



WELLHEAD PROTECTION GUIDE FOR BUSINESSES AND PROPERTY OWNERS

Plus

- **Finding Lost Wells - Disclosing Wells - and Sealing Abandoned Wells**
- **Directory of Well Contractors that Locate and Seal Abandoned Wells In Anoka County**



**ANOKA COUNTY
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Anoka - Blaine - Centerville - Circle Pines
Fridley - Lexington - Lino Lakes - Spring Lake Park

April 2, 2012

To Anoka County businesses and property owners:

Numerous federal and state programs encourage the protection of water resources. The protection of the source of our drinking water is a community priority. The quality and safety of the water that comes from our faucet is a priority for each one of us.

This guide is for people living and working near a public water supply well and within its wellhead protection area. A wellhead protection area is established by, first, determining the "capture zone" of the public water supply well where groundwater is drawn into the well over a specific period of time (e.g. 10 years). Then, the circular capture zone is used to draw the boundaries the Drinking Water Supply Management Area (DWSMA) based on property lines, roads and other landmarks.

By establishing a wellhead protection program, your community (or public water supplier) is further committed to ensuring the safety of your drinking water and meeting the standards of the Minnesota Department of Health. Through your assistance and cooperation we will reduce pollution threats to our drinking water.

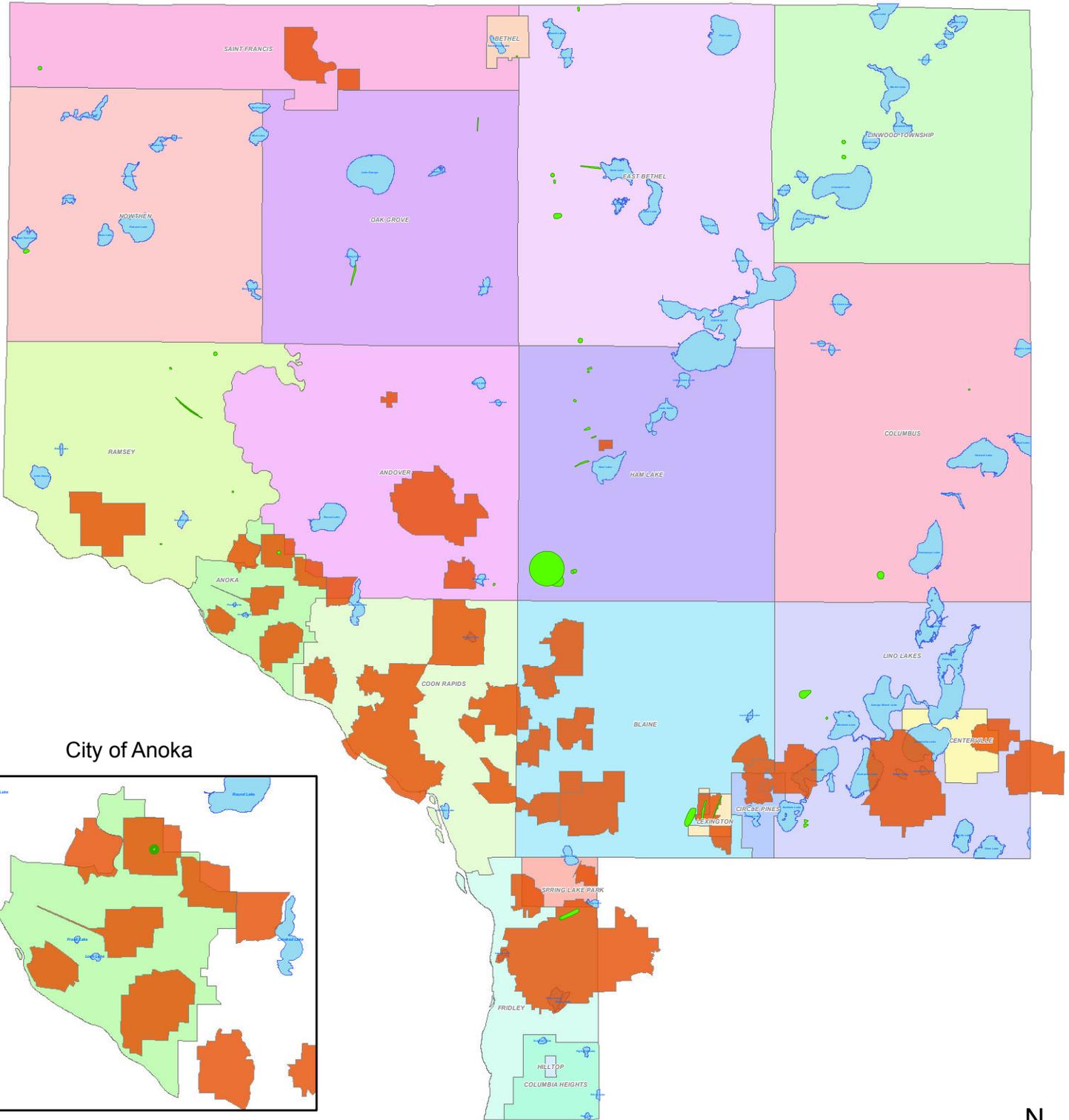
In this guide, we emphasize the protection of the source of our drinking water, groundwater surrounding our wells. But, all of our water resources must be protected to preserve the quality of life for ourselves and future generations.

