CITY OF ISLE

Wellhead Protection Plan

Part II

***Inventory of Potential Contaminant Sources**

*** Plan of Action to Manage Potential Contaminant Sources**

*** Alternate Water Supply & Contingency Strategy**

*** Wellhead Protection Program Evaluation Plan**

Approved by the Minnesota Dept. of Health on March 22, 2018
Accepted by the Isle City Council on May 8, 2018

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Acronyms found in this Plan:

MWI-Minnesota Well Index
DWSMA-Drinking Water Supply Management Area
ERA-Emergency Response Area
ISTS-Individual Sewage Treatment Systems
IWMZ-Inner Well Management Zone
MS4-Municipal Separate Storm Sewer System
NPDES-National Pollutant Discharge Elimination System
PCSI-Potential Contaminant Source Inventory
PWS-Public Water Supply
SWP-Source Water Protection
TMDL-Total Maximum Daily Load
WHPA-Wellhead Protection Area
WHP-Wellhead Protection

AGENCIES:

EPA-Environmental Protection Agency
DNR (MDNR)-Minnesota Department of Natural Resources
MDA-Minnesota Department of Agriculture
MDH-Minnesota Department of Health
MGS-Minnesota Geological Survey
MNTAP-Minnesota Technical Assistance Program
MPCA-Minnesota Pollution Control Agency
MRWA-Minnesota Rural Water Association
NRCS-Natural Resources Conservation Service
SWCD-Soil and Water Conservation District
USDA-United States Department of Agriculture
Mn/DOT-Minnesota Department of Transportation
USGS-Unites States Geological Survey

Public Water Supply Profile

Public Water Supply

Name City of Isle

Address 285 2nd Avenue South

Isle, MN 56342

Telephone Number 320-676-3641 Fax Number 320-676-1084

E-Mail info@cityofisle.com

Population Served 755 PWS ID Number 1480001

General Information

Unique Well Number(s) and Name(s) for Primary Well(s) 111761 – Well No. 3; 214762 – Well No. 2; The wells were constructed in 1978 and 1961 respectively.

Unique Well Number(s) and Name(s) for Emergency Well(s) 227363 – Well No. 1 (Built 1936)

Wellhead Protection Manager

Name Jason Minenko, Public Works Superintendent

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Wellhead Protection Team Members

Jason Minenko/ City of Isle; Ginger Marie/ City of Isle Council; Jamie Hubbell/ City of Isle; George Minerich/ Dept. of Health; Lynn Gallice/ Mille Lacs SWCD; Paul Strong/ Widseth Smith Nolting

Documentation List

Step	Date Performed
Scoping 2 Meeting 2 (4720.5340, subp. 1)	June 23, 2016
Scoping 2 Decision Notice (4720.5340, subp. 2)	July 7, 2016
Remaining Portion of Plan Submitted to Local Government Units (LGUs) (4720.5350)	May 17, 2017
Review Received From Local Government Units (4720.5350, subp. 2)	June 1, 2016
Consider Comments from Local Government Units (4720.5350, subp. 3)	July 18, 2017
Public Hearing Conducted on Part II WHP Plan (4720.5350, subp.4)	November 14, 2017
Part II WHP Plan Submitted to MDH (4720.5360, subp. 1)	December 15, 2017

City of Isle
Part II Executive Summary

This portion of the wellhead protection (WHP) plan for the City of Isle includes:

- the results of the Potential Contaminant Source Inventory,
- the Potential Contaminant Source Management Strategy,
- the Emergency/Alternative Water Supply Contingency Plan, and
- the Wellhead Protection Program Evaluation Plan.

Part 1 of the wellhead protection plan presented the 1) delineation of the wellhead protection area (WHPA) and the drinking water supply management area (DWSMA) and 2) the vulnerability assessments for the system's well(s) and the aquifer within the DWSMA. Part 1 of the WHP plan was developed by the Minnesota Department of Health (MDH) and approved in February, 2016. The boundaries of the WHPA/DWSMA are shown on Figure 1.

The **vulnerability assessment for the aquifer within the DWSMA** was performed using available information and indicates that the aquifer used by the system has a MODERATE VULNERABILITY RATING to contamination. The geologic setting in this area consists of Precambrian crystalline bedrock overlain by fine-grained glacial sand. Surface soils give the DWSMA moderate vulnerability because they consist of loam and muck, with some gravelly sand areas just to the southeast of the DWSMA. The main potential sources of contamination in this area are: 1) the gravel pit in the southeast corner of the DWSMA, 2) spills along State Highway 47, 3) agricultural chemicals such as fertilizers and pesticides, and 4) leaking storage tanks. Other wells are potential sources of contamination to the aquifer utilized by the City if they themselves are contaminated or poorly sealed. This information was presented to the WHP Team during the first team meeting held with on January 12, 2017, where the necessary requirements for the content of Part 2 were outlined and discussed in detail.

The **vulnerability assessment for the public water supply system's well(s)** indicates that City Wells No. 1 and No. 2 may be vulnerable to contamination because no grouting information is known. Well No. 3 does meet State Well Code specifications (Minnesota Rules, part 4725), meaning the well itself should not provide a pathway for contaminants to enter the aquifer used by the public water supply.

The information and data contained in Chapters 1-4 of Part II of the WHP Plan (hereafter referred to as Plan) support the approaches taken to address potential contamination sources that have been identified as potentially affecting the aquifer used by the public water supply City wells. The public is encouraged to focus on Chapters 1-4 in order to better understand why a particular management strategy is included in Chapter 5.

Chapter 1 addresses the required data elements indicated by the MDH in the Second Scoping Decision Notice (shown in Appendix B) and the data's degree of reliability. Pertinent data elements include information about the geology, water quality, and water quantity. The data elements and information supplied in Part 1 of the Plan are based on the assessment that portions of the aquifer providing drinking water for this system are highly vulnerable to contamination from sources, such as ISTSs, spills, and to a lesser extent stormwater infiltration. Another potential concern is wells which penetrate to the aquifer.

Chapter 2 addresses the possible impacts of changes in the physical environment, land use, and water resources could have on the public water supply. New residential development and expansion of the

gravel pit are anticipated in the 525.85-acre DWSMA over the next ten years, and the City of Isle has evaluated the support necessary to implement its wellhead protection plan.

The problems and opportunities concerning land use issues relating to the aquifer, well water, and the DWSMA along with those issues identified at public meetings, are addressed in **Chapter 3**. The moderate vulnerability of the aquifer and the high quality of water currently produced by the City's wells result in management concerns addressing all potential contaminants and issues discussed in plan development.

The drinking water protection goals set forth in this plan are listed in **Chapter 4**. In general, the City would like to 1) maintain or improve on the current drinking water quality, 2) increase public awareness of groundwater protection issues, 3) protect the aquifer, and 4) continue to collect data to supplement the existing geologic and hydrogeologic knowledge of the area, such as where all wells and contamination sources are located within the DWSMA in support of future efforts in wellhead protection planning.

The objectives and action plans for managing potential sources of contamination are contained in **Chapter 5**. Actions aimed toward educating the general public about groundwater issues, gathering information about all other wells, managing potential contaminant sources (the gravel pit, private wells, transportation spills, and agricultural contamination), and collecting data relevant to wellhead protection planning are the general focus.

Chapter 6 contains a guide to evaluate the implementation of the identified management strategies set forth in Chapter 5. The wellhead protection program for the City of Isle must be evaluated on an annual basis prior to the City's budgeting process.

An emergency/contingency plan has been prepared to address the possibility that the water supply system is interrupted due to either emergency situations or drought.

Chapter 7 is the Alternative Water Supply Contingency Strategy per Minnesota Rule 4720.5280. It details the necessary emergency contacts and public notification procedures in the event of a disruption to the water supply.

This portion of the Plan was prepared with assistance of several local units of government. A list of the local units of government that provided assistance and/or were notified of the WHP planning process and meetings is included in the Public Information Meeting Notice and are shown in Appendix F).

Chapter 1

Data Elements and Assessment (4720.5200)

I. Required Data Elements

A. Physical Environment Data Elements

1. Precipitation – As the DWSMA has been determined to be moderately vulnerable, precipitation is not considered a key data element. When precipitation occurs (both natural and artificial), it typically soaks into the ground because of the porosity of the soils. In the case of Isle the time of travel of water from the grounds surface to the wellhead is years to decades long.

2. Geology - This key data element is presented in the first part of the Plan. The following recommendations are presented regarding the collection of geologic information over the time this plan remains in effect. Additional geologic information, in particular of the bedrock geology, should be evaluated as additional borings are taken in the area. Groundwater level/chemistry monitoring between the gravel pit/tar and asphalt plant and the wellhead is highly recommended.

3. Soils – As the DWSMA has been determined to be moderately vulnerable, soils do not need to be thoroughly studied. As noted in the Executive Summary, the soils are largely silt loams and fine sandy loams.

4. Water resources –There is one public waterway in the DWSMA, Thain (Malone) creek. In addition, there are 31 wetland areas of various sizes have been identified within the DWSMA. Most of the DWSMA is in the Thain Creek watershed, with the entire watershed eventually draining into Mille Lacs Lake.

B. Land Use Data Elements

1. Land use - The City of Isle is a small community along the southern shores of Lake Mille Lacs in Minnesota. Most of the DWSMA is located within the City limits and is 525.85 acres in size. The land use of the DWSMA is largely agricultural or undeveloped forestland, with some residential areas in the northeastern portion of the DWSMA and some commercial areas in the northwest portion (see Figure 2). A notable exception is the gravel pit located in the southeast corner of the DWSMA. A summary table of land uses is provided below.

Table 1 – Land Use Types (Source Isle 2016 Zoning Map)

Land Use Type	Acres	Percentage
R-1 Low Density Residential	124.45	23.65
R-2 Medium Density Residential	79.02	15.02
R-3 High Density Residential	123.89	23.55
C-2 Light Commercial	8.64	1.64
A-R, Agriculture/ Rural Residential	190.14	36.14
Total	525.85	100

2. Public utility services - A map of transportation corridors is included as Figure 7. Minnesota Highway 47 runs along the western boundary of the DWSMA and are included on the map because it is a regional transportation corridor. A former railway corridor, the Soo Line, runs from northeast to southwest through the northwestern part of the DWSMA, but it has been converted to a trail.

   Most of the DWSMA is not served by city water and sewer. The exceptions being small areas in the south, along CSAH 47, and lightly developed areas around the wellheads.

   There are no petroleum pipelines in the DWSMA.

C. Water Quantity Data Elements

1. Surface water quantity – As the DWSMA is moderately vulnerable, surface water quantity does not need to be thoroughly reviewed. Groundwater modeling conducted in Part 1 of the Plan did not indicate a significant connection between Thain Creek and the City's wellheads, but stable isotope data taken from the city wells indicates a strong connection with the surface. There are no permitted water withdrawals from surface waters within the DWSMA. The amount of leakage from the creek to the aquifer could be better estimated with additional isotopic data. The data gathering, which is further discussed in Chapter 5, is to better understand the time of travel from the surface to the aquifer.

2. Groundwater quantity - Groundwater quantities are more than adequate for the amounts the City of Isle currently is permitted for under the groundwater appropriations program that is administered by the Minnesota Department of Natural Resources (DNR).

D. Water Quality Data Elements

1. Surface water quality - Surface water quality does not appear to have a significant impact on groundwater quality. Much of the area around Isle is agricultural land and, given the stratigraphy of the aquifer, the potential for contamination of the aquifer is moderate. Sampling of shallower wells and Thain Creek is recommended to determine the level of connectivity of the surface and surficial aquifer. The gravel pit in the southeastern corner of the DWSMA may also provide a conduit for contaminated surface water to infiltrate into the City's aquifer as it removes much of the overburden.

2. Groundwater quality - Groundwater quality data is available for the DWSMA from the monitoring of the City wells. Additional groundwater monitoring wells, in particular between the wellhead and gravel pit, are recommended.

E. Potential Contaminant Source Inventory Data Elements

1. Primary data sets – Potential contaminant source inventory data was acquired from the MDH Minnesota Well Index, MPCA "What's in My Neighborhood?", and the MDA "What's in My Neighborhood?" databases. The locations of potential contaminant sources within the DWSMA from these databases was confirmed/expanded upon with FSA aerial photographs (2015), as well as interviews with City Staff and a drive through of the DWSMA. Where possible, property ownership from the Mille Lacs County GIS service was used to couple unlocated potential contaminant sources with a parcel. Historical photos from the Minnesota Historical Aerial Photographs Online database (MHAPO) were also reviewed for any possible historical uses.
2. The potential contaminant source inventory was conducted and compiled by Paul Strong of WSN. The inventory was then reviewed and updated by the WHP team at a review meeting, with additional ground truthing and resident interviews being done by Isle city staff.
3. As there were relatively few potential contaminant sources within the DWSMA the MDH "25 Policy", which requires a minimum of 25 of each contaminant type/land use be inventoried and confirmed for "unworkably large data sets", was not utilized. A notable limitation of the data presented in the plan is the lack of digital well records for housing in the northeastern quarter of the DWSMA. This is due to the rapid pace of residential development and private well drilling in the northwestern quarter of the DWSMA, which is expected to continue at its current pace for the foreseeable future. The well locations for roughly half of these houses had to be guessed at with aerial photographs and a drive through.

II. Assessment of Data Elements

A. Use of the Well - General information describing this public water supply system is presented in the Source Water Assessment (SWA) found in Part 1 of this Plan. The City operates two primary wells with a capacity of 250 gallons per minute (Well 3) and one with a capacity of 165 gallons per minute (Well 2). The City also operates one 80 gallons per minute emergency well (Well 1). The average daily amount pumped was 55,309 gallons per day in 2016 with a maximum daily amount of 121,000 gallons in 2016. The water is chlorinated and fluoridated by a chemical feed in the well houses. No additional treatment is currently utilized. There are no other high capacity wells within the DWSMA.

B. Quality and Quantity of Water Supplying the Public Water Supply Well - Water quality monitoring results indicate some evidence of contamination from human-origin; the potential contaminants being tritium and chloride. The contaminants are found in very low concentrations, well below drinking water limits. At this time, problems with water quality are not an issue, as the system has enjoyed water quality that meets or exceeds standards in the Federal Safe Drinking Water Act. However, the presence of moderate levels of tritium (10.8 TU in 2013) shows a significant connection between surface water and groundwater. A better determination of the travel time between the

surface and wellheads could prove useful. The quantity of water in the aquifer appears adequate because of the large areal extent of the aquifer.

C. The Land and Groundwater Uses in the Drinking Water Supply Management Area - Land use in the DWSMA includes mainly low-density residential, undeveloped, and agricultural areas with one state and one county highway in the DWSMA. A sizeable gravel pit is located in the southeast corner of the DWSMA. The groundwater use in the DWSMA is primarily municipal, with some smaller residential and agricultural wells scattered throughout the DWSMA. There are 64 or more active water wells and nine sealed wells in the DWSMA. Four of the sealed wells are monitoring wells used by the City in the past for groundwater investigation and monitoring. Table 3 presents a summary of wells in the DWSMA. No water use conflicts are known within the DWSMA.

Table 2. Types of Wells Inventoried in the Drinking Water Supply Management Area

TYPE OF WELL	NUMBER	RISK ASSIGNMENT
Public Water Supply	**2**	**Low**
Monitoring	**0**	**Medium**
Irrigation (includes sandpoints)	**0+**	**Low**
Industrial	**1+**	**High**
Commercial	**1**	**Medium**
Domestic (includes sandpoints)	**59+**	**Medium**
Unused/Unsealed	**1+**	**High**
Class 5 Injection Wells	**None Identified**	**N/A**

Land use in the DWSMA has the greatest potential to affect the aquifer used by the City. The DWSMA zoning is included in Figure 2 and the Mille Lacs County Zoning Map is included as Appendix E. This area is a mix of residential, agricultural, and undeveloped land with the potential for further development. Any potential contaminant source including leaky wells, ISTSs, and transportation spills have the potential to affect the groundwater quality. Table 4 is a summary of potential contaminant sources in the DWSMA.

Table 3. Summary of Potential Contaminant Sources for City of Isle DWSMA

CONTAMINANT SOURCE	NO. IN DWSMA	LEVEL OF RISK
Petroleum Contamination Site (Closed)	**1**	**Low-Medium**
Wells	**64+**	**High**
Gravel Pit	**1**	**Low**
Tank Site	**3**	**Medium**

The wells are scattered throughout the DWSMA with greater concentrations in the northeast, where all residences have a private well. Sealed wells are concentrated in the western half of the DWSMA, in areas currently served by the City water supply. While the sealed wells are not considered a potential contaminant source they were included in the inventory in Table 2 for future reference.

The inner wellhead management zone was discussed and no concerns were highlighted. The (IWMZ) forms have been updated and are on file with the MDH.

The management strategies selected and documented in Chapter 5 of this Plan will focus on activities that have the most potential to impact the aquifer that the City of Isle is using for its drinking water supply. Below, in Table 4, is the prioritization of the management strategies for the City of Isle Wellhead Protection Plan.

The City and WHP Team will focus on educating citizens about their source of drinking water and wellhead protection concerns, issues and activities identified in this plan. In order for this plan to be effective in protecting and improving the City water supply, continued good working relationships with local residents and businesses; city, county and State resource staff will be needed in order to take the necessary steps to improve the city water and help avoid potential contamination of the public water supply. The City and WHP Team will work with Federal, State and local agencies and programs available to protect the wells and aquifer and in the management of potential contaminants identified in the DWSMA. City of Isle, Mille Lacs County, and MDH will continue to provide technical support and assistance to the WHP Manager for WHP activities identified in this plan.

Table 4: Prioritization for Chapter 5 Management Strategies

PRIORITY RANK	POTENTIAL CONTAMINANT SOURCE MANAGEMENT CATEGORY
Very High	Gravel Pit
High	Public Education
High	Well Management
High	Storage Tank Management
Medium	Inner Wellhead Management Zone
Medium	Transportation
Medium	Data Collection
Low-Medium	Stormwater
Low	Land Use Plans
Low	Shallow Disposal Wells

Chapter 2
Impact of Land and Water Use Changes on Public Water Supply Well(s) (4720.5220)

The city believes that the following changes to the physical environment, land use, surface water and groundwater may occur over the ten-year period this WHP plan is in effect. This is needed to determine whether new potential sources of contamination may be created in the future to identify future actions for addressing these anticipated sources. Land and water use changes may result in changes to groundwater use and quality.

The following table describes the anticipated or potential changes to the physical environment, land use, and surface water or groundwater in relationship to government programs and administrative, technical, and financial considerations on the City and the property owners within the DWSMA.

Table 5 - Expected Land and Water Use Changes

Expected Change	Impact of the Expected Change on the Source Water of the Aquifer	Influence of the Existing Government Programs and Regulations on the Expected Change	Administrative, Technical, and Financial Considerations due to the Expected Change
Physical Environment – Extension of water/sewer in the western part of the DWSMA.	There will be fewer potential contaminant sources if private wells are removed.	Water and sewer service will come to the area along Superior St and Highway 47.	The city needs to make sure well owners connect to city water and sewer. MDH needs to follow up on well sealing.
Land Use - Additional residential development along U.S. Route 47 and in the northeast of the DWSMA. Expansion of gravel pit in the DWSMA.	More impervious areas and household contaminants (i.e. lawn fertilizer) will be added in the DWSMA. Possibly lower water quality/quantity.	County/State stormwater retention requirements for new development may limit runoff into the DWSMA. The City has no authority over the gravel pit outside of the City limits.	City planning and zoning needs to review new developments to identify potential issues and solutions.
Surface Water Potential contamination from agriculture/gravel pit.	Lower groundwater quality.	Install monitoring wells/secondary containment for tanks at the gravel pit.	Need grants for additional monitoring.
Groundwater City will decommission two wells and install a new municipal well in the next ten years.	Greater water usage by the City and change in WHPA.	MDH well program will require new well installation meet well construction and wellhead protection requirements.	The City may need to revise their wellhead protection area delineation if the pumping capacity increases significantly.

Chapter 3
Issues, Problems and Opportunities (4720.5230)

I. Identify Water Use and Land Use Issues, Problems, and Opportunities – The Public Water Supplier has identified water and land use issues, problems and opportunities related to: 1) the aquifer serving the public drinking water supply well; 2) the quality of the Well Water; 3) the land or water use within the DWSMA. The city assessed the input from public meetings, data elements, and the status and adequacy of the City's official controls and plans on land use and water uses as well as those of local, state, and federal government programs. The results of these efforts are presented in the following table which defines the nature and magnitude of contaminant source management issues in the City's DSWMA. Identifying issue, problems, and opportunities as well as the resource needs enables the City to: 1) take advantage of opportunities that may be available to make effective use of existing resources, 2) set meaningful priorities for source management, and 3) solicit public support for implementing specific source management strategies.

II. Comments Received – There have been several occasions for local governments, state agencies, and the general public to identify issues and provide comments on the City's WHP plan. At the beginning of the planning process, local governments were notified the City of Isle was going to develop its WHP plan and were given the opportunity to identify issues as well as comment. A public information meeting was held to review the results of the Part I delineation process for the WHP area, DWSMA, and the vulnerability assessments. The meetings of the WHP committee to prepare this plan involved public and local government members who help identify issues and provide comments in developing the goals and strategies for the WHP plan. In addition, a public hearing was held before the completed plan was sent to MDH for state agency review and approval. The following issues were identified during the WHP Team meetings and from comment periods:

Table 6 - Issues, Problems, and Opportunities

Issues Identified	Impacted Feature	Problem Associated with the Identified Issue	Opportunity Associated with the Identified Issue	Adequacy of Existing Controls to Address the Issue
Gravel Pit located within the DWSMA	Aquifer Well Water Quality	Loss of overlying soil and retarding layers overlying the aquifer. Removal of sediments could provide a direct conduit to the deeper portions of the aquifer.	Promote development of the gravel pit outside of the DWSMA. Install monitoring wells to the northwest of the gravel pit.	The City does not have the authority to limit development of the gravel pit on Isle Harbor Township Parcels. The City and MDH have the authority to install monitoring wells in the DWSMA.
There are residential and commercial wells, some of which may be unused and unsealed within the DWSMA.	Aquifer Well Water Quality	Unused wells present a threat to the aquifer. Deeper unused wells could provide a direct conduit to the deeper portions of the aquifer.	Seal the known unused wells. The city can partner with the County to help property owners pay for the costs to seal unused wells and field locate wells in the DWSMA.	The city does not have the authority to require that unused wells be properly sealed. The MDH has authority to require well sealing.

