The Sanitary Dug Well

Before you construct your dug well...

A Certificate of Approval is required from an Environmental Health Officer (EHO) with the Government Service Centre before you can start digging a new well. If a new septic system is part of your plans, then an Approved Designer will assess your land to find the best place for a well. Otherwise, you will need to contact an EHO.

Your well should be dug above grade of all potential sources of pollution, and at least 30 m (100') from any septic tank disposal areas, privies, cesspools, or any livestock or barnyard areas. If you choose the wrong site for your dug well, you could make the well water unsafe for drinking. So, it is important to follow the plan set by the EHO.

Designing your dug well

The most important thing to keep in mind when designing a well is that it must keep rain or runoff from putting bacteria into your well water. Figure 1 shows an example of a properly constructed dug well. A dug well should meet all of these standards:

- the dug well should be at least 3.6 m (12') deep
- the space from the bottom of the well up to the liner bottom should be lined with rock, or small boulders
- a water-tight liner* (see below) is needed for a depth of at least 3 m (10') with the liner reaching at least 50 cm (20") above the surface of the ground
- an overlapping, water-tight cover with a screened vent is needed (wooden covers should not be used as they harbour bacteria-carrying insects.)
- the ground around the dug well should be sloped to direct surface water away from the well
- dip buckets should not be used as they can bring dirt and bacteria into a well
- where the discharge line connection is made below ground, the connection should be made water-tight with a strong, non-toxic sealing material
- the water service line should be about 1.5 m (4' to 5') below the surface to protect it from frost

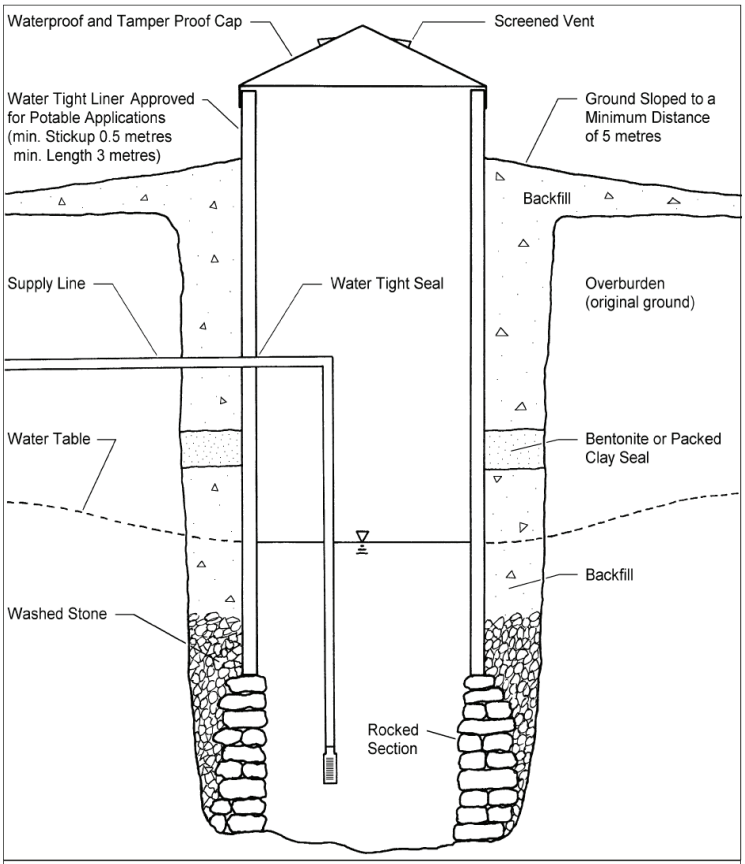

Figure 1: Proper dug well design

***Note**: There are several different types of well liners on the market, such as concrete, PVC plastic, or steel. Please note that a galvanized steel liner may only be used in wells with a low water level, or in combination with an inner PVC or concrete liner, to prevent its contact with the water. If the steel liner does contact the water, it will rust over time and could put harmful metals into the well water.

Protection from road salt

When placing a well on a building site, consideration should be given to preventing contamination of the well by road salt. Road salts enter surface water, soil and groundwater after snow melt, and are dispersed through the air by splashing and spray from vehicles and as wind-borne powder. This may result in unacceptable levels of chloride and sodium in well water.

Disinfecting a newly dug well

A newly dug well will likely contain bacteria. Before you use the water for drinking, you should disinfect the well to kill the bacteria:

1. Clean the inside of the well liner with a stiff brush or broom and a bleach solution of 15 mL (½ US oz.) household bleach in 25 L (6.5 US gal.) of water. (For safety reasons, it is not recommended to descend into a pumped out well.)
2. Disinfect the well as described in the "Guide to Safe Drinking Water" available from the Government Service Centre.

Looking after your dug well

If your dug well is properly constructed and lies in a good location, it can give you clean, safe drinking water for many years.

- Inspect your well on a regular basis to ensure that the cover is secure, the vent screen is clear and intact, and that there is no ponding of water around the well liner.
- Test the water for bacteria at least once a year, or after several months without use, just to ensure its safety. If there are bacteria in the sample, you will be told how to disinfect your well with household bleach.
- Test the water for any chemical problems, such as lead or arsenic. This can be done at a private lab for a fee. Check the yellow pages in the telephone directory under "Laboratories - Chemical & Analytical" for the lab nearest you. If you need help with these lab results, contact one of the offices listed on the back of this brochure.

Abandoned dug wells

Abandoned dug wells are a safety hazard for children and adults. They can also be a path for surface water to contaminate the local groundwater. This could make the water in nearby wells unsafe for drinking. Make sure to fill in any abandoned wells on your land with clean, native fill material, and remove any exposed well liner.

Where can I find out more?

If you have any questions about drinking water safety, please do not hesitate to contact the Government Service Centre or Regional Health Authority nearest you.

Newfoundland Labrador

Department of Health and Community Services
Department of Environment and Conservation
Department of Government Services
Regional Health Authorities

Revised March 2009

Drinking Water Awareness