

Healthy Drinking Waters

for

M A S S A C H U S E T T S

Safe and healthy lives in safe and healthy communities

Private Well Owner Responsibility

As a private well owner, you are responsible for the quality of your own drinking water. Your water may be required to meet standards set by your local Board of Health Private Well Regulation. These standards are usually based on the U.S. Environmental Protection Agency (EPA) and Commonwealth of Massachusetts public drinking water standards.

Public water systems provide treated, potable water to their customers for a fee. The cost of public water includes the costs of protecting the water source, managing and training personnel to use the water supply equipment, monitoring the water for contaminants, obtaining professional engineers' opinions and advice, making improvements to the water treatment and distribution system, planning for expansion, reporting to State and Federal agencies, and managing the financial aspects of the business.

Private well owners should consider the cost of well water maintenance and protection as a budget item, just as if they were paying a water bill. Improvements to water wells, treatment systems and plumbing are a necessary expense that directly benefits the homeowner. Although some treatment systems are more expensive, the costs are often less than the price paid by the owner in health effects or nuisance problems.

The sellers must disclose the condition of a



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private well water system at the time of sale of their home. The buyer will likely investigate the water quality and quantity and will consider them when agreeing on the final sale price. It is advisable for both parties to work with qualified professionals to inspect the condition of homes and to seek legal advice from attorneys during their transactions.

6 Important Ways to Protect Your Drinking Water Well

1. Proper Location

In general, locate a new well as far away from potential contamination sources as possible. Under the Title 5 regulations, Massachusetts Department of Environmental Protection (MassDEP) regulates the distance a private well should be from some potential contamination sources, including:

- 50 feet from septic tank and distribution box



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- 100 feet from septic system leaching field
- 50 feet from building sewer line

Local Board of Health regulations may also dictate the distance from livestock pens or animals waste storage, as is the Town of Barnstable where the setback is 100 feet or the distance from the road surface, as in the Town of Eastham where the setback is 25 feet.

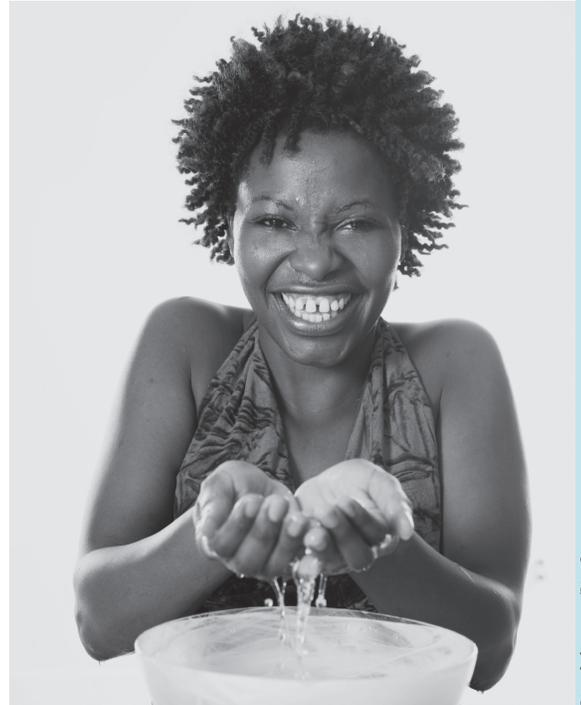
Locating your well

Locating your well is the first step to protection. Start by walking around your yard. If you discover a metal pipe, six or eight inches wide, sticking up above the ground's surface and topped with a metal cap, then you have a drilled well. If you find a large cement well cap, about three to five feet in diameter and at the ground's surface, it could be a dug, driven or older drilled well. Remove the cement cap to determine what's below it. If you see an open hole with water standing in it, you have a dug well; if you see a pit with a pipe and/or pump at the bottom of the pit, you have either a driven or older drilled well.

If you've looked and can't find your well or still aren't sure what kind you have, consider enlisting the help of a registered well driller or someone with a metal detector. As a rule, even dug wells contain metal fittings and pipe that can be located up by a metal detector. It is possible that topsoil and grass or other vegetation in your yard may hide the cover of an older well. If this is the case, the well should be located and repaired with some additional casing, extending one to two feet above the ground surface, and properly capped. In some cases, old wells may be located in the basement of your home.

2. Proper Construction

A well driller registered with Massachusetts Department of Conservation and Recreation



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(DCR) must be hired to complete new well construction or any alteration to an existing well in Massachusetts. DCR's jurisdiction over wells includes driller registration, and the collection of data concerning well location and construction. Prior to drilling any well, the driller is responsible for contacting the municipality in which he is doing work to obtain any local permitting and well construction requirements. Within thirty days of well completion the driller is required to submit a well completion report to DCR's Division of Water Supply Protection, and to the local municipality.