For more information about wellhead protection in your community contact your city water utilities director. For updated information on wellhead protection and water resources - check the Know The Flow website at www.KnowTheFlow.us.

Sincerely,

Jim Hafner, City of Blaine
Chairman

Drinking Water Supply Management Areas (DWSMA) in Anoka County



- Legend**
- Roads
 - Source Water Assessment Area
 - Drinking Water Supply Management Area
 - Lakes

Shapes from MDH website: www.health.state.mn.us/divs/eh/water/swp/maps/index.htm



Section 1

GUIDE TO WELLHEAD PROTECTION

BUSINESS AND COMMERCIAL PROPERTY OWNER'S

This guide is for business owners, employees and property owners located near a public water supply well and within the its wellhead protection area. A wellhead protection area is the land area surrounding a well that can range a few hundred feet from the well to more than a square mile. A wellhead protection area can include a few dozen to over a thousand residential and business properties.

Public water supply wells include city wells, mobile home park wells, school wells, shopping center wells, and restaurant wells. These wells typically pump 500 to 200,000 gallons of water out of the ground each day. Groundwater pollution has been found in wells throughout Minnesota, which is the reason wellhead protection is being implemented by your public water supplier.

The safety of public water supplies is monitored by the Anoka County Community Health and Environmental Services Department and the Minnesota Department of Health. Most public water supply wells produce safe drinking water. Some require treatment to remove naturally occurring contaminants (e.g. radium and arsenic) or pollutants (e.g. residential/industrial chemicals, pesticides, etc.).

A wellhead protection area is established by first determining the "capture zone" where groundwater is drawn into the well in ten (10) years. Then, the circular capture zone is used to draw the boundaries of a Drinking Water Supply Management Area (DWSMA) based on property lines, roads and other landmarks.

It's too late to prevent pollution after it's in the well. A public water supplier with polluted wells may have to find an alternative source of water for the community. It makes sense to protect the water that we have instead of finding unpolluted water from somewhere else. Businesses near a public water supply well (inside the wellhead protection area) have a special responsibility for the protection of their community's drinking water supply.

DON'T WORRY, IT'S NOT THAT DIFFICULT. And you have a partner - your public water supplier - to help you and answer your questions.

Wellhead protection is as simple as good stewardship of our natural resources. Most businesses and property owners are already practicing good habits that prevent land and water pollution. For businesses in our community and inside a wellhead protection area they have another reason. And for their efforts we owe them our gratitude.

The following pages summarize information for businesses and property owners to prevent pollution and preserve our natural resources.

◆ Commercial/Industrial Pollution Prevention and Hazardous Waste Management

It's especially important to manage chemicals and wastes near public water wells. The first step is to know that what you do (or don't do) within the wellhead protection area affects the quality and safety of the drinking water for your community.

Pollution Prevention Measures

There are a number of pollution prevention measures specific to each business process. Many easy practices can produce effective pollution prevention results and reduce costs.

The Minnesota Technical Assistance Program (MnTAP) is a University of Minnesota program that helps businesses develop and implement industry-tailored solutions to prevent pollution at the source, maximize efficient use of resources, and reduce energy use and costs. For more information go to the MnTAP web site (<http://www.mntap.umn.edu/>) or call 612-624-1300.

Avoid Excess Chemical Use and Waste. Carefully measuring and using chemicals can prevent production of excess and useless material that must be disposed. Also, using alternative, less toxic chemicals that achieve the same result can reduce the threat to soil and water if spilled.

