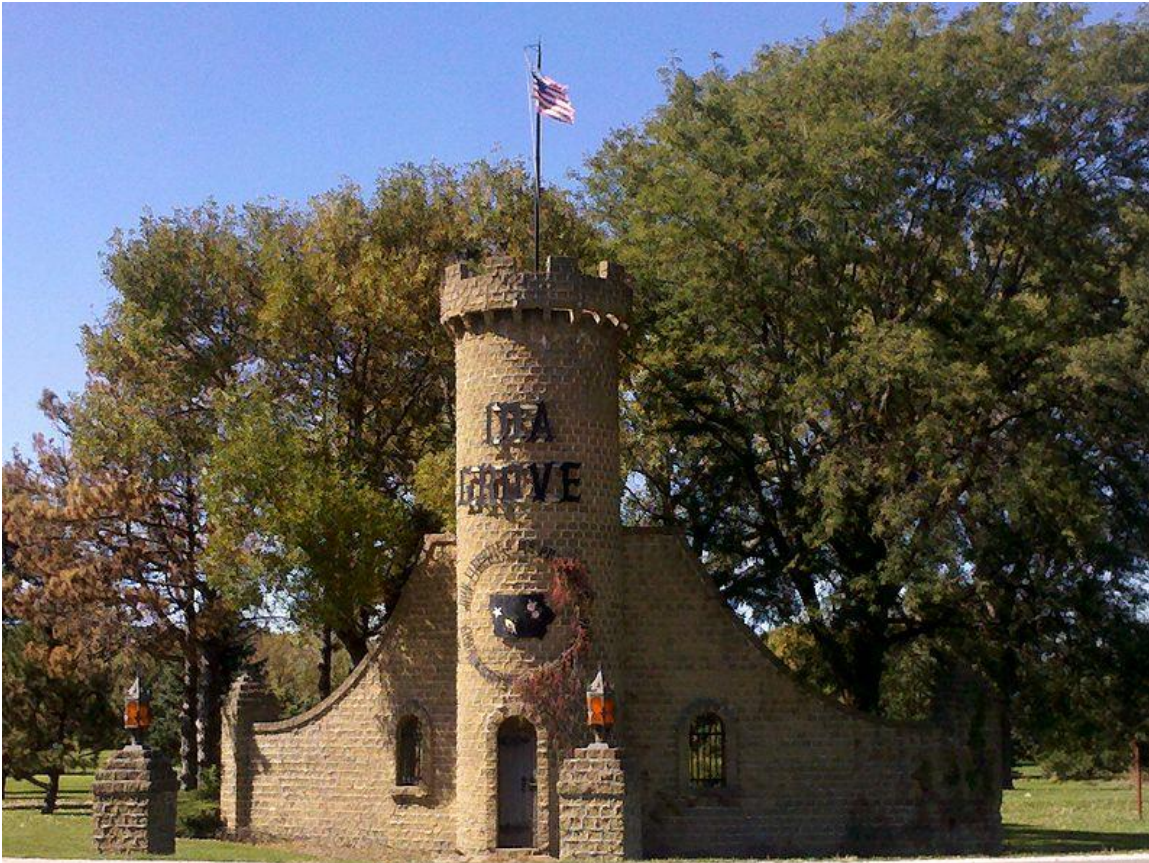


Ida Grove Water Utility



Source Water Protection Plan
Public Water Supply #4728067

Prepared For

Ida Grove Water Utility

Prepared by

Bridget Durst, Source Water Community Facilitator
Conservation Districts of Iowa
Iowa Department of Natural Resources

Completed

March 28, 2018

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Source Water Team List

Name	Affiliation	Email	Phone Number
Bridget Durst	CDI-Iowa DNR	bridget.durst@dnr.iowa.gov	712-262-4177
Lon Schluter	Water Operator	idagrove4@netllc.net	712-364-2428
Gregor Ernst	Council Member	gernstog@gmail.com	847-710-0156
Lorne Miller	NRCS District Conservationist	lorne.miller@ia.usda.gov	712-364-2124
Marc Dennison	City Administrator	idagrove@netllc.net	712-364-2428
Jolene Riessen	Ida County SWCD Commissioner	rseed2010@gmail.com	

Source Water Team Contributors

Name	Affiliation	Email	Phone Number
Devlun Whiteing	Mayor	dwhiteing@midwestindustries.com	712-369-1095
Scott Tomlinson	Council Member	tomlinsonremodeling@gmail.com	712-369-8046
Doug Clough	Council Member	douglasclough@gmail.com	712-371-9368
Ed Sohm	County Sanitarian	idaedmes@longlines.com	712-364-2533
Heather Sweeden	City Clerk	idagrove3@netllc.net	712-364-2428
Rhett Leonard	Ida County Supervisor	rhettleonard@gmail.com	712-371-2508
Roger Frank	Farmer	P.O. Box 26 51445	

Source Water Partnerships and Responsibilities

City of Ida Grove

The city of Ida Grove is responsible for implementation of the Source Water Protection Plan. This will include maintaining community outreach, publicizing upcoming and ongoing projects, and finding resources to fund potential projects. The City of Ida Grove will be responsible for yearly revision of the Source Water Protection Plan. They will maintain and revise the Emergency Response Plan annually or as needed in the future. The city of Ida Grove will have access to resources and technical assistance regarding source water Protection through various local, state, and federal organizations.

