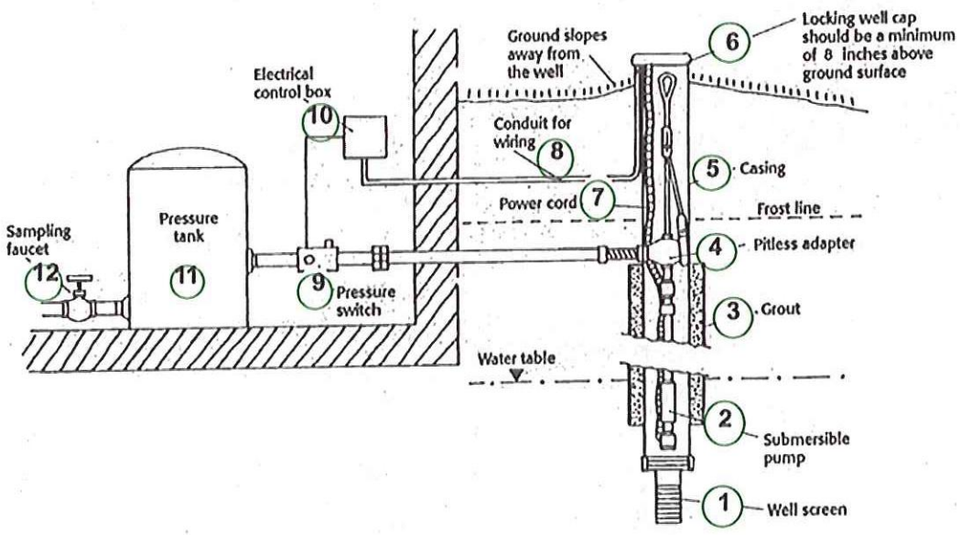
PRIVATE WATER WELLS EXPLAINED

Private water well systems supply homes, businesses, etc., with groundwater. Groundwater is stored and travels in aquifers approximately 40 feet to hundreds of feet underground in layers such as gravel, limestone, shale, sandstone, etc. Private water well systems are typically used in areas where centralized municipal water systems are not available. When designed, installed and properly maintained, private water well systems provide a safe water supply for the property owner.



STANDARD RESIDENTIAL DRILLED WELL

Your private water well system draws water from the surrounding geologic formations into the well casing. The **(1)** ***well screen*** acts as the first filter against large contaminants. The **(2)** ***submersible pump*** pushes the water through the drop pipe. When your well was initially installed, drillers installed a steel or plastic pipe to prevent collapse of the well hole during drilling. **(3)** ***Grout*** was used to fill in the space between this pipe and the casing to help prevent contaminants from moving down the casing. The **(4)** ***pitless adapter*** allows the water to pass through the **(5)** ***well casing*** and provides protection from surface contamination. The depth of casing required for your well depends on the depth to groundwater and the nature of the soils and bedrock below. The **(6)** ***well cap*** provides a protective cover and should be firmly attached to the casing with a vent that allows only air to enter. The **(7)** ***power cord*** is enclosed in the casing, and wiring for the pump should be secured in an **(8)** ***electric conduit pipe.***

The **(9)** ***pressure switch*** regulates when the pump needs to be regenerated. The **(10)** ***electrical control box*** houses the fuses for the well. Water travels through the water line and continues into the **(11)** ***pressure tank.*** A **(12)** ***sampling faucet*** allows the homeowner direct access to a water sample from the well before it passes through the distribution system.

RECORD OF WATER TESTING

DATE	COLIFORM	NITRATES

RECORD OF WELL MAINTENANCE

DATE	TYPE OF SERVICE

WELL DEPTH: _____

PUMP SIZE: _____

PUMP DEPTH: _____

WELL CONTRACTOR: _____

Water well logs are available for newer wells (1990 and on) through McHenry County Department of Health.

FOR MORE INFORMATION

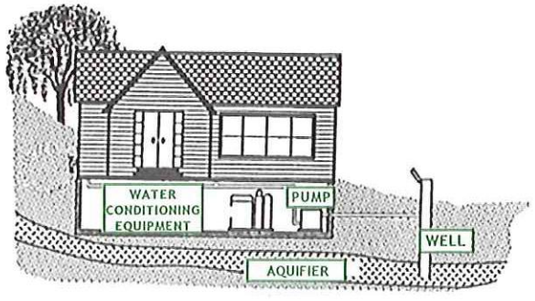
If you have further questions regarding maintenance or testing of your private water well system, contact:

McHenry County Department of Health
Division of Environmental Health
2200 N. Seminary Ave.-Route 47
Woodstock, IL 60098
(815) 334-4585

A GUIDE TO PRIVATE WELLS

EVERYTHING YOU WANTED TO KNOW ABOUT YOUR PRIVATE WATER WELL SYSTEM

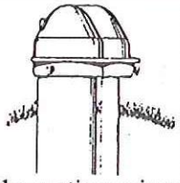
FOR HOMEOWNERS



MCDH

McHenry County Department of Health
Division of Environmental Health
2200 N. Seminary Ave.
Woodstock, IL 60098

WATER WELL MAINTENANCE



McHenry County is 100% dependent upon groundwater for its source of drinking water. Groundwater is found in geological formations called aquifers. Groundwater for domestic use is generally bacteriologically safe in its natural state.