Chemical (pesticide/fertilizer) use in or near the DWSMA	Aquifer Well Water Quality	Fertilizer and pesticide use that infiltrates or runs off may impact surface water quality, which could in turn affect the aquifer.	The city could partner with the DNR/ Dept. of Ag. to limit treatment permits. The city could partner with farmers to educate land owners in the DWSMA.	DNR or Dept. of Ag. have the authority to permit chemical and invasive species treatment permits.
Lack of surface water quality data	Aquifer Well Water Quality	The lack of surface water quality data for contaminants results in a knowledge gap.	The city can partner with the MDH, SWCD, MLWMG and other agencies for more sampling of surface water quality and determining the extent of influence on the aquifer.	There is limited funding for surface water sampling of contaminants.
ISTS systems and cisterns are present and possibly Class V injection wells	Aquifer Well Water Quality	Sewage and chemical seepage could lead to contamination of the aquifer the City uses.	The city can require the current ISTS users to hook up to City Sewer where available. The city can extend sewer into areas in the DSWMA not currently served.	The City has the authority to require ISTS users to hook up to City Sewer. The City has the authority to extend sewer and water into areas not served.
Transportation corridors within and on the margin of DWSMA	DSWMA Aquifer	Spills on transportation corridors could contaminate the aquifer.	The City should meet with Mn/DOT, MPCA, County Highway Dept., and Isle Fire Dept. to make them aware of the WHP area.	The city has no authority to prevent the transportation corridors from having traffic with hazardous materials.
Residential activities	DSWMA Aquifer	Improper disposal of household hazardous waste, fertilizer, or motor oil	The city can provide information to the public on potential impacts to the aquifer and drinking water	The city has the ability to educate the public through a variety of media (i.e. newspaper, internet, mailers, etc…)
Water Security	Water Supply System	Old well house locks may be insecure, as it is unknown if all keys are accounted for. There is no dedicated backup generator for the well pump. A loss of power would also mean a loss of water production.	The City can replace the well house locks and acquire a dedicated backup generator for the wells.	The City has the ability to replace well house locks and to acquire a backup generator.

Chapter 4
Wellhead Protection Goals (4720.5240)

The City of Isle has enjoyed a sufficient and safe drinking water supply in the past and proposes, through the implementation of this WHP Plan, to further protect drinking water quality and quantity. The city's drinking water supply is classified as vulnerable by the Minnesota Department of Health because of sandy soils and the shallow water table. Actions found in this plan focus on the education and implementation of activities relative to the potential contaminant sources identified in order to prevent well or aquifer contamination. The principal potential contaminant sources are: 1) the gravel pit, 2) leaky wells, 3) transportation spills, and 4) leaking aboveground/underground storage tanks. The goals of this wellhead protection plan are:

- **Maintain a safe and adequate drinking water supply for community residents;**
- **Prevent contaminants from reaching levels that present a risk to public health.**

The WHP team identified the following tasks to be utilized with the action items contained in this Plan:

- Educate public officials, landowners and the general public about the importance of wellhead protection to safeguard their public drinking water supply.
- Promote activities that protect the aquifer from which the City's drinking water supply is drawn and increase public awareness of the Wellhead Protection Program and groundwater protection issues.
- Develop partnerships with other units of government, non-profits, and individuals to address potential issues for the WHP area.
- Support future wellhead protection efforts through needed data collection.
- Increase general public awareness of groundwater problems that may affect their drinking water.
- Continue an active, community-wide, water conservation program.
- Assess the impact on the City's aquifer from existing and planned wells within the DWSMA.
- Properly maintain the public water supply system's well(s) and water distribution system.
- Address priority actions relating to management of wells, the gravel pit, unused wells, transportation spills, and stormwater infiltration located within the DWSMA.
- Address federal regulations regarding the inventory, use, and management practices for shallow disposal wells.

The City of Isle recognizes that County land use and water planning as well as a variety of Federal, State, and local resource programs are available to assist the City in protecting their drinking water supply.

Chapter 5
Objectives and Plan of Action (4720.5250)

I. ESTABLISHING PRIORITIES -- The aquifer supplying the system's drinking water has been identified as being moderately vulnerability to contamination from land use activities, such as leaking/unused wells, mining, USTs, ASTs, transportation spills, and shallow disposal wells if they are located in the DWSMA. A number of factors must be considered when WHP measures are selected and prioritized (part 4720.5250, subpart 3). Such factors include:

- Potential contamination of a public water supply well exceeding drinking water standards;
- Quantities of the potential contamination sources;
- Location of the potential contamination sources in relation to the wells;
- Capability of the geologic material to absorb a contaminant;
- Existence and effectiveness of existing official controls;
- Time required to obtain cooperation; and
- Administrative, legal, technical, and financial resources needed.

Therefore, the Wellhead Protection Planning Team would like to concentrate management efforts on the following factors to create awareness of groundwater protection and help prevent future contamination of the aquifer:

A. Inform the public about groundwater availability and water quality issues (Public Education)
B. Manage wells and Inner Wellhead Management Zone (Well Management)
C. Inform local personnel of highway in and near the DWSMA (Transportation)
D. Collect data needed to address local groundwater issues (Monitoring and Data Collection)
E. Obtain recognition of City's DWSMA in other plans and land use documents (Land Use Plans)
F. Ensure security and reliability of the City's water supply wells (Well Security)

The following objectives have been identified to support the goals of the WHP plan for the City of Isle:

- Create public awareness and general knowledge about the importance of WHP for maintaining a safe drinking water system.
- Implement actions that reduce the potential for contamination of the City's groundwater supply.
- Develop strategy to better understand the characteristics of the aquifer and surface water features in the DWSMA

II. MANAGEMENT STRATEGIES/ACTIONS TO IMPLEMENT WELLHEAD PROTECTION

Note that "Staff" refers to City staff in the Responsible Party/Cooperators column and time estimates in the Cost column assume the task is done by City staff.

Measure	**A. Public Education**	Responsible Party/ Cooperators	Cost	Implementation Time Frame	Prioritization
1	Improve City's website to have source water protection information available.	WHP Manager & staff	Estimate 40 Hours and $1000	2019	1
2	Provide letters to each of the residents in the DWSMA to educate and promote household hazardous waste collection	WHP Manager, Mille Lacs County, & summer intern	Estimate 120 Hours and $3000	2019	2
3	Information booth at Isle Town Meeting/Earth Day	WHP Manager, consultant, & staff	Estimate 16 Hours and $400	2019, Annually	3
4	Review management strategies and action in City newsletter/local newspaper	WHP Manager & staff	Estimate 20 Hours and $1,000	2020	4
5	Educate the local farmers and waterfront property owners about drinking water protection efforts and chemical use in and around Lake Mille Lacs and Thain Creek.	WHP Manager & staff	Estimate 40 hours	2020	6
6	Do groundwater and wellhead (Rural Water Association) education packet for middle &/or high school students	WHP Manager, MRWA, SWCD, & staff	Estimate 40 hours and $1,000	2025	5

Measure	**B. Well Management**	Responsible Party/ Cooperators	Cost	Implementation Time Frame	Prioritization
1	Inventory other wells within the DWSMA	WHP Manager, staff and summer intern	Estimate 40 hours and $1000	2020	1
2	Educate well owners on managing their wells	WHP Manager, staff and summer intern	Estimate 48 hours and $1200	2019	3

3	Partner with the County SWCD or the MDH for sealing unused wells	WHP Manager, SWCD, and County Water Planner	Estimate 40 hours per year and $1000	2020	4
4	Investigate and seal old municipal wells	WHP Manager and MDH staff	Estimate $5000	2025	2

Measure	**C. Water Security**	**Responsible Party/ Cooperators**	**Cost**	**Implementation Time Frame**	**Prioritization**
1	Acquire dedicated backup generators for the wells	WHP Manager	$18,000	2025	2
2	Install new locks on well houses	WHP Manager	$100 per lock	2022	1

Measure	**D. Transportation**	**Responsible Party/ Cooperators**	**Cost**	**Implementation Time Frame**	**Prioritization**
1	Send letter and DWSMA figure to Mn/DOT, County Highway Dept., and Isle Fire Dept. describing risks related to transportation corridors	WHP Manager	Estimate 4 hours	2019	1
2	Have an information meeting with agencies to educate and find out what emergency plans are for the area with respect to the WHPA.	WHP Manager and staff	Estimate 16 hours and $1000	2020	2
3	Provide some training to transportation agencies about the WHPA and best management practices in the DWSMA.	WHP Manager, consultant, and MDH staff	Estimate 16 hours and $2,000	2020	5

Measure	E. Monitoring and Data Collection	Responsible Party/ Cooperators	Cost	Implementation Time Frame	Prioritization
1	Complete time series water sampling of isotopes in Thain Creek and municipal well water to determine time lag for recharge to reach the City's wells. MDH to sample wells with standard assessment package.	WHP Manager, consultant, and MDH staff	Estimate 40 hours and MDH Costs	2023	3
2	Conduct sampling of river water and well water for sulfate, copper, and pesticides	WHP Manager, consultant, and MDH staff	Estimate 20 hours and $1,500	2026	6
3	Install a stream gage on Thain Creek in the DWSMA	WHP Manager, SWCD, and MDH staff	Estimate 40 hours and $10,000 then 8 hours per year	2026	5
4	Request MDH update to IWMZ inventory	WHP Manager and MDH staff	Estimate 8 hours and $200	2026	1
5	Request MDH funding to video well casings during well pump removal/repair.	WHP Manager and MDH staff	Estimate 8 hours per session and $2,200	As needed	2
6	Install monitoring wells between the gravel pit operation and the City wells.	WHP Manager, consultant, and MDH staff	Estimate $6,000	2025	4

Measure	F. Land Use Plans	Responsible Party/ Cooperators	Cost	Implementation Time Frame	Prioritization
1	Incorporate DWSMA into City of Isle Comprehensive Plan	WHP Manager and Staff	Estimate 40 hours and $1000	2019	1
2	Explore amending zoning ordinances for controlling land uses in the DWSMA to limit new water supply wells or limit the type of commercial development	WHP Manager, City Council, & staff	Estimate 20 hours and $2,000	2019	3

4	Add the DWSMA map to the Mille Lacs Water Plan	City staff and County Water Planner	Estimate 6 hours and $300	2019	3
5	Meet with gravel pit staff and discuss monitoring and expansion plans.	City Staff, Gravel Pit Staff	Estimate 3 hours	2019	4

Chapter 6
Evaluation Program (4720.5270)

The success of the wellhead protection management program must be evaluated in order to determine whether the plan is actually accomplishing what the City of Isle set out to do. The evaluation program has the following goals:

- Track the implementation of the objectives identified in Chapter 5 of this Plan;
- Determine the effectiveness of specific management strategies regarding the protection of the public water supply;
- Identify possible changes to these strategies which may improve their effectiveness; and
- Determine the adequacy of financial resources and staff availability to carry out the management strategies planned for the coming year.

The following activities will be implemented to meet the above goals:

1) The public water supply system will continue to cooperate with MDH in the annual monitoring of the water supply to determine whether the management strategies are having a positive effect and to identify water quality problems that may arise which must be addressed.
2) Members of the wellhead protection team, the governing authority, and the WHP plan manager will travel through the drinking water supply management area on a regular basis to identify any changes in land use or potential contaminant source management practices which may adversely impact the public water supply.
3) The wellhead protection team will meet on an as-needed basis, with a minimum of one meeting per year, to review the results of each strategy implemented during the previous plan year and identify and discuss whether modifications are needed for those strategies and additional strategies for the coming plan year.
4) The City of Isle will prepare a written self-assessment report every 2.5 years to the MDH regarding progress in implementing the wellhead protection management objectives of this Plan. The reports will be compiled and used to review the overall progress in implementing source management strategies when the system's wellhead protection plan is updated in 10 years. A copy of the report will be sent to the Minnesota Department of Health Source Water Protection Unit in St. Paul and another copy will be placed in the system's Wellhead Protection file.
5) The wellhead protection plan manager and the wellhead protection team will discuss/evaluate opportunities to implement activities in their plan through participation in the MDH Source Water Protection (SWP) Grants Program.

Chapter 7
Alternative Water Supply Contingency Strategy (4720.5280)

A wellhead protection plan must have a contingency strategy that addresses disruptions of the water supply caused by contamination or mechanical failures of the public water supply system. The contingency strategy must identify an alternative water supply, have a water user prioritization, identify emergency contact information, describe emergency procedures, and discuss ways to reduce vulnerability of the water supply system. The MDH allows an option to include in the WHP plan the "Water Supply Plan" completed for the Dept. of Natural Resources under the water appropriation permit requirements. The Water Supply Plan must be current and must be approved by the DNR.

ALTERNATIVE WATER SUPPLY; CONTINGENCY STRATEGY

Minnesota Rules 4720.5280

I. PURPOSE

The purpose of this Contingency Plan is to establish, provide, and keep updated certain emergency response procedures and information for the City of Isle. The Plan may become vital in the event of a partial or total loss of public water supply services as a result of a natural disaster, chemical contamination, or act of war.

II. PUBLIC WATER SUPPLY CHARACTERISTICS

A. Current Supply Source

	Well Number 3	Well Number 2	Well Number 1
Unique Well Number	**00111761**	**00214762**	**00227363**
Use of Well	**Primary**	**Primary**	**Emergency**
Well Depth (ft.)	**113**	**114**	**159**
Well Diameter (in.)	**20 reducing to 12**	**6**	**10 reducing to 8**
Well Capacity (gpm)	**250**	**165**	**80**
Current Production (gpm)	**240**	**140**	**0**

B. Treatment

The City of Isle utilizes Chlorine (liquid and gas) and Fluoride addition as well as a polyphosphate feed for manganese control.

C. Storage and Distribution

The system currently contains one 50,000 gallon elevated storage tower and one 125,000 gallon elevated storage tower, in addition to the necessary piping and valves. The water system contains 463 connections. Some of the distribution system is looped but the system does have six dead ends.

D. Maps/Plans

The Isle Water Utility has up to date maps of the water system. These maps are available and on file at the Isle City Hall. Additional sets of these maps are stored off site at Widseth, Smith & Nolting, Inc. in the event of a fire, natural disaster, or other catastrophic event impacting Isle's Water Utility.

III. PRIORITY OF WATER USERS DURING WATER SUPPLY EMERGENCY

Water Use Category	Maximum Daily Use (gpd)*	Minimum Daily Use (gpd)*
Residential	**183,260**	**74,512**
Commercial	**111,740**	**45,832**
Total	**295,000**	**120,344**

*- Maximum and minimum daily use were based on usage during the summer months (June-August) as the summer population is several times larger than the winter population. Future expansion into previously unserved areas will increase both the maximum and minimum daily use.

IV. ALTERNATIVE WATER SUPPLY OPTIONS

A. Surface Water Sources and Treatment Needs

Mille Lacs Lake is the closest surface water supply. The Minnesota National Guard can provide emergency treatment of surface waters for human consumption. The following procedure is required to request assistance.

- Contact the Mille Lacs County Sheriff at 911 or (320) 983-8250 to request assistance from the Minnesota National Guard.
- The sheriff contacts the Minnesota National Guard, Division of Emergency Management, the State Duty Officer at (800) 422-0798, and the Community Support Group at (651) 282-4013 to request assistance.
- The Minnesota National Guard has the ability to provide Reverse Osmosis Water Purification Units (ROWPU) capable of supplying 1,500 gallons-per-hour, or 25 gallons-per-minute of potable water.

- Residents will be notified by the City representative about distribution as indicated in the Information Plan below.
-

B. Bottled Water Supplies, Delivery, and Distribution

The following vendors can be contacted to provide bottled water in the event of an emergency. These vendors are capable of providing bulk, bottled water in five-gallon containers. Truckload and pallet quantities area usually on hand and available.

Vendor: Viking Coca-Cola Bottling Co, Baxter, MN

Phone: (218) 829-2204

C. System Interconnects with Other Water Supplies

There are no options for the City of Isle's water system to interconnect with an existing potable water system.

D. New Well

The City of Isle would contract a well driller that could potentially drill an emergency well if necessary.

E. Emergency or Backup Wells

Well Number 1 (unique number) is being used as a backup well.

F. Emergency Water Treatment System

N/A

G. Source Management (blending)

The City has no existing options for blending water supplies. If equipment was available and it was deemed necessary, the City of Isle could blend groundwater and surface water from Mille Lacs Lake so long as treatment of both sources met MDH health and safety requirements and the act of blending would not be expected to produce harmful byproducts. A more permanent solution would be the drilling of a new well, with blending of two or more groundwater resources. The potential for creating harmful byproducts would be reduced and meeting MDH requirements would be much easier.

V. INVENTORY OF AVAILABLE EMERGENCY EQUIPMENT AND MATERIALS

Description	Owner	Telephone	Location
Well Repair	A & M Drilling	320-676-3386	1081 395th St, Isle, MN 56342

Pump Repair	MN Pump Works	877-645-8004	1 Cannon St, Dundas, MN 55019
Electrician	Becker Electric	320-676-1000	1670 White Cloud Dr, Isle, MN 56342
Plumber	4G Leech Plumbing	320-339-8020	
Backhoe	R.C. Habeck	320-676-3504	3714 State Highway 27 Wahkon, MN 56386
Backhoe	Larson Enterprises	320-676-8661	1441 Old Highway 66, Islem MN 56342
Chemical Feed	Hawkins Inc.	612-331-6910	2381 Rosegate Roseville, MN 55113
Meter Repair	Hawkins Inc.	612-331-6910	2381 Rosegate Roseville, MN 55113
Backup Generator	Geyer Rentals	888-440-7368	1816 W St Germain St, St Cloud, MN 56301
Valve Repair	Hawkins Inc.	612-331-6910	2381 Rosegate Roseville, MN 55113
Water Tower Repair	Henry Waterworks	320-259-4134	510 9th Ave S, Sauk Rapids, MN 56379

VI. NOTIFICATION PROCEDURES

A. Lead Coordinating Agency

Water System Personnel	Name	Work Telephone	Home Telephone
Mayor	Ernie Frie	320-676-3641	320-676-1873
Council Member	Ginger Houle	320-676-3641	320-676-8131
Council Member	Bob Koelfgren	320-676-3641	320-260-6196
Council Member	Don Dahlen	320-676-3641	320-676-3887
Council Member	Terry Coe	320-676-3641	320-676-1006
State Incident Duty Officer	N/A	800-422-0798	-

County Emergency Director	Mille Lacs County Sheriff's Office	320-983-8250	888-860-8250
Fire Chief	David Miller	320-676-3641	320-761-3283
Police Chief	Mark Reichel	320-676-8507	320-676-8507
System Operator	Jason Minenko	320-676-3641	320-630-6250
Ambulance	MLHS Ambulance	320-532-2440	320-532-3154
Hospital	Mille Lacs Health System	320-676-3661	-
Power Company	East Central Energy	800-254-7944	-
Highway Department	MnDOT - Brainerd	218-828-5700	-
Telephone Company	Frontier	800-921-8101	-
Neighboring Water System	City of Wahkon Public Wastewater	320-495-3441	-
MPCA Groundwater Division	MPCA - Brainerd	218-828-2492	-
MRWA Technical Services	Ruth Hubbard	800-307-6792	-
MDH Public Water Supply	MDH – St. Cloud	320-233-7300	-

B. Incident Assessment Team

Responsible Party	Name	Work Phone	Home Phone
Mayor	Ernie Frie	320-676-3641	320-676-1873
Council Member	Ginger Houle	320-676-3641	320-676-8131
Council Member	Bob Koelfgren	320-676-3641	320-260-6196
Council Member	Don Dahlen	320-676-3641	320-676-3887
Council Member	Terry Coe	320-676-3641	320-676-1006
Fire Chief	David Miller	320-676-3641	320-761-3283
Police Chief	Mark Reichel	320-676-8507	320-630-1913
County Emergency Director	Mille Lacs County Sheriff's Office	320-983-8250	888-860-8250

Hazardous Materials Response	Isle Fire Department	911	911
System Operator	Jason Minenko	320-676-3641	320-630-6250

C. Public Information Plan

1. Primary spokesperson for the media and/or public comment in the event of an emergency or contamination incident.

Name:	Ernie Frie	Jason Minenko
Title:	Mayor	Public Works Superintendent
Address:	1855 White Cloud Dr	645 Poplar St.
Work Phone:	320-676-3641	320-676-3641
Home Phone:	320-676-1873	320-630-6250

2. Information checklist to be conveyed to the public

Name of Water System:_____

Contaminant of concern and date:_____

Source of contamination:_____

Public health hazard (Y/N):_____

Steps the public can take (boil water, etc…):_____

Steps the water system is taking (system flushing, etc…):_____

Other information:_____

3. Media Contacts

Media	Name	Telephone	Address
Local Newspaper	Mille Lacs Messenger	320-676-3123	280 West Main PO Box 26 Isle, MN 56342
Radio 1	WCMP	320-629-7575	15429 Pokegama Lake Road Pine City, MN 55063
Radio 2	KLIZ	218-829-1075	13225 Dogwood Drive South Baxter, MN 56425

VII. NOTIFICATION PROCEDURES

A. Mitigation

1. Infrastructure maintenance/upgrades/maps:

The City of Isle does have annual flushing and turning, along with any hydrant repairs and/or painting as needed. As upgrades are done to the system, maps are updated and reprinted.