Purchase to Control Excess. Periodic chemical audits are a good starting point. By understanding your changing chemical needs compared with supply on hand you can avoid holding excess stock and thereby reduce pollution potential. Such audits can also find costly and wasteful use and excessive generation of hazardous waste.

Team Up for Pollution Reduction. For pollution reduction to work - all employees must perform as a team. Consider expanding periodic employee safety training to include pollution prevention. Chemicals dangerous to people include instructions that - when followed - will protect employees and prevent pollution. So, read the label and follow the directions. *Make it a team effort.*

Storage of Chemicals and Wastes. Accidents happen. But accidental leaks of hazardous substances polluting soils and water can be prevented by designating storage areas that have a paved or impermeable floor; a roof to keep rain from washing chemicals into soils; and secondary containment (e.g. continuous curbing) to catch spills. Design and operation of the business site should include preventing storm-water and floods from entering storage facilities and spreading pollution to soils, ditches, creeks and groundwater.

Spill Prevention and Control. Keep an up-to-date spill response plan that includes training employees. A good plan minimizes environmental impact and reduces your liability for clean-up costs and injury. The plan should include a diagram of the facility, employee training standard, and a list of spill response equipment (e.g. mop, pail, sponges, absorbent material).

Hazardous material spills (large or small) that cannot be totally recovered must be reported immediately to the Minnesota Duty Officer (a 24/7 service) at 651-649-5451. State and local emergency services are available to help contain and clean up a hazardous materials spill.

Disposal – Making the Right Decision. Hazardous materials should never be disposed of in floor drains, storm drains, toilets, sinks, or other routes to septic systems, public sewers, soils or groundwater.

Businesses generating hazardous waste in Anoka County must comply with the Hazardous Waste Management Ordinance. Contact the Environmental Services Department (763-422-7093) for more information and advice on how to protect the source of our drinking water.

Business and Commercial Septic Systems

Do not put hazardous chemicals down the drain into onsite septic systems. Septic systems don't treat hazardous chemicals. Instead, the hazardous chemical pass through the system polluting groundwater.

A septic system uses natural processes to treat domestic type sewage. A septic system serving a business must only receive domestic type waste water (e.g. employee restrooms, break room kitchen, etc.). All septic systems (home or business) must be maintained to operate well and avoid groundwater pollution.

Improper use of a septic system is often the result of an employee who is not trained in proper waste management. It's a simple matter to determine if hazardous chemicals have been disposed of in a septic system by testing the waste water in the septic tank or drainfield.

A septic system used to dispose of business waste is considered an unlicensed "Class V" injection well or shallow disposal system. The risk that a Class V injection well poses to a public water supply well may be significant and may cause damage to the community's source of drinking water.

In 1999, the US EPA finalized the *Underground Injection Control Regulations for Class V Injection Wells*, known as the *Class V Rule, Phase 1*. The Rule establishes minimum federal standards for two types of Class V wells that are of concern in wellhead protection areas.

Large Capacity Cesspools are typically a drywell with an open bottom and/or perforated sides that receives domestic wastewater used by multiple dwellings. *These have not been permitted in Minnesota for many years and existing systems have been closed.

Motor Vehicle Waste Disposal Wells are shallow waste disposal systems (dry-well, cesspool, septic system, French drain, etc.) that receive or have received fluids from vehicular repair or maintenance activities, such as auto body or automotive repair, car dealerships, car washes or other vehicular repair or maintenance work.

- New motor vehicle waste disposal wells are banned after 2000.
- Existing motor vehicle waste disposal wells are banned in wellhead protection areas.
- US EPA may allow owners and operators to seek a waiver from the ban and obtain a permit.
- Owners and operators must notify the US EPA – UIC Program Director 30 days prior to closing a motor vehicle waste disposal well.

The owner of a Class V well must notify US EPA Region 5 UIC Program Director **312-353-2000** or toll-free at **800-621-8431** of the shallow disposal well (Reporting Forms: <http://water.epa.gov/type/groundwater/uic/class5/index.cfm> , select "Inventory of Injection Wells").

The options for the owner of a Class V well includes:

- Contact local unit of government within WHP Area for WHP & EPA information.
- Request waiver and obtain permit in non-sensitive groundwater areas.
- Abandon per EPA regulations in approved Wellhead Protection Areas.
- Connect to municipal sewer.
- Route waste to approved holding tank and dispose of properly, off-site.
- Convert to "dry shop."
- Provide regular maintenance of allowed and/or waived shallow disposal wells.