Ida County Supervisors

The county supervisors will provide outreach and support. Ida County Supervisors will be asked to prioritize decisions regarding county ordinances and rules in Ida Grove's capture zone outside of the city limits as related to the Source Water Protection Plan. They have been asked to make the city aware of any potential funding available for source water protection projects and continue to communicate with producers in the capture zone.

Ida County Conservation Board

Provide technical assistance, support and outreach. Ida County Conservation Board will serve as a resource for technical assistance during planning and constructing projects in Ida Grove's capture zone outside of city limits. They have been asked to make the City aware of any potential funding opportunities available for Source Water Protection projects.

Ida County Environmental Health Services

The conservation board will provide technical assistance, support and outreach. Ida County Conservation Board will serve as a resource for technical assistance during planning and construction projects in Ida Grove's capture zone outside of the city limits. They have been asked to make the city aware of any potential funding opportunities available for source water protection projects.

Odebolt Arthur Battle Creek Ida Grove Community School District (OABCIG)

The local school system will be capable of developing Future Farmers of America (FFA) programs that encourage source water protection through conservation based farming practices. They will be able to provide space and development for assemblies to introduce students to source water protection and encourage participation among these students. They can also develop a curriculum that includes water quality and land use relationships.

Iowa Department of Natural Resources (Iowa DNR)

The Iowa Department of Natural Resources Region 3 Field Office in Spencer will provide the technical resources to assist the water system facility to meet all state and federal drinking water standards. They provide on-site technical assistance and perform inspections such as sanitary surveys. The Iowa DNR Water Supply Engineering Section will update the phase 1 assessment and source water databases as needed.

USDA Natural Resources Conservation Service & Farm Service Agency (USDA NRCS-FSA)

The USDA NRCS-FSA provides resources to help landowners and farmers make decisions regarding soil conservation, water quality issues, nutrient losses, and constructing natural habitat. The federal government provides funding to programs administered by the USDA NRCS-FSA. These funding programs are offered to all rural landowners and farmers that qualify. The City of Ida Grove has reached out to the District Conservationist of Ida County to ensure that landowners and farmers within the capture zone have priority due to the potential impact of their agricultural systems on the city's drinking water source.

Ida County Soil and Water Conservation District (SWCD)

The County SWCD provides outreach, planning assistance, and cost share programs to landowners and farmers in their local districts. The focus of the SWCD is to help implement conservation practices to address soil loss and water quality. The Ida County SWCD Commissioners have agreed to prioritize applications for conservation practices from farmers within the capture zone around Ida Grove's wells due to the potential impact that their agricultural operations could have on the city's drinking water. They are also responsible for applying for REAP (Resource Enhancement and Protection) funding through the state.

Iowa Department of Ag Land Stewardship (IDALS)

IDALS provides technical assistance, and funds to help communities install practices that preserve our soil health and water quality. They assist in writing SRF loans and a variety of other grants. IDALS will keep the City of Ida Grove up to date on all policies that may affect source water protection, funding, and regulation. IDALS will assist in applying for REAP funds through the state. They also employ the urban conservationist.

Iowa State University (ISU) Extension and Outreach: Ida County

ISU Extension provides programs that give people access to unbiased research-based information and education to make better environmental decisions. Many of their programs are based in agronomy, economics and community involvement. ISU Extension is the organization that created the 4-H program for school aged children. ISU Extension has been asked to help create 4-H programs that teach source water protection and encourage participation in conservation based farming practices.

Conservation Districts of Iowa (CDI)

Conservation Districts of Iowa informs, educates and leads Iowans through local soil and water conservation districts to promote the conservation of natural resources. Conservation Districts of Iowa supports the soil and water conservation districts through public education, commissioner development, conservation policy, on-the-ground conservation, conservation practice promotion, public events and more.

National Wildlife Federation (NWF)

NWF will provide grant writing, education, outreach and technical assistance in regards to source water protection. They help create opportunities for success through communication between city government, landowners, and farmers.

Iowa Soybean Association (ISA)

ISA will provide outreach and support through offering their many programs to Ida Grove and the farmers within the capture zone areas. They are a resource for outreach and education.

Iowa Corn Growers Association (ICGA)

ICGA has provided financial support by paying for Ida Grove's SWP kick off meeting and furnishing RetaiN nitrate testing kits to farmers in the capture zones. They are a resource for outreach and education.

