

    a) Population trends are stagnant. Continue to monitor. May need to make adjustments if CJ Foods who bought the old Armstrong Cabinet property ever decides to start manufacturing at this site, currently is used only for bulk storage.

5. WATER SYSTEM VALUE:

    a) The current reserve fund will be reviewed with an eye towards long-term infrastructure needs and the budgeted income for this fund will be adjusted as needed.

    b) Conduct water audit and rate study for system. DONE.

6. WATER QUALITY:

a) Install PRV valves in high pressure areas to eliminate potential over-pressuring problems.

b) Monitor individual well nitrate levels to be prepared if MCL is lowered from 10 mg/L to 5 mg/L so we know if any wells will potentially be a problem.

7. GENERAL SYSTEM IMPROVEMENTS:

a) Replace older fire hydrants in system as needed. Try to budget a set number of hydrants to replace each year and complete this task.

b) Replace main valves as needed.

c) Loop distribution mains in developing areas as needed.

d) Replace older water meters as needed and replace with lead-free brass or composite material to meet new standards.

8. MAIN EXTENSIONS:

a) Terrace Heights Addition as development continues or loop any dead ends if the opportunity is available.

Appendix F: Public Involvement Documentation

BOARD OF PUBLIC WORKS

CITY OF AUBURN, NE
ELECTRIC, WATER & WASTEWATER SERVICES

BPW

GENERAL MANAGER
David A. Hunter Jr.

Phone: (402) 274-4981Office
(402) 274-3316 After Hours
(402) 274-4991 Fax

June 19, 2018

Sam Radford
NDEQ Source Water Program
1200 N Street, Suite 400
Lincoln, NE 68509

Re: Wellhead Protection Plan Public Comment Period Proof of Publication

The City of Auburn, led by the Auburn Board of Public Works (BPW), recently completed a Wellhead Protection Plan. The purpose of this letter is to verify that the BPW has followed guidelines set forth by the Nebraska Department of Environmental Quality regarding requirements for allowing proper public feedback.

The public was notified through flyers placed at the Auburn Board of Public Works Office 1600 O Street and Auburn City Hall 1101 J Street in addition to a public notification placed in the Nemaha County Herald from to April 19, 2018 to May 14, 2018. A hard copy of the draft plan document was made available for public review between May 12 to June 11, 2018 at the BPW office, 1600 O Street. During the public review period and the public hearing, we received minimal formal input from the public. The first public hearing was held on May 14, 2018, at 7:30pm, and a second was held June 11, 2018, at which time the Auburn City Council approved the plan through ordinance.

If you have any questions, please contact me at 402.366.1615. Thank you for your assistance as we put together our wellhead protection plan.

Sincerely,

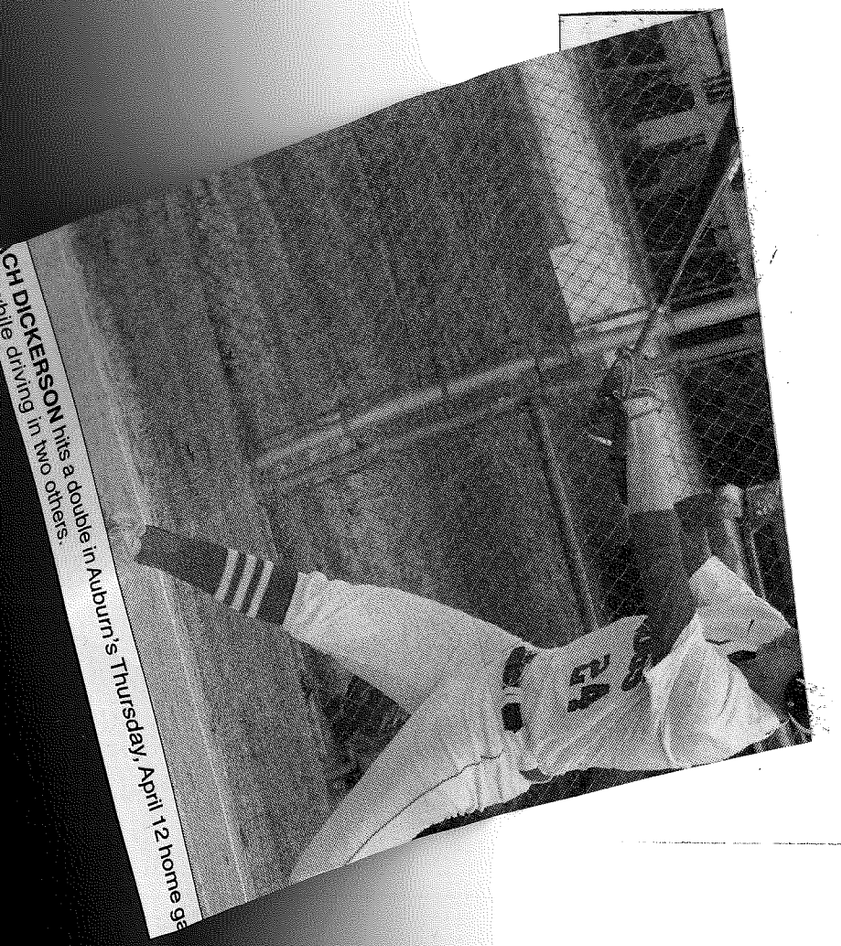
David Hunter, Jr.
General Manager
Board of Public Works