Business Property - Turf and Landscape Chemicals

Use of turf chemicals (fertilizers and pesticides) in a wellhead protection area can be a pollution risk to the public well by exceeding recommended rates and timing of application. Plus, you can actually reduce the growth and quality of grass and plants!

When caring for landscapes, there is often the misconception that "if a little is good, a lot must be better." Misunderstanding turf and shrubbery growth cycles leads to: poor timing of fertilizer and pesticide application, wastes chemicals, and pollutes water bodies.

Follow directions for the application to efficiently and effectively apply the chemical without polluting. It's that simple. For answers about lawn or landscape care contact the Anoka County office of the University of Minnesota Extension Service (Extension Service) at 763-755-1280.

An option for businesses and commercial properties is to use creative landscaping that serves your needs and protects water resources. Most commercial landscapes look alike. Consider native grasses and landscape accents with wild flowers that require less watering and chemicals. Another option is to install a rain garden or rain barrels that demonstrate a commitment to the sustainability and protection our natural resources. Contact the Anoka Conservation District (763-434-2030; www.AnokaNaturalResources.com) for more landscape options and financial assistance options.

- Soil Test Interpretations and Fertilizer Management for Lawns, Turf, Gardens and Landscape Plants,. U of M Extension, BU-1731-F, 1998.
- Lawn Care Practices to Reduce the Need for Fertilizers and Pesticides,. U of M Extension, FO-5890-GO, 1999.
- Responsible Use of Lawn Care Pesticides,. U of M Extension, FO-5891-GO, 1995.
- Responsible Fertilizer Practices for Lawns,. U of M Extension, FO-6551-GO, 1995.
- Application Guide for Lawn and Garden Practices,. Minnesota Department of Agriculture.
- Lawn Care Best Management Practices for Spring, Summer and Fall,. MN Dept. of Agriculture.

Business Storm Water Pollution Prevention (Industrial Stormwater Permits)

Anoka County communities have changed over the past 150 years. Fields and forests have been replaced by roofs, roads, and parking lots. These changes have also changed how water moves on land and infiltrates into the ground.

According to the 1996 National Water Quality Inventory, storm water runoff is a leading source of water pollution. Rain (and snow) deliver clean water to industrial and commercial properties. It's up to us to protect and manage the water as it flows into ponds, creeks, lakes, rivers, and groundwater. The Minnesota Pollution Control Agency's Industrial Stormwater Program provides guidance for businesses.

Business properties that discharge storm water into public waters (ditches, creeks, rivers, lakes, etc.) and on-site infiltration ponds and ditches (groundwater recharge) must obtain a Minnesota Pollution Control Agency Industrial Stormwater Permit. There are over 190 permits in Anoka County. These permits combine limits on stormwater pollution with "best management practices" to reduce or eliminate pollution before it reaches public waters.

Businesses make up a significant part of wellhead protection areas. A condition of industrial stormwater permits is that the construction and operation of infiltration devices (stormwater ponds and ditches) must be coordinated with the local drinking water authorities in vulnerable wellhead protection

areas. For businesses within a wellhead protection area, the Industrial Stormwater Permittee should contact the wellhead protection manager and document their coordination efforts as required in their permit.

The wellhead protection manager will typically review the Industrial Stormwater Permittee's Pollution Prevention Plan and request copies of annual water sampling results and reports that can be compared with water quality samples from the public water supply well. If the potential for pollution is indicated - additional measures may be requested to protect groundwater and the water supply well.

A businesses Storm Water Pollution Prevention Plan should include emergency response for accidental spills and leaks that reach infiltration ponds, ditches and the municipal stormwater sewer. By immediately notifying the Minnesota Duty Officer (a 24/7 service) at 651-649-5451 state and local resources will be made available to the business to help limit the impact (and liability) of a pollution release.

The following are best management practices that protect and improve the quality of water by minimizing pollutants from a commercial/industrial property.

Fertilizer and Pesticide - Reduce or eliminate the need for fertilizer and pesticides by practicing natural lawn care, planting native vegetation, and limiting chemical use. For more information see the Lawn and Chemical section.

Turf and Landscape Waste - Keep grass, leaves, etc. from running off into ditches, storm sewers, and ponds by composting or using curbside pickup services. Avoid accumulation of waste on driveway and keep grass clipping and leaves out of streets. For on-site options and the location of compost sites contact Anoka County Integrated Waste Management (763-323-5730).