2. Regular inspection of tower, well, pump house:

The water treatment plant is inspected daily. The city wells and pumps are inspected on a daily basis. The water tower is inspected weekly or on an as needed basis.

3. Staff emergency training:

Staff receive Haz Mat training through the fire department and attendance at the MRWA Conferences.

4. Site new backup well:

The City is looking into having another well installed in the next ten years.

5. System valving to isolate problem:

The City and WSN have maps that show the locations of main hydrant and service valves.

6. Sanitation procedures for construction/repairs:

Shock chlorination by contractors is undertaken after the completion of any new construction or repairs. The area is then flushed and sampled for coliform bacteria.

7. Other:

All services are metered, which allows for precise management during a crisis.

B. Conservation

1. Water Meters:

Water meters are installed when service is turned on and read on a monthly basis. The utility can track water use by connection.

2. Public Education

A Consumer Confidence Report is provided annually to residents.

3. Rate Structure:

A connection fee of $1.53 is charged per connection, with an additional charge of $6.09 per 1000 gallons.

References:

- Wellhead Protection Plan, Part I, Wellhead Protection Area Delineation, Drinking Water Supply Management Area Delineation, Well and Aquifer Vulnerability Assessment for City of Isle
- Comprehensive Plan is from http://www.co.mille-lacs.mn.us/comprehensiveplan
- MPCA tanks detail found at: http://www.pca.state.mn.us/index.php/waste/waste-and-cleanup/waste-management/tank-compliance-and-assistance/minnesota-aboveground-/-underground-storage-tank-site-search-data.html)
- MPCA multiple activities sites detail found at: http://pca-gis02.pca.state.mn.us/wimn2/index.html
- Wellhead Protection Rule at: http://www.health.state.mn.us/divs/eh/water/swp/whp/rules.htm
- Mille Lacs County GIS is from http://www.co.mille-lacs.mn.us/mapping
- Minnesota Historical Photos were from https://www.lib.umn.edu/apps/mhapo/
- Pipeline locations were from https://pvnpms.phmsa.dot.gov/PublicViewer/

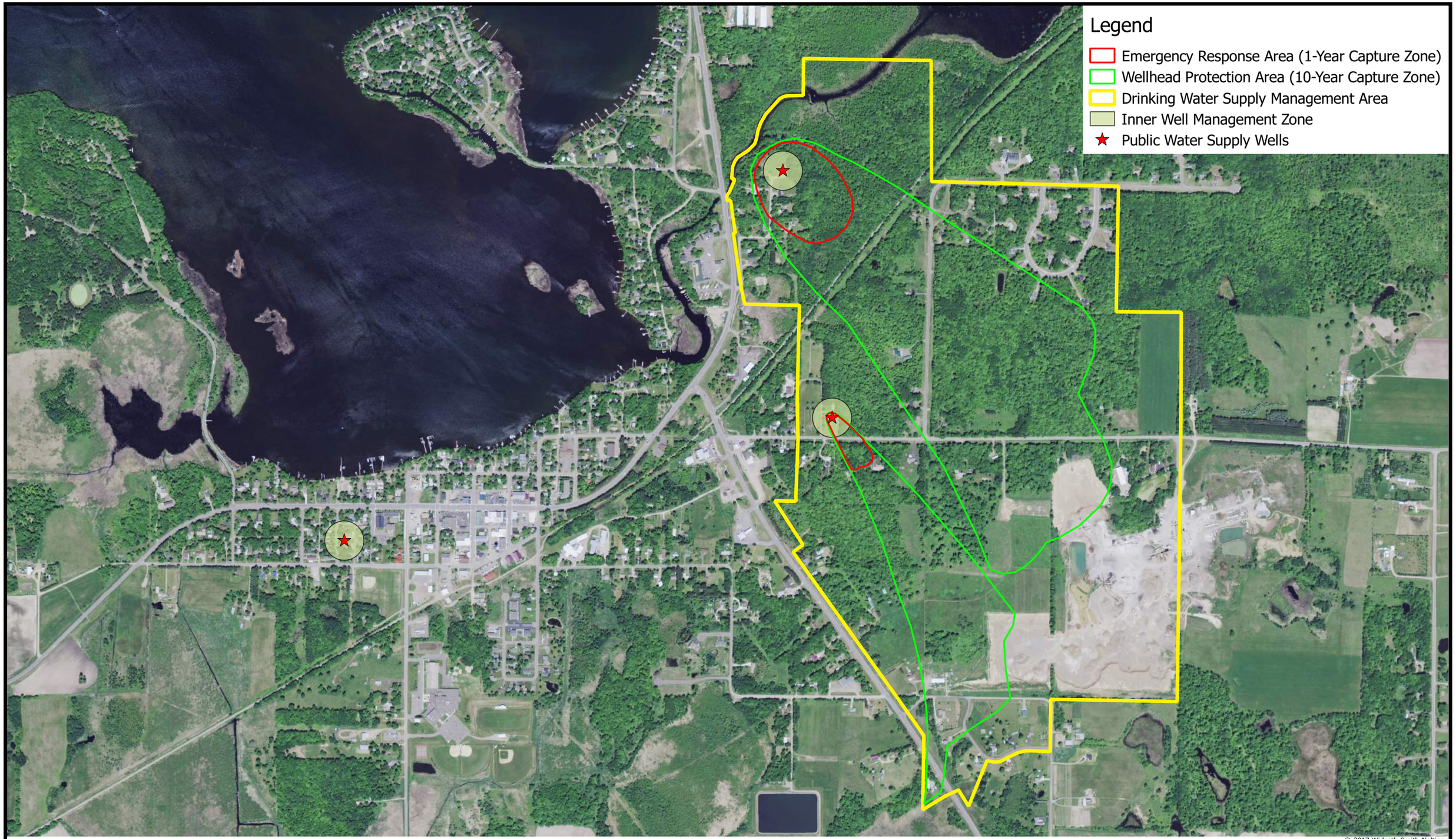


Image: FSA Aerial (2013)

J:/0169B-City of Isle/0169B0005-Wellhead Protection Plan/0169B0005.000-Isle Part II Wellhead Protection Plan/GIS/Isle_WHPP2.qgs

WIDSETH SMITH NOLTING

NORTH

0 500 1000

(IN FEET)

ISLE WELLHEAD PROTECTION PLAN PART 2
CITY OF ISLE
ISLE, MN

DWSMA and WHPA Overview

Date: JUNE 2017

JOB No. 0169B0005.000

FIGURE 1

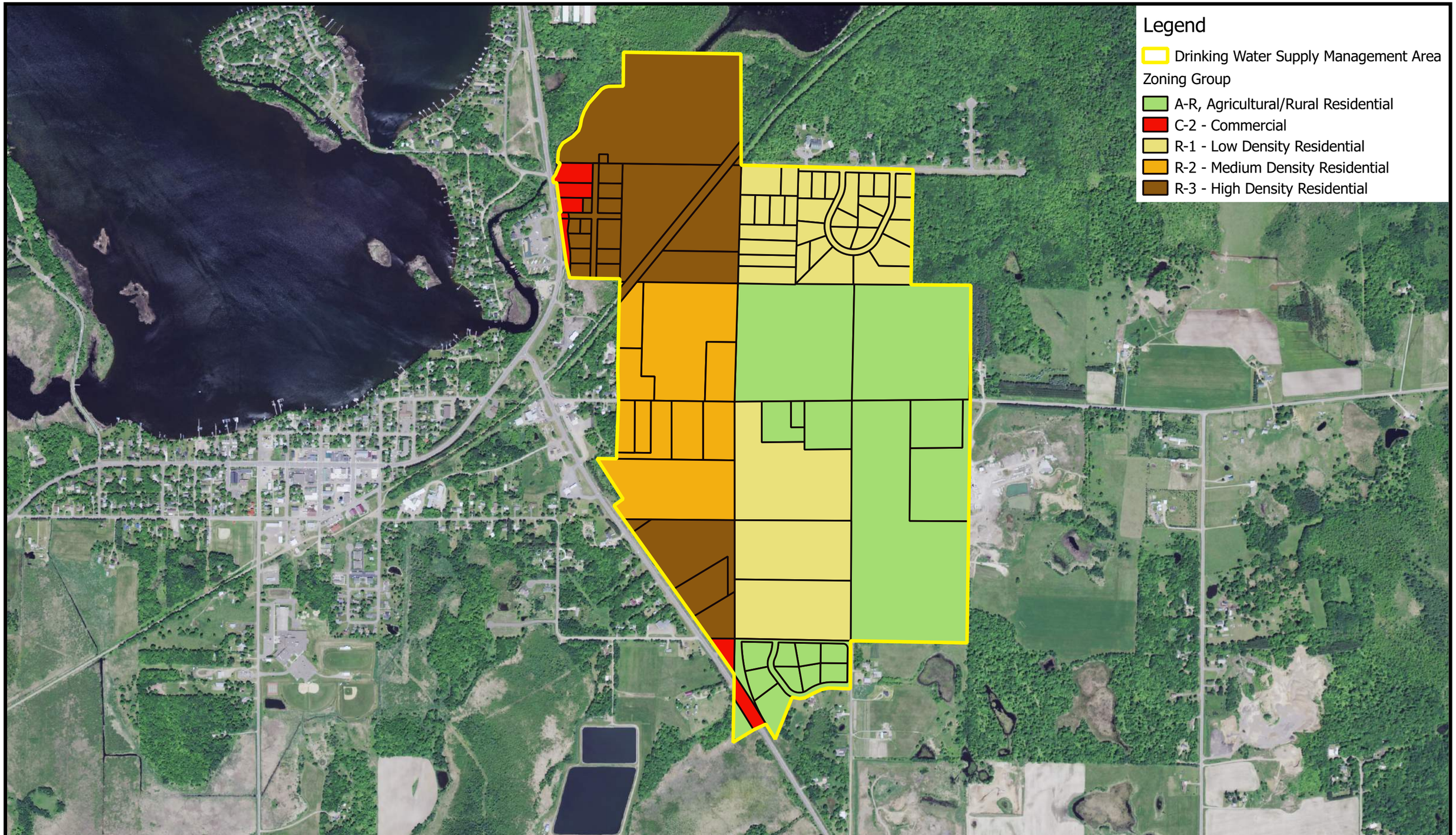


Image: FSA Aerial (2013)

J:/0169B-City of Isle/0169B0005-Wellhead Protection Plan/0169B0005.000-Isle Part II Wellhead Protection Plan/GIS/Isle_WHPP2.qgs

WIDSETH SMITH NOLTING

NORTH

0 500 1000 1500

(IN FEET)

ISLE WELLHEAD PROTECTION PLAN PART 2
CITY OF ISLE
ISLE, MN

DWSMA Zoning Map

Date: JUNE 2017

JOB No. 0169B0005.000

FIGURE 2

Legend

- Drinking Water Supply Management Area
- Isle Township Parcel Boundaries
- Public Water Supply Wells
- DWSMA Wells

Image: FSA Aerial (2013)

NORTH

0 1000 2000 3000

(IN FEET)

WIDSETH SMITH NOLTING

ISLE WELLHEAD PROTECTION PLAN PART 2
CITY OF ISLE
ISLE, MN

PCSI - DWSMA Well Locations

Date: JUNE 2017

JOB No. 0169B0005.000

FIGURE **3**

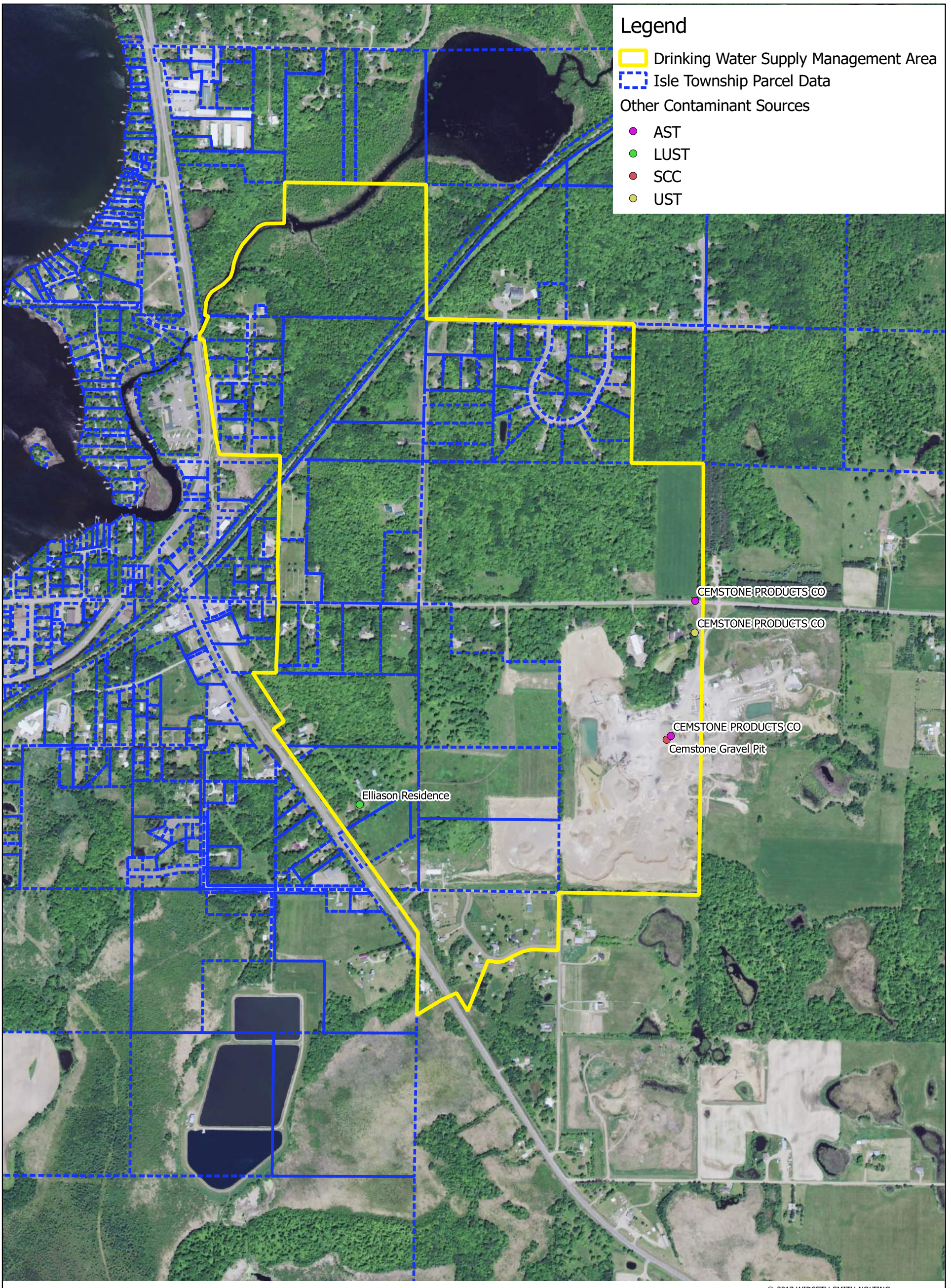


Image: FSA Aerial (2015)
Contaminant Sites: MPCA WIMN and City Interviews

NORTH

0 1000 2000 3000

(IN FEET)

WIDSETH SMITH NOLTING

ISLE WELLHEAD PROTECTION PLAN PART 2
CITY OF ISLE
ISLE, MN

PCSI - Other Contaminant Sources

Date: JUNE 2017

JOB No. 0169B0005.000

FIGURE **4**

Legend

- Drinking Water Supply Management Area
- County Boundaries
- Township Boundaries
- Section Boundaries
- City of Isle Limits

Aitkin County

Mille Lacs County

Kanabec County

Image: FSA Aerial (2013)

J:/0169B-City of Isle/0169B0005-Wellhead Protection Plan/0169B0005.000-Isle Part II Wellhead Protection Plan/GIS/Isle_WHPP2.qgs

WIDSETH SMITH NOLTING

NORTH

0 1000 2000 3000

(IN FEET)

ISLE WELLHEAD PROTECTION PLAN PART 2
CITY OF ISLE
ISLE, MN

Political Boundaries

Date: APRIL 2017

JOB No. 0169B0005.000

FIGURE 5

Legend

Drinking Water Supply Management Area

DWSMA Roads

Primary Transport Corridor

Secondary Transport Corridor

Roadways Outside DWSMA

Grand Ave

Grace St

Maben Ave N

Indian Mission Rd

Maple St

Sunset Dr

Superior St

410th St

Torchlight Rd

MNTH 47

Image: FSA Aerial (2013)
Roadways: Mille Lacs MnDOT Shapefile (Orthorectified)

NORTH

0 1000 2000 3000

(IN FEET)

WIDSETH SMITH NOLTING

ISLE WELLHEAD PROTECTION PLAN PART 2
CITY OF ISLE
ISLE, MN

Transportation Corridors

Date: JUNE 2017

JOB No. 0169B0005.000

FIGURE **6**

EXISTING WATER DISTRIBUTION SYSTEM

Preliminary Engineering Report
Isle, MN

Lake Mille Lacs

Lake St

Main St

Isle St W

E Isle St

Oak St

Superior St

410th St

400th St

Moose Dr

5th Ave

30th Ave

Maben Ave S

N Service Dr

Malone Isl Dr

Grand Ave

Torchlight Rd

MNTH 47

OLD WATER TOWER
HIGH=1397.62
LOW = 1388.62

WATER TOWER
HIGH=1397.00
LOW = 1388.00

WH-1

WH-2

WH-3

Stagnant water concerns noted

Stagnant water concerns noted

Stabilization Ponds

Industrial Park

11

12

Malone Island Inset

Stagnant water concerns noted

Lake Mille Lacs

N

W

E

S

0 800 1,600

Feet

1 inch = 800 feet

- Water Tower
- Well House
- Valve
- Hydrant
- Water Distribution
- Industrial Park
- Municipal Boundary
- Parcel Boundary

City of Isle
Mille Lacs County
Minnesota

Date: 7/18/2016

data: ESRI world base, Mille Lacs Co parcels 8/14

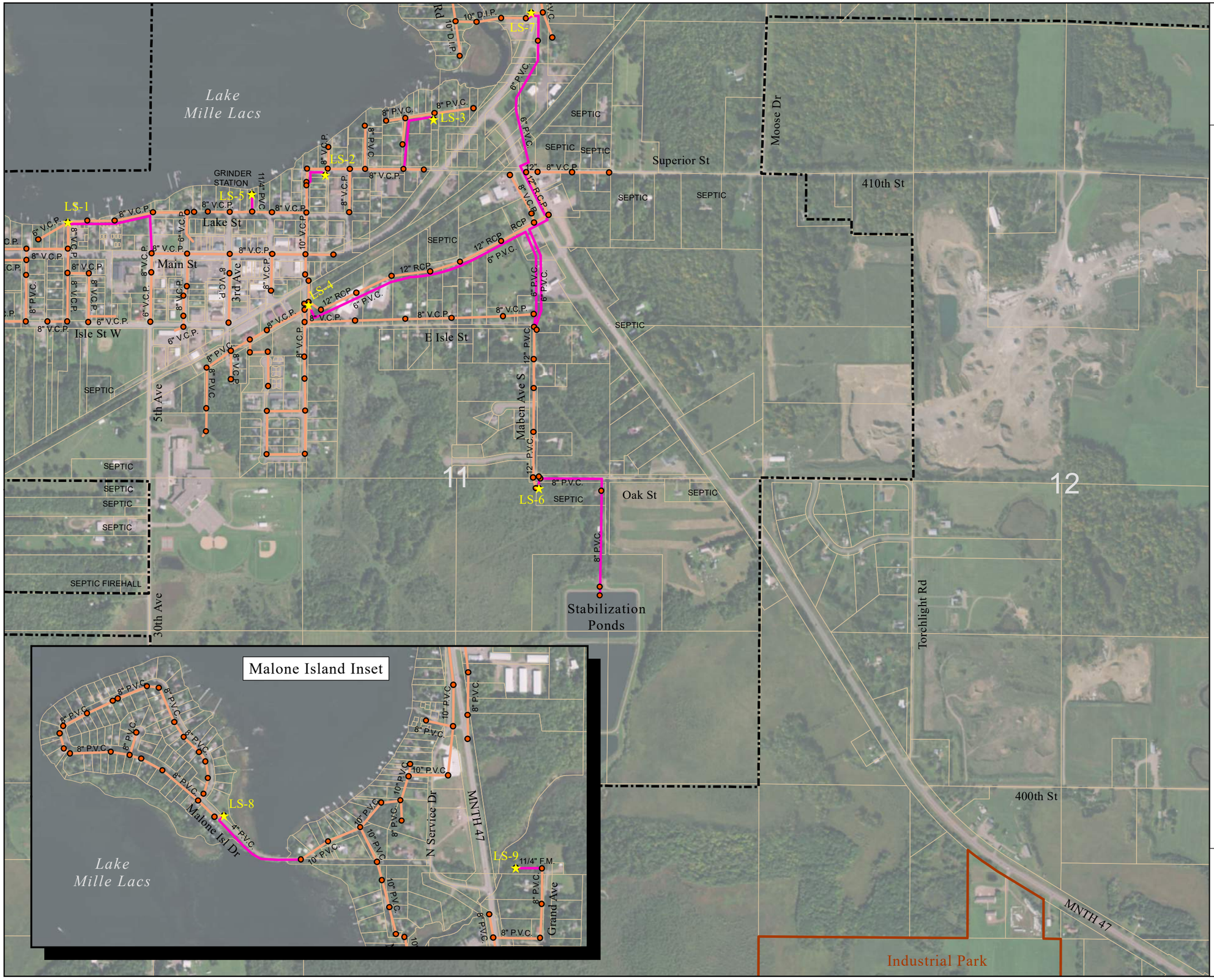
The existing utility mapping data has been provided by others. The information contained herein is for estimating and graphical purposes. A survey will be completed for verification of existing utilities prior to preparation of final construction plans.