encl

PROOF OF PUBLICATION

The State of Nebraska,

County of Nemaha } §§



Kendall Neiman being first duly sworn, says that he is Publisher of The Nemaha County Herald, a legal newspaper which is published and is in general circulation in Nemaha County, Nebraska, and is printed weekly at its office in Auburn, Nebraska that said newspaper has been so published in said county for more than fifty-two consecutive weeks prior to the publication of the annexed notice, and has a bona fide circulation of more than three hundred copies each issue, and is printed in the English language.

That to affiant's personal knowledge, the annexed notice was published in said newspaper on

April 19, 2018.

Publisher's fee at legal rate is $ 70

Subscribed and sworn to before me this 24 day of April 2018

Glenice K Meyer
Notary Public

General Notary - State of Nebraska
GLENICE K. MEYER
My Comm. Exp. Dec. 20, 2021.

NO. A_____

County Court of
Nemaha County, Nebraska

PROOF OF PUBLICATION

Recorded
Probated Record_____ Page_____

PROOF OF PUBLICATION

The State of Nebraska,

County of Nemaha } §§

Kendall Neiman being first duly sworn, says that he is Publisher of The Nemaha County Herald, a legal newspaper which is published and is in general circulation in Nemaha County, Nebraska, and is printed weekly at its office in Auburn, Nebraska that said newspaper has been so published in said county for more than ... two consecutive weeks ... annexed notice, and ... more than three hundred ... printed in the English ... knowledge, the annexed ... newspaper on ... 018.

... rate is $ 70

... this 14 day of 6/18

Glenice K Meyer
Notary Public

General Notary - State of Nebraska
GLENICE K. MEYER
My Comm. Exp. Dec. 20, 2021.

NO. A_____

County Court of
Nemaha County, Nebraska

PROOF OF PUBLICATION

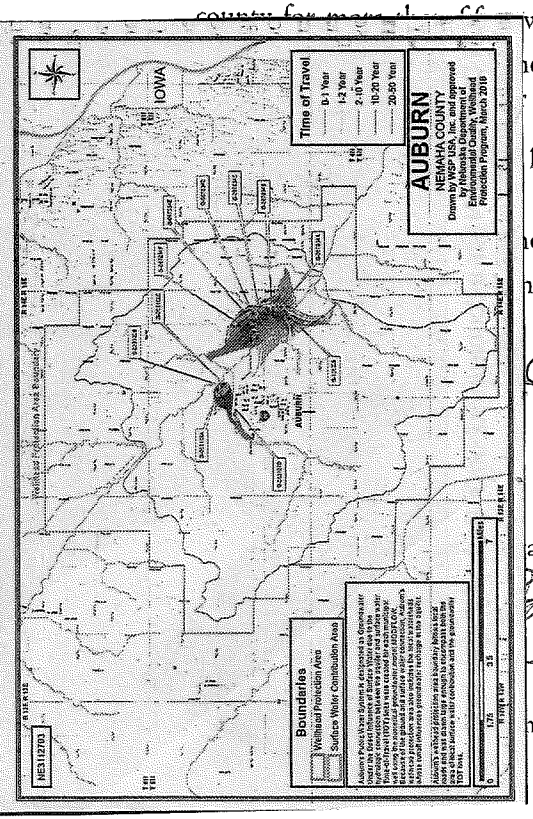
Recorded
Probated Record_____ Page_____

PUBLIC NOTICE

The updated City of Auburn Wellhead Protection Plan and Wellhead Protection Area Map for is available for review. NeDEQ recently approved a new Wellhead Protection Area Map from data from a recent Source Water Protection Plan that was recently completed.

The updated proposed Wellhead Protection Plan and Map for Auburn, NE is available for review at the Auburn Board of Public Works Office at 1600 O Street or Auburn City Hall Office, 1101 J Street during regular business hours. It will be available from April 13, 2018 until May 14, 2018.

On May 14, 2018 comments and testimony on the Plan will be taken at the regular City of Auburn City Council Meeting at 7:00 PM at the City Office. Written or oral comments are acceptable. For further information contact David Hunter, General Manager Auburn Board of Public Works, at (402) 274-4891.



