

ENVIRONMENTAL Fact Sheet



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Considerations When Purchasing Water Treatment Equipment

Water Quality

If you have tested your well water and found that it contains contaminants that are either undesirable due to taste and odor or that pose health risks, you may be considering installing water treatment equipment. You may have tested the water using the Standard Analysis offered by the Department of Health and Human Services' Laboratory, which includes coliform and *E. coli* bacteria, pH, hardness, iron, manganese, sodium, chloride, nitrate/nitrite, fluoride, copper, lead, arsenic and uranium. For bedrock wells, you may wish to test for additional contaminants including beryllium, mineral radioactivity (partially identified by the analytical gross alpha), uranium, and radon gas test along with volatile organic chemicals (VOCs). If affordable, it is a good idea to know as much about your water quality as possible before selecting a treatment system. If you know that your well is very shallow or if it is a dug well, you may wish to consider conducting two water tests over a period of one seasonal change (e.g., summer to winter) to identify changes in pH or certain metals.

Laboratory test services are available at the DHHS Laboratory and also available from independent laboratories, which are listed on-line or in the yellow pages under such listing as "Laboratories" and "Water Analysis." A list of New Hampshire accredited labs is available at <http://www2.des.nh.gov/CertifiedLabs/Certified-Method.aspx> or by calling (603) 271-3906.

Size of Treatment Equipment

Water treatment devices come in two basic sizes: "point-of-use" or "whole-house." Each type is explained below. The nature of the contaminant dictates which type of treatment should be used. The relative size and cost of the treatment device is related to the water volume processed and the concentration of contaminant(s) present.

"Point-of-use" devices are typically installed in the kitchen and treat only a few gallons of water per day. The purified water is taken from an extra faucet installed at a location of your choice, typically at the kitchen sink. Such a system might be used for contaminants such as arsenic, beryllium, fluoride, uranium, nitrate, or radium where only the water to be directly consumed or used for cooking generally needs to be treated.

"Whole-house" devices typically treat all water used within the home, about 100 to 300 gallons per day depending on family size. This size treatment device might be used for contaminants such as odor, iron, hardness, manganese, and radon gas. **Outside water faucets generally do not need treatment.** The exception is swimming pools that typically require low levels of iron

and manganese, which can stain swimming pool linings. Needlessly treating outside water increases the capital and operational costs of treatment for in-house use.

Identifying Treatment Options

It is good practice for consumers to request information from water treatment firms and study each proposed alternative treatment method before making a purchase. Request information from at least two different water conditioning firms. Asking the following questions will help you make the best selection.

- What is the treatment method (not just the marketing name of the device)?
- What are the technical principle(s) governing the process? Specifically, how does it work?
- What other treatment options are available?
- Can plumbing connections be installed for the addition of future treatment devices?
- Why were the other treatment options not recommended?
- Ask your neighbors or co-workers if they have the same problem with their water and which type of equipment they used to correct it.

When choosing a treatment device, identify the following:

- Understand how raw water quality changes can affect the device efficiency.
- What chemicals does the treatment add to the water?
- What desirable chemical(s) does the treatment process inadvertently take out?
- Where do the waste products go?
- What factors would cause this treatment process to malfunction and how are malfunctions detected?
- What maintenance procedures are necessary for efficient operation of the treatment process?
- How much will maintenance cost?

Small System Treatment Contractors

DES provides a list of contractors who provide design services for small water systems and private residential water systems. The list is available at

<http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-7-3.pdf>.

In choosing a contractor for purchase of services or equipment, we suggest choosing a firm within 30 to 50 miles of your home to facilitate follow-up service. Ask the water treatment firm to provide references of other local customers. Other considerations include:

- Identify the guarantee and the level of “after sale” service provided.
- Ask for a copy of the contract prior to signing.
- Identify what equipment will be provided. Identify precisely what will not be covered.
- Identify the spare parts and instruction documents that will be provided with the equipment.
- Identify both the **purchase cost** and the **projected annual operating cost** for your family’s water use.

Installation of the Treatment Equipment

Some considerations when laying out water treatment equipment include:

- Providing a permanent gated bypass of the treatment device for any outside water faucets.
- For a whole house treatment, have a plumbing bypass to allow convenient repair of the treatment device.
- Place the device in a well lighted, heated area where repair access is good.
- Where cost is not prohibitive and where health factors are being addressed, consider whether it is appropriate to install two devices together to ensure greater treatment. The first device would remove the majority of the contaminant. The second device would take out anything that made it through the first.

Operation of the Treatment Equipment

- Make multiple copies of the operating instructions and store in secure locations.
- Sample treated water periodically to ensure high treatment effectiveness.
- Sample raw water occasionally to determine the whether the contaminant levels have changed.

Third Party Testing, Certification and Professional Associations

New Hampshire operates a voluntary certification program for water treatment technicians. A list of certified technicians is available at <https://nhlicenses.nh.gov/MyLicense%20Verification/>, selecting “Building Trades” in the “Profession” box and then “Plumber Water Treatment Technician” in the “License Type” box, typing an asterisk (*) in the “Last Name” box and clicking on the “Search” button. For more information, call (603) 223-4289.

The professional trade group of the private home water treatment industry is the Water Quality Association. You may also want to look for their membership seal. The Water Quality Association has developed the “Gold Seal” program to help identify superior water treatment equipment. The certification categories include:

- WQA S-100: Household and Commercial Water Softeners.
- WQA S-200: Household and Commercial Water Filters (In-line).
- WQA S-300: Point-of-Use Reverse Osmosis Drinking Water Systems.
- WQA S-400: Point-of-Use Distillation Drinking Water Systems .

The contact information is: Water Quality Association, 4151 Naperville Road, Leslie, IL 60532-3696; (630) 505-0160; www.wqa.org.

For Additional Information

Please contact the DES Drinking Water and Groundwater Bureau at (603) 271-2513 or dwgbinfo@des.nh.gov or visit <http://des.nh.gov/organization/divisions/water/dwgb/index.htm>. All of the bureau’s fact sheets are available at <http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/index.htm>.

Note: This fact sheet is accurate as of June 2012. Statutory or regulatory changes, or the availability of additional information after this date may render this information inaccurate or incomplete.”