Iowa Source Water Agricultural Collaborative

The Iowa Source Water Collaborative was formalized in 2016 with the goal of providing Iowans with information and resources to protect their drinking water sources. This collaborative includes CDI, Iowa DNR, ISA, USDA NRCS-FSA, NWF, Iowa Corn Growers, ISU Extension, Iowa Soybean Assoc., and IDALS.

Source Water Protection Partners Contact Information

City of Ida Grove

Marc Dennison-City Administrator
403 3rd Street Ida Grove, Iowa 51445
712-364-2428
idagrove@netllc.net

OA-BCIG School District

Terry Kenealy- Superintendent
900 John Montgomery Drive Ida Grove, Iowa 51445
712-364-3687
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Ida County Supervisors

Rhett Leonard-Chairman
401 Moorehead St, Ida Grove, Iowa 51445
712-364-2220
rhettalanleonard@gmail.com

Ida County Conservation Board

Paige Alesch- Director
202 Jasper Ave, Ida Grove, Iowa 51445
712-364-3300
idacodirector@gmail.com

Ida County Environmental Health Services

Ed Sohm- County Sanitarian
401 Moorehead St, Ida Grove, Iowa 51445
712-364-2533
idaedmes@longlines.com

Iowa Department of Natural Resources (Iowa DNR)

Julie Sievers, Environmental Specialist Senior
1900 N. Grand Ave, Ste E17, Spencer, IA 51301
712-262-4177
julie.sievers@dnr.iowa.gov

USDA Natural Resources Conservation Services & Farm Services Agency (USDA NRCS-FSA)

Lorne Miller, District Conservationist, NRCS
5973 State Highway 175 Ida Grove, Iowa 51445
712-364-2126 ext. 3
lorne.miller@ia.usda.gov

Ida County Soil and Water Conservation District (SWCD)

Lorne Miller, District Conservationist, NRCS
5973 State Highway 175 Ida Grove, Iowa 51445
712-364-2126 ext. 3
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Iowa Department of Agriculture Land Stewardship (IDALS)

Bob Waters-Regional Coordinator 3302 18th Street, Suite 2 , Spirit Lake, Iowa 51360 515-306-7012 Bob.Waters@iowaagriculture.gov	Hannah Vorrie - Urban Conservationist 1617 N. Lake Ave. Storm Lake, IA 712-732-8216 ext 3 hannah.vorrie@nacdn.net
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Iowa State University (ISU) Extension and Outreach: Ida County

Kandice Tomlinson-Program Coordinator
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Conservation Districts of Iowa (CDI)

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National Wildlife Federation

Elizabeth Lillard, Agriculture Program Specialist
734-887-7134
www.nwf.org

Iowa Soybean Association

Adam Kiel, Environmental Programs & Services Operations Manager
515-334-1022
AKiel@iasoybeans.com

Iowa Corn Growers Association

Ben Gleason, Sustainable Program Manager
bgleason@iowacorn.org

Iowa Source Water Ag Collaborative

Linda King- Executive Director
315 E. 5th, Suite 134, Des Moines 50309
515.289.8300
linda.king@cdiowa.org

Source Water Protection Planning Overview

Source water protection is the act of preventing contaminants from entering drinking water sources.

The purpose of source water protection planning is to unite a community in the common goal of protecting their source water. In crafting a Source Water Protection Plan (SWPP), we are working to ensure safe drinking water by addressing and preventing contamination, which in turn, reduces the costs of water treatment and possibly postpones the necessity of drilling new wells. The plan outlines practices and objectives that promote the preservation of the community's source water. The document also gives everyone a chance to contribute to the protection of their shared resources. Through collaboration on this project, community members will leave a positive legacy for future generations.

Every public community water supply in Iowa has a phase 1 assessment, available from the Iowa DNR [Source Water Protection Tracker](#) application. The phase 1 document contains basic information concerning geology, public well locations, well depths, susceptibility and nitrate levels, capture zone maps, and inventories of potential contaminant sources, wells and land use types found within the capture zones.

Using information from the phase 1 assessment and their knowledge of the community, the source water team members can decide which best management practices to utilize in specific areas. The practices can include anything from signs designating protected areas to implementing conservation practices in urban areas and private agricultural land. The SWPP is designed with the best interest of the community in mind. It is intended to be a living document, to be revisited annually to consider progress and to assess whether the plan needs to be updated and/or revised. Each SWPP is as unique as the community it belongs to.