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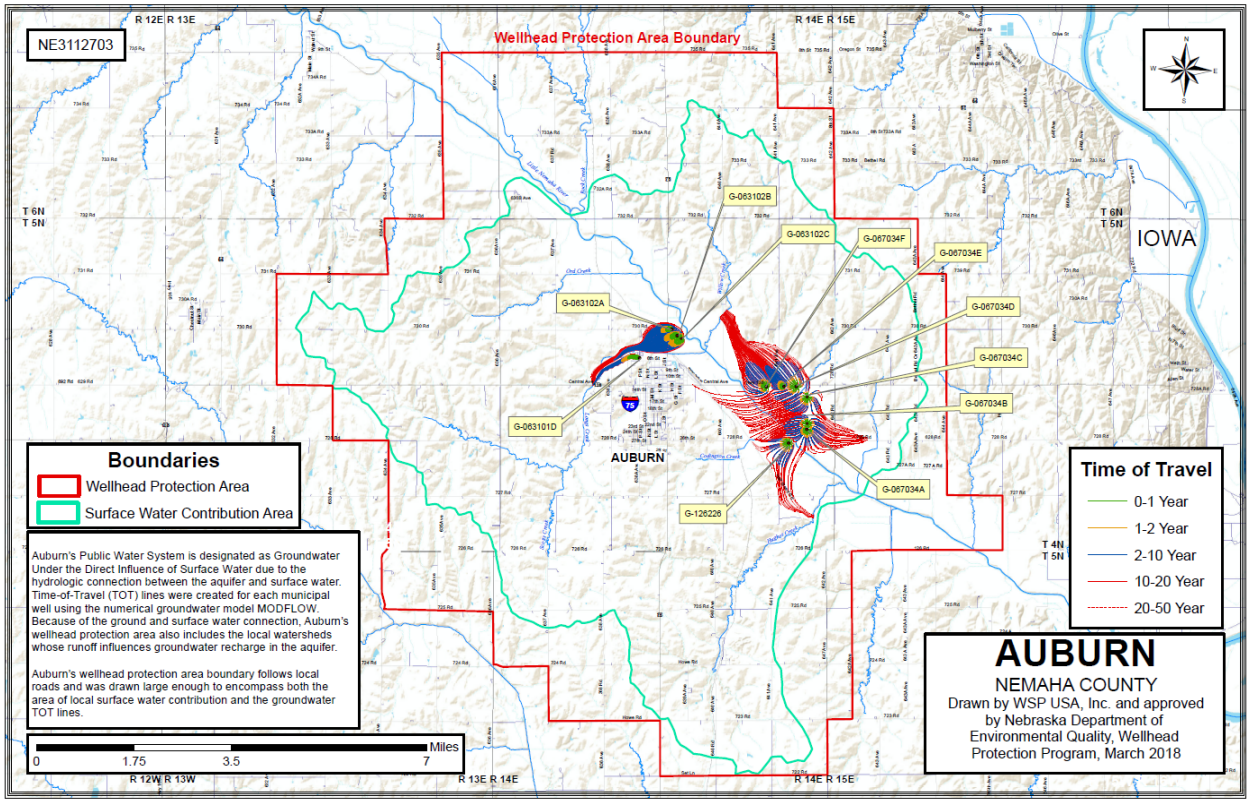


NOTICE OF PUBLIC HEARING

Notice is hereby given that the (*Mayor and City Council*) of City of Auburn, Nebraska will hold a public hearing on to approve an updated Wellhead Protection Plan (WHPP) and Wellhead Protection Area (WHPA) as required by the Nebraska Department of Environmental Quality on (*Date & Time*) at (*Location*)

The purpose of this public hearing is to receive comments and discuss the proposed changes to the new WHPP and WHPA. All local citizens and any other interested parties, governmental agencies or groups are encouraged to comment.

Maps, drawings, and other pertinent data will be available upon request for public inspection by contacting the City Clerk. Written statements may be submitted prior to or at the time of the hearing.

For Immediate Release

Contact: Auburn Board of Public Works
Dave Hunter
1600 'O' Street
Auburn, NE 68305-0288
Phone: 402-274-4981
Email: dhunter@auburnbpw.com

Date: June 21, 2017

Auburn Board of Public Works to Develop a Drinking Water Protection Plan

The Auburn Board of Public Works (BPW) is establishing a Drinking Water Protection Management Plan (Plan) that covers the new 51,400-acre Wellhead Protection Area (WHPA). The WHPA represents the area where the municipal wells draw water from over a 50-year time period. The WHPA also includes watersheds where surface water may contribute to the groundwater reaching a well. The new WHPA is under review by the Nebraska Department of Environmental Quality (NDEQ), who has also provided grant funding to support development of the Plan. Nemaha Natural Resources District (Nemaha NRD) is also a key project partner.

