

Worksheet #4 – Private Well Water Supply

Use this worksheet to assess the condition of your well(s) and water supply.

Why should you be concerned?

- Wells can provide a clean and safe supply of water, pumped from aquifers below the ground. If you use a private well, you must manage your own water quality.
- If a well is not constructed or maintained properly, or if a contaminant is spilled within the capture zone of a well, the quality of the water supply could be at risk.
- If your groundwater becomes contaminated, it can affect the health of your family. It may also affect the quality of groundwater supplying other wells, lakes or streams in the area. Your neighbours and community may all be affected. Everyone's well is connected.
- It is much easier and cheaper to prevent contamination than to try and clean it up. Treating contaminated water, constructing a new well, or getting water from another source are all inconvenient and expensive.
- Whether you use a private well or a municipal system, everyone plays a role in source water protection.

What can you do?

- 1.** Make sure the water you drink and the groundwater that supplies your well are protected from contamination. Test your water regularly, at least seasonally.
- 2.** Know where your septic system and well are located, as well as those of your neighbours.
- 3.** Handle fertilizers, pesticides, and other potential contaminants carefully.
- 4.** Assume that your entire property recharges your groundwater and contains the capture zone for your well(s).
- 5.** Contact a licensed well professional or your Health Unit to assist with items that get a “2” or “1” rating in this worksheet.

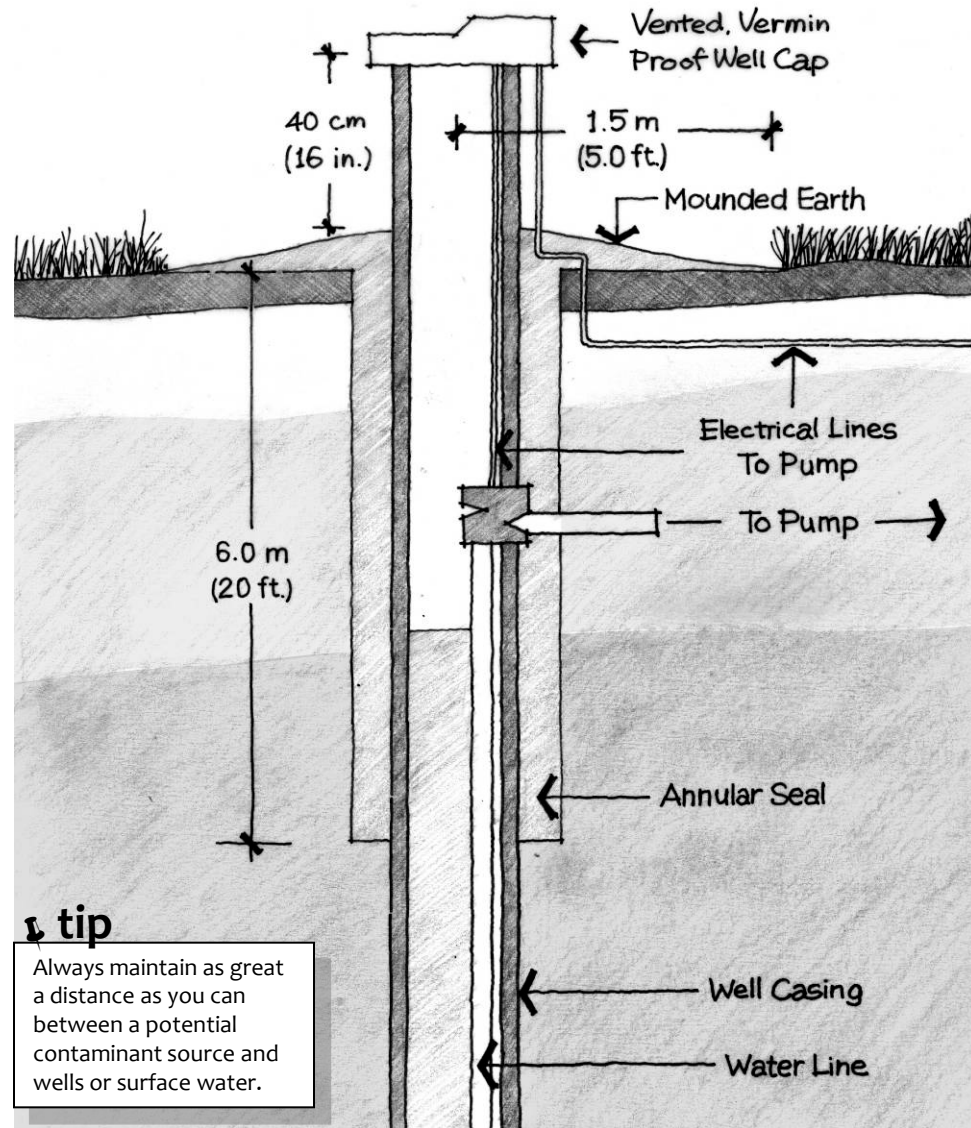
Well Diagram:

This cross-section shows the typical components of a well. Your well may or may not look like this one, but the function is generally the same. You may find this diagram helpful as you navigate through the following worksheet.