Parking Lot and Sidewalk Cleaning - Instead of washing dirt, salts and oil from parking lots and sidewalks into gutters and storm sewers - sweep these potential pollutants into the trash that is a managed waste.

Reduce Sidewalk and Parking Lot Deicing Chemicals - Clear sidewalks and parking lots before using a deicer. Less deicer is needed and effective in smaller amounts when snow is removed. Store deicer properly to prevent leakage.

Plants Protect Water Quality - Pollutants attach to soil particles. Plants (e.g. grass, trees, brush, etc.) keep storm water from washing soil particles into storm sewers, ditches and ponds that collect and clog these waterways with sediment. Use vegetation to cover and stabilize exposed soil to prevent sediment (and attached pollutants) wash off.

Landscaping Options - Native plants of the northern plains are best suited for the weather and soils found in Anoka County. An option for homeowners is to use creative landscaping options that serves your needs and protects water resources. Most yards are a square plot of turf, border to border. Consider native grasses for areas not in active use or a mix of turf and natural grass with wild flowers. Or, install a rain barrel or rain garden. Contact the Anoka Conservation District (763-434-2030; www.AnokaNaturalResources.com) for more landscape options and financial assistance options.

Abandoned Wells

To protect the quality of deep groundwater - Minnesota law requires all unused wells to be properly sealed by a licensed well contractor. To encourage property owners to identify and seal old unusable wells – Minnesota law requires the disclosure of all wells to the buyer of a property and the Minnesota Department of Health.

Wells become an issue when they are no longer used. All well-pipe will eventually become too decayed to be usable. Decaying wells can be a path for shallow pollution to travel rapidly into deep groundwater.

Inside of wellhead protection areas, unused (abandoned) wells are a big problem because high capacity pumping by a community well will draw shallow groundwater and pollution down through and open-damaged-decayed well into the deep groundwater and the community well.

All unused wells must be sealed in Minnesota to protect groundwater. Sealing unused wells near public water supply wells (inside a wellhead protection area) is a high priority for the safety of a community drinking water supply.

See the following section in this guide that addresses locating, disclosing and sealing unused (abandoned) wells.

Section 2

LOCATING ♦ DISCLOSING ♦ SEALING UNUSED (ABANDONED) WELLS*

*This section provides Anoka County residents, businesses and property owners with information regarding unused (abandoned) wells for the protection of our drinking water resources. Minnesota Statutes (Chap. 103I) establishes the Minnesota Department of Health (MDH) as the authority regarding well construction, maintenance and sealing. For information regarding the Minnesota well management program contact the MDH Well Management Section at 651-201-4600.

It comes as a surprise to many residents and businesses that they have an old well on their property.

The homes and businesses of entire communities (e.g. East Bethel, Ham Lake, Oak Grove, etc.) get their water from a well on their property. That adds up to thousands of wells. In developed communities (e.g. Anoka, Blaine, Fridley, etc.) municipal wells and water mains have replaced thousands of home and business wells. The unused wells are simply forgotten (abandoned).

The typical municipal well withdraws large volumes of groundwater. Old abandoned wells have been identified as a pathway for pollution to reach the groundwater and nearby drinking water supply wells. Old deteriorated wells must be properly sealed to help protect groundwater and drinking water wells from being polluted.

In 1989 the Minnesota Legislature passed the Groundwater Protection Act to strengthen state and local programs that protect groundwater and our health including:

- Requiring the seller of a property to disclose to the buyer (and the MDH) the existence and "status" of all wells on their property (MN Stat., section 103I.235).
- Requiring unused (abandoned) wells be sealed by a state licensed well contractor that will prepare a Well and Boring Sealing Record for the well owner and file with the MDH (MN Stat., section 103I.301).

All abandoned wells in Minnesota are required to be sealed to protect groundwater. Abandoned wells near a public well are a hazard to the drinking water supply of a community (e.g. a city well, mobile home park well, school well, etc). Communities in Anoka County are implementing wellhead protection programs that inform and work with residents, businesses and property owners to protect our drinking water.

Locating Lost Wells on a Property

A well is a drilled, bored or dug hole into the ground to access groundwater. A well pipe (or well casing) extends to an aquifer (e.g. sand, gravel or sandstone saturated with water). A water-supply well provides drinking water or can be used for other purposes such as lawn watering, crop irrigation, livestock watering, commercial/industrial purposes, etc.