The Plan is focusing on reducing pollutants entering surface water to several small tributaries that are known to recharge the aquifer that supports Auburn's drinking water, including: Longs Creek, Willow Creek, Ord Creek, Codington Creek, Hughes Creek, and several other small tributaries east of the Little Nemaha River.

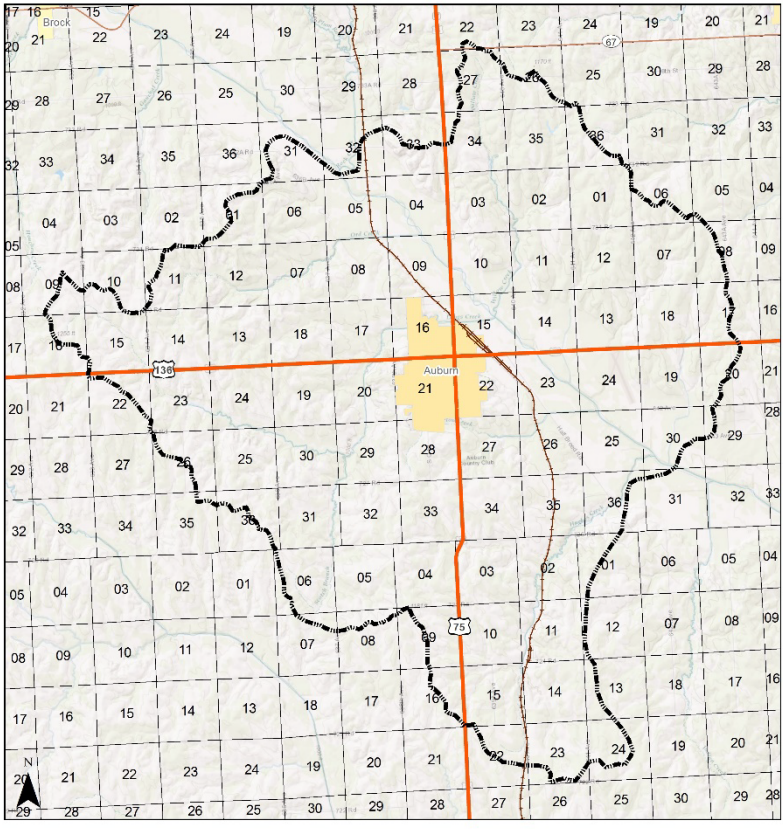
The ultimate goal is to educate producers and citizens on what they can do to reduce nitrate concentrations in the aquifer and reduce bacteria contributions to surface water. The Plan will also include a strategy to reduce infiltration of nitrates past the effective root zone of crops. An additional goal is to identify options to enhance recharge of the aquifer to help protect the system from drought. Conservation practices, such as cover crops, buffer strips, and grassed waterways are being considered by a Stakeholder Group consisting of several producers and Auburn citizens within the area. Other members include the Auburn BPW, Nemaha NRD, NDEQ, and the consultant, Leggette, Brashears, & Graham, of Lincoln, who is responsible for writing the Plan. The Stakeholder Group has met once, and will meet two additional times in 2017. A public open house will be held when a full draft plan is developed, likely late in 2017.

Plan development is anticipated to be completed before the end of 2017 and will then be reviewed and approved by NDEQ. After approval, the Auburn BPW will become eligible for grant funding and work with Nemaha NRD to begin a program to offer cost-share and incentives to producers to implement practices that will improve water quality. Additional incentives will be considered for home owners with inadequate septic systems within the WHPA.

For more information, or to provide input, you can contact Auburn BPW General Manager, Dave Hunter at 402-274-4981, or dhunter@auburnbpw.com.

Auburn Drinking Water Protection Project

The Auburn Board of Public Works (BPW) is asking the help of property owners to identify abandoned wells. The BPW can assist with the full cost to decommission these wells within the area of interest shown below. Please contact the BPW if you would like your well properly abandoned.