WIDSETH SMITH NOLTING

FIGURE 7

EXISTING WASTEWATER COLLECTION SYSTEM

Preliminary Engineering Report
Isle, MN



N
W E
S

0 800 1,600
Feet

1 inch = 800 feet

- Lift Station (LS)
- Manhole
- Forcemain
- Gravity System
- Industrial Park
- Municipal Boundary
- Parcel Boundary

City of Isle
Mille Lacs County
Minnesota

Date: 8/2/2016

data: ESRI world base, Mille Lacs Co parcels 8/14

The existing utility mapping data has been provided by others. The information contained herein is for estimating and graphical purposes. A survey will be completed for verification of existing utilities prior to preparation of final construction plans.

WIDSETH SMITH NOLTING

FIGURE 8

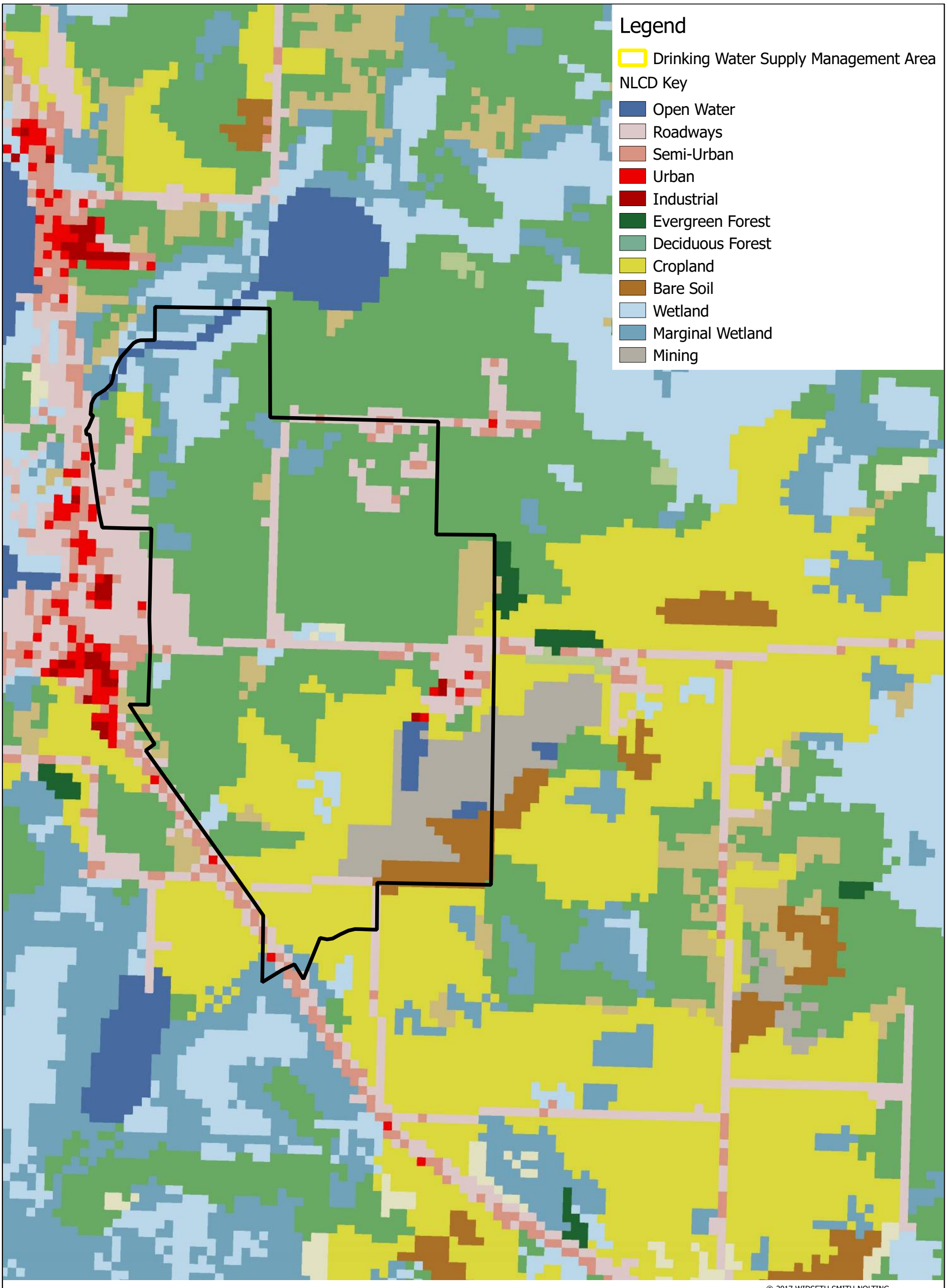


Image: NLCD (2011)

NORTH

0 1000 2000 3000

(IN FEET)

WIDSETH SMITH NOLTING

ISLE WELLHEAD PROTECTION PLAN PART 2
CITY OF ISLE
ISLE, MN

LAND USE AND COVER

Date: JUNE 2017

JOB No. 0169B0005.000

FIGURE **9**

APPENDIX A

WHPA and DWSMA DELINEATIONS AND VULNERABILITY ASSESSMENTS

1. Vulnerability Assessments

The Part I wellhead protection plan includes the vulnerability assessments for the city of Isle's wells and DWSMA. These vulnerability assessments are used to help define potential contamination sources within the DWSMA and select appropriate measures for reducing the risk that they present to the public water supply.

1.1 Assessment of Well Vulnerability

Both of the city's primary wells are considered vulnerable to contamination that may occur at the land surface. The city's emergency well, Well 1 (227363), is not considered vulnerable to land use activities. The vulnerability assessments for each well used by the city of Isle are listed in **Error! Reference source not found.** and are based upon the following conditions:

1) Well construction of Well 3 (111761) meets current State Well Code specifications (Minnesota Rules, part 4725), meaning that the well itself should not provide a pathway for contaminants to enter the aquifer used by the public water supplier. Well construction may not meet current State Well Code specifications (Minnesota Rules, part 4725) at Wells 1 and 2 (227363 and 214762) because no grouting information is known. If the well was not grouted, it has the potential for acting as a conduit for flow of surface water and contaminants into the buried aquifer. To date, no evidence of this has been identified and it is likely that the cable tool method was used during construction of these wells, which minimizes that risk.
2) The geologic conditions at the well sites include a cover of clay-rich geologic materials over the aquifer, however it is not sufficient to retard or prevent the vertical movement of contaminants.
3) None of the human-caused contaminants regulated under the federal Safe Drinking Water Act have been detected at levels indicating that the well itself serves to draw contaminants into the aquifer as a result of pumping (Alexander and Alexander, 1989).
4) Water samples were collected from Wells 2 and 3 (214762 and 111761) and were analyzed for tritium, nitrate, chloride and bromide. Tritium was detected, indicating post-1953 water and confirming the vulnerable nature of the wells (Alexander and Alexander, 1989). In addition, the chloride/bromide ratios confirm that the wells have been impacted by land-use activities (Mullaney, et.al, 2009). It should be noted, however, that nitrate was not detected in either well, indicating the lack of impact to the wells from nitrogen sources.

   The city's emergency well, Well 1 (227363), is not considered vulnerable to land use activities. No tritium was detected, indicating the absence of young (i.e., post-1953) water and confirming the non-vulnerable nature of the well.

   The results are shown in Table 9. Other chemistry results related to the vulnerability assessment are provided in Appendix A.

Table 1 - Isotope and Water Quality Results

Well	Tritium (TU)	Nitrate (mg/L)	Chloride (mg/L)	Bromide (mg/L)	Chloride/Bromide ratio)
Well 2 (214762)	10.8 11/07/2013	< 0.05 06/24/2014	8.1 11/07/2013	0.0151 11/07/2013	536 11/07/2013
Well 3 (111761)	4.2 11/07/2013	<0.05 10/22/2014	9.48 10/22/2014	0.0193 10/22/2014	491 10/22/2014
Well 1 (227363) *emergency*	*< 0.8 11/13/1991*	< 0.05 6/24/2014	*not sampled*	*not sampled*	*not sampled*

1.2 Assessment of Drinking Water Supply Management Area Vulnerability

The vulnerability of the DWSMA is shown in Figure 7 and is based upon the following information:

1) Isotopic and water chemistry data from wells located within the DWSMA indicate the aquifer contains water that has detectable levels of tritium indicating that post-1953 water is recharging the aquifer.
2) Review of the geologic logs contained in the CWI database indicates the aquifer exhibits a geologic sensitivity ranging from moderate to low throughout the DWSMA (Figure 7).
3) Low levels of arsenic, which is a naturally-occurring contaminant, has been detected in the water from the city's primary wells at concentrations ranging from 1.1 to 2.1 ug/l. The presence of a naturally-occurring contaminant does not indicate that there is a direct pathway between the aquifer and potential contamination sources that occur at or near the land surface. No arsenic has been detected at the city's emergency well, Well 1 (227363).

This combination of factors suggests that the clay-rich layer found between the city's aquifer and the surface is leaky, and allows for surface water infiltration to reach the buried sand aquifer over a time frame of years to decades (Geologic Sensitivity Project Workgroup, 1991). Therefore, given the information currently available, it is prudent to assign a moderate vulnerability rating to the DWSMA, in accordance with the Minnesota Wellhead Protection Rule (parts 4720.5100 to 4720.5590).

APPENDIX B

PART TWO WHPP SCOPING DOCUMENT

July 7, 2016

Mr. Jason Minenko, Public Works Superintendent
City of Isle
P.O. Box 427
Isle, Minnesota 56342-0427

Dear Mr. Minenko:

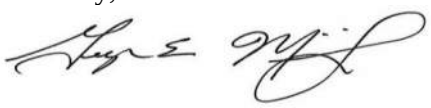
Subject: Scoping 2 Decision Notice and Meeting Summary – City of Isle – PWSID 1480001

This letter provides notice of the results of the second scoping meeting I held with you and Jamie Hubbell (city of Isle) on June 23, 2016, at Isle City Hall regarding Part II of your wellhead protection (WHP) plan. During the meeting, we discussed data elements that must be compiled and assessed to prepare the part of the WHP plan related to the management of potential contaminants in the approved drinking water supply management area. The enclosed Scoping 2 Decision Notice lists the data elements that were discussed at the meeting. The data elements must be compiled and assessed in terms of their present and future implications on the 1) use of the well(s), 2) quality and quantity of water supplying the public water supply well(s), and 3) land and groundwater uses in the drinking water supply management area. We also discussed a summary of planning issues that were identified during the Part I WHP Plan development process which should be considered for inclusion in your Part II WHP Plan.

The city of Isle has met the requirements to distribute copies of the first part of the WHP plan to local units of government and hold an informational meeting for the public. The city of Isle will have until April 7, 2018, to complete its WHP plan. The city of Isle was given additional time due to Minnesota Rules, part 4720.5130, subpart 4, item D.

If a data element is marked on the enclosed notice as a data element that must be used and it does not exist, it is helpful if your plan notes this. MDH understands a consultant, to be determined at a later date, will be working with you to develop a draft of the remainder of the WHP plan. I will be contacting you to review the progress of the development of Part II of your plan. If you have any questions regarding the enclosed notice, contact me by email at george.minerich@state.mn.us or by phone at 320/223-7314.

Sincerely,



George Minerich, Planner
Source Water Protection Unit
Environmental Health Division
3333 West Division Street - Suite 212
St. Cloud, Minnesota 56301

GEM:ds-b
Enclosures

cc: Jamie Hubbell, Clerk-Treasurer, City of Isle
David Schultz, MDH Engineer, St. Cloud District Office
Ron Struss, Minnesota Department of Agriculture

SCOPING 2 DECISION NOTICE
Moderately Vulnerable DWSMA

Remainder of the Wellhead Protection Plan

Name of Public Water Supply:		**Date:**
City of Isle **PWSID 1480001**		July 7, 2016
Name of the Wellhead Protection Manager:		
Mr. Jason Minenko, Public Works Superintendent		
Address:	**City:**	**Zip:**
P.O. Box 427	Isle	56342-0427
Unique Well Numbers:		**Phone:**
214762 (Well 2), 111761 (Well 3)		(320) 630-6250

Instructions for Completing the Scoping 2 Form

N	R	S	
X			**N = Not required.** If this box is checked, this data element is **NOT** necessary for your wellhead protection plan because it is not needed or it has been included in the first scoping decision notice. **Please go to the next data element**.

N	R	S	
	X		**R = Required for the remainder of the plan.** If this box is checked, this data **MUST** be used for the "**remainder of the plan**."

N	R	S	
		X	**S = Submit to MDH.** If this box is checked, this data element **MUST** be included in your **wellhead protection plan and submitted to MDH**. If there is **NO** check mark in the **"S"** box but there is an **"X"** in the **"R"** box, this data element **MUST** be included in your plan, but should **NOT be submitted to MDH**. This box will only be checked if MDH does not have access to this data element. This will help to reduce the cost by reducing the amount of paper and time to reproduce the data element.

DATA ELEMENTS ABOUT THE PHYSICAL ENVIRONMENT

PRECIPITATION

N	R	S	
X			An existing map or list of local precipitation gauging stations.

Technical Assistance Comments:

N	R	S	
X			An existing table showing the average monthly and annual precipitation in inches for the preceding five years.

Technical Assistance Comments:

GEOLOGY

N	R	S	
	X		An existing geologic map and a description of the geology, including aquifers, confining layers, recharge areas, discharge areas, sensitive areas as defined in Minnesota Statutes, section 103H.005, subdivision 13, and groundwater flow characteristics.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about these data elements.

N	R	S	
	X		Existing records of the geologic materials penetrated by wells, borings, exploration test holes, or excavations, including those submitted to the department.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about these data elements.

N	R	S	
	X		Existing borehole geophysical records from wells, borings, and exploration test holes.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect the geology of the area(s).

N	R	S	
	X		Existing surface geophysical studies.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect the geology of the area(s).

SOILS

N	R	S	
X			Existing maps of the soils and a description of soil infiltration characteristics.

Technical Assistance Comments:

N	R	S	
X			A description or an existing map of known eroding lands that are causing sedimentation problems.

Technical Assistance Comments:

WATER RESOURCES			
N	**R**	**S**	An existing map of the boundaries and flow directions of major watershed units and minor watershed units.
X			
Technical Assistance Comments:			
N	**R**	**S**	An existing map and a list of public waters as defined in Minnesota Statutes, section 103G.005, subdivision 15, and public drainage ditches.
X			
Technical Assistance Comments:			
N	**R**	**S**	The shoreland classifications of the public waters listed under subitem (2), pursuant to part 6120.3000 and Minnesota Statutes, sections 103F.201 to 103F.221.
X			
Technical Assistance Comments:			
N	**R**	**S**	An existing map of wetlands regulated under Chapter 8420 and Minnesota Statutes, section 103G.221 to 103G.2373**.**
X			
Technical Assistance Comments:			
N	**R**	**S**	An existing map showing those areas delineated as floodplain by existing local ordinances.
X			
Technical Assistance Comments:			

DATA ELEMENTS ABOUT THE LAND USE

LAND USE			
N	**R**	**S**	An existing map of parcel boundaries.
	X	**X**	
Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.			
N	**R**	**S**	An existing map of political boundaries.
	X	**X**	
Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.			
N	**R**	**S**	An existing map of public land surveys including township, range, and section.
	X		
Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.			

N	R	S	
	X	X	A map and an inventory of the current and historical agricultural, residential, commercial, industrial, recreational, and institutional land uses and potential contaminant sources.

Technical Assistance Comments: The inventory, mapping and management of land uses and potential sources of contamination for all the Drinking Water Supply Management Areas(s) must reflect what is known about these data elements, as follows:

Moderate Vulnerability - 1) All potential contaminant sources as listed on the attachment, 2) a land use/land cover map and table, and 3) an inventory of the Inner Wellhead Management Zone (IWMZ).

As a starting point, MDH will provide a land cover map and table from federal data bases. This data set must be used unless an alternative electronic data set that is more current and detailed is available.

Management strategies must be developed for all land uses and potential sources of contamination.

N	R	S	
	X	X	An existing comprehensive land-use map.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

N	R	S	
	X	X	Existing zoning map.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

PUBLIC UTILITY SERVICES

N	R	S	
	X		An existing map of transportation routes or corridors.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

N	R	S	
	X	X	An existing map of storm sewers, sanitary sewers, and public water supply systems.

Technical Assistance Comments: It is not necessary to include a map of your public water supply system in your plan if you feel it would pose a threat to the security of your system. An existing map of the storm sewers and sanitary sewers in the Drinking Water Supply Management Area(s) must be included in the wellhead protection plan and must also be submitted to MDH as part of the approval.

N	R	S	
	X	X	An existing map of the gas and oil pipelines used by gas and oil suppliers.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

N	R	S	
	X		An existing map or list of public drainage systems.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

N	R	S	
	X		An existing record of construction, maintenance, and use of the public water supply well and other wells within the drinking water supply management area.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about these data elements.

DATA ELEMENTS ABOUT WATER QUANTITY

SURFACE WATER QUANTITY

N	R	S	
X			An existing description of high, mean, and low flows on streams.

Technical Assistance Comments:

N	R	S	
X			An existing list of lakes where the state has established ordinary high water marks.

Technical Assistance Comments:

N	R	S	
X			An existing list of permitted withdrawals from lakes and streams, including source, use, and amounts withdrawn.

Technical Assistance Comments:

N	R	S	
X			An existing list of lakes and streams for which state protected levels or flows have been established.

Technical Assistance Comments:

N	R	S	
X			An existing description of known water-use conflicts, including those caused by groundwater pumping.

Technical Assistance Comments:

GROUNDWATER QUANTITY

N	R	S	
	X		An existing list of wells covered by state appropriation permits, including amounts of water appropriated, type of use, and aquifer source.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

N	R	S	
	X	X	An existing description of known well interference problems and water use conflicts.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

N	R	S	
	X		An existing list of state environmental bore holes, including unique well number, aquifer measured, years of record, and average monthly levels.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

DATA ELEMENTS ABOUT WATER QUALITY

SURFACE WATER QUALITY

N	R	S	
X			An existing map or list of the state water quality management classification for each stream and lake.

Technical Assistance Comments:

N	R	S	
X			An existing summary of lake and stream water quality monitoring data, including: 1. bacteriological contamination indicators; 2. inorganic chemicals; 3. organic chemicals; 4. sedimentation; 5. dissolved oxygen; and 6. excessive growth or deficiency of aquatic plants.

Technical Assistance Comments:

GROUNDWATER QUALITY

N	R	S	
	X		An existing summary of water quality data, including: 1. bacteriological contamination indicators; 2. inorganic chemicals; and 3. organic chemicals.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

N	R	S	
	X		An existing list of water chemistry and isotopic data from wells, springs, or other groundwater sampling points.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

N	R	S	
	X		An existing report of groundwater tracer studies.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

N	R	S	
	X		An existing site study and well water analysis of known areas of groundwater contamination.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about these data elements.

N	R	S	
	X		An existing property audit identifying contamination.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

N	R	S	
	X		An existing report to the Minnesota Department of Agriculture and the Minnesota Pollution Control Agency of contaminant spills and releases.

Technical Assistance Comments: The management of all the Drinking Water Supply Management Area(s) must reflect what is known about this data element.

Isle Scoping 2 Meeting
Wellhead Protection (WHP) Planning Issues Summary

Drinking Water Protection Issues Identified to Date:

The city of Isle has two primary wells and one emergency well. All of the city wells are screened in the Quaternary Buried Artesian Aquifer. Both of the city's primary wells are considered vulnerable to contamination due to tritium detected in the well water (Alexander and Alexander, 1989) and the lack of sufficient natural geologic protection between the land surface and the aquifer. Available data suggest that moderate vulnerability exists in the DWSMA, which implies that water and contaminants may travel from the land surface to the city's aquifer within a time span of years to decades. Note-- Well 1 has two screens separated by 10.7 ft casing; upper 11 ft screen, middle 10.7 ft casing; then a lower 3-4 ft screen.

Water Quality Detections and Implications:

1) None of the human-caused contaminants regulated under the federal Safe Drinking Water Act have been detected at levels indicating that the well itself serves to draw contaminants into the aquifer as a result of pumping (Alexander and Alexander, 1989).
2) Water samples were collected from Wells 2 and 3 (214762 and 111761) and were analyzed for tritium, nitrate, chloride and bromide. Tritium was detected, indicating post-1953 water and confirming the vulnerable nature of the wells (Alexander and Alexander, 1989). In addition, the chloride/bromide ratios confirm that the wells have been impacted by land-use activities (Mullaney, et.al, 2009). It should be noted, however, that nitrate was not detected in either well, indicating the lack of impact to the wells from nitrogen sources.

Old Municipal Well Information:

There was a reference in a sanitary survey(s) to a city water supply connection to a Creamery Well – 198 ft deep; drilled before 1947. There are no Sanborn maps for Isle. [2013 OMW report]

Sanborn Maps:
X Sanborn Maps are not available for this area.

Recommended WHP Measures: *(Please include in Scoping II Document)*

Recommendations from report:

3) Well Locating: This delineation is based on information from a relatively small number of wells. If new wells are constructed within one-mile of the DWSMA, their locations should be field verified.
4) Stream Gaging: The groundwater flow model used for this delineation indicated a sensitivity of the capture zone boundaries to the resistances assigned to the Thains Creek varels. Varying the resistance values of the varels was one way to vary the influence the creek had on the aquifer and the local groundwater flow field. At this time, very little is known about the potential influence that the creek has on the buried sand aquifer, if any.

Currently, there is no published record of stream discharge or discharge variability over time. This type of information may be helpful to increase modeling confidence. The wellhead team is encouraged to support efforts by local (ex., SWCD) or state agencies (ex., DNR or MPCA) to install a stream gage in order to monitor discharge of the creek over time.