A "sand-point," also known as a "drive-point," is typically a well with a 1-1/4 to 2-inch diameter steel casing with a pointed well screen attached to the bottom. The well is driven into the ground by pounding down until water is encountered but usually not more than 25 to 30 feet deep. State laws and rules for drilled wells also pertain to sand-point wells. Sand-point wells are typically installed by the property owner who must record the well with the Minnesota Department of Health (MDH).

The depth of house wells in Anoka County typically range from 50 to 200 feet deep. The typical life of a house well is 30 to 50 years before it must be replaced. Properties with a long history may have more than one well. Large commercial/industrial facilities and farm properties are more likely to have multiple wells to serve multiple buildings, barns, irrigation, and other purposes.

Well Probability Test

To determine the probability that a well was drilled to serve a constructed building: compare the date that the building was constructed (found in city building or county property tax records) with the date that water service was made available to the property (found in city utility records). Construction of a home or other building would include drilling a well on the property if municipal water (or other public supply) was not available.

Visual Evidence

A well search starts with visual inspection of the property for physical evidence (listed below). Abandoned (unused) wells often appear as 1¼ inch to 6-inch diameter steel pipe in or above the ground; the floor of a basement; in a basement offset vault; or a well pit. Newer wells may be made of plastic pipe. Older wells (before 1974 well code) were not uniform construction and often buried. If a building was remodeled or expanded the building may be built over or around the well. A well buried outside the building foundation may be indicated by a water pipe that extends through a basement wall from the well. Look for:

- Well pipe visible above ground, concrete slab, or through basement floor.
- Evidence of a well, such as circular ring in cement or patch in the floor.
- Basement offset (small room off of basement, often under steps).
- Glass block or patch in step or concrete (access for well below).
- Pit in yard or basement (covered with wood, concrete, or steel; well may be at the bottom of pit or the pit may be a dug well).
- Water supply pipe or patched hole through basement floor or basement wall (typically on the same side of the building as a buried well).
- Water system components (i.e., pressure tank, pump, or evidence of former components, like “shadow” lines on floor or wall).
- Electrical components (wiring through basement floor/wall, control box).
- Low spot in yard, circular depression.
- Outbuildings (may be well house).
- Additions, false walls, paneling which may “hide” well.

Individuals Familiar With Property

People familiar with the property may be able to point to “lost” wells. Ask:

- Property owner and previous property owners.
- Neighbors, relatives or acquaintances who may know about wells on the property. *Neighboring wells may also give a clue as to well location, depth, and construction.
- Contractors (well drillers, pump installers, plumbers, remodelers) who have worked on property.
- Inspectors (well, plumbing, building, septic system, milk).
- Current or former employees, maintenance personnel.

Records Search

Since 1975, well contractors (drillers) and home owners constructing a well were required to file a well construction report with the MDH Well Management Section. Older wells may be recorded in government or other agency documents. Sources of well records include:

- Owner’s records (e.g. well repair bill) or information written on well pressure tank, control box, or well room wall.
- MDH Well Management Section records (651-201-4600; www.health.state.mn.us/divs/eh/wells)
 - County Well Index of construction records at www.health.state.mn.us/divs/eh/cwi/index.html).

- Find out if a sealing record is on file for the property.
- Review Well Disclosure Certificates at www.health.state.mn.us/divs/eh/wells/disclosures.
- City and township. Building and utility records may indicate the location of wells on a property. For subdivisions (neighborhood development) the developer may have used a uniform well location and construction process (builder and well contractor) for each house recorded in plat.
- Sanborn Fire Insurance maps and Fire Underwriters Inspection Bureau maps (of commercial and industrial properties) available at MN History Center and the U of M Wilson Library.
- Old photographs of the property.
- Aerial photographs of property available at Anoka County Surveyors office.
- County plat books (MN History Center and Anoka County Surveyor).
- Topographic maps (shows locations of buildings and roads).

Well Contractor (Physical) Search

If a well cannot be located by the property owner, using the methods described above, a search by a well contractor may be necessary. Well contractors (drillers) are experienced and knowledgeable of the common methods used to locate and construct a well as construction codes, materials, equipment and methods have changed over time. The property owner that employs a well contractor to locate a lost well should also consult with the MDH Well Management Section to establish that their effort to locate the well is sufficient - if the well cannot be found. Keep all your records of your search to document costs and effort to locate lost wells.

