

Barrington Area Groundwater Resources

Tens of thousands of people in the Barrington area rely on private wells for their daily supply of potable water. This guide will provide you with some basic information about well and septic systems – how to implement a few preventive measures, maintain the system, and recognize problems. It will also provide you with some maintenance measures and tips to prolong the life of your system, avoid costly repairs, and ensure your daily water source is safe and clean. When in doubt, contact your county or village health board for more information about your system and usage.

Well Diagram

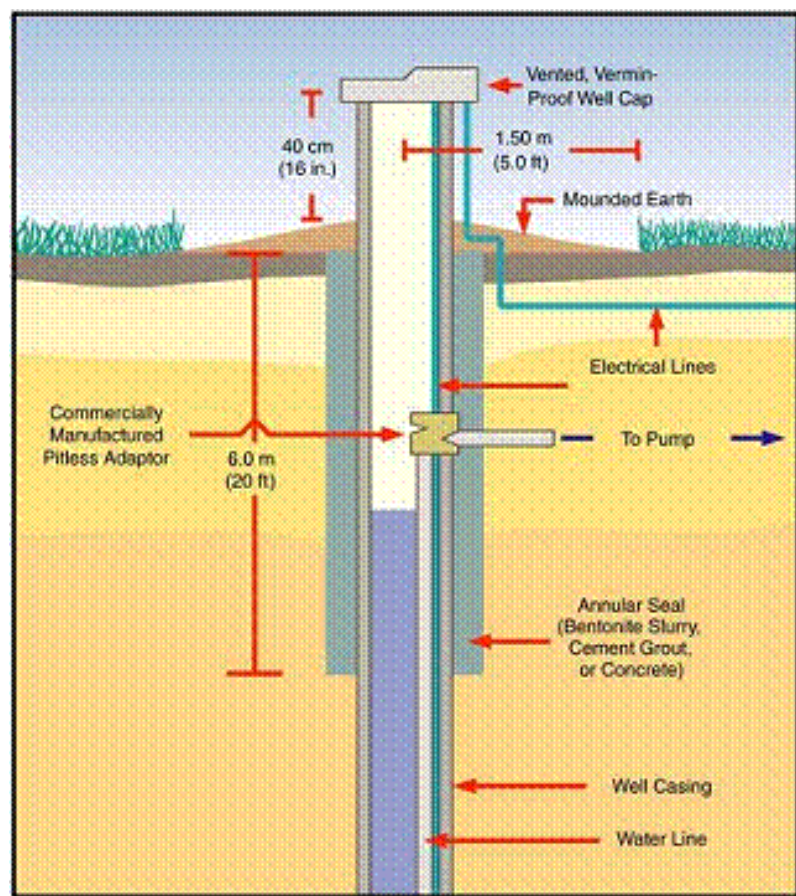


Image Source: Montana Water Quality Bureau

There are three types of wells: dug, driven, and drilled. Nearly all modern wells are drilled and the vast majority of private wells in this area are drilled.

Protecting the Well

The fastest way for contaminants to reach your drinking water is directly through the well cap. Use these tips to prevent contamination and corrosion from your well cap.

- Make sure ground slopes away from the well, rather than toward it
- Direct surface water (like downspouts or sump discharges) away from the well.
- Avoid putting mulch close to the well cap. The cap should ideally be 12" above the ground to prevent corrosion and limit exposure to bacteria.
- Periodically, check your well cap to make sure it is securely fastened, in good condition, and does not show signs of deterioration or infestation.
- Test your water quality each and every year for bacteria and nitrates.
- If you do not already have a 'sanitary' or 'Vermin-proof' well cap (required on all wells constructed after Jan. 31, 1991), consider installing one. Most wells with standard caps (bolted to the casing of the well) should be grouted, but in some cases a small airspace between the cap and casing of the well can allow for insects, small mammals, or surface water to enter and possibly contaminate the well. 'Sanitary' or 'Vermin-proof' caps have bolts on the top, include an airtight rubber gasket, and have a small, screened vent to allow air exchange. The cost is typically \$40-50 compared to \$20-30 for a regular cap.
- Do not try to service a well yourself – use a licensed or certified water well driller or pump installer to service your well.
- Keep all hazardous chemicals away from your well.