5) Downhole Video Inspections: The isotope and water chemistry results of the two city wells indicate differences in their source water. Given the age of the wells, there is the possibility that one or both of the wells may be receiving a component of surface water. Pending availability of funding resources, it is recommended that the wells be televised in order to inspect casing integrity. Between the two wells, higher priority should be given to inspecting the casing at Well 2 (214762).
6) New Wells: Two of the city's wells (Wells 1 and 2 [227363 and 214762]) are more than 50 years old. Pending available funding, the city may also want to include measures in their plan regarding drilling test wells to plan for the eventual replacement of one of their older wells. If new city wells are being considered, installing them in an area with a thicker or more competent layer of clay-rich till may provide the city with natural protection against man-made contaminants at the land surface.
7) Water Quality Monitoring: The standard assessment monitoring package should be analyzed during year five, including the primary wells and creek, contingent on funding assistance from MDH for sampling and analysis. The city may need to collect the samples and ship them to MDH.

Other:
None

*This document is intended to be a summary of issues identified to date and is **not intended to replace the required data elements identified in the Scoping 2 Decision Notice** nor is it intended to be an exhaustive list of all potential drinking water issues.*

APPENDIX C

DWSMA PARCEL LIST

PARCEL NUMBER	ACREAGE	PROPERTY ADDRESS	TAXPAYER NAME	TAXPAYER ADDRESS	TAXPAYER ADDRESS 2	TAXPAYER ADDRESS 3
20-002-0101	0.23		ISLE/CITY OF	285 2ND AVE S	PO BOX 427	ISLE MN 56342
20-011-0358	0.7		HAGGBERG/DOLORES R	1010 STATE HWY 47 S	ISLE MN 56342	
20-166-0030	0.9	2580 CHIMINISING DR	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
08-012-0700	1	1863 410TH ST	SCHMIDT/TROY A	PO BOX 144	WAHKON MN 56386	
20-166-0140	1.01	2640 CHIMINISING DR	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-166-0200	1.01	2630 NAAWAAKWA ST	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-166-0020	1.03	2500 CHIMINISING DR	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-166-0150	1.03	2720 NAAWAAKWA ST	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-166-0010	1.05	2100 WAHBEGON DR	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-166-0120	1.15	2785 NAAWAAKWA ST	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-166-0160	1.2	2740 NAAWAAKWA ST	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-166-0180	1.22	2780 NAAWAAKWA ST	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-166-0190	1.25	2660 NAAWAAKWA ST	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-001-1105	1.25	2200 MOOSE DR	MILLE LACS BAND OF OJIBWE	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-001-1107	1.25	2500 WAHBEGON DR	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-001-1108	1.25	2240 MOOSE DR	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-001-1109	1.25	2220 MOOSE DR	MILLE LACS BAND OF OJIBWE	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-166-0110	1.26	2765 NAAWAAKWA ST	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
08-012-1001	1.27	40359 STATE HWY 47	REVAK/PAUL G & REBECCA L	40359 STATE HWY 47	ISLE MN 56342-2692	
20-166-0170	1.29	2760 NAAWAAKWA ST	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-166-0060	1.39	2535 NAAWAAKWA ST	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-166-0210	1.43		MILLE LACS BAND OF CHIPPEWA	INDIANS	CHIMINISING CIR	
20-166-0050	1.55	2545 NAAWAAKWA ST	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-001-1104	1.61		MILLE LACS BAND OF OJIBWE	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-166-0100	1.62	2745 NAAWAAKWA ST	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-166-0130	2	2620 CHIMINISING DR	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-166-0040	2.11	2200 WAHBEGON DR	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-011-0104	2.4	1155 SUPERIOR ST E	PHILLIPS/GORDON A & BARBARA K	1155 E SUPERIOR ST	ISLE MN 56342	
20-001-1112	2.5	1900 MOOSE DR	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-001-1100	2.5	1940 MOOSE DR	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-001-1110	2.5	1930 MOOSE DR	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-001-1111	2.5	1920 MOOSE DR	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-011-0102	2.66	1125 SUPERIOR ST E	WAUGHTEL/RITA A	PO BOX 943	ISLE MN 56342	
20-166-0090	2.76	2755 NAAWAAKWA ST	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-001-1106	3.39	2300 MOOSE DR	MILLE LACS BAND OF OJIBWE	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-011-0353	3.53	2016 TORCHLIGHT RD	POJANOWSKI/JOHN D & KAREN R	25716 US HWY 169	AITKIN MN 56431	
20-002-4501	3.73	1180 SUPERIOR ST	CEMETERY/SWEDISH LUTHERAN	EVANG. CONG. OF ISLE	ISLE MN 56342	
20-166-0080	3.77	2695 CHIMINISING CIR	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
08-012-0701	3.94	1925 410TH ST	MERRILL/WENDY	1925 410TH ST	ISLE MN 56342	
20-166-0070	4.1	2525 NAAWAAKWA CIR	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-011-0103	4.2	1175 SUPERIOR ST E	GRZESKOWIAK/ROGER L & JUDITH	15657 54TH ST	ST MICHAEL MN 55376	

PARCEL NUMBER	ACREAGE	PROPERTY ADDRESS	TAXPAYER NAME	TAXPAYER ADDRESS	TAXPAYER ADDRESS 2	TAXPAYER ADDRESS 3
20-002-4600	4.42	1150 SUPERIOR ST	CEMETERY/CITY OF ISLE	ISLE MN 56342		
20-012-0601	4.51		SCANLON/TERRENCE J & LISA A	1225 SUPERIOR ST E	ISLE MN 56342	
20-011-0356	4.94		MUNRO/PATRICK D/& KARI BETH	104 GRASS VIEW RD	CANDLER NC 28715-8826	
20-002-4700	5	1805 MOOSE DR	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
20-011-0101	5.22	1225 SUPERIOR ST E	SCANLON/TERRENCE J & LISA A	1225 SUPERIOR ST E	ISLE MN 56342	
20-011-0105	5.22	1275 SUPERIOR ST E	DAHLEN/DONALD A & LINDA K	PO BOX 807	ISLE MN 56342	
20-002-0010	6		MILLE LACS COUNTY	635 2ND ST SE	MILACA MN 56353	
08-012-0601	6.7		ELLIASON FAMILY TRUST	DAVID L & JANICE E ELLIASON	3503 387TH ST	ISLE MN 56342
20-002-4400	7	1915 MOOSE DR	CHOSA/DAWN	PO BOX 101	ISLE MN 56342	
08-012-0500	7.22	1539 410TH ST	PINZ/LESLIE A/REV TRUST	1539 410TH ST	ISLE MN 56342	
20-002-4300	11.06	1905 MOOSE DR	CHOSA/DAWN	PO BOX 101	ISLE MN 56342	
20-011-0350	13.67		GABBIE'S PLACE LLC	3047 FLINTSTONE ST	MORA MN 55051	
20-002-4200	18.06		ORAZEM/ROBERT A	1555 GRAND AVE N	ISLE MN 56342	
20-012-0800	20		POJANOWSKI/JOHN D & KAREN R	25716 US HWY 169	AITKIN MN 56431	
20-012-0801	20		POJANOWSKI/KAREN R	25716 US HWY 169	AITKIN MN 56431	
20-011-0300	20.88	1010 STATE HWY 47 S	HAGGBERG/DOLORES R	1010 STATE HWY 47 S	ISLE MN 56342	
20-012-0600	23.5		POJANOWSKI/JOHN D & KAREN R	25716 US HWY 169	AITKIN MN 56431	
20-002-4500	25.85	1855 MOOSE DR	MILLE LACS BAND OF CHIPPEWA	INDIANS	43408 OODENA DR	ONAMIA MN 56359
08-012-0300	32.78	1515 410TH ST	CEMSTONE PRODUCTS CO	TO: H T BECKEN	2025 CENTRE POINTE BLVD	MENDOTA HGTS MN 55120
08-001-0200	40	1978 410TH ST	STADIG/ALICE	1978 410TH ST	ISLE MN 56342	
08-001-0300	40		CEMSTONE PRODUCTS CO	TO: H T BECKEN	2025 CENTRE POINTE BLVD	MENDOTA HGTS MN 55120
20-002-0100	46.37	1700 GRAND AVE	THAINES RIVER LLC	3047 FLINTSTONE ST	MORA MN 55051	
08-012-0400	132.08	1515 410TH ST	CEMSTONE PRODUCTS CO	TO: H T BECKEN	2025 CENTRE POINTE BLVD	MENDOTA HGTS MN 55120
08-850-0140	1.31	1876 TOPACK RD	BERNU/CHAD R & SAMATHA K	1876 TOPACK RD	ISLE MN 56342	
08-850-0130	1.28	1838 TOPACK RD	BATTLESON/EUGENE D & DOLORES	1838 TOPACK RD	ISLE MN 56342	
08-850-0120	1.47	1774 TOPACK RD	BRUNETTE/JAMES M	1774 TOPACK RD	ISLE MN 56342	
08-850-0110	1.49	1695 TORCHLIGHT RD	OLSON/DICK/ & JEAN JAMESON	1620 WHITE CLOUD DR N	ISLE MN 56342	
08-850-0100	1.49		BATTLESON/DOLORES A	1838 TOPACK RD	ISLE MN 56342	
08-850-0090	1.41		BOLIN/STEVEN R & KAREN M	2219 WALDEN BLVD NW	CEDAR MN 55011	
08-850-0030	3.03	1885 TOPACK RD	EYE/TURA L	1885 TOPACK RD	ISLE MN 56342	
08-850-0010	2.08	1965 TORCHLIGHT RD	ROGERS/ALLAN H & GENICE M	1965 TORCHLIGHT RD	ISLE MN 56342	
08-850-0020	1.84	40401 TOPACK RD	ROBERTSON/VERNON A & CORINA	40401 TOPACK RD	ISLE MN 56342	
20-400-0390	0.99		ORAZEM/ROBERT A & LYNN M	1555 GRAND AVE N	ISLE MN 56342	
20-400-0400	1.99	1555 GRAND AVE	ORAZEM/ROBERT A & LYNN M	1555 GRAND AVE N	ISLE MN 56342	
20-400-0410	0.99	1605 GRAND AVE	HENRICKSON/JANICE E (BLEJA)	1472 WHITE CLOUD CIR	ISLE MN 56342	
20-400-0425	1.34	1685 GRAND AVE	PHILLIPS/TOM D & NELLE M	1685 GRAND AVE	ISLE MN 56342-9228	
20-400-0430	2.07	1690 GRAND AVE	VASSAR/HOWARD S & LILA M	1690 GRAND AVE	ISLE MN 56342	
20-400-0440	1.46	1600 STATE HWY 47 N	NGUYEN/CU N	2628 E 22ND ST	MPLS MN 55406	
20-400-0450	0.97	1500 GRACE ST	PETERSEN/KIMBERLY S	1500 E GRACE ST	ISLE MN 56342	
20-400-0451	0.38	1610 GRAND AVE	RICHARDS/BRAD L	3253 HARBOR ST	ISLE MN 56342-3286	
20-400-0459	0.47	1535 GRACE ST	O'CONNOR/COLLEEN	PO BOX 452	ISLE MN 56342	

PARCEL NUMBER	ACREAGE	PROPERTY ADDRESS	TAXPAYER NAME	TAXPAYER ADDRESS	TAXPAYER ADDRESS 2	TAXPAYER ADDRESS 3
20-400-0460	0.5	1480 MABEN AVE N	HAYLE/PAULA M	1480 MABEN AVE N	ISLE MN 56342	
20-400-0461	0.93	1450 MABEN AVE N	LANCRAIN/LUCAS/&	MISTY CAMPBELL-LANCRAIN	1450 MABEN AVE N	ISLE MN 56342
20-400-0470	0.86		MCQUOID FAMILY PARTNERSHIP	1325 STATE HWY 47 N	ISLE MN 56342	
20-400-0420	0.85	1645 GRAND AVE	TROUMBLY/STACY J	1645 GRAND AVE	ISLE MN 56342	

APPENDIX D

MUNICIPAL WELL LOGS

Minnesota Unique Well Number

111761

County Mille Lacs
Quad Isle
Quad ID 190B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 04/13/1988
Update Date 10/23/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
ISLE 3	42	25	W	2	ACDDBD

Elevation 1265 **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Contact ISLE MN 56342
Well ISLE MN 56342

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND, CLAY &	0	10	BROWN	
COARSE GRAVEL &	10	30	GRAY	
GRAVEL	30	40	GRAY	
GRAVEL W/BOULDERS	40	55	GRAY	
BLUE CLAY-TILL	55	78	BLU/GRY	
COARSE SAND &	78	113	GRAY	
CLAY	113	117	BLU/GRY	

Remarks

CONFLICTING INFO ABOUT CSG. DEPTH AND SCREEN LENGTH.

Well Depth	Depth Completed	Date Well Completed
117 ft.	113 ft.	05/08/1978

Drill Method Reverse Rotary **Drill Fluid**

Use community supply(municipal) **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Step down **Joint** Welded
Drive Shoe? Yes ☐ No ☒ **Above/Below** 1 ft.

Casing Diameter			Weight	
20	in. To	74	ft. 78.6	lbs./ft.
12	in. To	113	ft. 49.5	lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON 304

Diameter	Slot/Gauze	Length	Set			
12	in. 100	34	ft.	79	ft.	113 ft.

Static Water Level

Pumping Level (below land surface)

48 ft. 31 hrs. Pumping at 200 g.p.m.

Wellhead Completion

Pitless adapter manufacturer Model

☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount		From	To
neat cement	9	Cubic yards	ft.	ft.

Nearest Known Source of Contamination

feet Direction Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☒ Not Installed Date Installed

Manufacturer's name
Model Number HP Volt
Length of drop pipe ft Capacity g.p. Typ

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Aquifer Quat. buried
Last Strat clay-gray Depth to Bedrock ft
Located by Minnesota Department of Health
Locate Method GPS SA Off (averaged)
System UTM - NAD83, Zone 15, Meters X 464602 Y 5110530
Unique Number Verification Info/GPS from data Input Date 02/25/1999

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Huron Drilling	92394	OSBERG, K.

Minnesota Unique Well Number

214762

County Mille Lacs
Quad Isle
Quad ID 190B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 04/13/1988
Update Date 10/23/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
ISLE 2	42	25	W	2	DDCDBC

Elevation 1290 **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Contact ISLE MN 56342
Well ISLE MN 56342

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
HARDPAN	0	5	RED	
HARDPAN & ROCKS	5	40	BROWN	
OOZY CLAY	40	50	BROWN	SOFT
DRY PACKED GRAVEL	50	54		
HARDPAN	54	65		
SAND & GRAVEL	65	66		
HARDPAN (SOME SOFT	66	101	GRAY	
DIRTY SAND &	101	103		
COARSE SAND &	103	114		

Remarks

Well Depth 114 ft. **Depth Completed** 114 ft. **Date Well Completed** 07/19/1961

Drill Method Cable Tool **Drill Fluid**

Use community supply(municipal) **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter		Weight	
6	in. To 102 ft.	20	lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
6 in.	50	11 ft.	103 ft.	114 ft.

Static Water Level
32 ft. land surface Measure 07/19/1961

Pumping Level (below land surface)
65 ft. hrs. Pumping at 135 g.p.m.

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☐ Yes ☐ No ☐ Not Specified

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed 00/00/1961
Manufacturer's name
Model Number HP Volt
Length of drop pipe 96 ft Capacity g.p. Typ Turbine

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat sand +larger Depth to Bedrock ft
Located by Minnesota Department of Health
Locate Method Digitization (Screen) - Map (1:12,000)
System UTM - NAD83, Zone 15, Meters X 464751 Y 5109762
Unique Number Verification Info/GPS from data Input Date 02/25/1999

Angled Drill Hole

Well Contractor
Aamot Well Co. 27062 BERG, S.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

227363

County Mille Lacs
Quad Isle
Quad ID 190B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 04/13/1988
Update Date 10/23/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
ISLE 1	42	25	W	10	AADCBB

Elevation 1271 **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Contact ISLE MN 56342
Well ISLE MN 56342

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY	0	6		
SAND	6	20		
CLAY	20	40		
CLAY & STONES	40	50		
CLAY & SAND	50	138		
SAND SOME WATER	138	141		HARD
LOOSE SAND	141	145		
SHALE	145	155	BLUE	
SAND & WATER	155	158		
SHALE OR	158	161	BLUE	
GRANITE	161	162		

Remarks

Well Depth 162 ft. **Depth Completed** 159 ft. **Date Well Completed** 10/03/1936

Drill Method Cable Tool **Drill Fluid**

Use community supply(municipal) **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Welded
Drive Shoe? Yes ☐ No ☒ **Above/Below** 2.5 ft.

Casing Diameter		Weight	
10	in. To 136 ft.		lbs./ft.
8	in. To 155 ft.		lbs./ft.

Open Hole From ft. To ft.

Screen? ☒

Diameter	Slot/Gauze	Length	Type	Make	Set	
8 in.	40	11 ft.			134 ft.	145 ft.
8 in.	30	3.5 ft.			155 ft.	159 ft.

Static Water Level
18 ft. land surface Measure 10/03/1936

Pumping Level (below land surface)
132. ft. hrs. Pumping at 48 g.p.m.

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☐ Yes ☐ No ☐ Not Specified

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed
Manufacturer's name
Model Number HP Volt
Length of drop pipe ft Capacity g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock weathering residuum unc. Aquifer Quat. buried
Last Strat Isle Granite Depth to Bedrock 158 ft
Located by Minnesota Department of Health
Locate Method GPS SA Off (averaged)
System UTM - NAD83, Zone 15, Meters X 463230 Y 5109390
Unique Number Verification Info/GPS from data Input Date 04/12/1995

Angled Drill Hole

Well Contractor
Thein Well Co. Clara City 12013
Licensee Business Lic. or Reg. No. Name of Driller

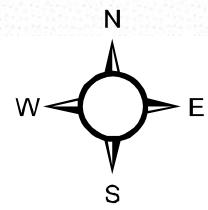
APPENDIX E

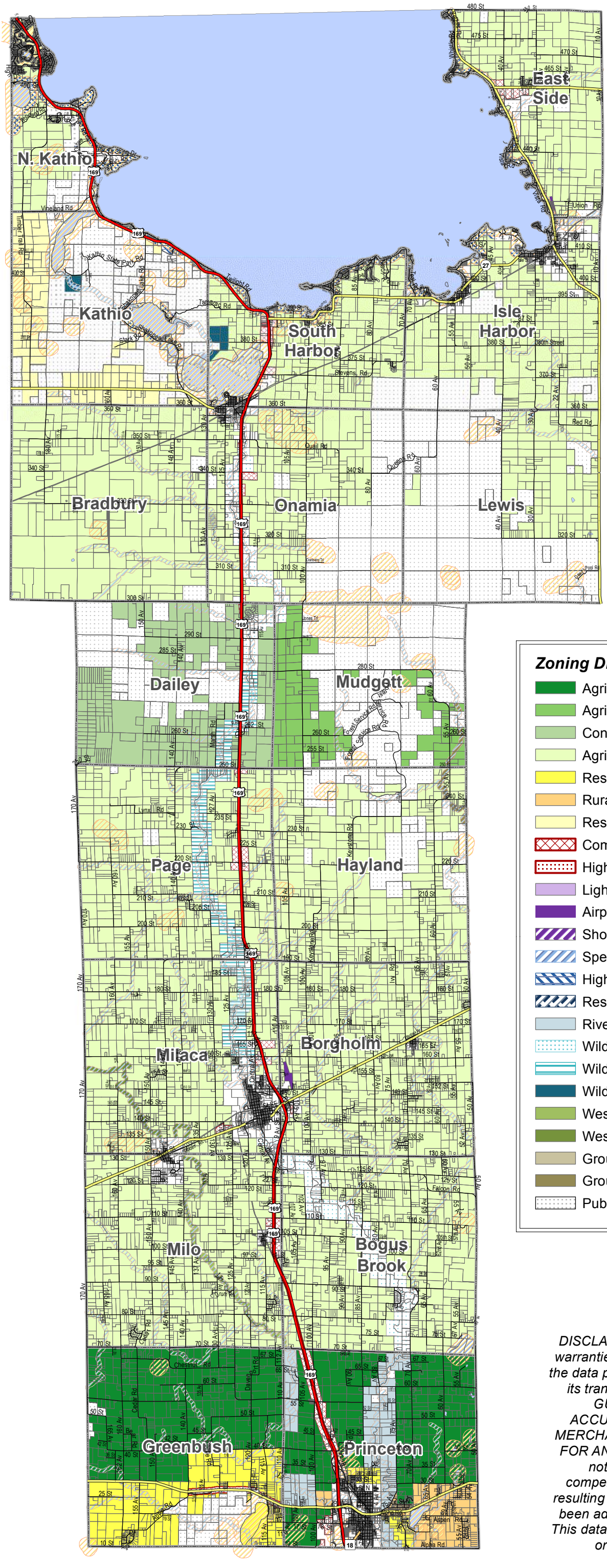
MILLE LACS COUNTY ZONING MAP (2015)

Mille Lacs County Minnesota

Zoning Map

May 1, 2015





Zoning District

- Agricultural, A-1
- Agricultural, AG
- Conservation Agriculture, C
- Agricultural Residential, A-R
- Residential, R-1
- Rural Residential
- Residential Medium Density, R-2
- Commercial, C-1
- Highway Commercial, C-2
- Light Industrial
- Airport
- Shoreland - Airport
- Special Protection Shoreland, S-1
- High Density Residential/Surface Water, S-2
- Residential Subdivision - Recreational Shoreland
- River Conservation
- Wild and Scenic River - Recreational
- Wild and Scenic River - Scenic
- Wild and Scenic River - Wild
- West Branch of Rum River - Agricultural
- West Branch of Rum River - Transition
- Groundhouse River - Recreational River
- Groundhouse River - Forested
- Public Lands/Government Ownership

Overlay District

- 300 ft
- 1000 ft

0 1.5 3 6 Miles

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APPENDIX F

PUBLIC INFORMATION MEETING NOTICE

PART II SUBMITTAL TO LGUs FOR COMMENT

Date: 8/25/17

To: Roger Tellinghuisen,, Chairperson, Mille Lacs County Board
William Young, Clerk, Wahkon Township Board
Rod Schultz, Mayor, City of Isle
Kurt Beckstrom, Chairperson, Mille Lacs Soil and Water Conservation District
Pat Oman, County Administrator, Mille Lacs County
Susan Shaw, District Administrator, Mille Lacs SWCD
Bob Voss, Director, Director, East Central Development Commission
George Minerich Planner, Minnesota Department of Health

From: Jason Minenko, Wellhead Protection Manager

Re: Wellhead Protection Plan for the City of Isle Part II

The City of Isle is in the process of developing a wellhead protection plan for its drinking water supply wells. Enclosed for your review and comment is the draft wellhead protection plan, Part II, for this system as required in the Minnesota Wellhead Protection Rule (part 4720.5350, subparts 1-3). This portion of the plan includes information pertaining to:

1. The inventory of potential contaminants of concern within the drinking water supply management area;
2. The data that was considered in this portion of the plan;
3. Issues, problems, and concerns within the drinking water supply management area;
4. Goals, objectives, and action strategies to address the issues and concerns within the drinking water supply management area;
5. A plan evaluation strategy; and
6. A contingency strategy in the event of water system disruption.