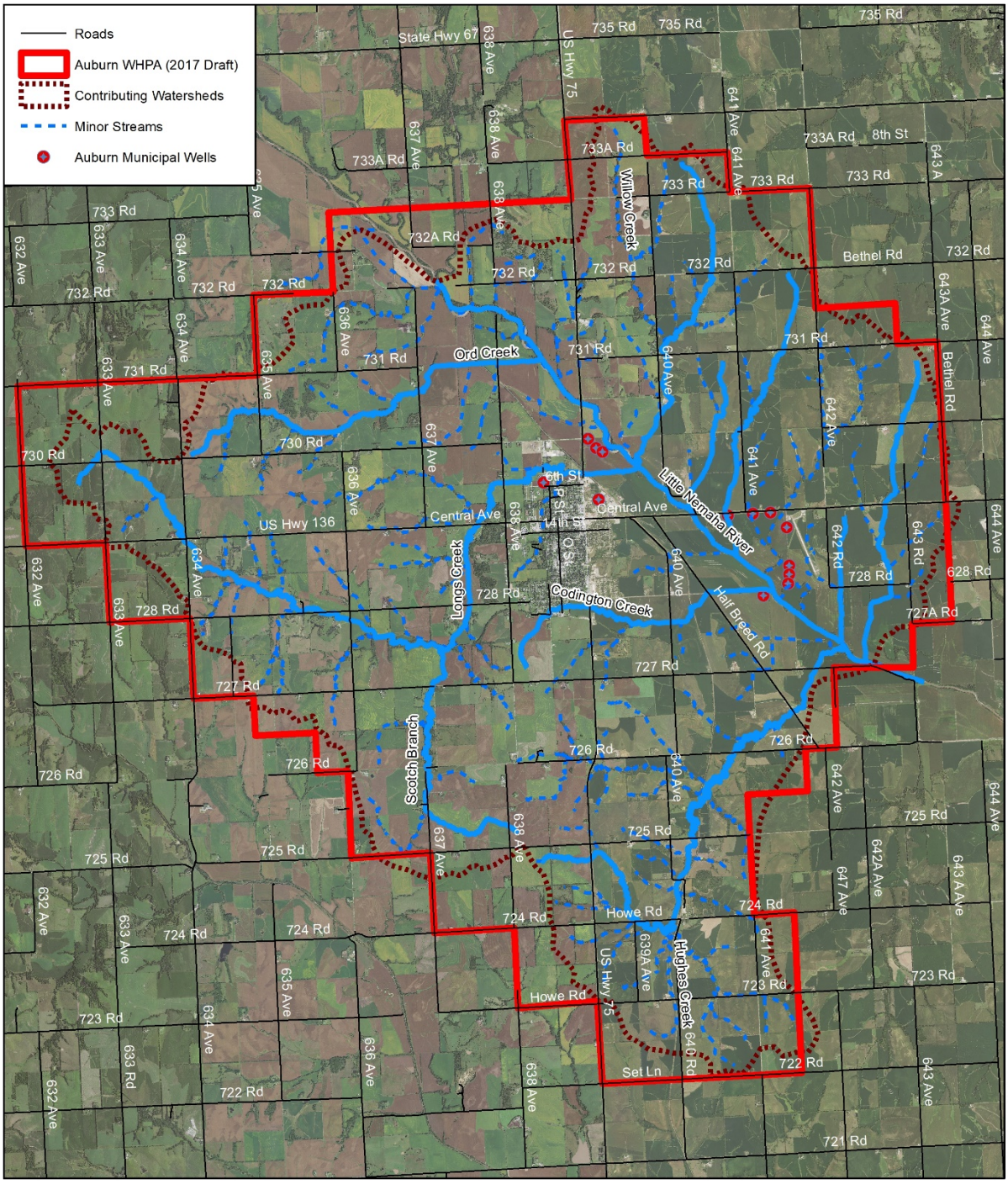


For Information Contact:
Dave Hunter,
BPW Director
402-274-4981

Support provided by:

NEBRASKA
DEPT. OF ENVIRONMENTAL QUALITY

NEMAHA NRD



AUBURN Board of Public Works

Auburn Wellhead Protection Area
2017 Draft

N

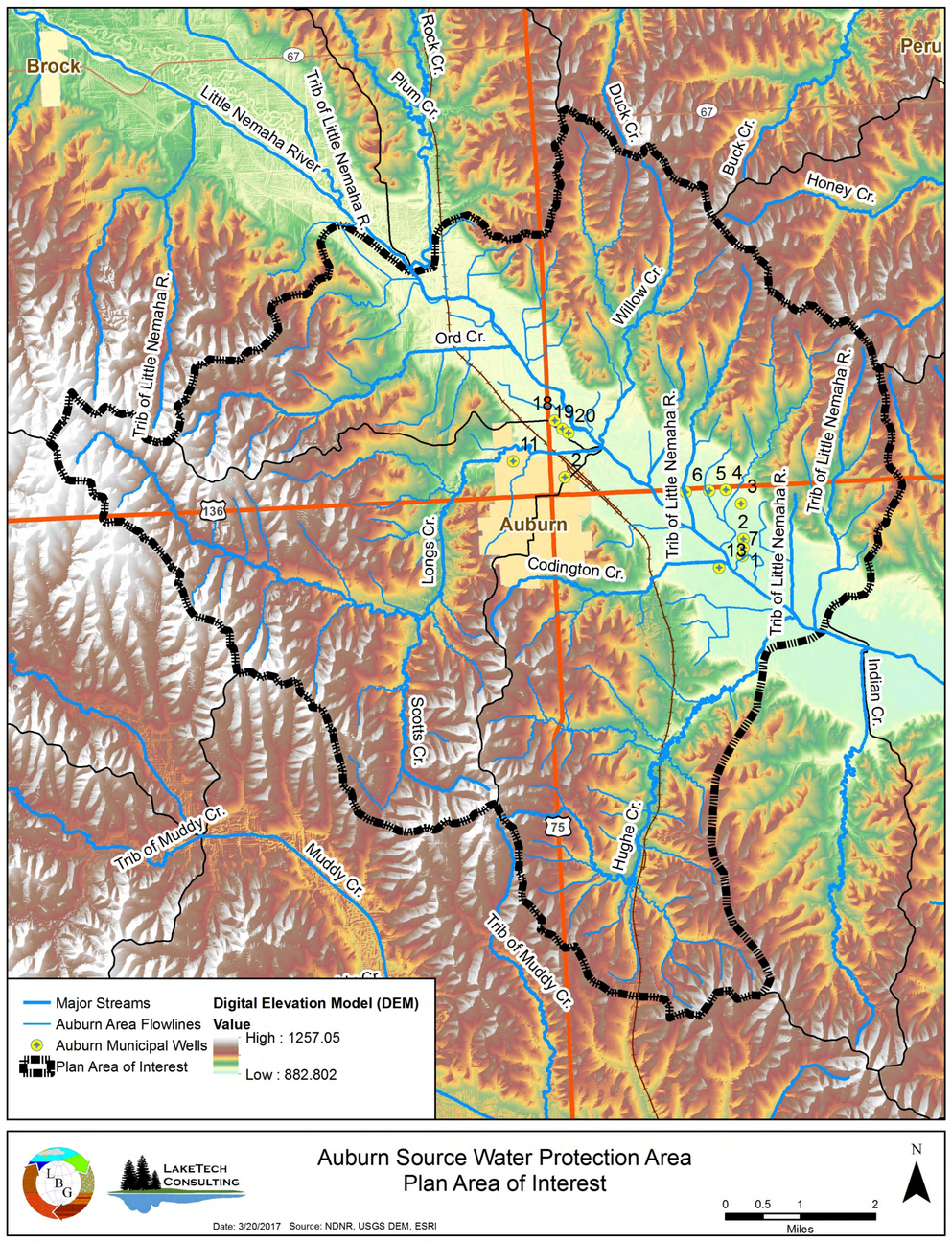
0 0.5 1 2
Miles

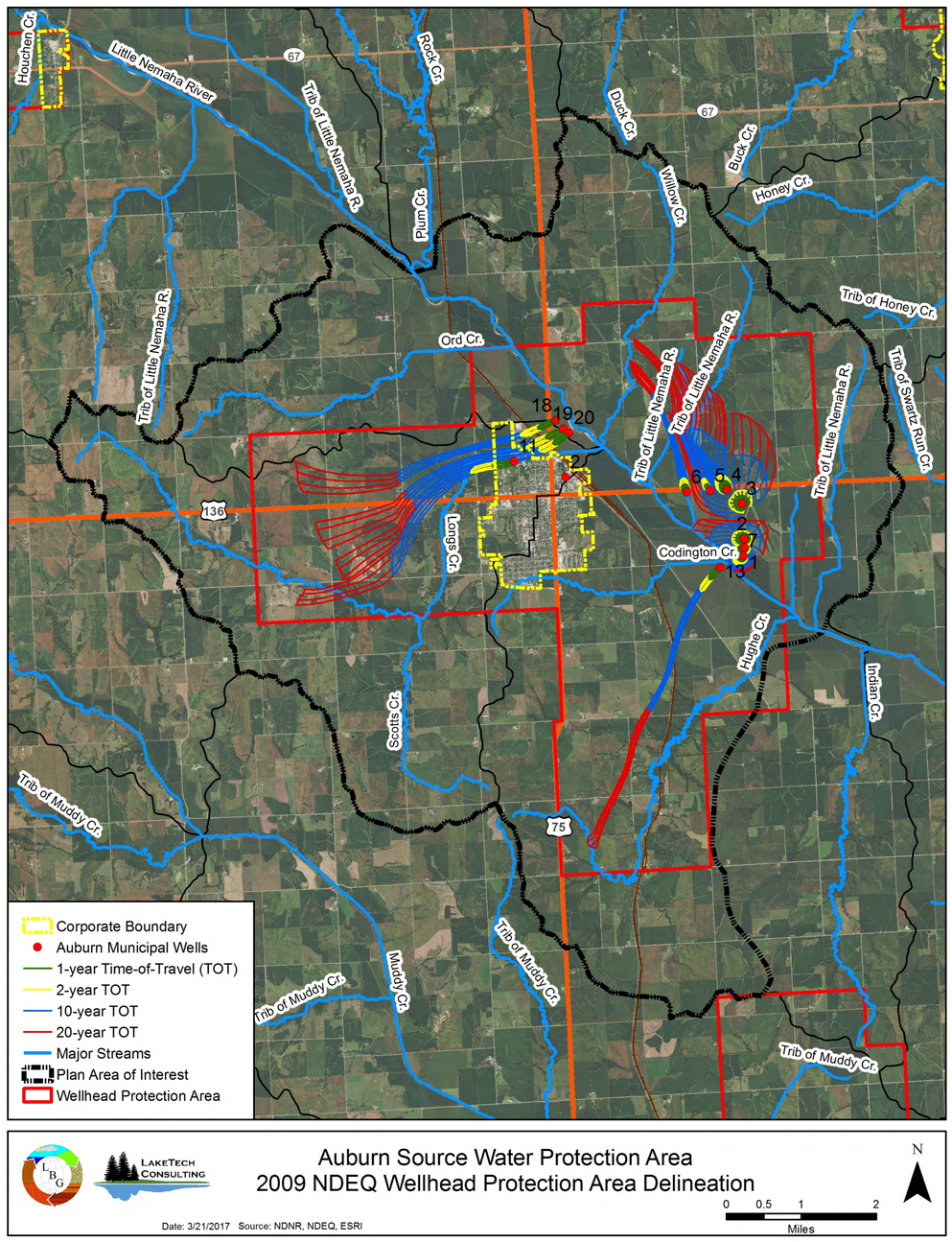
Date: 6/22/2017 Source: NDNR, NDEQ, USDA (2016 Aerial)