Well Caps:

Standard



A standard cap bolts directly to the well casing.

A vermin-proof or sanitary cap has vertical an airtight plastic gasket and vent.

Sanitary/Vermin-Proof



Image Source: Penn State University

Additional tips from BACOG neighbors:

Clearly mark your well: "Our driveway is very close to where our well was drilled so we've marked it with a small red reflector. We also put a small barrier at the end of the driveway that will reduce the chance of someone accidentally backing into it."

Keep vegetation and pets away from the well: "We make sure to trim back the bushes and vines in the area of the well so that nothing grows around that area or compromises the cap. That also deters our dogs from digging over there."

Test your water quality each year or if you notice a change in quality: "We noticed some small black flecks coming from our water faucet and decided to get the well tested-- It turned out that our standard well cap was so old it was allowing ants to get into the well casing. We now do an annual test (for bacteria and nitrates) and a visual inspection of the well head to make sure our new vermin-proof cap is in good condition!"

About Septic Systems

Well maintained septic systems can provide many years of reliable, low-cost, hassle-free service to your home. A failed system is a source of groundwater pollution and a public health concern, causes property damage and is far more expensive than maintenance.

Clean your septic tank every 2-5 years: Scum and sludge build-up need to be removed. The scheduled cleaning should also help to ensure the structural integrity of the tank and identify any potential issues that would affect the life of the system.

Know what *not* to put into your system:

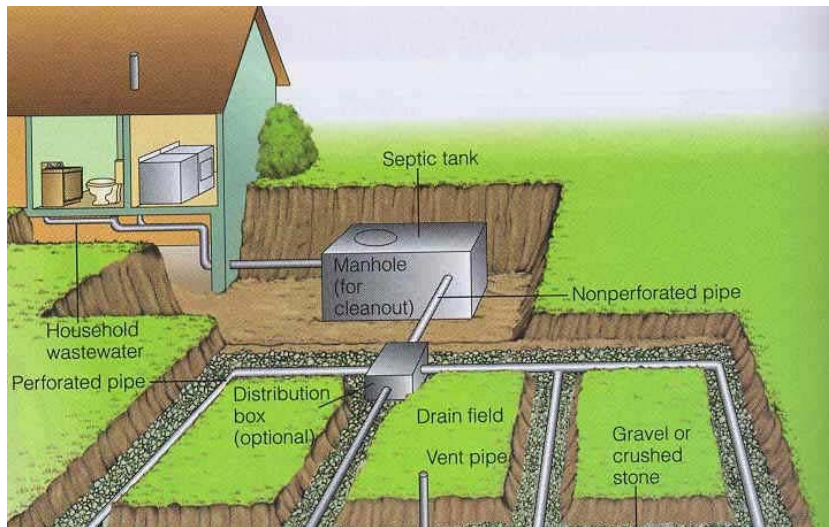
- Undigested food waste from garbage disposals, grease, oil, and coffee grounds all decompose slowly and can put undue strain on your system.
- Other items like paper towels, feminine hygiene products, cigarette butts, facial tissues, baby wipes and diapers are even slower to decompose and should not be flushed into the system.
- Toxic chemicals like drain openers, paints, pesticides, photographic chemicals, brake fluid, gasoline and motor oil and other toxic chemicals can kill off the bacteria that are necessary for your septic system to function properly and are harmful to the environment if the system fails and they leak into the surface water or groundwater supply.

Conserve water: Reducing the volume of waste discharged will extend the life of your system by reducing strain on the septic system from excess water.

- Repair leaking faucets or valves.
- Install reduced flow fixtures in shower or toilets.
- Opt for water saving appliances.