Your comments on this portion of the plan will be accepted through the 60-day comment period. Please send your written comments Jason Minenko, Wellhead Protection Manager at: Isle City Hall, PO Box 427, Isle, MN 56342 by *October 24th, 2017*.

Consistent with the Wellhead Protection Rule (part 4720.5350, subpart 4), a Public Hearing has been scheduled on *November 24th, 2017 at 6:30 PM* at Isle City Hall, 285 Second Avenue, Isle, MN 56342 to discuss issues and address all comments related to the document. A copy of the Draft Wellhead Protection Plan Part II is available for review at Isle City Hall. The Plan may be reviewed at City Hall or a hard copy may be requested by phone at (320) 676-3641.

We look forward to your participation.

cc: Susan Shaw, Chair, Mille Lacs Co. Water Mgt. Committee
Trudi Witkowski, Minnesota Department of Health

APPENDIX G

INNER WELL MANAGEMENT ZONE INVENTORIES

Environmental Health Division
Drinking Water Protection Section
P.O. Box 64975
St. Paul, Minnesota 55164-0975

INNER WELLHEAD MANAGEMENT ZONE (IWMZ) - POTENTIAL CONTAMINANT SOURCE INVENTORY (PCSI) REPORT

PUBLIC WATER SYSTEM INFORMATION

PWS ID	1480001
NAME	Isle
ADDRESS	Isle Water Superintendent, City Hall, P.O. Box 427, Isle, MN 563420427

COMMUNITY

FACILITY (WELL) INFORMATION

NAME	Well #1
FACILITY ID	S01
UNIQUE WELL NO.	227363
COUNTY	Mille Lacs

IS THERE A WELL LOG OR ADDITIONAL CONSTRUCTION INFORMATION AVAILABLE?

☐ **YES** (Please attach a copy)
☐ **NO** ☐ **UNDETERMINED**

PWS ID / FACILITY ID	1480001 S01	**UNIQUE WELL NO.**	227363

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
Agricultural Related							
*AC1	Agricultural chemical buried piping	50	50		N		
*AC2	Agricultural chemical multiple tanks or containers for residential retail sale or use, no single tank or container exceeding, but aggregate volume exceeding 56 gal. or 100 lbs. dry weight	50	50		N		
ACP	Agricultural chemical tank or container with 25 gal. or more or 100 lbs. or more dry weight, or equipment filling or cleaning area without safeguards	150	150		N		
ACS	Agricultural chemical storage or equipment filling or cleaning area with safeguards	100	100		N		
ACR	Agricultural chemical storage or equipment filling or cleaning area with safeguards and roofed	50	50		N		
ADW	Agricultural drainage well[2] (Class V well - illegal[3])	50	50		N		
AAT	Anhydrous ammonia tank (stationary tank)	50	50		N		
AB1	Animal building, feedlot, confinement area, or kennel, 0.1 to 1.0 animal unit (stockyard)	50	20	100/40	N		
AB2	Animal building or poultry building, including a horse riding area, more than 1.0 animal unit	50	50	100	N		
ABS	Animal burial area, more than 1.0 animal unit	50	50		N		
FWP	Animal feeding or watering area within a pasture, more than 1.0 animal unit	50	50	100	N		
AF1	Animal feedlot, unroofed, 300 or more animal units (stockyard)	100	100	200	N		
AF2	Animal feedlot, more than 1.0, but less than 300 animal units (stockyard)	50	50	100	N		
AMA	Animal manure application	use discretion	use discretion		N		
REN	Animal rendering plant	50	50		N		
MS1	Manure (liquid) storage basin or lagoon, unpermitted or noncertified	300	300	600	N		
MS2	Manure (liquid) storage basin or lagoon, approved earthen liner	150	150	300	N		
MS3	Manure (liquid) storage basin or lagoon, approved concrete or composite liner	100	100	200	N		
MS4	Manure (solid) storage area, not covered with a roof	100	100	200	N		
OSC	Open storage for crops	use discretion	use discretion		N		
SSTS Related							
AA1	Absorption area of a soil dispersal system, average flow greater than 10,000 gal./day	300	300	600	N		
AA2	Absorption area of a soil dispersal system serving a facility handling infectious or pathological wastes, average flow 10,000 gal./day or less	150	150	300	N		
AA3	Absorption area of a soil dispersal system, average flow 10,000 gal./day or less	50	50	100	N		
AA4	Absorption area of a soil dispersal system serving multiple family residences or a non-residential facility and has the capacity to serve 20 or more persons per day (Class V well)[2]	50/300/150[4]	50/300/150[4]	100/600/300[4]	N		
CSP	Cesspool	75	75	150	N		
AGG	Dry well, leaching pit, seepage pit	75	75	150	N		
*FD1	Floor drain, grate, or trough connected to a buried sewer	50	50		N		
*FD2	Floor drain, grate, or trough if buried sewer is air-tested, approved materials, serving one building, or two or less single-family residences	50	20		N		
*GW1	Gray-water dispersal area	50	50	100	N		
LC1	Large capacity cesspools (Class V well - illegal)[2]	75	75	150	N		
MVW	Motor vehicle waste disposal (Class V well - illegal)[2]	illegal	illegal		N		

PWS ID / FACILITY ID	1480001 S01	UNIQUE WELL NO.	227363

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
PR1	Privy, nonportable	50	50	100	N		
PR2	Portable (privy) or toilet	50	20		N		
*SF1	Watertight sand filter; peat filter; or constructed wetland	50	50		N		
SET	Septic tank	50	50		N		
HTK	Sewage holding tank, watertight	50	50		N		
SS1	Sewage sump capacity 100 gal. or more	50	50		N		
SS2	Sewage sump capacity less than 100 gal., tested, conforming to rule	50	20		N		
*ST1	Sewage treatment device, watertight	50	50		Y	170	Y
SB1	Sewer, buried, approved materials, tested, serving one building, or two or less single-family residences	50	20		N		
SB2	Sewer, buried, collector, municipal, serving a facility handling infectious or pathological wastes, open-jointed or unapproved materials	50	50		Y	66	Y
SB2	Sewer, buried, collector, municipal, serving a facility handling infectious or pathological wastes, open-jointed or unapproved materials	50	50		Y	110	Y
*WB1	Water treatment backwash holding basin, reclaim basin, or surge tank with a direct sewer connection	50	50		N		
*WB2	Water treatment backwash holding basin, reclaim basin, or surge tank with a backflow protected sewer connection	20	20		N		
Land Application							
SPT	Land spreading area for sewage, septage, or sludge	50	50	100	N		
Solid Waste Related							
COS	Commercial compost site	50	50		N		
CD1	Construction or demolition debris disposal area	50	50	100	N		
*HW1	Household solid waste disposal area, single residence	50	50	100	N		
LF1	Landfill, permitted demolition debris, dump, or mixed municipal solid waste from multiple persons	300	300	600	N		
SVY	Scrap yard	50	50		N		
SWT	Solid waste transfer station	50	50		N		
Storm Water Related							
SD1	Storm water drain pipe, 8 inches or greater in diameter	50	20		Y	24	Y
SD1	Storm water drain pipe, 8 inches or greater in diameter	50	20		Y	60	Y
SWI	Storm water drainage well[2] (Class V well - illegal[3])	50	50		N		
SM1	Storm water pond greater than 5000 gal.	50	35		N		
Wells and Borings							
*EB1	Elevator boring, not conforming to rule	50	50		N		
*EB2	Elevator boring, conforming to rule	20	20		N		
MON	Monitoring well	record dist.	record dist.		N		
WEL	Operating well	record dist.	record dist.		N		
UUW	Unused, unsealed well or boring	50	50		N		
General							
*CR1	Cistern or reservoir, buried, nonpressurized water supply	20	20		N		
PLM	Contaminant plume	50	50		N		
*CW1	Cooling water pond, industrial	50	50	100	N		
DC1	Deicing chemicals, bulk road	50	50	100	N		
*ET1	Electrical transformer storage area, oil-filled	50	50		N		
GRV	Grave or mausoleum	50	50		N		
GP1	Gravel pocket or French drain for clear water drainage only	20	20		N		
*HS1	Hazardous substance buried piping	50	50		N		
HS2	Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight, without safeguards	150	150		N		
HS3	Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight with safeguards	100	100		N		
HS4	Hazardous substance multiple storage tanks or containers for residential retail sale or use, no single tank or container exceeding 56 gal. or 100 lbs., but aggregate volume exceeding	50	50		N		
HWF	Highest water or flood level	50	N/A		N		
*HG1	Horizontal ground source closed loop heat exchanger buried piping	50	50		N		
*HG2	Horizontal ground source closed loop heat exchanger buried piping and horizontal piping, approved materials and heat transfer fluid	50	10		N		
IWD	Industrial waste disposal well (Class V well)[2]	illegal[3]	illegal[3]		N		
IWS	Interceptor, including a flammable waste or sediment	50	50		N		

PWS ID / FACILITY ID	1480001 S01	UNIQUE WELL NO.	227363

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
OH1	Ordinary high water level of a stream, river, pond, lake, reservoir, or drainage ditch (holds water six months or more)	50	35		N		
*PP1	Petroleum buried piping	50	50		N		
*PP2	Petroleum or crude oil pipeline to a refinery or distribution center	100	100		N		
PT1	Petroleum tank or container, 1100 gal. or more, without safeguards	150	150		N		
PT2	Petroleum tank or container, 1100 gal. or more, with safeguards	100	100		N		
PT3	Petroleum tank or container, buried, between 56 and 1100 gal.	50	50		N		
PT4	Petroleum tank or container, not buried, between 56 and 1100 gal.	50[5]	20		N		
PU1	Pit or unfilled space more than four feet in depth	20	20		N		
PC1	Pollutant or contaminant that may drain into the soil	50	50	100	N		
SP1	Swimming pool, in-ground	20	20		N		
*VH1	Vertical heat exchanger, horizontal piping conforming to rule	50	10		N		
*VH2	Vertical heat exchanger (vertical) piping, conforming to rule	50	35		N		
*WR1	Wastewater rapid infiltration basin, municipal or industrial	300	300	600	N		
*WA1	Wastewater spray irrigation area, municipal or industrial	150	150	300	N		
*WS1	Wastewater stabilization pond, industrial	150	150	300	N		
*WS2	Wastewater stabilization pond, municipal, 500 or more gal./acre/day of leakage	300	300	600	N		
*WS3	Wastewater stabilization pond, municipal, less than 500 gal./acre/day of leakage	150	150	300	N		
*WT1	Wastewater treatment unit tanks, vessels and components (Package plant)	100	100		N		
*WT2	Water treatment backwash disposal area	50	50	100	N		
Additional Sources (If there is more than one source listed above, please indicate here).							
Potential Contamination Sources and Codes Based on Previous Versions of this Form							
SBA	Sewer buried, approved, air tested	50	20		Y	65	N
SWD	Storm water drain pipe, 12 inches or greater	50	20		Y	57	N

* New potential contaminant source.

[1] A sensitive well has less than 50 feet of watertight casing, and which is not cased below a confining layer or confining materials of at least 10' in thickness.

[2] These sources, known as Class V underground injection wells, are regulated by the federal U.S. Environmental Protection Agency.

[3] These sources are classified as illegal by Minnesota Rules, Chapter 4725.

[4] Isolation distance is determined by average flow per day or if a facility handles infectious or pathological wastes.

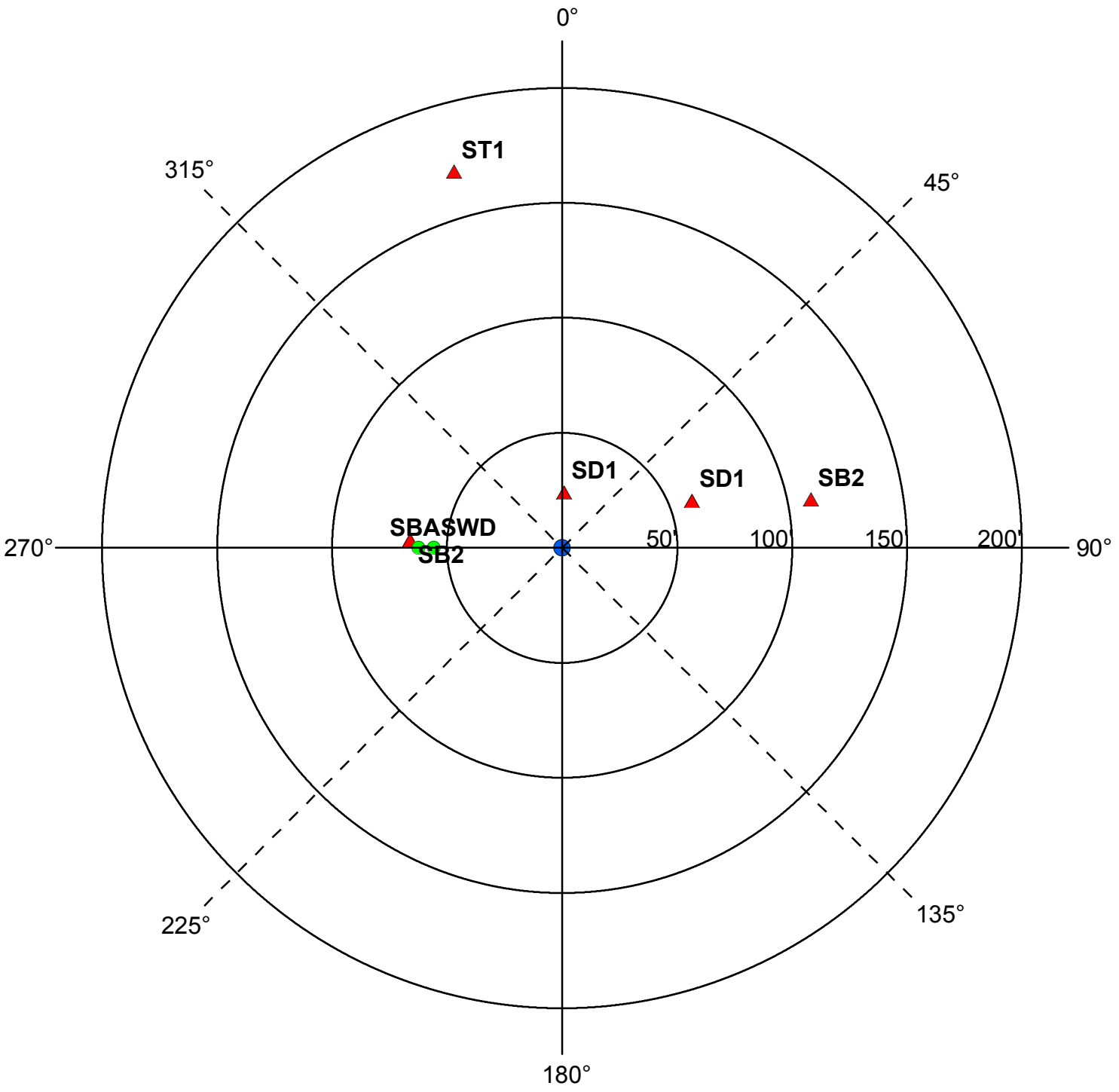
[5] A community public water-supply well must be a minimum of 50 feet from a petroleum tank or container, unless the tank or container is used for emergency pumping and is located in a room or building separate from the community well; and is of double-wall construction with leak detection between walls; or is protected with secondary containment.

This form is based on the new isolation distances in Minnesota Rules, Chapter 4725, related to wells and borings adopted August 4, 2008, and Minnesota Rules, Chapter 4720, related to wellhead protection.

PWS ID / FACILITY ID	1480001 S01	UNIQUE WELL NO.	227363

SETBACK DISTANCES — **All potential contaminant sources must be noted on sketch.**

Record the distance and approximate compass bearing of each potential contaminant source from the well, and identify the source using the "Source Code". Unlabeled points on the map are unsealed wells.



	Y	N	N/A
Were the isolation distances maintained for the new sources of contamination?			X
Is the system monitoring existing nonconforming sources of contamination?			

Reminder Question: Were the wellhead protection measure(s) implemented?

INSPECTOR	Minerich, George	DATE	5 - 13 - 2015

PWS ID / FACILITY ID	1480001 S01	UNIQUE WELL NO.	227363

RECOMMENDED WELLHEAD PROTECTION (WHP) MEASURES	WHP MEASURE IMPLEMENTED? Y or N	DATE VERIFIED

COMMENTS

9/7/2003 - Location for PCSI Type PLE (bearing = 0, distance = 24 , inventory date: 1/14/1999) could not be determined.

For further information, please contact:

Minnesota Department of Health
Drinking Water Protection Section
Source Water Protection Unit
P.O. Box 64975
St. Paul, Minnesota 55164-0975

Section Receptionist: 651-201-4700
Division TDD: 651-201-5797 or MN Relay Service @ 1-800-627-3529 and ask for 651-201-5000

Environmental Health Division
Drinking Water Protection Section
P.O. Box 64975
St. Paul, Minnesota 55164-0975

INNER WELLHEAD MANAGEMENT ZONE (IWMZ) - POTENTIAL CONTAMINANT SOURCE INVENTORY (PCSI) REPORT

PUBLIC WATER SYSTEM INFORMATION

PWS ID	1480001
NAME	Isle
ADDRESS	Isle Water Superintendent, City Hall, P.O. Box 427, Isle, MN 563420427

COMMUNITY

FACILITY (WELL) INFORMATION

NAME	Well #2
FACILITY ID	S02
UNIQUE WELL NO.	214762
COUNTY	Mille Lacs

IS THERE A WELL LOG OR ADDITIONAL CONSTRUCTION INFORMATION AVAILABLE?