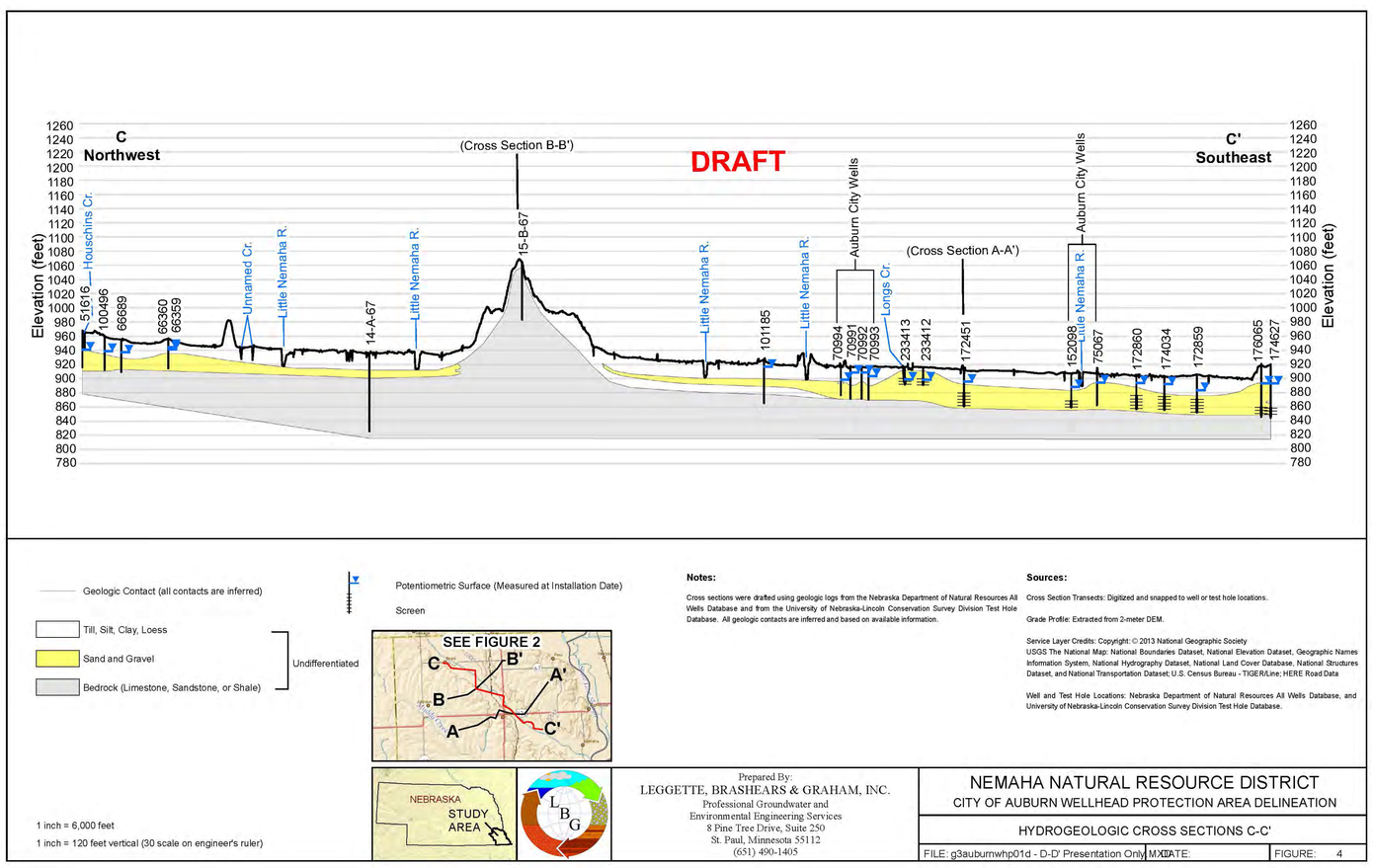
Auburn Drinking Water Protection Plan

What is the intent of the plan?