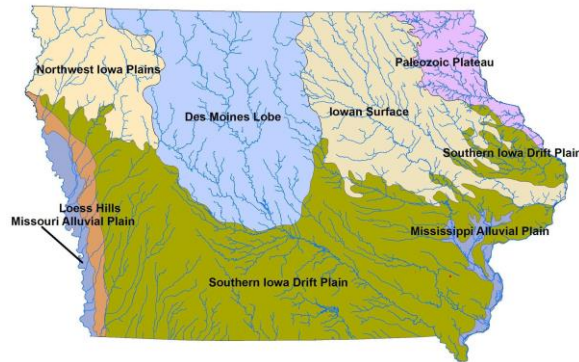
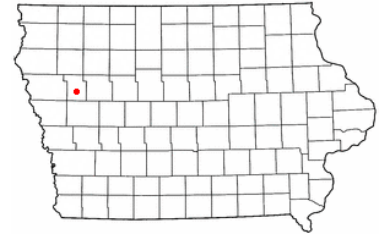
Goals and Objectives

- Safeguard the health of water users being served by city wells
- Prevent financial burdens caused by contaminated drinking water
- Educate and provide awareness of the effects of drinking water contamination
- Educate landowners in the capture zones of their potential impacts on the community's drinking water supply
- Encourage the use of conservation practices that address nitrogen losses from agricultural production and urban fertilizer runoff
- Find non-traditional partners and funding resources to help implement projects related to source water protection

City Location

Ida Grove is located in Ida County at the junction of Hwy 59 and Hwy 175. Just south of the Maple River, Ida Grove is approx. 25 miles north of Denison.

Ida Grove is located in the northern edge of the Southern Iowa Drift Plain landform region. Here older glacial deposits left by ice sheets that extended far south into Missouri over 500,000 years ago dominate. These deposits were carved by deepening episodes of stream erosion so that only a horizon line of hill summits or occasional tabletop divides remain to mark the once-continuous glacial plain. Numerous rills, creeks, and rivers branch out across the landscape shaping the old glacial deposits into steeply rolling hills and valleys. A mantle of loess drapes the uplands and upper hill slopes.



Well Location

Ida Grove sources its drinking water from 2 shallow wells known as Well #7 (2002) and Well#8 (2002). These wells are located north of the city between the city limits and the Maple River.

Customers

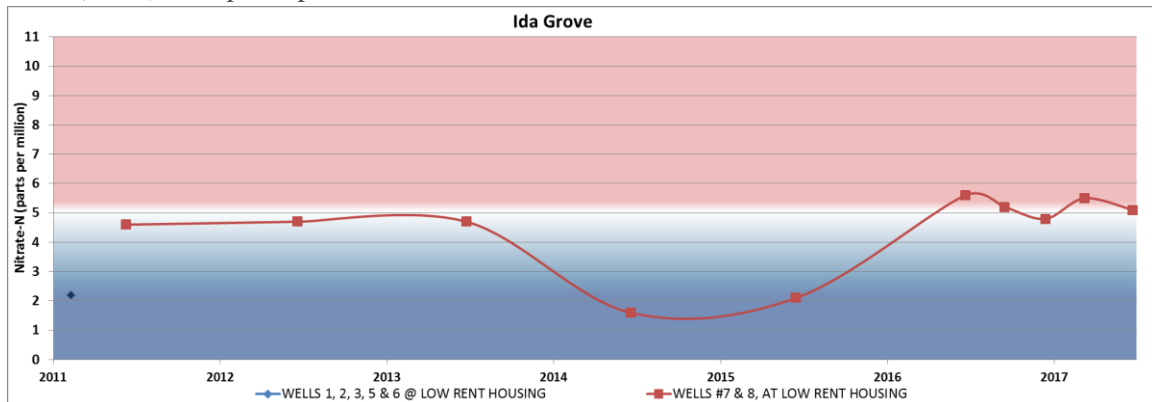
Ida Grove Water Utility provides water to the citizens and businesses of Ida Grove. The utility provides water to a population of 2158 residents with 1089 service connections. Ida Grove Water Utility distributes an average of 221,000 gallons per day and a maximum of 612,000 gallons per day.

Treatment

Ida Grove Water Utility runs Well#8 primarily and uses Well#7 as needed. Treatment of the water consists of a polyphosphate addition for sequestration (iron and manganese control), gas chlorination for disinfecting, and the addition of fluoride for fluoridation. Distribution system pressure and storage are provided by a 250,000 gallon elevated storage tank.

Water Quality

Ida Grove Water Utility has an average finished nitrate level of 4.2 parts per million based on 13 samples given between 2011 and 2017. The EPA maximum contaminant limit (MCL) is 10 parts per million.