- Periodically inspect exposed parts of the well. Look for:
 - Cracks, corrosion, or damaged well casing.
 - Cracked or missing well cap.
 - Settling or cracking surface seals. When placing your hands on the well, you should not be able to move it.
- Keep accurate records of well maintenance,



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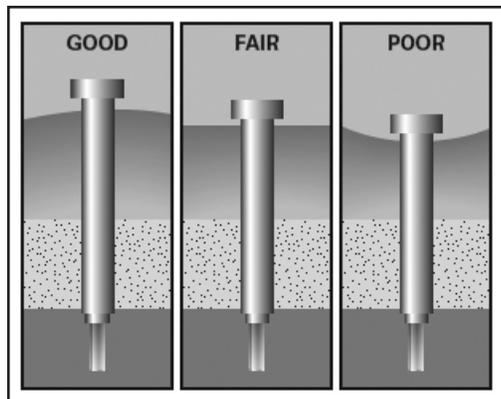
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- such as disinfection or sediment removal.
- Every 10-15 years have a registered well driller inspect the well for defects.

For more information on private well construction and maintenance, see the fact sheet *Drinking Water Wells*, or check MassDEP's Private Well Guidelines on the MassDEP website at <http://www.mass.gov/dep/water/drinking/privatew.htm>

3. Keep Contaminants Away

People introduce contaminants by using toxic materials on the ground or by pouring them into their septic system. Keep a watchful eye on your neighborhood for any spills, farming practices, road salting, or industrial activities that might affect your water supply.



U.S. EPA, *Drinking Water From Household Wells*, January 2002

- Keep potential pollutants as far away as possible from your well.
- Avoid mixing or using pesticides, fertilizers, herbicides, degreasers, fuels, and other pollutants near the well.
 - Do not dispose of wastes in dry wells or abandoned wells.
 - Inspect your septic system every 1-3 years and pump as needed.
 - Never dispose of hazardous materials in the septic system.

- Do not allow runoff from the road, driveway or rooftop to pond around the well. Slope the area around the well to drain surface runoff away from the well. Do not allow surface water to pond around the well.
- Keep the area around the well clear and free of debris.
- Keep pet waste, dog runs and other livestock away from the well.

4. Backflow Prevention

Use backflow prevention devices on all outside faucets with hose connections. This is especially important if you fill pesticide sprayers or other chemical containers. Backflow devices prevent these chemicals from being drawn into the household water supply in the event of a drop in water pressure. You can purchase backflow prevention devices at a hardware store.

5. Sealing Abandoned Wells

Abandoned and unused wells are a potential source of groundwater contamination as they provide a direct access or conduit from the ground surface to the groundwater source. They can also be a safety hazard on your property. These wells should be properly sealed when no longer in use. Mass DCR's regulations require that a registered well driller properly abandon unused wells.

6. Testing Well Water

Testing your drinking water will tell you what is in your water at the time the sample is collected. Test results from 6 months ago represent the water quality at that well 6 months ago. The levels of most naturally occurring contaminants stay fairly consistent, or slowly increase or decrease over time, or have a seasonal fluctuation, depending on water levels.

Once each year, have a routine analysis of total coliform bacteria, nitrate, sodium, and any other contaminants of concern. All are



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good general indicators of water quality. Test whenever you notice a change in taste, color, or odor of your drinking water. In addition, test the pH of your well water every 3-5 years—this will help you to determine the acidity of the water and whether you might have problems with pipe pitting and leaching of metals from the plumbing. The best times to test are usually after a spring or summer rainy period or after repair or replacement of your well, pump, or water pipes.

For more information see the fact sheet *Home Water Testing*.



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Resources

UMass Extension

This fact sheet is one in a series on drinking water wells, testing, protection, common contaminants, and home water treatment methods available on-line at the University of Massachusetts website:

http://www.umass.edu/nrec/watershed_water_quality/watershed_online_docs.html
and Cape Cod Cooperative Extension:
508-375-6699
<http://www.capecodextension.org>

MA Department of Environmental Protection, Division of Environmental Analysis

Offers assistance, information on testing and state certified laboratories: 617-292-5770
For a listing of MassDEP certified private laboratories in Massachusetts:
<http://www.mass.gov/dep/service/compliance/wespub02.htm>

U.S. Environmental Protection Agency, New England Office

Information and education on where drinking water comes from; drinking water testing and national laws; and how to prevent contamination:
<http://www.epa.gov/ne/eco/drinkwater>

US Environmental Protection Agency

For a complete list of primary and secondary drinking water standards:
<http://www.epa.gov/safewater>

MA Department of Conservation and Recreation, Division of Water Supply Protection

Maintains listing of registered well drillers, information on well location and construction: 617-626-1409
<http://www.mass.gov/dcr/waterSupply/welldrill/index.htm>

NSF International

The NSF International has tested and certified treatment systems since 1965. For information on water treatment systems: 800-NSF-MARK (800-673-6275)
<http://www.nsf.org/consumer/>

Water Quality Association

The Water Quality Association is a not-for-profit international trade association representing the household, commercial, industrial, and small community water treatment industry. For information on water quality contaminants and treatment systems:
<http://www.wqa.org>



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