☐ **YES** (Please attach a copy)
☐ **NO** ☐ **UNDETERMINED**

PWS ID / FACILITY ID	1480001 S02	**UNIQUE WELL NO.**	214762

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
Agricultural Related							
*AC1	Agricultural chemical buried piping	50	50		N		
*AC2	Agricultural chemical multiple tanks or containers for residential retail sale or use, no single tank or container exceeding, but aggregate volume exceeding 56 gal. or 100 lbs. dry weight	50	50		N		
ACP	Agricultural chemical tank or container with 25 gal. or more or 100 lbs. or more dry weight, or equipment filling or cleaning area without safeguards	150	150		N		
ACS	Agricultural chemical storage or equipment filling or cleaning area with safeguards	100	100		N		
ACR	Agricultural chemical storage or equipment filling or cleaning area with safeguards and roofed	50	50		N		
ADW	Agricultural drainage well[2] (Class V well - illegal[3])	50	50		N		
AAT	Anhydrous ammonia tank (stationary tank)	50	50		N		
AB1	Animal building, feedlot, confinement area, or kennel, 0.1 to 1.0 animal unit (stockyard)	50	20	100/40	N		
AB2	Animal building or poultry building, including a horse riding area, more than 1.0 animal unit	50	50	100	N		
ABS	Animal burial area, more than 1.0 animal unit	50	50		N		
FWP	Animal feeding or watering area within a pasture, more than 1.0 animal unit	50	50	100	N		
AF1	Animal feedlot, unroofed, 300 or more animal units (stockyard)	100	100	200	N		
AF2	Animal feedlot, more than 1.0, but less than 300 animal units (stockyard)	50	50	100	N		
AMA	Animal manure application	use discretion	use discretion		N		
REN	Animal rendering plant	50	50		N		
MS1	Manure (liquid) storage basin or lagoon, unpermitted or noncertified	300	300	600	N		
MS2	Manure (liquid) storage basin or lagoon, approved earthen liner	150	150	300	N		
MS3	Manure (liquid) storage basin or lagoon, approved concrete or composite liner	100	100	200	N		
MS4	Manure (solid) storage area, not covered with a roof	100	100	200	N		
OSC	Open storage for crops	use discretion	use discretion		N		
SSTS Related							
AA1	Absorption area of a soil dispersal system, average flow greater than 10,000 gal./day	300	300	600	N		
AA2	Absorption area of a soil dispersal system serving a facility handling infectious or pathological wastes, average flow 10,000 gal./day or less	150	150	300	N		
AA3	Absorption area of a soil dispersal system, average flow 10,000 gal./day or less	50	50	100	N		
AA4	Absorption area of a soil dispersal system serving multiple family residences or a non-residential facility and has the capacity to serve 20 or more persons per day (Class V well)[2]	50/300/150[4]	50/300/150[4]	100/600/300[4]	N		
CSP	Cesspool	75	75	150	N		
AGG	Dry well, leaching pit, seepage pit	75	75	150	N		
*FD1	Floor drain, grate, or trough connected to a buried sewer	50	50		N		
*FD2	Floor drain, grate, or trough if buried sewer is air-tested, approved materials, serving one building, or two or less single-family residences	50	20		N		
*GW1	Gray-water dispersal area	50	50	100	N		
LC1	Large capacity cesspools (Class V well - illegal)[2]	75	75	150	N		
MVW	Motor vehicle waste disposal (Class V well - illegal)[2]	illegal	illegal		N		

PWS ID / FACILITY ID	1480001 S02	UNIQUE WELL NO.	214762

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
PR1	Privy, nonportable	50	50	100	N		
PR2	Portable (privy) or toilet	50	20		N		
*SF1	Watertight sand filter; peat filter; or constructed wetland	50	50		N		
SET	Septic tank	50	50		N		
HTK	Sewage holding tank, watertight	50	50		N		
SS1	Sewage sump capacity 100 gal. or more	50	50		N		
SS2	Sewage sump capacity less than 100 gal., tested, conforming to rule	50	20		N		
*ST1	Sewage treatment device, watertight	50	50		N		
SB1	Sewer, buried, approved materials, tested, serving one building, or two or less single-family residences	50	20		N		
SB2	Sewer, buried, collector, municipal, serving a facility handling infectious or pathological wastes, open-jointed or unapproved materials	50	50		N		
*WB1	Water treatment backwash holding basin, reclaim basin, or surge tank with a direct sewer connection	50	50		N		
*WB2	Water treatment backwash holding basin, reclaim basin, or surge tank with a backflow protected sewer connection	20	20		N		
Land Application							
SPT	Land spreading area for sewage, septage, or sludge	50	50	100	N		
Solid Waste Related							
COS	Commercial compost site	50	50		N		
CD1	Construction or demolition debris disposal area	50	50	100	N		
*HW1	Household solid waste disposal area, single residence	50	50	100	N		
LF1	Landfill, permitted demolition debris, dump, or mixed municipal solid waste from multiple persons	300	300	600	N		
SVY	Scrap yard	50	50		N		
SWT	Solid waste transfer station	50	50		N		
Storm Water Related							
SD1	Storm water drain pipe, 8 inches or greater in diameter	50	20		N		
SWI	Storm water drainage well[2] (Class V well - illegal[3])	50	50		N		
SM1	Storm water pond greater than 5000 gal.	50	35		N		
Wells and Borings							
*EB1	Elevator boring, not conforming to rule	50	50		N		
*EB2	Elevator boring, conforming to rule	20	20		N		
MON	Monitoring well	record dist.	record dist.		N		
WEL	Operating well	record dist.	record dist.		N		
UUW	Unused, unsealed well or boring	50	50		N		
General							
*CR1	Cistern or reservoir, buried, nonpressurized water supply	20	20		N		
PLM	Contaminant plume	50	50		N		
*CW1	Cooling water pond, industrial	50	50	100	N		
DC1	Deicing chemicals, bulk road	50	50	100	N		
*ET1	Electrical transformer storage area, oil-filled	50	50		N		
GRV	Grave or mausoleum	50	50		Y	115	N
GP1	Gravel pocket or French drain for clear water drainage only	20	20		N		
*HS1	Hazardous substance buried piping	50	50		N		
HS2	Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight, without safeguards	150	150		N		
HS3	Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight with safeguards	100	100		N		
HS4	Hazardous substance multiple storage tanks or containers for residential retail sale or use, no single tank or container exceeding 56 gal. or 100 lbs., but aggregate volume exceeding	50	50		N		
HWF	Highest water or flood level	50	N/A		N		
*HG1	Horizontal ground source closed loop heat exchanger buried piping	50	50		N		
*HG2	Horizontal ground source closed loop heat exchanger buried piping and horizontal piping, approved materials and heat transfer fluid	50	10		N		
IWD	Industrial waste disposal well (Class V well)[2]	illegal[3]	illegal[3]		N		
IWS	Interceptor, including a flammable waste or sediment	50	50		N		
OH1	Ordinary high water level of a stream, river, pond, lake, reservoir, or drainage ditch (holds water six months or more)	50	35		N		
*PP1	Petroleum buried piping	50	50		N		
*PP2	Petroleum or crude oil pipeline to a refinery or distribution center	100	100		N		

PWS ID / FACILITY ID	1480001 S02	UNIQUE WELL NO.	214762

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
PT1	Petroleum tank or container, 1100 gal. or more, without safeguards	150	150		N		
PT2	Petroleum tank or container, 1100 gal. or more, with safeguards	100	100		N		
PT3	Petroleum tank or container, buried, between 56 and 1100 gal.	50	50		N		
PT4	Petroleum tank or container, not buried, between 56 and 1100 gal.	50[5]	20		N		
PU1	Pit or unfilled space more than four feet in depth	20	20		N		
PC1	Pollutant or contaminant that may drain into the soil	50	50	100	N		
SP1	Swimming pool, in-ground	20	20		N		
*VH1	Vertical heat exchanger, horizontal piping conforming to rule	50	10		N		
*VH2	Vertical heat exchanger (vertical) piping, conforming to rule	50	35		N		
*WR1	Wastewater rapid infiltration basin, municipal or industrial	300	300	600	N		
*WA1	Wastewater spray irrigation area, municipal or industrial	150	150	300	N		
*WS1	Wastewater stabilization pond, industrial	150	150	300	N		
*WS2	Wastewater stabilization pond, municipal, 500 or more gal./acre/day of leakage	300	300	600	N		
*WS3	Wastewater stabilization pond, municipal, less than 500 gal./acre/day of leakage	150	150	300	N		
*WT1	Wastewater treatment unit tanks, vessels and components (Package plant)	100	100		N		
*WT2	Water treatment backwash disposal area	50	50	100	N		
Additional Sources (If there is more than one source listed above, please indicate here).							
Potential Contamination Sources and Codes Based on Previous Versions of this Form							
	none found within 200' of this well.						

* New potential contaminant source.

[1] A sensitive well has less than 50 feet of watertight casing, and which is not cased below a confining layer or confining materials of at least 10' in thickness.

[2] These sources, known as Class V underground injection wells, are regulated by the federal U.S. Environmental Protection Agency.

[3] These sources are classified as illegal by Minnesota Rules, Chapter 4725.

[4] Isolation distance is determined by average flow per day or if a facility handles infectious or pathological wastes.

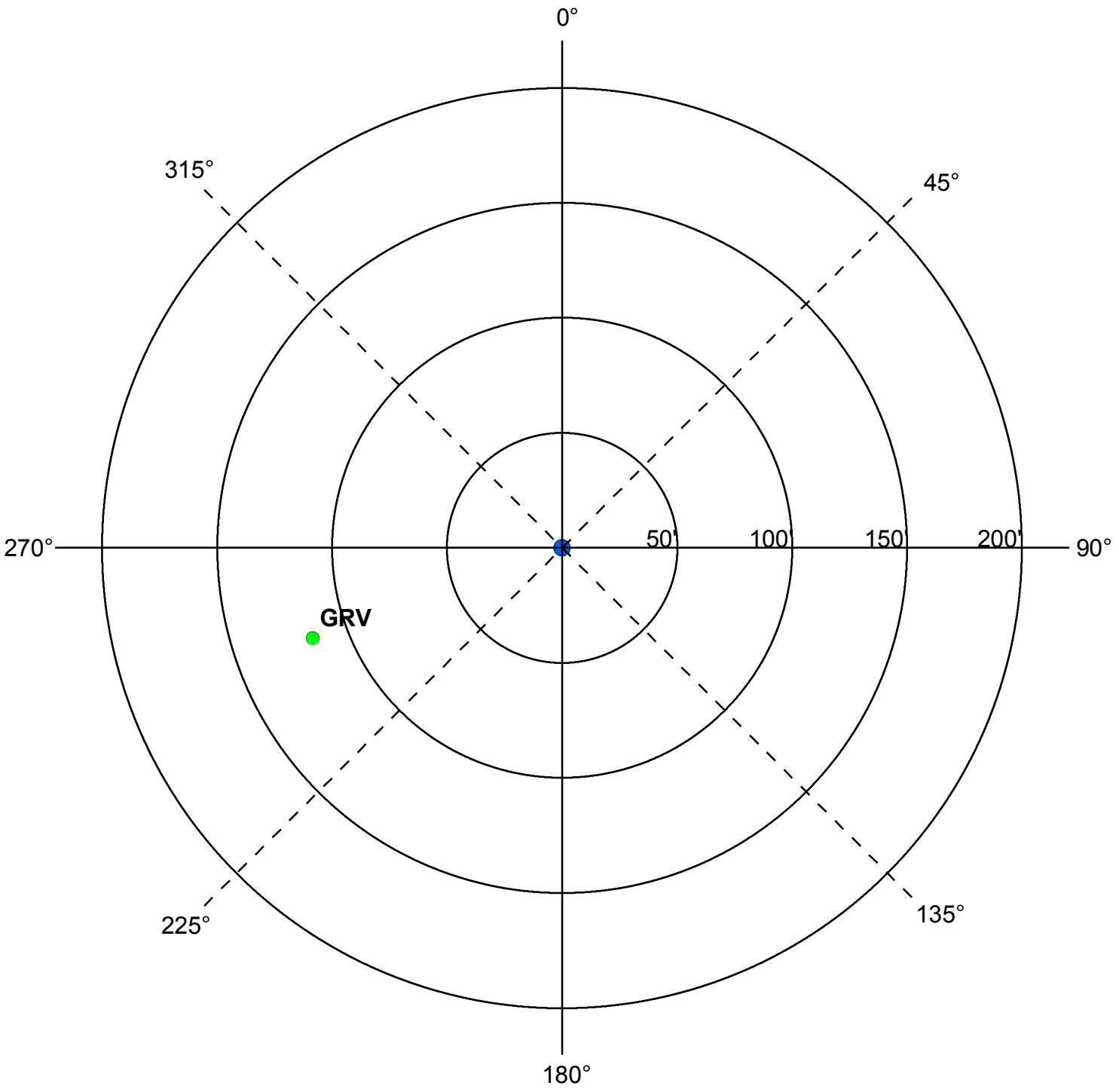
[5] A community public water-supply well must be a minimum of 50 feet from a petroleum tank or container, unless the tank or container is used for emergency pumping and is located in a room or building separate from the community well; and is of double-wall construction with leak detection between walls; or is protected with secondary containment.

This form is based on the new isolation distances in Minnesota Rules, Chapter 4725, related to wells and borings adopted August 4, 2008, and Minnesota Rules, Chapter 4720, related to wellhead protection.

PWS ID / FACILITY ID	1480001 S02	UNIQUE WELL NO.	214762

SETBACK DISTANCES — **All potential contaminant sources must be noted on sketch.**

Record the distance and approximate compass bearing of each potential contaminant source from the well, and identify the source using the "Source Code". Unlabeled points on the map are unsealed wells.



	Y	N	N/A
Were the isolation distances maintained for the new sources of contamination?			
Is the system monitoring existing nonconforming sources of contamination?			

Reminder Question: Were the wellhead protection measure(s) implemented?

INSPECTOR	Minerich, George	DATE	5 - 13 - 2015

PWS ID / FACILITY ID	1480001 S02	UNIQUE WELL NO.	214762

RECOMMENDED WELLHEAD PROTECTION (WHP) MEASURES	WHP MEASURE IMPLEMENTED? Y or N	DATE VERIFIED

COMMENTS

For further information, please contact:

Minnesota Department of Health
Drinking Water Protection Section
Source Water Protection Unit
P.O. Box 64975
St. Paul, Minnesota 55164-0975

Section Receptionist: 651-201-4700
Division TDD: 651-201-5797 or MN Relay Service @ 1-800-627-3529 and ask for 651-201-5000

Environmental Health Division
Drinking Water Protection Section
P.O. Box 64975
St. Paul, Minnesota 55164-0975

INNER WELLHEAD MANAGEMENT ZONE (IWMZ) - POTENTIAL CONTAMINANT SOURCE INVENTORY (PCSI) REPORT

PUBLIC WATER SYSTEM INFORMATION

PWS ID	1480001
NAME	Isle
ADDRESS	Isle Water Superintendent, City Hall, P.O. Box 427, Isle, MN 563420427

COMMUNITY

FACILITY (WELL) INFORMATION

NAME	Well #3
FACILITY ID	S03
UNIQUE WELL NO.	111761
COUNTY	Mille Lacs

IS THERE A WELL LOG OR ADDITIONAL CONSTRUCTION INFORMATION AVAILABLE?

☐ **YES** (Please attach a copy)
☐ **NO** ☐ **UNDETERMINED**

PWS ID / FACILITY ID	1480001 S03	**UNIQUE WELL NO.**	111761

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
Agricultural Related							
*AC1	Agricultural chemical buried piping	50	50		N		
*AC2	Agricultural chemical multiple tanks or containers for residential retail sale or use, no single tank or container exceeding, but aggregate volume exceeding 56 gal. or 100 lbs. dry weight	50	50		N		
ACP	Agricultural chemical tank or container with 25 gal. or more or 100 lbs. or more dry weight, or equipment filling or cleaning area without safeguards	150	150		N		
ACS	Agricultural chemical storage or equipment filling or cleaning area with safeguards	100	100		N		
ACR	Agricultural chemical storage or equipment filling or cleaning area with safeguards and roofed	50	50		N		
ADW	Agricultural drainage well[2] (Class V well - illegal[3])	50	50		N		
AAT	Anhydrous ammonia tank (stationary tank)	50	50		N		
AB1	Animal building, feedlot, confinement area, or kennel, 0.1 to 1.0 animal unit (stockyard)	50	20	100/40	N		
AB2	Animal building or poultry building, including a horse riding area, more than 1.0 animal unit	50	50	100	N		
ABS	Animal burial area, more than 1.0 animal unit	50	50		N		
FWP	Animal feeding or watering area within a pasture, more than 1.0 animal unit	50	50	100	N		
AF1	Animal feedlot, unroofed, 300 or more animal units (stockyard)	100	100	200	N		
AF2	Animal feedlot, more than 1.0, but less than 300 animal units (stockyard)	50	50	100	N		
AMA	Animal manure application	use discretion	use discretion		N		
REN	Animal rendering plant	50	50		N		
MS1	Manure (liquid) storage basin or lagoon, unpermitted or noncertified	300	300	600	N		
MS2	Manure (liquid) storage basin or lagoon, approved earthen liner	150	150	300	N		
MS3	Manure (liquid) storage basin or lagoon, approved concrete or composite liner	100	100	200	N		
MS4	Manure (solid) storage area, not covered with a roof	100	100	200	N		
OSC	Open storage for crops	use discretion	use discretion		N		
SSTS Related							
AA1	Absorption area of a soil dispersal system, average flow greater than 10,000 gal./day	300	300	600	N		
AA2	Absorption area of a soil dispersal system serving a facility handling infectious or pathological wastes, average flow 10,000 gal./day or less	150	150	300	N		
AA3	Absorption area of a soil dispersal system, average flow 10,000 gal./day or less	50	50	100	N		
AA4	Absorption area of a soil dispersal system serving multiple family residences or a non-residential facility and has the capacity to serve 20 or more persons per day (Class V well)[2]	50/300/150[4]	50/300/150[4]	100/600/300[4]	N		
CSP	Cesspool	75	75	150	N		
AGG	Dry well, leaching pit, seepage pit	75	75	150	N		
*FD1	Floor drain, grate, or trough connected to a buried sewer	50	50		N		
*FD2	Floor drain, grate, or trough if buried sewer is air-tested, approved materials, serving one building, or two or less single-family residences	50	20		N		
*GW1	Gray-water dispersal area	50	50	100	N		
LC1	Large capacity cesspools (Class V well - illegal)[2]	75	75	150	N		
MVW	Motor vehicle waste disposal (Class V well - illegal)[2]	illegal	illegal		N		

PWS ID / FACILITY ID	1480001 S03	UNIQUE WELL NO.	111761

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
PR1	Privy, nonportable	50	50	100	N		
PR2	Portable (privy) or toilet	50	20		N		
*SF1	Watertight sand filter; peat filter; or constructed wetland	50	50		N		
SET	Septic tank	50	50		N		
HTK	Sewage holding tank, watertight	50	50		N		
SS1	Sewage sump capacity 100 gal. or more	50	50		N		
SS2	Sewage sump capacity less than 100 gal., tested, conforming to rule	50	20		N		
*ST1	Sewage treatment device, watertight	50	50		Y	140	Y
*ST1	Sewage treatment device, watertight	50	50		Y	140	Y
SB1	Sewer, buried, approved materials, tested, serving one building, or two or less single-family residences	50	20		N		
SB2	Sewer, buried, collector, municipal, serving a facility handling infectious or pathological wastes, open-jointed or unapproved materials	50	50		N		
*WB1	Water treatment backwash holding basin, reclaim basin, or surge tank with a direct sewer connection	50	50		N		
*WB2	Water treatment backwash holding basin, reclaim basin, or surge tank with a backflow protected sewer connection	20	20		N		
Land Application							
SPT	Land spreading area for sewage, septage, or sludge	50	50	100	N		
Solid Waste Related							
COS	Commercial compost site	50	50		N		
CD1	Construction or demolition debris disposal area	50	50	100	N		
*HW1	Household solid waste disposal area, single residence	50	50	100	N		
LF1	Landfill, permitted demolition debris, dump, or mixed municipal solid waste from multiple persons	300	300	600	N		
SVY	Scrap yard	50	50		N		
SWT	Solid waste transfer station	50	50		N		
Storm Water Related							
SD1	Storm water drain pipe, 8 inches or greater in diameter	50	20		N		
SWI	Storm water drainage well[2] (Class V well - illegal[3])	50	50		N		
SM1	Storm water pond greater than 5000 gal.	50	35		N		
Wells and Borings							
*EB1	Elevator boring, not conforming to rule	50	50		N		
*EB2	Elevator boring, conforming to rule	20	20		N		
MON	Monitoring well	record dist.	record dist.		N		
WEL	Operating well	record dist.	record dist.		N		
UUW	Unused, unsealed well or boring	50	50		N		
General							
*CR1	Cistern or reservoir, buried, nonpressurized water supply	20	20		N		
PLM	Contaminant plume	50	50		N		
*CW1	Cooling water pond, industrial	50	50	100	N		
DC1	Deicing chemicals, bulk road	50	50	100	N		
*ET1	Electrical transformer storage area, oil-filled	50	50		N		
GRV	Grave or mausoleum	50	50		N		
GP1	Gravel pocket or French drain for clear water drainage only	20	20		N		
*HS1	Hazardous substance buried piping	50	50		N		
HS2	Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight, without safeguards	150	150		N		
HS3	Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight with safeguards	100	100		N		
HS4	Hazardous substance multiple storage tanks or containers for residential retail sale or use, no single tank or container exceeding 56 gal. or 100 lbs., but aggregate volume exceeding	50	50		N		
HWF	Highest water or flood level	50	N/A		N		
*HG1	Horizontal ground source closed loop heat exchanger buried piping	50	50		N		
*HG2	Horizontal ground source closed loop heat exchanger buried piping and horizontal piping, approved materials and heat transfer fluid	50	10		N		
IWD	Industrial waste disposal well (Class V well)[2]	illegal[3]	illegal[3]		N		
IWS	Interceptor, including a flammable waste or sediment	50	50		N		
OH1	Ordinary high water level of a stream, river, pond, lake, reservoir, or drainage ditch (holds water six months or more)	50	35		N		
*PP1	Petroleum buried piping	50	50		N		

PWS ID / FACILITY ID	1480001 S03	UNIQUE WELL NO.	111761

PCSI CODE	ACTUAL OR POTENTIAL CONTAMINATION SOURCE	ISOLATION DISTANCES (FEET)				LOCATION	
		Minimum Distances		Sensitive Well[1]	Within 200 Ft. Y / N / U	Dist. from Well	Est. (?)
		Community	Non-community				
*PP2	Petroleum or crude oil pipeline to a refinery or distribution center	100	100		N		
PT1	Petroleum tank or container, 1100 gal. or more, without safeguards	150	150		N		
PT2	Petroleum tank or container, 1100 gal. or more, with safeguards	100	100		N		
PT3	Petroleum tank or container, buried, between 56 and 1100 gal.	50	50		N		
PT4	Petroleum tank or container, not buried, between 56 and 1100 gal.	50[5]	20		N		
PU1	Pit or unfilled space more than four feet in depth	20	20		N		
PC1	Pollutant or contaminant that may drain into the soil	50	50	100	N		
SP1	Swimming pool, in-ground	20	20		N		
*VH1	Vertical heat exchanger, horizontal piping conforming to rule	50	10		N		
*VH2	Vertical heat exchanger (vertical) piping, conforming to rule	50	35		N		
*WR1	Wastewater rapid infiltration basin, municipal or industrial	300	300	600	N		
*WA1	Wastewater spray irrigation area, municipal or industrial	150	150	300	N		
*WS1	Wastewater stabilization pond, industrial	150	150	300	N		
*WS2	Wastewater stabilization pond, municipal, 500 or more gal./acre/day of leakage	300	300	600	N		
*WS3	Wastewater stabilization pond, municipal, less than 500 gal./acre/day of leakage	150	150	300	N		
*WT1	Wastewater treatment unit tanks, vessels and components (Package plant)	100	100		N		
*WT2	Water treatment backwash disposal area	50	50	100	N		
Additional Sources (If there is more than one source listed above, please indicate here).							
Potential Contamination Sources and Codes Based on Previous Versions of this Form							
GPR	Gravel pocket receiving clear water drainage	30	N/A		Y	35	N
SBA	Sewer buried, approved, air tested	50	20		Y	130	N

* New potential contaminant source.