Equipment to conduct a more detailed well search

- Metal locators and magnetometers (i.e. fluxgate magnetic pipe locator or proton magnetometer).
- Tape measure or "snake" to follow building pipes to well
- Sondes, pipe locators, and tracers.
- Ground-penetrating radar.
- Excavation equipment including shovels, hammers, chisels, and backhoe.
- Small rotary hammer or corer, bits, extensions and vacuum.

Well Disclosure for Property Sellers and Buyers

(adapted from What You Should Know About Wells at Property Transfer, MDH, 10/19/2010 and Well Disclosure - Providing Important Information About Wells on Your Property, MDH, 7/1/2008)

When a real estate property (e.g. home, farm, factory, field) is sold or transferred, Minnesota Statutes section 103I.235, requires the seller to disclose the number and the status of all wells on the property including a sketch map showing the location of each well. For the disclosure, the status of a well can only be: "in use," "not in use," or "sealed."

If the seller does not disclose a known well, or the seller does not properly disclose the known status of a well to the buyer, the seller may be liable to the buyer for costs related to sealing the well and reasonable attorney fees if an action against the seller is commenced within six years after the closing of the sale of the property.

If there is known to be a well on the property, but the well location is not known, a reasonable effort must be made to find the well. First, check with the MDH to see if there is a well sealing record. If the well has been properly sealed and recorded, it is not necessary to excavate and locate that well. However, if there is no documentation that the well has been properly sealed, the property owner should search for the well (see Locating Lost Well on a Property, above).

If an unused and unsealed well is found, it must be put in use or properly sealed, as described in Sealing Unused Wells (below). If search efforts are unsuccessful, contact the MDH to discuss the procedures and conditions for obtaining a variance from the well sealing requirements.

Sealing Unused Wells

(adapted from Minnesota Department of Health fact sheet, 11/20/2008)

By law, a well must be sealed if: 1) the well is not in use, and does not have an MDH maintenance permit, 2) the well is contaminated, 3) the well has been improperly sealed in the past, 4) the well threatens the quality of the groundwater, or 5) the well otherwise poses a threat to health or safety.

A well used only to water your lawn is "in use." Minnesota laws do not require a well which is in use to be sealed. Your well is considered to be "in use" if you use it on a regular (seasonal) basis. If you sell or transfer the property, the well will have to be disclosed to the buyer at that time.

Only a licensed well contractor may seal a well. *Don't try to seal a well yourself.* Licensed well contractors have the necessary equipment and expertise to seal your well properly. Most important, the contractor will prepare and file the necessary records with the MDH that prove you have met your obligation to properly seal the well according to law.

Licensed well contractors are found in the Yellow Pages under *Well Drilling and Service*. The MDH has a list of licensed contractors on their web site: www.health.state.mn.us/divs/eh/wells/lwc. The Anoka County Municipal Wellhead Protection Group has developed a directory of well contractors in Anoka County and neighboring counties that perform well locating and sealing services. See the Directory of Well Contractors that locate and seal abandoned wells at the end of this section.

How a well is sealed. Before sealing the well, the contractor will remove any pumping equipment that may still be in place and remove any debris or other obstructions from the well. The well is then sealed by preparing and pumping an approved grout mixture from bottom to the top. The MDH Well Management Section will monitor the process with the well contractor and verify that the well is properly sealed according to the Minnesota Well Code (MN Rule 4725).

When the job is done, the contractor will submit a *Well and Boring Sealing Record* to you the MDH. Keep it in a safe place. It provides proof that the well has been properly sealed, and no longer poses a hazard.

The cost of sealing a well can vary considerably. For shallow, small diameter wells -- like those found at some homes and many lake cabins -- the cost typically ranges from \$400 to \$900. Deeper, larger wells will cost more to seal. Access to the well, special geological conditions, debris in the well, and depth and diameter of the well will affect the cost of well sealing. Also, if a contractor is already on the site drilling a new well, the cost of sealing an old well will often be less because a special trip to the site is avoided. The same is true when people get together and arrange to have a number of old wells in a neighborhood sealed at the same time. It is always a good idea to get several estimates on costs. Financial assistance may be available to property owners to seal abandoned wells. See the list of financial services at the end of this section.

For abandoned wells within a wellhead protection area, there may be targeted financial assistance to seal the well and protect the community water system. Contact the Wellhead Protection Manager (or utilities director) in your community.

If you have any questions, please contact the well specialist at the metro office of the MDH Well Management Section (651-201-4600) or speak to a licensed well contractor.