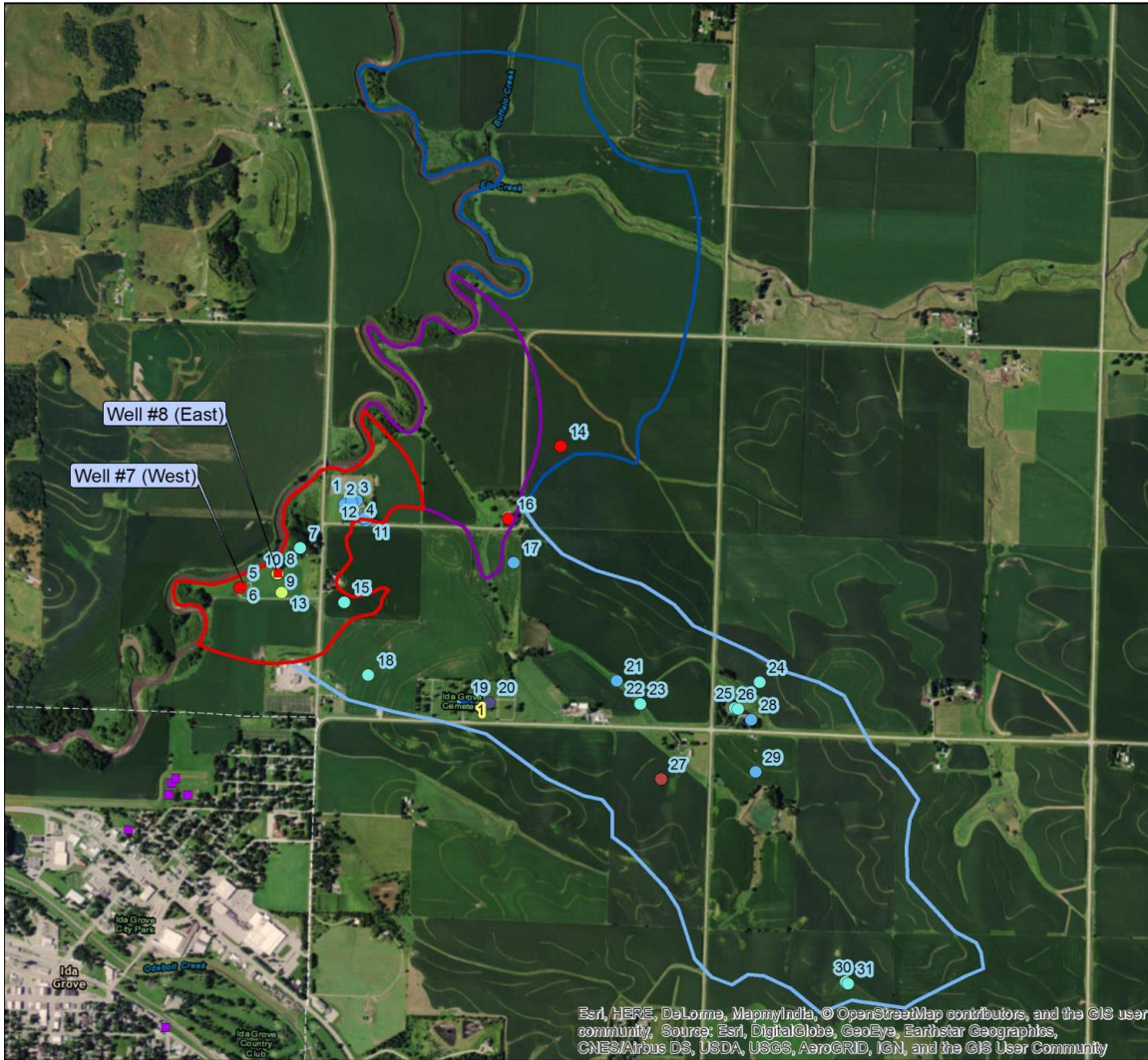
Hydrogeology and Susceptibility

Ida Grove Water Utility sources its water from one aquifer. These shallow wells are located in an “alluvial” aquifer. Alluvial aquifers are generally shallow sand and gravel deposits laid down over time in a river channel or floodplain. The name “alluvial” refers to the loose, unlayered nature of the material – often silt, clay, sand, and gravel, deposited by running water in and around rivers. This aquifer has no confining layer and therefore has been determined to be highly susceptible to surface contamination.

Confining layer thickness Susceptibility designation:

- <25 feet Highly susceptible
- 25 to 50 feet Susceptible
- 50 to 100 feet Slightly susceptible
- >100 feet Low susceptibility

Ida Grove PWSID# 4728067 Alluvial Aquifer - Source Water Protection



Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

- | | | |
|--|--|--|
| <p>Public Wells</p> <ul style="list-style-type: none"> ■ Active ■ Plugged <p>Groundwater Capture Zones</p> <ul style="list-style-type: none"> ■ 2-Year Capture Zone ■ 5-Year Capture Zone ■ 10-Year Capture Zone ■ Surface Runoff Area | <p>Contaminant Sources</p> <ul style="list-style-type: none"> ● Cemeteries | <p>Other Wells</p> <ul style="list-style-type: none"> ● IGS well database ● Permitted private wells ● Private well tracking system ● Public water supply well ● Registered abandoned wells ● Water use permit wells ● Wells registered for testing |
|--|--|--|