Typical Bored Well

It is the responsibility of the landowner to adequately upgrade their existing well as per Regulation 903.* If the well has a round concrete casing, it needs to be upgraded to current code (e.g. such that a narrow black pipe protrudes from the ground with a proper cap and surface grade slopes away from the well casing).



tip

Always maintain as great a distance as you can between a potential contaminant source and wells or surface water.

*Reg 903 states: 20. (1) The well owner shall maintain the well at all times after the completion of the well's structural stage in a manner sufficient to prevent the entry into the well of surface water and other foreign materials. O. Reg. 372/07, s. 19.

Calculate Your Household Water Use

The chart below shows the average amount of water used in the average household. Calculate the average amount of water used in your house for a typical day or week.¹

Fixture	Typical Ontario water use	Water use in my household	Water efficiency measure installed	New water use
Toilet	20 litres per flush (standard toilet)	___ litres (___ gal.)	Install toilet water displacement device in the tank – as simple as a plastic bottle filled with sand.	4 litres per flush
			Install a water efficient, 6 litre/flush toilet at a cost of \$150-\$300.	6 litres per flush
Shower	10 to 30 litres per minute	___ litres (___ gal.)	Install water-efficient showerhead at a cost of \$10-\$40.	9.5 litres per minute
Bath	60 litres	___ litres (___ gal.)		
Clothes Washer	208 litres	___ litres (___ gal.)	Do less laundry or buy a water-efficient clothes washer.	100 litres per load
Dishwasher	40 litres	___ litres (___ gal.)	Install water-efficient dishwasher.	26 litres per load
Faucets (toilet and kitchen)	15 litres per minute	___ litres (___ gal.)	Install a kitchen faucet aerator at a cost of \$3.	9.5 litres per minute
Leaks	13 litres per day (leaky faucet) to 190 litres per day (silent toilet leak)	___ litres (___ gal.)		
Other (Domestic)	6 litres	___ litres (___ gal.)		
Total	394 litres	___ litres (___ gal.)	Conversion Factor: Litres x 0.22 = Imperial Gallons	

¹Source: Government of Alberta Ministry of the Environment. 2001. (www3.gov.ab.ca/env/water/Conservation/residential.cfm#LandscapeWaterUse)

Private Well Water Supply: How do you rate?

Topic	Best 4	Good 3	Fair 2	Poor 1	Your Rating
LOCATION OF WELL					
1 Position of Water Well in relation to Potential Sources of Contamination	Upslope from all sources of contamination, AND all surface water moves away from well.	Upslope from, or level with any source of contamination, AND surface water runoff does not reach well.	Level with most sources of contamination, AND some surface water runoff may reach well.	Downslope from any source of contamination so that surface water reaches well, OR water ponds at and around well.	<input type="checkbox"/>
2 Distance from Well to Potential Sources of Contamination	Greater than 90 m (300 ft).	24-90 m (76-300 ft) for drilled well,* OR 47-90 m (151-300 ft) for bored/dug well.	15-23 m (50-75 ft) for drilled well,* OR 30-46 m (100-150 ft) for bored/dug well.	Less than 15 m (50 ft) for drilled well, OR less than 30 m (100 ft) for bored/dug well.**	<input type="checkbox"/>
* Note: Drilled wells must have at least 6 m (20 ft) of watertight casing below ground level. If less than 6 m (20 ft), treat well as a bored/dug well.					
CONDITION OF WELL					
3 Condition of Casing	Good condition. No defects visible, AND checked annually by certified inspector.	No defects visible, AND checked every one to two years by certified inspector.	No holes or cracks visible, AND checked every three years or more by certified inspector.	Holes or cracks visible, OR , can hear water running into well, OR never inspected.	<input type="checkbox"/>

** These conditions may violate provincial legislation or municipal by-laws.

Rating	Best 4	Good 3	Fair 2	Poor 1	Your Rating	
CONDITION OF WELL <i>continued</i>						
4	Condition of Well Cap	Excellent condition, commercially manufactured, vermin proof, and tightly secured.	Fair condition, commercially manufactured, vermin proof, and tightly secured.	Commercially manufactured, vermin proof cap is loose or needs repair.	No commercially manufactured vermin proof cap.	<input type="checkbox"/>
5	Condition of Well Venting	Screened vent in excellent repair.	Screened vent in good repair.	Well vented but not screened.	No well vent.	<input type="checkbox"/>
6	Condition of Surface Material around Well Casing	Surface material raised above normal ground level beside well casing, AND no space between well casing and surrounding surface material.	No settling of the surface material around well casing, AND no space between well casing and surrounding surface material.	Can see settling of surface material around well casing, AND no space between well casing and surrounding surface material.	Can see settling of surface material around well casing, OR visible space between well casing and surrounding surface material.	<input type="checkbox"/>
7	Casing Depth	More than 45 m (150 ft) below ground level.	31-45 m (100-150 ft) below ground level.	15-30 m (50-100 ft) below ground level.	Less than 15 m (50 ft), OR no casing.	<input type="checkbox"/>
8	Casing Height above Ground Level	40 cm (16 in) or more above normal ground level.			Less than 40 cm (16 in) above normal ground level, in pit or in basement.*	<input type="checkbox"/>
9	Age of Well	Less than 20 years old.	Less than 40 years old.	40-60 years old.	More than 60 years old.	<input type="checkbox"/>

*These conditions may violate provincial legislation or municipal by-laws.