Contact the Health Department for more information should your well be in a pit or the well head buried.

Private Well Water Maintenance

✓ Your water well system should be located **at least 50 feet** from a septic tank and **75 feet** from a conventional septic system's distribution lines.

✓ Make certain the well cap is a **minimum of 8 inches** above the ground.

✓ Have your water tested annually.

✓ The well cap needs to be tightly secured and properly screened to help protect your well from the following environmental contaminants:

- surface water
- vermin (insects, etc.)
- fertilizers
- herbicides
- pets

Contaminated drinking water may not always look, taste or smell differently than safe drinking water. When an aquifer is contaminated, clean-up can be technologically or even economically prohibitive.

Warning signs of a problematic water well system:

Continuously cycling pump
Drop in water pressure
Water has strange odor or taste
Particles in water
Damaged casing

WATER TESTING

COLIFORMS

Coliform bacteria is the standard used for bacterial quality in drinking water. Coliform bacteria is not a single bacterial species, rather a grouping of several different bacterial species. Coliform bacteria live naturally in the intestinal tracts of humans and animals, and are also found in sewage. Some types of coliform bacteria naturally live in soils and surface waters (lakes, rivers, ponds, etc.).

The presence of coliform bacteria in well water indicates that sewage or some type of surface water may be entering and contaminating the water supply. Most wells can be disinfected by a simple chlorination process. Additional information on disinfecting wells is available at the McHenry County Department of Health.

NITRATES

Groundwater systems should also be tested for nitrates. High nitrate levels may be dangerous to pregnant women and children under the age of one.

BOILING WATER DOES NOT REMOVE NITRATES.

INORGANIC AND ORGANIC COMPOUNDS

This grouping consists of man-made and naturally occurring compounds which include metals, solvents, pesticides, herbicides and petroleum products. Testing for these compounds is not routinely done on a residential water supply. Information on health effects of these compounds is available at the Health Department.

DO'S AND DON'TS IN USING YOUR WATER WELL SYSTEM

DO make sure the well cap is securely fitted and not damaged. Inspect the condition of your well casing for holes or cracks. Also periodically check the well cap for possible insect infestation (i.e. earwigs).

DO protect your well from being damaged (vehicles, lawn mowers, etc.).

DO have your water tested annually. Also testing should occur if you have a recurrent incidence of gastrointestinal (stomach) illness. Testing is recommended if you are pregnant, are anticipating pregnancy or have an infant less than one year old.

DO test your water after heavy rains/flooding or if the well has been repaired. Have the water retested if your well has been recently disinfected or chlorinated.

DO call a licensed well driller if you are experiencing problems with your water well system.

DO slope the ground surface away from the well to provide positive drainage.

DO properly seal abandoned wells since they are a hazard and they provide a direct path for contaminants to reach your groundwater supply.

DO take measures to prevent backflow of contaminants into the system (backflow devices on hoses, etc.).

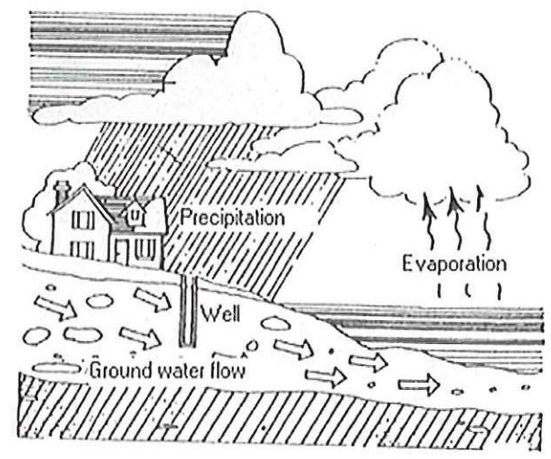
DO keep a record of your water testing and well maintenance.

DON'T assume your well water is safe to drink.

DON'T locate your well where it may be subject to flooding.

DON'T use or store chemicals near your well. Contaminants can move down the well casing into the aquifer.

DON'T drink your water if the water sample indicates the presence of coliform bacteria.

DON'T dispose of hazardous products (i.e. gasoline, paints, solvents, household cleaners, etc.) into or around your private water well system. These hazardous products threaten the community's groundwater.

DON'T assume if your neighbor's well water is safe that yours is also safe.