[1] A sensitive well has less than 50 feet of watertight casing, and which is not cased below a confining layer or confining materials of at least 10' in thickness.

[2] These sources, known as Class V underground injection wells, are regulated by the federal U.S. Environmental Protection Agency.

[3] These sources are classified as illegal by Minnesota Rules, Chapter 4725.

[4] Isolation distance is determined by average flow per day or if a facility handles infectious or pathological wastes.

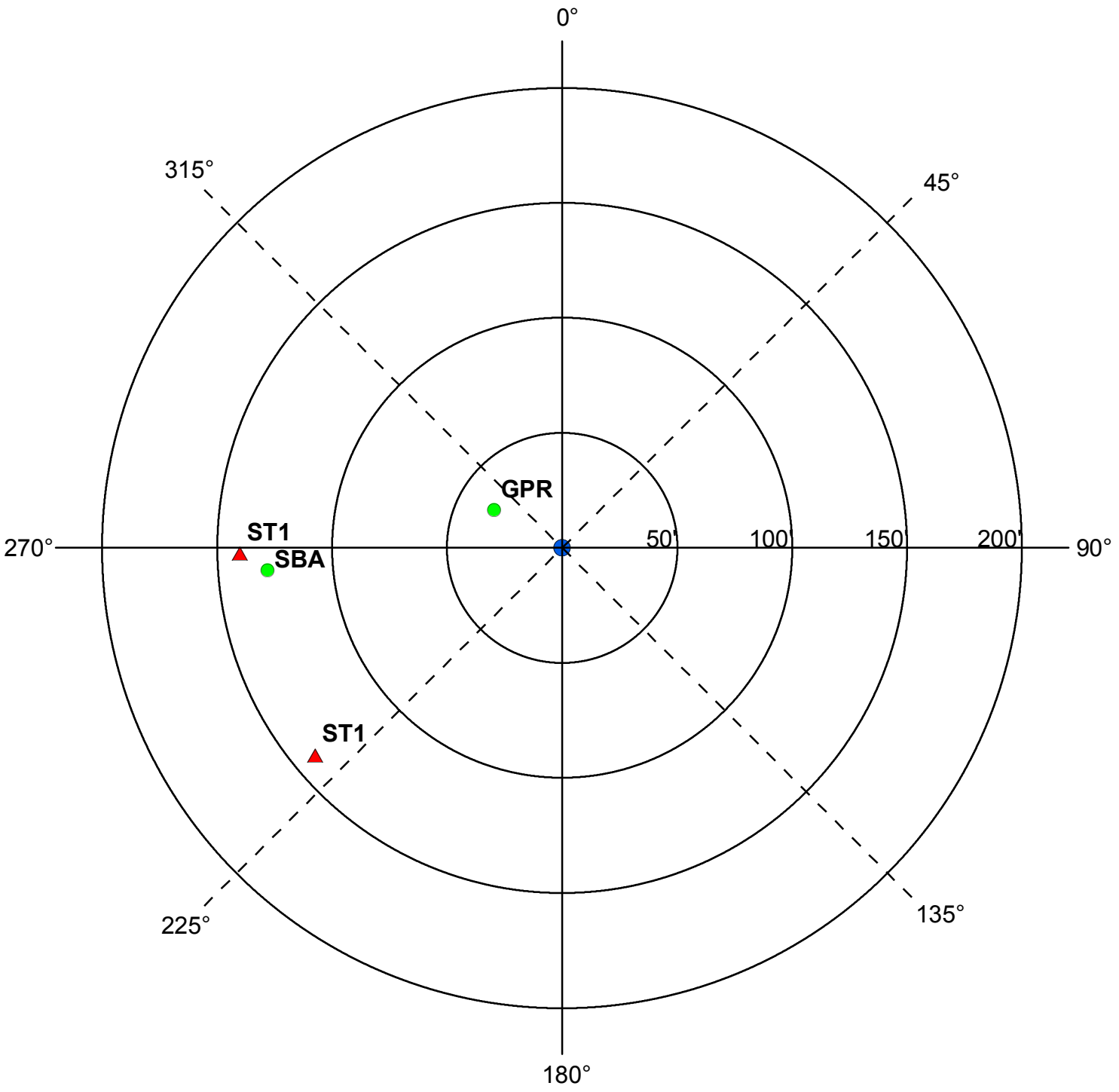
[5] A community public water-supply well must be a minimum of 50 feet from a petroleum tank or container, unless the tank or container is used for emergency pumping and is located in a room or building separate from the community well; and is of double-wall construction with leak detection between walls; or is protected with secondary containment.

This form is based on the new isolation distances in Minnesota Rules, Chapter 4725, related to wells and borings adopted August 4, 2008, and Minnesota Rules, Chapter 4720, related to wellhead protection.

PWS ID / FACILITY ID	1480001 S03	UNIQUE WELL NO.	111761

SETBACK DISTANCES — **All potential contaminant sources must be noted on sketch.**

Record the distance and approximate compass bearing of each potential contaminant source from the well, and identify the source using the "Source Code". Unlabeled points on the map are unsealed wells.



	Y	N	N/A
Were the isolation distances maintained for the new sources of contamination?			X
Is the system monitoring existing nonconforming sources of contamination?			

Reminder Question: Were the wellhead protection measure(s) implemented?

INSPECTOR	Minerich, George	DATE	5 - 13 - 2015

PWS ID / FACILITY ID	1480001 S03	UNIQUE WELL NO.	111761

RECOMMENDED WELLHEAD PROTECTION (WHP) MEASURES	WHP MEASURE IMPLEMENTED? Y or N	DATE VERIFIED

COMMENTS

For further information, please contact:

Minnesota Department of Health
Drinking Water Protection Section
Source Water Protection Unit
P.O. Box 64975
St. Paul, Minnesota 55164-0975

Section Receptionist: 651-201-4700
Division TDD: 651-201-5797 or MN Relay Service @ 1-800-627-3529 and ask for 651-201-5000

APPENDIX H

POTENTIAL CONTAMINANT SOURCE DETAIL LIST

PCSI_ID	PIN	FAC_NAME	ADDRESS	CITY	ZIP5_CODE	PCS_C	STATUS_C	MAT_C	PROGRAM_ID	TOTAL	COMMENT	Northing	Easting
1	08-850-0110	OLSON/DICK/ & JEAN JAMESON	1695 TORCHLIGHT RD	Isle Harbor	56342	WEL	A	0	U	1	Aerial Photo	5108836.42	465333.688
2	08-850-0120	BRUNETTE/JAMES M	1774 TOPACK RD	Isle Harbor	56342	WEL	A	0	U	1	Aerial Photo	5108776.676	465360.943
3	20-166-0070	MILLE LACS BAND OF CHIPPEWA	2525 CHIMINISING CIR	Isle	56342	WEL	A	0	766611	1	MWI - Located	5110193.572	465389.9
4	08-850-0130	BATTLESON/EUGENE D & DOLORES	1838 TOPACK RD	Isle Harbor	56342	WEL	A	0	U	1	Aerial Photo	5108749.59	465287.211
5	08-850-0140	BERNU/CHAD R & SAMATHA K	1876 TOPACK RD	Isle Harbor	56342	WEL	A	0	U	1	Aerial Photo	5108732.155	465243.753
6	08-850-0030	EYE/TURA L	1885 TOPACK RD	Isle Harbor	56342	WEL	A	0	U	1	Aerial Photo	5108678.705	465200.091
7	08-850-0020	ROBERTSON/VERNON A & CORINA	40401 TOPACK RD	Isle Harbor	56342	WEL	A	0	U	1	Aerial Photo	5108750.647	465100.642
8	08-850-0010	ROGERS/ALLAN H & GENICE M	1965 TORCHLIGHT RD	Isle Harbor	56342	WEL	A	0	U	1	Aerial Photo	5108797.887	465084.486
9	08-850-0010	ROGERS/ALLAN H & GENICE M	1965 TORCHLIGHT RD	Isle Harbor	56342	WEL	A	0	U	1	Aerial Photo	5108834.56	465084.038
10	20-012-0801	POJANOWSKI/KAREN R	U	Isle	56342	WEL	A	0	U	1	Aerial Photo	5108941.338	465076.762
11	20-011-0353	POJANOWSKI/JOHN D & KAREN R	2016 TORCHLIGHT RD	Isle	56342	WEL	A	0	U	1	Aerial Photo	5108957.532	464992.767
12	08-012-1001	REVAK/PAUL G & REBECCA L	40359 STATE HWY 47	Isle Harbor	56342	WEL	A	0	U	1	Aerial Photo	5108623.256	465047.36
13	20-011-0350	TRAMM/KATHERINE K	U	Isle	56342	WEL	A	0	U	1	Aerial Photo	5109116.194	464843.238
14	20-011-0300	HAGGBERG/DOLORES R	1010 STATE HWY 47 S	Isle	56342	WEL	A	0	U	1	Aerial Photo	5109311.027	464666.335
15	20-011-0102	WAUGHTEL/RITA A	1125 SUPERIOR ST E	Isle	56342	WEL	A	0	U	1	Aerial Photo	5109624.027	464662.225
16	20-011-0104	PHILLIPS/GORDON A & BARBARA K	1155 SUPERIOR ST E	Isle	56342	WEL	A	0	U	1	Aerial Photo	5109603.307	464735.674
17	20-011-0103	GRZESKOWIAK/ROGER L & JUDITH	1175 SUPERIOR ST E	Isle	56342	WEL	A	0	U	1	Aerial Photo	5109587.883	464799.302
18	20-011-0105	DAHLEN/DONALD A & LINDA K	1275 SUPERIOR ST E	Isle	56342	WEL	A	0	U	1	Aerial Photo	5109599.897	464873.596
19	20-011-0101	SCANLON/TERRENCE J & LISA A	1225 SUPERIOR ST E	Isle	56342	WEL	A	0	U	1	Aerial Photo	5109629.99	464992.661
20	08-012-0701	GOLDSMITH/DAVID W	1925 410TH ST	Isle Harbor	56342	WEL	A	0	U	1	Aerial Photo	5109581.324	465145.433
21	08-012-0700	SCHMIDT/TROY A	1863 410TH ST	Isle Harbor	56342	WEL	A	0	U	1	Aerial Photo	5109637.038	465250.19
22	08-012-0400	CEMSTONE PRODUCTS CO	1515 410TH ST	Isle Harbor	56342	WEL	A	0	U	1	Aerial Photo	5109628.014	465457.05
23	08-012-0500	PINZ/LESLIE A/REV TRUST	1539 410TH ST	Isle Harbor	56342	WEL	A	0	U	1	Aerial Photo	5109587.639	465651.255
24	08-012-0500	PINZ/LESLIE A/REV TRUST	1539 410TH ST	Isle Harbor	56342	WEL	A	0	U	1	Aerial Photo	5109598.222	465749.187
25	08-012-0300	CEMSTONE PRODUCTS CO	1515 410TH ST	Isle Harbor	56342	WEL	A	0	U	1	Aerial Photo	5109411.86	465823.032
26	08-001-0300	CEMSTONE PRODUCTS CO	U	Isle Harbor	56342	WEL	A	0	U	1	Aerial Photo	5109785.062	465589.303
27	08-001-0200	STADIG/ALICE	1978 410TH ST	Isle Harbor	56342	WEL	A	0	U	1	Aerial Photo	5109721.438	465145.572
28	20-002-4700	MILLE LACS BAND OF CHIPPEWA	U	Isle	56342	WEL	A	0	U	1	Aerial Photo	5109740.592	465001.174
29	20-002-4700	MILLE LACS BAND OF CHIPPEWA	U	Isle	56342	WEL	A	0	U	1	Aerial Photo	5109794.933	465001.483
30	20-002-4700	MILLE LACS BAND OF CHIPPEWA	U	Isle	56342	WEL	A	0	U	1	Aerial Photo	5109842.666	465012.265
31	20-002-4400	BOYD/BRENDA J & DAVID B	1915 MOOSE LN	Isle	56342	WEL	A	0	U	1	Aerial Photo, Burned Structure	5110147.838	464998.242
32	20-002-4300	BOYD/BRENDA J & DAVID B	1905 MOOSE LN	Isle	56342	WEL	A	0	U	1	Aerial Photo	5110387.386	465009.46
33	20-001-1108	MILLE LACS BAND OF OJIBWE	2240 MOOSE DR	Isle	56342	WEL	A	0	U	1	Aerial Photo	5110308.519	465178.462
34	20-001-1107	MILLE LACS BAND OF CHIPPEWA	U	Isle	56342	WEL	A	0	U	1	Aerial Photo	5110330.446	465237.04
35	20-166-0040	MILLE LACS BAND OF CHIPPEWA	U	Isle	56342	WEL	A	0	U	1	Aerial Photo	5110351.607	465315.317
36	20-001-1106	MILLE LACS BAND OF OJIBWE	2300 MOOSE DR	Isle	56342	WEL	A	0	U	1	Aerial Photo	5110425.004	465186.347
37	20-166-0010	MILLE LACS BAND OF CHIPPEWA	U	Isle	56342	WEL	A	0	U	1	Aerial Photo	5110436.862	465288.871
38	20-166-0020	MILLE LACS BAND OF CHIPPEWA	U	Isle	56342	WEL	A	0	U	1	Aerial Photo	5110437.938	465330.254
39	20-166-0030	MILLE LACS BAND OF CHIPPEWA	U	Isle	56342	WEL	A	0	U	1	Aerial Photo	5110449.421	465383.518
40	20-166-0130	MILLE LACS BAND OF CHIPPEWA	U	Isle	56342	WEL	A	0	U	1	Aerial Photo	5110392.175	465435.08
41	20-166-0150	MILLE LACS BAND OF CHIPPEWA	U	Isle	56342	WEL	A	0	U	1	Aerial Photo	5110401.311	465556.636
42	20-166-0120	MILLE LACS BAND OF CHIPPEWA	2785 CHIMINISING CIR	Isle	56342	WEL	A	0	U	1	Aerial Photo	5110421.255	465619.141
43	20-166-0090	MILLE LACS BAND OF CHIPPEWA	2755 CHIMINISING CIR	Isle	56342	WEL	A	0	U	1	Aerial Photo	5110187.439	465519.968
44	20-166-0080	MILLE LACS BAND OF CHIPPEWA	2695 CHIMINISING CIR	Isle	56342	WEL	A	0	U	1	Aerial Photo	5110113.403	465530.061
45	20-166-0050	MILLE LACS BAND OF CHIPPEWA	2545 NAAWAAKWA ST	Isle	56342	WEL	A	0	U	1	Aerial Photo	5110264.735	465280.016
46	20-166-0060	MILLE LACS BAND OF CHIPPEWA	2535 NAAWAAKWA	Isle	56342	WEL	A	0	U	1	Aerial Photo	5110212.121	465322.41
47	20-001-1100	MILLE LACS BAND OF CHIPPEWA	525 SUPERIOR ST	Isle	56342	WEL	A	0	U	1	Aerial Photo	5110270.571	465098.396
48	20-001-1110	MILLE LACS BAND OF CHIPPEWA	525 SUPERIOR ST	Isle	56342	WEL	A	0	U	1	Aerial Photo	5110226.581	465096.722
49	20-001-1111	MILLE LACS BAND OF CHIPPEWA	525 SUPERIOR ST	Isle	56342	WEL	A	0	U	1	Aerial Photo	5110175.491	465095.719
50	20-001-1112	MILLE LACS BAND OF CHIPPEWA	525 SUPERIOR ST	Isle	56342	WEL	A	0	U	1	Aerial Photo	5110119.432	465094.688
51	20-400-0410	HENRICKSON/JANICE E (BLEJA)	1605 GRAND AVE	Isle	56342	WEL	A	0	U	1	Aerial Photo	5110360.255	464637.789
52	20-166-0100	MILLE LACS BAND OF CHIPPEWA	2745 CHIMINISING CIR	Isle	56342	WEL	A	0	766610	1	MWI - Located	5110297.123	465614.971
53	08-001-0200	STADIG/ALICE	1978 410TH ST	Isle Harbor	56342	WEL	A	0	149919	1	MWI - Located	5109745	465092
54	20-166-0190	MILLE LACS BAND OF CHIPPEWA	2660 CHIMINISING CIR	Isle	56342	WEL	A	0	766604	1	MWI - Located	5110263.795	465416.298
55	20-166-0110	MILLE LACS BAND OF CHIPPEWA	2765 CHIMINISING CIR	Isle	56342	WEL	A	0	766609	1	MWI - Located	5110315.092	465613.913
56	20-166-0170	MILLE LACS BAND OF CHIPPEWA	2760 CHIMINISING CIR	Isle	56342	WEL	A	0	766606	1	MWI - Located	5110328.128	465502.001
57	20-002-0101	ISLE 3	U	Isle	56342	WEL	A	0	111761	1	MWI - Located	5110529.671	464602.049
58	20-166-0160	MILLE LACS BAND OF CHIPPEWA	2740 CHIMINISING CIR	Isle	56342	WEL	A	0	766605	1	MWI - Located	5110378.64	465542.96
59	08-012-0400	CEMSTONE PRODUCTS CO	1515 410TH ST	Isle Harbor	56342	WEL	A	0	161227	1	MWI - Located	5109659	465561
60	20-166-0180	MILLE LACS BAND OF CHIPPEWA	2780 CHIMINISING CIR	Isle	56342	WEL	A	0	766603	1	MWI - Located	5110229.527	465450.602
61	20-002-4600	ISLE 2	1150 SUPERIOR ST	Isle	56342	WEL	A	0	214762	1	MWI - Located	5109762.129	464750.922
62	20-001-1105	MILLE LACS BAND OF OJIBWE	2200 MOOSE DR	Isle	56342	WEL	A	0	787672	1	MWI - Located	5110316.493	465070.855

63	08-850-0130	BATTLESON/EUGENE D & DOLORES	1838 TOPACK RD	Isle Harbor	56342	WEL	A	0	784917	1	MWI - Located	5108737.49	465282.035
64	20-002-4500	MILLE LACS BAND OF CHIPPEWA	1855 MOOSE DR	Isle	56342	WEL	A	0	749253	1	MWI - Unlocated	5109986	464949
65	08-001-0300	CEMSTONE PRODUCTS CO	1515 410TH ST	Isle Harbor	56342	AST	A	F000	7298	10	Tank Site	5109698.824	465814.636
66	08-012-0400	Cemstone Gravel Pit	1515 410th St	Isle Harbor	56342	SCC	A	M000	U	1	Fuel AST, Tar Plant, Stormwater ponds in water providing unit	5109310.622	465732.2585
67	20-011-0350	Elliason Residence	40602 Highway 47	Isle	56342	LUST	C	0	15878	1	Inactive MPCA site	5109133.868	464869.0911
68	08-001-0300	CEMSTONE PRODUCTS CO	1515 410th ST	Isle Harbor	56342	UST	R	C000	7298	4	Removed diesel fuel UST x 4	5109609.855	465813.0603
69	08-001-0300	CEMSTONE PRODUCTS CO	1515 410th St	Isle Harbor	56342	AST	A	C000	7298	1	5 tank <1100 gallons	5109320.935	465744.0302

APPENDIX I

SEALED WELL AND REMOVED TANK LIST

Sealed Wells

WELL_SNUM	REP_STAT	SEALED_D	SEAL_DEP	UNIQUE	RELATEID	SEAL_ID	WELL_LABEL	LOC_ID	NAME	ADDR	CITY	TOWNSHIP	TOWN_DIR	RANGE	RANGE_DIR	SECT
601130	ACT	6/4/1998	13	H000127622		H0127622	H127622	348131	Elliason, Annette	40602 Hwy 47	Isle	42	N	25	W	12
668619	ACT	11/14/2003	45	H000213374		H0213374	H213374	415620	Goldsmith, David/kathi	1925 410th St	Isle	42	N	25	W	12
681060	ACT	2/14/2005	92	H000229925		H0229925	H229925	428061	Najbek, Joe	1125 E Superior St	Isle	42	N	25	W	11
486473	ACT	1/9/2007	42	717761	717761		717761	233474	Us Bank	40602 Hwy 47	Isle	42	N	25	W	11
486472	ACT	1/9/2007	45	717760	717760		717760	233473	Us Bank	40602 Hwy 47	Isle	42	N	25	W	11
486474	ACT	1/9/2007	42	717762	717762		717762	233475	Us Bank	40602 Hwy 47	Isle	42	N	25	W	11
486475	ACT	1/9/2007	42	717763	717763		717763	233476	Us Bank	40602 Hwy 47	Isle	42	N	25	W	11
421750	ACT	10/14/2011	47	647631	647631		647631	168751	Battleson, Eugene	1838 Topack Rd	Isle	42	N	25	W	12
3096909	ACT	11/29/2011	60	H000294192		H0294192	H0294192	1531879	Double D Construction	2200 Moose Dr	Isle	42	N	25	W	1

Removed Tanks

MPCA ID	Tank ID	Install Date	Removal Date	Capacity	Stored Product	Type	Tank Material	PIN	FAC_NAME	ADDR	CITY	TOWNSHIP	TOWN_DIR	RANGE	RANGE_DIR	SECT
7298	001	3/31/1974	3/31/1986	12000	Diesel	UST	Steel	08-001-0300	CEMSTONE PRODUCTS CO	1515 410th ST	Isle Harbor	42	N	25	W	12
	002	6/8/1979	3/31/1986	12000	Diesel	UST	Steel	08-001-0300	CEMSTONE PRODUCTS CO	1516 410th ST	Isle Harbor	42	N	25	W	12
	003	7/10/1963	3/31/1986	980	Diesel	UST	Steel	08-001-0300	CEMSTONE PRODUCTS CO	1517 410th ST	Isle Harbor	42	N	25	W	12
	004	7/10/1963	3/31/1986	560	Diesel	UST	Steel	08-001-0300	CEMSTONE PRODUCTS CO	1518 410th ST	Isle Harbor	42	N	25	W	12