Flooded Wells and Septic Systems

Disinfecting a Well After a Flood

If you suspect that your well may be contaminated:

- Do not turn on the pump
- Do not wash with well water
- Do not drink or bathe in water until all the well disinfection steps have been completed, the well has been thoroughly flushed and returned water sample results have been satisfactory.

Safety Precautions

Turn off all power to the well area before clearing debris. Inspect all electric connections for breaks in insulation and for moisture: connections must be dry and unbroken to avoid shock. When the power is back on, a qualified electrician or plumber may need to check the equipment and wiring system.

Carefully inspect the area around the well for electrical and physical hazards. Those may include broken power lines on the ground or in the water; sharp metal, glass, or wood debris; open holes; and slippery conditions. Wear thick rubber-soled shoes or boots (preferably waterproof) to protect against electrical shock. Clear away hazards before cleaning and disinfecting well.

Do not turn on any electrical equipment if there is a persistent smell of fuel such as gasoline coming from the well head. Allow the well to vent. If the smell persists, contact a reputable Water Treatment Contractor. Do not continue with disinfection of the well until the contamination in the well has been removed.

Follow these additional precautions as you prepare to disinfect the wells:

- Chlorine solutions can cause chemical burns. Use rubber gloves and wear protective goggles or a face shield as well as waterproof aprons or rain gear when working with chlorine solutions.
- When mixing and handling chlorine solutions, work in well ventilated areas and avoid breathing vapors.

Disinfection Procedure

CAUTION:
Before disinfection, check the condition of your well. Make sure there is no exposed or damaged wiring. If you notice any damage e.g. loose well hardware, dislodged well construction materials or distorted casing etc, call a well contractor.

Step 1

Scrub or hose off foreign material from the well curbing or casing. If the well cover was not properly sealed and flooding has occurred, sand and silt may have deposited in the well, requiring more cleaning.

Drilled and bored wells: Remove the well cover and thoroughly clean the well to remove all debris. Special tools or pumps may be required to remove silt and sand. Heavy deposits of silt and sand may damage well pumps if not removed before the pump is started. If sand and silt are present, remove the pump and clean it thoroughly before using.

Dug wells: Remove the well cover and thoroughly clean the well to remove all floating debris. If the well is lined, scrub the sides of the well with a brush. Empty polluted water and debris from the well using buckets or pumps. If sand and silt are present, remove the pump and clean it thoroughly before using. Rinse well walls by pouring water along the edges. Empty polluted rinse water from the well again, then allow it to refill.

Step 2

Pump water out of the well until the water is clear. If you have a low-yield well, empty at a slower rate. If available, use outside faucets to drain water from the well. Do not pump contaminated water into any existing pressure tank. Instead, disconnect piping between the pressure tank and pump to allow contaminated water to flow away

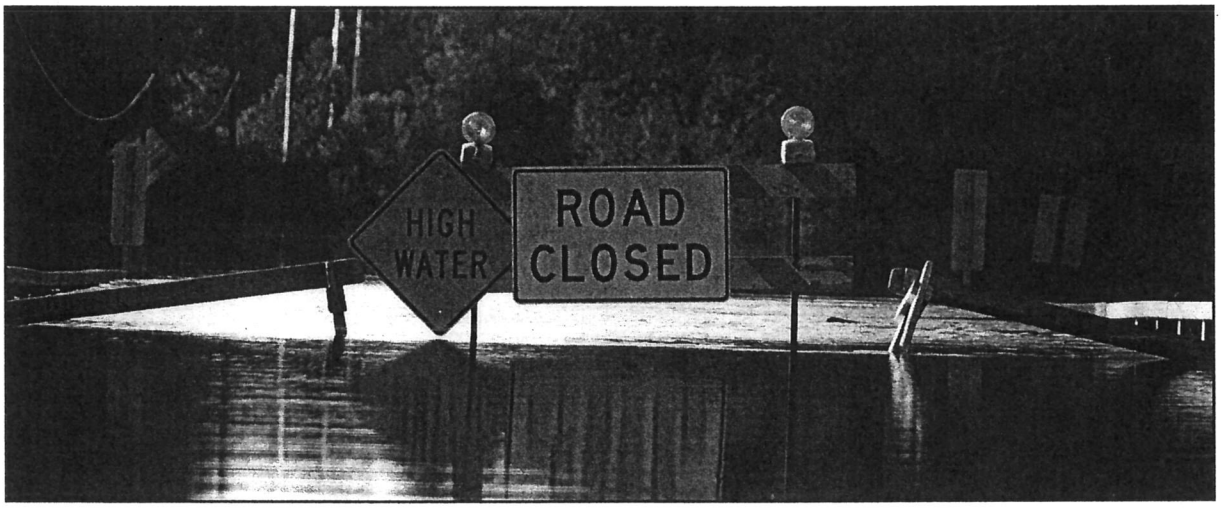
If the test results show no presence of both total coliform and E. coli, the water can be considered safe to drink from a microbial standpoint. Follow up with two additional samples, one week apart. To check the safety of your water over the long term, continue to monitor bacterial quality at least twice per year or more often if you suspect any changes in your water quality.

If test results indicate the presence of either total coliform or E. coli, repeat the well disinfection process and resample. If tests continue to show the presence of bacteria, contact the Health Unit for assistance.

Chemical Contaminants:

Flood waters could also contaminate your well with oil, gas, pesticides, fertilizers or other chemicals. The well may need additional chemical treatment if:

- There have been any nearby spills as a result of the flood (damaged oil tanks)
- There is a change to your water quality such as discolouration, or odour
- You have never tested your well
- If your well was contaminated with chemical(s) contact a reputable Water Treatment Contractor for remediation and submit a water sample for chemical analysis to an accredited private laboratory.



Returning Flooded Septic Systems to Service

Once flood waters have receded, there are several things homeowners should remember:

Be sure the septic tanks cover is secure and that inspection ports have not been blocked or damaged. Otherwise someone could fall into the septic tank - a fatal hazard.

Do not use the sewage system until the water level in the soil absorption field is lower than the water level around the house.

Have your septic tank professionally inspected and serviced if you suspect damage. Signs of damage include settling or an inability to accept water. Most septic tanks are not damaged by flooding since they are below ground and completely covered. However, septic tanks and pump chambers can fill with silt and debris, and must be professionally cleaned. If the soil absorption field is clogged with silt, a new system may have to be installed.

Only trained specialists should clean or repair septic tanks because tanks may contain dangerous gases. Contact the Health Unit for a list of septic system contractors who work in your area.

If sewage has backed up into the basement, clean the area with a detergent and then disinfect the affected area with a chlorine solution of 5,000 parts per million (ppm) of common household non-scented bleach by mixing ten parts of water