Rating	Best 4	Good 3	Fair 2	Poor 1	Your Rating	
MANAGEMENT OF PRIVATE WELL WATER SUPPLY <i>continued</i>						
10	Type of well	Drilled – casing terminates above ground, approved well cap.	Drilled – casing terminates in a well pit.	Sand point.	Bored or dug.	<input type="checkbox"/>
11	Backflow prevention	Anti-backflow devices (such as check valves and vacuum breakers) installed on all faucets with hose connections, AND air gap of at least 15 cm (6 in) maintained.	Anti-backflow devices installed on some faucets with hose connections, AND air gap of at least 15 cm (6 in) maintained.	No anti-backflow devices, AND air gap of at least 15 cm (6 in) maintained.	No anti-backflow devices, OR air gap not maintained.	<input type="checkbox"/>
12	Unused or abandoned wells	No unused or abandoned wells.	Unused wells capped, properly protected and maintained, AND abandoned wells properly plugged and sealed.		Unused wells not capped or protected, OR abandoned wells not properly plugged and sealed.*	<input type="checkbox"/>
13	Water testing	Water tested for bacteria more than 3 times a year (including once in the spring) and more than once a year for other parameters (e.g. nitrate levels), AND bacteria, nitrate, and other tests (health related) always meet Ontario Drinking Water Standards.	Water tested 3 times a year for bacteria and once a year for other parameters (e.g. nitrate levels), AND bacteria, nitrate, and other tests (as needed) usually meet Ontario Drinking Water Standards on the first test and always on the second test (the follow-up check).	Water tested less than 3 times a year for bacteria and not tested for other parameters (e.g. nitrate levels).	Water is not tested, OR does not meet Ontario Drinking Water Standards on first test or on second test (follow-up check).	<input type="checkbox"/>

tip

Your local Health Unit is a valuable resource in helping you manage the quality of your drinking water. Ask your neighbours what their tests reveal.

*These conditions may violate provincial legislation or municipal by-laws.

Resources List

Private Well Water Supply

For more information...

Health Canada

Water Treatment Devices - for Removal of Taste, Odour, and Chemicals
hc-sc.gc.ca/ewh-semt/pubs/water-eau/devices-dispositifs-eng.php

Ontario Ministry of Agriculture, Food and Rural Affairs

Factsheet:

Water Wells

omafra.gov.on.ca/english/environment/water/publications.htm

Well Aware

Well Aware – A Well Owner’s Guide

Well Aware Booklet

wellaware.ca

Ontario Regulation 903 (Water Wells)

This regulation governs how wells must be constructed/maintained in Ontario. It includes construction standards, distances required from contaminant sources, and licensing requirements for well contractors.

e-laws.gov.on.ca/html/reg/english/elaws_regs_900903_e.htm

Ontario Ministry of Environment

If you would like to order a copy of the official well record for your water well, please contact the ministry's Water Wells Searchline at: 1-888-396-WELL(9355) or try their new online resource at

www.ene.gov.on.ca/environment/en/mapping/wells/index.htm

ServiceOntario Publications

publications.serviceontario.ca

Factsheets/Leaflets:

- Green Facts: Important Facts About Water Well Construction (pub no. 012424)
- Green Tips: Managing Your Water Well in Times of Shortage (pub no. 012423)
- Green Facts: The Protection of Water Quality in Bored and Dug Wells (pub no. 012407)
- Green Facts: The Protection of Water Quality in Drilled Wells (pub no. 012425)
- The Protection of Water Quality in Jetted or Driven Point Wells (pub no. 012408)
- Ontario Water Resources Act & Regulations (pub no. 111646)
- Best Management Practices series: Water Wells (pub no. BMP 12E)
- Private Water Well Owners – Dealing with Water Shortages (pub no. 99-025)

Ontario Ministry of Health and Long-Term Care

health.gov.on.ca (search “water well”)

Contact the local Health Unit for these Information Sheets:

- Get Acquainted with Your Well
- Keeping You Well Informed
- Pathogens and Your Well Water
- Putting Your Well Water to the Test
- Choosing a Water Treatment System
- Disinfection Instruction Sheet
- Keeping Your Well Water Safe to Drink (Poster)