The plan is documenting a proactive approach to improve the quality of Auburn's drinking water supply. The plan will create eligibility for state funding sources that can assist with installing conservation practices. The plan area includes the local alluvial aquifer and waterways that flow above it. The overall goal is to reduce pollutant loading, especially nitrates, to the aquifer.







WATER QUALITY BMPS

- Stream and waterway buffers
- Grassed waterways
- Riparian zone restoration
- Incentives for cover crops, spring only fertilizer, soils sampling, and others.

Native Grass Buffer

Groundwater Sampling

Grassed Waterway

Soil Sampling

Project Schedule

Planning started in January 2017 and scheduled to be completed by the end of 2017.

Contact: Dave Hunter | dhunter@auburnbpw.com | 402-274-4981

Project Team

LakeTech Consulting

LBG

Funding Provided By:

NEBRASKA
DEPT. OF ENVIRONMENTAL QUALITY

Project Sponsor

AUBURN Board of Public Works

Project Co-sponsor

NEMAHA NRD

Auburn Drinking Water Protection Plan

Stakeholder Group Meeting #2

Auburn Board of Public Works

July 10, 2017 – 6:30pm

1. **Drinking Water Protection Plan Status**
   - Review of rough draft
   - Plan full draft September 2017

2. **Wellhead Protection Area Discussion**
   - WHPA report/map to NDEQ for review

3. **Wellhead Protection Plan Update**
   - Stakeholder Group to also serve as committee
   - Contaminant source inventory
   - Plan from 2009 will be updated and submitted to NDEQ for review

4. **Water Quantity Issues**
   - Consideration of in-stream recharge options
   - Wetland/recharge near Long's Creek NDOR property

5. **Conservation Practices**
   - Review BMP siting map
   - Consider Nebraska Environmental Trust Grant

6. **Next Steps**
   - Continue plan writing
   - Final Stakeholder Group Meeting (September 2017)
   - Open house – present draft plan, receive public input

Auburn Drinking Water Protection Plan
Stakeholder Group Meeting #2 of 2 – Sign-in
July 10, 2017 at 6:30PM – Auburn Board of Public Works Office

NAME	REPRESENTING	EMAIL	PHONE
Phil Shaw	BPW	PEShAW71golf@yahoo.com	402 274-7582
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Dave Hunter	Auburn	dhunter@Auburnbpw.com	
JON MOHR	LBG-Inc.	jon.mohr@lbgmn.com	402-416-4667

Auburn Drinking Water Protection Plan

Stakeholder Group Meeting #3 of 3

Auburn Board of Public Works

September 21, 2017 – 5:30pm

1. **Drinking Water Protection Plan Status**
   - Draft plan complete and ready for review
   - Will incorporate changes from all reviewers and submit final for NDEQ/EPA review and approval

2. **Little Nemaha Aquifer Recharge Project**
   - Submitted joint application to Nebraska Environmental Trust with Nemaha NRD on September 5
   - Focus on recharge structures, borrow pit for recharge, and monitoring wells (NRD focus on monitoring wells)

3. **Wellhead Protection Area**
   - WHPA report finalized, but WHPA may change slightly
   - Changes in WHPA boundary will be incorporated as comments are incorporated into the Plan

4. **Conservation Practices**
   - Goals related to land treatment acres, cost, etc.

5. **Implementation Strategy**
   - Discuss phase I over four years
   - Watershed rotation and priorities

6. **Open House**
   - Educate on local hydrogeology, water quality and quantity issues
   - Drinking Water Protection Plan purpose and key recommendations

7. **Next Steps**
   - Make final changes to plan and await NDEQ and EPA approval

LakeTech Consulting LBG AUBURN Board of Public Works

Auburn Drinking Water Protection Plan
Stakeholder Group Meeting #3 of 3 – Sign-in
September 21, 2017 at 5:30PM – Auburn Board of Public Works Office

NAME	REPRESENTING	EMAIL	PHONE
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[illegible]	AT-Large	[illegible]@yahoo.co	414-1746

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Auburn Drinking Water Protection Plan
OPEN HOUSE – Sign-in
September 21, 2017 at 7:00PM – Auburn Board of Public Works Office

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[illegible]			

Auburn Drinking Water Protection Plan
OPEN HOUSE – Sign-in
September 21, 2017 at 7:00PM – Auburn Board of Public Works Office

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