

GUIDANCE FOR SEPTIC SYSTEMS BEFORE, DURING, AND AFTER AN EARTHQUAKE



Guidance for Septic Systems Before, During, and After an Earthquake

Background

This resource provides guidance for septic system users before, during, and after an earthquake. Understanding your septic system type, location, and components before an earthquake occurs will make this guide more useful. Please visit neha.org to access educational resources for septic system users.

Safety Reminders

- Get help from a septic system service professional for steps with this symbol:  You can find septic system service professionals through local health departments, departments of environmental quality, departments of natural resources, or university extension services.
 - Make sure you turn off power to the septic system and all cords are unplugged before inspecting the area. There is danger of electrical shock and damage to your septic system.
 - Wear rubber gloves and eye protection when inspecting septic system components. Wash your hands thoroughly, throw away gloves, and wash any contaminated clothes when finished.
 - Steps with a  only apply to pressure distribution systems.
 - Get help from a septic system service professional if any of the steps feel unsafe in your situation or if your system loses power.
 - Be careful walking near a damaged system. Manholes and tank covers may have shifted, creating openings into the pump chamber or septic tank.
 - Wait to enter damaged structures until they are cleared by a trained inspector.
 - Never enter the pump chamber or septic tank. Gases inside the pump chamber and septic tank are poisonous and the lack of oxygen can be fatal.
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Before the Earthquake

Always keep your septic system well maintained; a well-maintained septic system is better able to withstand the stresses of an earthquake. If you live in an area where earthquakes are common, take these steps to protect your septic system.

- **Know and document all components** of your septic system. Take photos of the connections and system components. These photos will be helpful if components are destroyed and you need to replace them or file insurance claims. Make sure your photos and/or documents include:

- Septic tank location
- Septic system records or drawings
- Electrical components

- **Mark system components** with a marker such as a rock, stake, or pin flag.

⚙️ **Turn off your pump at the circuit box** if you have a pressure distribution system or mound system (turn the pump back on before using the system again).

During the Earthquake

- **Follow emergency and evacuation advice** for your area.

- **Eliminate all non-essential water use** and flush toilets as little as possible if evacuation is not needed.

- **Try to find other toilets if your septic system is damaged.** If there are no functioning toilets available see the guidance on temporary toilets below.

After the Earthquake

An earthquake may damage your septic system and make it unsafe. **Always consult with a septic system service professional and follow the steps below.**

- 🔧 **Rope off your septic system.** The manholes and tank covers may be damaged or missing.

 - 🔧 **Stay out of the area if sewage backs up** due to a system malfunction or excess water. If the entire building is contaminated, abandon the building until all affected areas, including but not limited to carpets, rugs, sheetrock, drywall and baseboards, have been thoroughly cleaned and disinfected or the contaminated materials have been removed. Avoid flushing disinfectants down the drain. A septic system service professional should be contacted to inspect and repair the system if it was flooded.

 - 🔧 **Check for changes in how the septic system functions.** Be on the alert for changes in how appliances drain, wet or unusually green spots in your yard, odors from your system, activated alarm lights and buzzers, and/or a change in sounds from mechanical components. Contact a septic system service professional if any of these issues occur.

 - 🔧 **Reduce water use** until the system is inspected and repaired.
 - **Avoid sending basement sump pump water into the septic system.**
 - **Re-route water from roof gutters** away from the drain field.
 - **Take short showers**
 - **Limit laundry and dishwashing**
 - **Turn off the water** while brushing teeth, shaving, or rinsing dishes
 - **Do not flush the toilet** each time it's used for liquid waste
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Professional System Inspection

Consult with a septic system service professional to determine if an inspection is needed before using the septic system again. An inspection by a septic system service professional may include:

- Open all parts of the system (sewage tanks, drop boxes, anywhere there is access to system components) and assess whether sediment or vegetative debris has entered the system. All sewage tanks should be pumped and cleaned out.
 - Make sure that inspection ports are free of blockage and damage. Replace and secure septic tank manhole covers as needed.
 - If your property was damaged, a month after the system is restarted, schedule a follow-up visit to check for proper operation.
 - Check for damage to above and below ground septic system components.
 - Check for damage to piping where pipes enter the home.
 - Check the drain field and the area over the septic tank for depressions and damage from fallen debris. Repair with sod or seeding to provide good plant cover.
 - Make sure wastewater moves between the parts of the system as intended.
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OTHER SYSTEMS

If you have an advanced treatment unit or any other type of onsite wastewater treatment system not addressed above, contact a septic system service professional or your local health department.

Temporary Toilets

If your septic system appears to be damaged and cannot be used, one option is a temporary toilet. **Only use a temporary toilet if there are no functioning toilets available.**

- Temporary toilets options include:

- **Check to see if you can stay somewhere else** that has working water and sewer.
- **Contract a PortaPotty** for temporary use.
- **Modify your own toilet:**
 - **Shut off the water valve** to the toilet. If you can't close it, try another option.
 - **Flush out any water still in the bowl** (the toilet shouldn't refill when the valve is closed).
 - **Line your toilet bowl** (under the seat) with a plastic kitchen garbage bag inside of another kitchen bag.
 - **Into the inner bag, put some kitty litter, dry peat moss, lime, or something similar** that will absorb liquid and may reduce odors.
 - **Avoid mixing urine and fecal material if possible.** This will limit odors and urine is generally much safer for disposal if not mixed with fecal material.
 - **Wash or sanitize your hands** after toilet use and waste handling. Keep a bucket of clean water, a dipper, and soap for handwashing nearby. Camp handwash stations may be a viable solution.
 - **Store full bags in a secure area** (consider a watertight bucket or trashcan) away from pets, wildlife, and curious kids.
 - **Dispose of the bags properly** when possible. In most jurisdictions throwing them in the garbage is allowed but it is best to check with local authorities.

- **Use a five-gallon bucket as a toilet.** You can add a toilet seat and set it up like a modified toilet (above).

- **If you must dig a hole for your waste, make sure it's at least 200 feet** (70 adult steps) from water bodies and water wells to minimize pollution. It must be at least six inches deep, so critters or kids won't dig it up. Fill it in after a single use, tamp the dirt down. This is a short-term option only and regulations may vary by jurisdiction.

SOURCES

<https://dec.alaska.gov/spar/ppr/docs/adec-earthquakepublichealthenvironment.pdf>
<http://www.vdh.virginia.gov/content/uploads/sites/20/2017/03/Earthquake-Response.pdf>
<https://www.doh.wa.gov/portals/1/Documents/Pubs/337-147.pdf>

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