

Managing Your Septic Tank During/Following a Flood (June 2011)

Introduction

If your home or the area around your home has been flooded, your septic tank may fill with water by leakage through the lid or by rising ground water entering around the inlet or outlet, or your drainfield may become saturated and unable to drain. Water entering the tank or a saturated drainfield may cause sewage to back up into your home, depending on the elevation of your septic system relative to the lowest drains or toilets.

Wastewater contains human disease-causing microorganisms such as bacteria, viruses and parasites. Diseases can be transmitted to humans from wastewater if appropriate protective measures are not taken. The safe disposal of wastewater is essential to protect your health and the health of others. Ensure children and pets are kept away from sewage or wastewater affected areas.

How does a septic system flood?

Septic tanks are typically a concrete (or plastic) tank which collects the wastewater from toilets, the bathroom, kitchen and laundry in the home. In a functioning system, the solids in the wastewater settle in a primary tank, the wastewater is then discharged through a drainfield into unsaturated soil.

Most septic tanks will not be structurally damaged by flooding since they are below ground. However, flood water may enter your septic tank through a flooded lid or when flooding causes ground water to rise and your tank becomes immersed. In either case, water can enter your home through toilets, showers, or floor drains if the water covering the flooded tank is higher than these openings in your plumbing system. The immediate concern is exposure to pathogens and damage to the floors, walls, or furnishings from the water. The longer term concern arises since flooding of the septic tank may wash out solids from the tank back into the sewer pipe causing blockages or system damage.

Safety issues need to be considered at all times. Older septic tanks can collapse if pumped while covered with flood water and any septic tank (but especially those recently installed) can float out of the ground if pumped out during very high ground water conditions. Also, some onsite wastewater treatment systems use electrical equipment such as pumps which can short out or be damaged by flooding. Homeowners need to be aware of their technical limitations and call for professional help as conditions warrant.

What should I do if I suspect my septic tank has been flooded?

Do not use or flush your toilet until you know that the septic tank and associated sewer pipes are intact, otherwise wastewater could flow back up into the house through the toilet, shower, bath, and laundry drains.

If you suspect your wastewater system has been physically damaged by the flood, contact the county health department and a licensed septic system installer or a licensed plumber to have it assessed.

Septic tanks inundated with flood water can be professionally pumped after the flood emergency has subsided but the need depends on the flooding event. If flood water containing silt or other debris was able to physically enter the tank or any part of the system, pumping is recommended. If the tank and drainfield were simply inundated by a high water table, pumping may not be needed since no solids were added to the system. However, the floating scum layer may have been raised to the top of the tank and adhere after the water levels recede so inlets, outlets, and vents can become plugged. An inspection by a qualified professional can determine the need for a pump out. If the contents of the tank have been stirred up or otherwise subject to turbulent flow, a pumpout is needed. Any pumping should be delayed until flood waters have receded and the



water table has lowered. Contact your local health department for a listing of licensed septic tank pumpers in your area or look in the Yellow Pages under "*Septic Tanks-Cleaners*".

Pumping out a flooded septic tank should be done with care as this could cause the tank to float out of the ground and damage the tank or sewer pipes. In some cases it may be prudent to fill a pumped septic tank with water to prevent it from floating out of the ground.

If the drainfield area is waterlogged or clogged, additional water will not drain and may pool on the surface. Measures such as pumping out the whole septic system (septic tank and drainfield) may be necessary but only after the water table has lowered. This may need to be done several times. Saturated soil is especially susceptible to compaction, which can lead to system failure. Avoid compaction of the soil over the drainfield area caused by driving or operating equipment in the area.

In most situations turning off power to pumps may be necessary to prevent flooded pumps from overheating, wearing out or pumping out untreated water. In some instances the pump may be required to be left on to prevent other types of damage – contact a licensed septic system installer or plumber for advice.

What should I do if sewage has overflowed inside my home?

Sewage contains harmful bacteria, viruses and parasites. Sewage needs to be cleaned up as soon as possible. Keep children and pets away from the area until this is done. Some appropriate clean up procedures are:

- Use rubber gloves, boots, and eye protection.
- Remove and discard contaminated household materials that cannot be cleaned or disinfected, such as carpet and children's soft toys.
- Clean all contaminated areas with hot water and detergent, then disinfect. Pay special attention to cooking utensils, work surfaces and other surfaces such as floors and walls.
 - Dip utensils in a solution of 1.5 cups of household chlorine bleach in 2 gallons of cold water (a household bucket) for two minutes. Rinse in clean water.
 - For disinfecting hard surfaces, use the same solution, leaving it wet for 10 minutes. Rinse off with clean water.
- Disinfect cleaning mops, brooms and brushes with the bleach solution.
- Clean and dry dirty shoes and wash your clothes separately after clean up.
- Increase ventilation inside the house.
- Throw out food containers that have been in contact with sewage, including unopened bottles.
- Attend to any cuts and wounds immediately. Disinfect the wound then cover with a waterproof dressing.
- Wash your hands and any affected parts of your body with soap and water.

Contact your local water authority or local council Environmental Health Officer for further advice.

What should I do if sewage has overflowed outside my home?

Sewage contains harmful bacteria, viruses and parasites. Sewage needs to be cleaned up as soon as possible. Keep children and pets away from the area until this is done. Some appropriate clean up procedures are:

- Report the spill to your local health department.
- Use rubber gloves, boots, and eye protection.
- Cover the surface of the sewage spill with hydrated lime, following manufacturer's warnings. Avoid getting lime on your skin and clothing
- Use rake or shovel to mix the lime into areas where the spill is thick.



- After 24 hours rake up the thicker residue into plastic bags and dispose of in the trash.
- Use a hose to rinse the lime into the soil.
- Block access until sunlight thoroughly dries the area.

If the area has been flooded, the use of lime should occur after flowing water has diminished and the standing water has receded.

More information

Onsite wastewater system:

Your local health department can provide advice on assessing your drinking water well and septic system following a flood event.

Plumbers:

Refer to your local telephone directory for a licensed plumber.

Health information:

Contact your doctor regarding any health conditions that may have resulted from contaminated water supplies.

Additional information:

Additional information regarding public health and floods can be downloaded from [Flood Preparedness](http://deq.mt.gov/wqinfo/pws/security/floods.mcp) (<http://deq.mt.gov/wqinfo/pws/security/floods.mcp>) or from the Centers of Disease Control at <http://www.cdc.gov/healthywater/emergency/septic/septic.html>.