*Source Water Capture Zones are divided and prioritized to show “time of travel”, indicating the amount of time it takes water from that area to reach the well. Surface runoff areas are also included. Capture Zones are computer models. The information used to determine the Capture Zones includes pumping and static water levels and the geological makeup of the surrounding area. When there is not enough information to determine a contoured capture zone a fixed radius model is used. For more information on Capture Zone types and delineation please contact Bob Rowden, Iowa DNR robert.rowden@dnr.iowa.gov

Land Cover

2017 Summary by percentage of total:

Total Acres of Capture Zone is 1,114 acres

Capture Zone	Acres in zone	Row Crops by %	Alfalfa by %	Grassland by %	Wetland by %	Water by %	Forested areas by %	Developed Areas by %
2 Year	90	51.5	3.2	24.7	3.2	2.2	2.5	12.4
5 Year	108	80.1	0.0	9.2	3.9	1.0	0.4	5.1
10 Year	291	88.7	0.3	7.2	0.6	0.5	0.2	2.1
Surface Runoff area	625	81.5	0.0	11.2	0.2	1.0	0.0	6.3

Potential Contamination Sources

This chart gives information about potential contamination sources found on the map on Page 12. The “map #” corresponds the entry to the location on the map. For more information about ranking and links to risk factors please refer to the Phase 1 Assessment for Ida Grove Water Utility.

Map #	Site Name	Site Type	Site Address	Land Use Risk	Risk Score
1	Ida Grove Cemetery	Cemetery	T87n,R40w, Sec.12, Sw, Se, Ida Grove, Iowa	2	7

Unused Well Inventory

Unused wells have a potential for becoming point sources for contamination when located within a capture zone. The “map #” corresponds to the well label # on the map on page 12. For more information about ranking and links to risk factors please refer to the Phase 1 Assessment for Ida Grove Water Utility.

Key: WUP- Water Use Permit WS- Water Supply PWS- Public Water Supply
IGS- Iowa Geological Survey PWTS- Private Well Tracking System WRFT- Well registered for testing

Capture Zone: 2 Year time of travel

Map #	Well ID #	Well Owner	Well ID Source	Depth (ft)	Date drilled/permitted
1	82269	Keith Benna	WRFT	61	1970
2	2145684	Dennis Meisner	PWTS	61	1/1/1970
3	2176573	Misty Baker	PWTS	300	1/1/1997
4	2160077	Keith Benna	PWTS	35	1/1/1920
5	56576	City of Ida Grove	IGS database	66	6/24/2002

6	2583580	Ida Grove Water Utility	PWS well	82	unknown
7	36772	Violet Frederick	WRFT	25	1959
8	W5452	City of Ida Grove	WUP well	90	unknown
9	56577	City of Ida Grove	IGS database	62	6/20/2002
10	2583581	Ida Grove Water Utility	PWS well	82	unknown
11	2163634	Dennis Meisner	PWTS	175	12/29/2012
13	W29348	Layne Christensen Co./ Terry Heiliger	WUP well	unknown	unknown
15	36770	Jack Baker	WRFT	unknown	unknown

Capture Zone: 5 year time of travel

Map #	Well ID #	Well Owner	Well ID Source	Depth(ft)	Date drilled/permited
16	14365	Jeanette Rasmussen	IGS database	85	08/29/1962

Capture Zone: 10 year time of travel

Map #	Well ID #	Well Owner	Well ID Source	Depth(ft)	Date drilled/permited
14	12986	C.C. Rasmussen	IGS database	90	06/01/1961

Capture Zone: Surface runoff area

Map #	Well ID #	Well Owner	Well ID Source	Depth(ft)	Date drilled/permited
12	2160078	Keith Benna	PWTS	10	1/1/1920
17	2128865	Nathan Boysen	PWTS	30	1/1/1940
18	42494	Ralph Vinovich	WRFS	42	unknown

19	2139145	Unknown	PWTS	8	1/1/1920
20	3022	Sacred Heart Catholic	Reg. Abandoned	unknown	unknown
21	2156785	Gene Knopp	PWTS	35	1/1/1920
22	2156784	Gene Knopp	PWTS	35	1/1/1920
23	36892	Gene Knopp	WRFT	unknown	unknown
24	955	Ed Jacobsen	WRFT	15	1900
25	36890	Ed Jacobsen	WRFT	15	1900
26	36891	Ed Jacobsen	WRFT	15	1900
27	18040	Unknown	Permitted Private Well	250	02/06/1996
28	2111222	Ed Jacobsen	PWTS	unknown	unknown
29	2120036	Ed Jacobsen	PWTS	300	7/1/2005
30	30112	Rory Whitney	WRFT	40	unknown
31	30066	Rory Whitney	WRFT	40	unknown