Know where your septic tank is located: Find out where the septic tank, pump tank, absorption area, and replacement absorption areas are located. Unintended damages from driving vehicles over these areas or from building sheds, pools, or decks over its parts can be very expensive to repair.

Diagram of a Septic System



Thurston County (Washington State) Public Health & Social Services Department

Warning Signs of a Malfunctioning System

- Odors, sewage at the ground surface, wet spots or very lush vegetation in the drainage field area can indicate problems.
- Plumbing and septic tank backups with black liquid and odors.
- Slow drainage from sinks or bathtubs and gurgling noises from the plumbing system.
- Coliform bacteria or nitrates in your annual water quality test.

Fast Facts about Additives:

- Over 1,200 products are on the market claiming to improve performance of your septic system: claiming to counteract bleach / detergents, increase soil percolation, clear pipes, reduce odors, minimize solids, etc.
- Most engineers and sanitation professionals agree: you do not need to use additives and they are even potentially harmful. No known additives reduce solids enough to make pumping unnecessary
- Household waste water already contains the supply of bacteria to make your system function properly. Additives can potentially *plug* the drain field.

If you follow the best-practices guidance for your well and septic system and maintain it regularly, there is no need to use additives in your system.

Annual water quality testing can help homeowners identify issues early and prompt corrective action related to the septic system OR the well cap area before system-wide damage or health issues become critical.

Check your water quality annually:

If you have your own well, you should test your water annually for bacteria and nitrates with a certified laboratory. Contamination can be caused by improperly sealed well caps, ailing septic fields, or geological composition of the aquifer in which the water is located.



This test is low-cost and available through the BACOG Private Well Water Quality Testing program which provides local access to test kits semiannually in cooperation with county health departments. Opt-in for annual reminders and keep a record of your results along with your records of well maintenance and septic services.

The State also provides additional testing services for a wider range of contaminants. The State recommends that households test for a variety of water quality parameters like arsenic, fluoride, boron, radium and other human-made and naturally occurring contaminants. Homeowners should test if they notice a change in the appearance, taste, or odor of the water. Testing may also be appropriate with real estate transactions or every ten years. The test requires raw and softened water samples and is recommended for homeowners without water quality records for their home, during real estate transactions, or if there is any change in the taste, odor, color or other features of the water.

More information is available at BACOG's Private Well Water Quality test program held every 6 months. Visit www.bacog.org or call the BACOG office (847) 381-7871 to find out when the next program is scheduled.

If you have specific concerns or questions about your water quality and/or well and septic system, a number of population health service agencies may be able to help:

Illinois State Water Survey: Public Service Laboratory217- 244-5459

Illinois State Department of Public Health.....217-782-4977
535 W Jefferson St. Springfield IL 62761

Cook County Health – Well and Septic.....847-818-2840
2121 Euclid Rd. Rolling Meadows, IL (3th District Courthouse), 60008

Lake County Environmental Laboratory.....847-377-8030
500 Winchester Rd. Libertyville IL 60048

McHenry County Environmental Health.....815-334-4585
2200 N Seminary Ave. Annex A-LL5 Woodstock, IL 60098

Kane County Environmental Health.....847-608-2850
113 S Grove Ave Ste 209, Elgin IL 60120

Barrington Hills Board of Health.....847-551-3000
112 Algonquin Road, Barrington Hills, IL 60010

More information on Water Resources:

The residents and businesses in the Barrington area rely on shallow groundwater aquifers. Planning regionally can help prevent and create response measures for changes in water supply and quality that are anticipated to affect this area in the next several decades. Find out more about BACOG’s work in groundwater resources, its water resources committee, and water quality testing online at www.bacog.org.

This guide is provided to residents on behalf of the Barrington Area Council of Governments (BACOG) and its members:

- Barrington
- Barrington Hills
- Barrington Township
- Cuba Township
- Deer Park
- Lake Barrington
- North Barrington
- South Barrington
- Tower Lakes

For more information about this program and other BACOG initiatives or to get involved with the Water Resources Committee’s Public Education and Outreach program, please contact BACOG: bacog@bacog.org



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