Directory of Area Water Well Contractors*
(that provides water well locating and sealing services in Anoka County)

Company Name	Phone	Contact	City	Services Anoka Co.	Locates Lost Wells	Seals Wells
Anoka County						
Art Torgerson and Son Well Co	763-434-6180	Gene Torgerson	East Bethel	Y	N	Y
Barott Drilling Services, Inc.	651-484-0198	Bradley Barott	Lino Lakes	Y	Y	Y
Bastian Well Services Inc.	612-282-7067	William Bastian	Andover	Y	Y	Y
Malenke Water Services	763-493-3650	Myron Malenke	Blaine	Y	Y	Y
Mork Well Co., Inc.	763-753-2530	Jacque Danielson	Anoka	Y	Y	Y
Chisago County						
George Johnson Well Drilling	651-257-2510	George W. Johnson	Chicago City	Y	Y	Y
Husnik Well Drilling	651-462-1957	Mike Husnik	Stacy	Y	Y	Y
Zuercher Well Drilling, Inc.	651-674-5939	Andy Zuercher	North Branch	Y	Y	Y
Hennepin County						
Associated Well Drillers Inc.	952-941-1530	M. Cody Schultz	Eden Prairie	Y	Y	Y
Bergerson Caswell Inc.	763-479-3121	Mark Klein	Maple Plain	Y	Y	Y
Don Stodola Well Drilling, Inc.	952-446-9355	Mark Stodola	St. Bonifacius	Y	Y	Y
Ingleside Engineering and Const.	763-479-1869	Brian Van Beusekom	Loretto	Y	Y	Y
McAlpine Well Drilling of Dayton	763-428-2252	Tim McAlpine	Dayton	Y	Y	Y
TL Stevens Well Co., Inc.	763-479-2272	Joe Stevens	Maple Plain	Y	Y	Y
Isanti County						
Ace Pump & Well	763-689-3040	Gary Edblad	Stanchfield	Y	Y	Y
Ramsey County						
Johnson Bros. Well Drilling Co.	651-484-2859	John Johnson	St. Paul	Y	Y	Y
Keys Well Drilling Co.	651-646-7871	Doug Keys	St. Paul	Y	N	Y
Sherburne County						
Able Well Drilling	763-274-2604	Scott Thompson	Elk River	Y	Y	Y
Aqua Plus Inc.	612-240-3900	Bill Canty	Elk River	Y	Y	Y
Bjorklund Co., Inc	763-360-1221	Steven Bjorklund	Becker	Y	Y	Y
EH Renner and Sons, Inc.	763-427-6100	Roger Renner	Elk River	Y	Y	Y
JA McAlpine Well Drilling, Inc.	763-370-3547	John McAlpine	Princeton	Y	Y	Y
Macs Well and Pump Service	763-441-2862	Dennis McAlpine	Elk River	Y	Y	Y
Washington County						
McCullough and Sons, Inc.	651-464-3939	David McCullough	Forest Lake	Y	Y	Y
Salverda Well Co.	651-464-2876	William Salverda	Forest Lake	Y	Y	Y
Sampson Brothers Well Co.	651-430-0193	Thomas Gallagher	Hugo	Y	Y	Y

Directory of Water Well Contractors* (continued)
 (that provides water well locating and sealing services in Anoka County)

Company Name	Phone	Contact	City	Services Anoka Co.	Locates Lost Wells	Seals Wells
Wright County						
Alberg Water Services, Inc.	763-263-1800	Steve Alberg	Annandale	Y	Y	Y
M Praught Drilling, Inc.	763-682-3092	Michael Praught	Buffalo	Y	Y	Y
Mattson Well Co.	320-543-2441	Kent Mattson	Howard Lake	Y	Y	Y
MJR Well and Pump, Inc.	320-274-2838	Mike Rivers	Annandale	Y	Y	Y
Motzko Well Drilling	952-955-2543	Ron Motzko	Delano	Y	Y	Y

*The listed well contractors are located in Anoka County and adjacent counties (Chisago, Hennepin, Isanti, Ramsey, Sherburne, Washington and Wright). The result of a survey of well contractors that locate and seal wells is indicated in the last columns of the table.

For more information on well contractors licensed in Minnesota contact the MDH Well Management Section at 651-201-4600 or visit the MDH website at: <http://www.health.state.mn.us/divs/eh/wells/index.html>

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