City of Ida Grove Water Utility
Source Water Protection Action Plan

Activity	Date Started	Date Finished	Responsible Personnel	% Complete	Comments
Contact Water Operator	6/20/2017	6/29/2017	Bridget Durst	100%	I met with Lon Schluter to discuss SWP for Ida Grove
Present Source Water Protection to City Council	8/20/2017	9/18/2017	Bridget Durst	100%	The city of Ida Grove agreed to participate in SWP. They determined a subcommittee to be in charge of SWP planning
Request for Ida Grove to sign Letter of Commitment	9/18/2017	10/23/2017	Bridget, City Council	100%	Signed, returned, and sent to supervisors (DNR, CDI)
Present SWP info to Ida County NRCS for support and promotion	9/5/2017	9/11/2017	Bridget Durst	100%	Lorne Miller (DC) agreed to participate
Plan first SWP Subcommittee meetings	9/18/2017	10/23/2017	Bridget Durst	100%	Meeting to be held 10/23
Hold first SWP Subcommittee meeting		10/23/2017	Bridget Durst	100%	We reviewed all Source Water information for the city and discussed how to move forward to get people motivated to attend public meetings.
Determine date for public SWP Kick Off meeting	10/23/2017	12/5/2017	Bridget Durst	100%	Meeting to be held 12/05/2017
Present SWP to Ida County Board of Supervisors to obtain support and promotion	10/17/2017	11/6/2017	Bridget Durst	100%	Information was given and a request for a letter of support was made
Collect contact information for farmers in the capture zone	10/17/2017	12/22/2018	Lorne Miller	100%	Lorne compiled a list of names and addresses for the farmers in the capture zone

Present SWP to Ida County Conservation Board to obtain support and promotion	10/17/2017	12/5/2017	Bridget Durst	100%	Information was given and a request for a letter of support was made
Send Letter of Support Template to Ida County Supervisors	11/20/2017	11/20/2017	Bridget Durst	100%	Sent via email
Send Letter of Support Template to Ida County Conservation Board	12/5/2017	12/18/2017	Bridget Durst	100%	Signed, returned, and sent to supervisors (DNR, CDI)
Invite NRCS, Supervisors and Conservation board members to SWP Kick Off	11/20/2017	12/5/2017	Bridget Durst	100%	A representative from each of these organizations were present at the SWP Kick Off
Invite public to SWP Kick off	10/23/2017	12/5/2017	Bridget, Subcommittee	100%	We advertised the SWP Kick Off with brochures and on the Ida Grove website
Discuss SWP with farmers in/around capture zones	12/5/2017		Bridget, Subcommittee, Team, NRCS	ongoing	As more farmers become involved Ida Grove will discuss options and resources with them
Discuss conservation opportunities and Best Management Practices with farmers in/around the capture zones	12/5/2017		Bridget, NRCS, Pheasants Forever, PFI, ISU EXT	ongoing	As it is relevant Ida Grove will invite reps from these and other groups to participate and present at meetings.
Encourage farmers/producers to test tile lines on a regular basis	01/10/2018		Farmers, Iowa Soybean Association, City Council, Ida Co. Supervisors, NRCS, Ida Co. SWCD	ongoing	Monitoring nitrate losses from tile lines will help us determine BMP's for areas in the capture zone. ISA provides a testing kit and guidance for sampling through their labs well as Retain Kits from Iowa Corn Growers.

Work with ISU Extension to develop a Source Water Protection program for 4-H attendees.	01/11/2018		City Council, ISU Ext.	ongoing	This will encourage children involved in 4-H to explore conservation practices within farming operations in regards to Source Water Protection
Integrate surface water testing done by local school class led by Carol Sadler to help in the nitrate monitoring in the area	01/11/2018		City Council, OABCIG School District	ongoing	Results from this class should be compared to results in tile lines and other nitrate tests in the capture zone
Utilize Grants to Counties for well plugging and private well testing. Make capture zones a priority area	12/05/2017		County Sanitarian Ed Sohm, farmers	ongoing	Ed Sohm attended the Kick off meeting and spoke about making the capture zones a priority area for Grants to Counties funding
Involve local fundraising organizations to hold events to raise funds to help pay for projects in the capture zones	03/15/2018		Marc Dennison, City Council	ongoing	Engaging local fundraising organizations will help build community awareness of Source Water Protection and provide funding for projects.
Encourage citizens, farmers, and landowners to use and dispose of hazardous materials properly	2/15/2018		City Council	ongoing	The city has a pick up date for city residents. They may send out a reminder letter to farmers and landowners.
Run camera down well during maintenance	3/08/2018		City Council, Water Operator	ongoing	This will provide a visual assessment of the condition of the well
Smoke blowing in sewer system	3/08/2018		City Council, Water Operator	ongoing	This will identify areas where there are leaks in the sewer system underground infrastructure

Identify and encourage properly maintaining septic systems	3/08/2018		City Council, Water Operator	ongoing	The city can send out a letter informing the public about how to properly maintain septic systems within the city limits
Bi-weekly raw water samples from each well in the wellfield	02/21/2018	approved by city council 03/05/2018	City, Water Operator	ongoing	This will indicate fluctuations in the nitrate levels in the aquifer. This will also give us a metric to measure success. This schedule is intended to continue for one year. This will begin the last week of March 2018 and continue until March 2019.
Bi-weekly surface water testing near wellfield of Maple River	02/21/2018	approved by city council 03/05/2018	City, Water Operator	ongoing	This will indicate fluctuations in the nitrate levels in the aquifer. This will also give us a metric to measure success. This schedule is intended to continue for one year. This will begin the last week of March 2018 and continue until March 2019.
Work with National Wildlife Federation to secure grant money to help support land use change projects in the capture zone	2/21/2018		City, Team, Farmers, Bridget Durst, Elizabeth Lillard	ongoing	Bridget Durst (CDI-DNR) and Elizabeth Lillard (NWF) submitted a grant pre proposal to National Fish and Wildlife, If this is accepted we will be asked to complete an application/proposal by May 10, 2018.
Apply for Sustainable Agriculture Research and Education Professional Development Program grant	02/21/2018	03/22/2018	City, Team, Farmers, Bridget Durst, Elizabeth Lillard	Pre-application has been submitted	This grant is for education and leadership through outreach and professional development

Work with National Wildlife Federation and Bridget Durst to apply for Resilient Cities Grant	2/14/2018		City, NWF, Bridget Durst	Pre-application was submitted on 2/14/2018	The NFWF Resilient Communities grant will provide project funding specific to the steps within this plan
Develop Source Water Protection effort around potential new well site	12/5/2018		City Council, Farmers	ongoing	Ida Grove will continue to find ways to protect the potential new well site in conjunction with the existing wells
Ask Ida County SWCD Commissioners to prioritize farmers in the capture zones	2/12/2018		Lorne Miller, Team, SWCD Commissioners	ongoing	Having SWCD Commissioners prioritize farmers in the capture zone will ensure that they receive cost share funding for conservation practices within the capture zone. The prioritization will move farmers to the front of the line for cost share programs.
Apply to REAP to designate the watershed around the Capture zone as a priority area	02/21/2018		City, Team, SWCD commissioners, NRCS and IDALS	ongoing	This will bring more focus on protecting the surface water (Maple River) that recharges the aquifer
Write monthly article for Iowa Farm Bureau Spokesman	02/21/2018		Gregor Ernst, Team	ongoing	Troy Lininger -Regional Manager for Ida County Farm Bureau offered to publish a monthly Source Water article regarding Source Water Protection in Ida County
Distribute RetaiN nitrate testing kits to farmers attending the Source Water Protection meetings	02/21/2018		Bridget Durst, City Council	ongoing	These will be available to any farmer interested in testing their tile line water.

Isotope testing to determine nitrate source	2/15/2018		City, Water Operator, Claire Hruby (IDNR)	ongoing	Isotope testing is a part of DNR's statewide ambient groundwater monitoring program. These tests can be helpful for determining nitrate sources but interpretation of the results should be done in context of other water quality information
Supply additional funding to farmers in the capture zone for cover crop seeding	02/15/2018		City Council, Farmers in capture zone	ongoing	Although there are programs available to farmers in the area for cost share programs to help with the cost of adding cover crops to a farming operation the City may be able to offer an extra incentive to farmers in the capture zone by helping to purchase seed.
Supply funding to farmers in the capture zone for educational opportunities regarding cover crops and other conservation practices (in-field and edge of field practices)	02/15/2018		City Council, Farmers in capture zone	ongoing	If farmers are willing to attend educational workshops offered by NRCS, O'Brien County SWCD, and other conservation groups the city may pay the farmers for mileage and cover costs of workshop fees
Use local paper, radio, city website, and Facebook page to update and inform public of Source Water Protection efforts in the area	03/08/2018		City Council	ongoing	This will help to keep the public informed and educated about Source Water Protection. This will also allow the public to become involved in these efforts

Helpful Resources

For more detailed information regarding system operations of Ida Grove Water Utility, wells, and aquifer data found within the Phase 1 Assessment and the Sanitary Survey conducted by and provided through the Iowa DNR please visit

<http://www.iowadnr.gov/Environmental-Protection/Water-Quality/Source-Water-Protection>.

Information and resources regarding source water and source water protection

- <https://sourcewatercollaborative.org/>

Information and resources regarding the use of cover crops

- <https://www.practicalfarmers.org/member-priorities/cover-crops/>
- https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_005818.pdf
- <https://www.extension.iastate.edu/alternativeag/covercrops.html>
- <https://www.iowalearningfarms.org/content/cover-crop-resources>

Information regarding urban conservation practices

- <https://www.iowaagriculture.gov/FieldServices/urbanConservationBMP.asp>
- https://www.iowalearningfarms.org/files/page/files/Urban_conservation_sheet.pdf
- <https://www.cleanwateriowa.org/urban/>