

Protecting Against Flood Damage

Provide built-in resistance with these suggestions from FEMA.

No matter where you live, you could at some point experience flooding. High water isn't just a hazard for people on the coast. Floods are one of the most common hazards in the United States, and changing weather patterns and an increasing number of hard surfaces like roads and sidewalks are putting more homeowners at risk for floods. Homeowner's insurance rarely covers flood losses, and federal disaster assistance is available only if the president formally declares a disaster. But even when disaster assistance is provided, it's usually a loan that has to be repaid with interest.

There are a number of steps that can be taken to protect a home from flooding. The Federal Emergency Management Agency (FEMA) suggests the following ways to provide flood protection.

Build With Flood-Resistant Materials

Building materials are considered flood-resistant if they can withstand direct contact with flood waters for at least 72 hours without being significantly damaged. Significant damage means any damage that requires more than low-cost, cosmetic repair. Flood-resistant materials should be used for walls, floors and other parts of a home that are below the 100-year flood level. Commonly available flood-resistant materials include concrete, closed-cell and foam insulation, pressure-treated and marine-grade plywood, and ceramic tile. And keep in mind that all hardware used in these areas should be made of stainless or galvanized steel.

Add Waterproof Veneer to Exterior Walls

Even in areas where floodwaters are less than two feet deep, a home can be severely damaged if water reaches the interior. To protect a home from shallow flooding, add a waterproof veneer to the exterior walls. The veneer can consist of a layer of brick backed up by a waterproof membrane. In addition, it's important to make changes to the interior walls as well. In areas below the flood level, replace batt insulation with washable closed-cell foam insulation. Any wood blocking added inside the wall cavity should be made of exterior-grade lumber.

Raise Electrical System Components

Electrical-system components such as service panels, meters, switches and outlets are easily damaged by floodwater. If they are inundated for even short periods, they will probably have to be replaced. Another serious problem is the potential for fires caused by short circuits. All components of the electrical system, including the wiring, should be raised at least a foot above the flood level.

Anchor and ELEVATE Fuel Tanks

Floodwaters can easily move unanchored fuel tanks, a situation that poses serious threats. An unanchored tank outside a home can be driven into the walls by flood waters or swept downstream, where it can damage other property. When floodwaters move an unanchored tank in a basement, the supply line can tear free and contaminate the basement with oil. One way to anchor a tank is to attach it to an elevated concrete slab heavy enough to resist the force of floodwaters. This can be done for all tanks, both inside and outside a home. An outside tank can also be anchored by running straps over it and attaching them to ground anchors. The tank must be elevated higher than the base flood elevation to be in compliance with your local floodplain ordinance.

Raise or Flood-Proof HVAC Equipment

HVAC equipment, such as a furnace or a water heater, can be damaged extensively if floodwaters inundate it. The amount of damage will depend partly on the depth of the flooding and the amount of time the equipment remains underwater. To protect HVAC equipment in flood-prone homes, move it from the basement or lower level of the home to an upper level or even the attic. A less desirable method is to leave the equipment where it is and build a concrete or masonry block flood wall around it.

Install Sewer Back-Flow Valves

In some flood-prone areas, flooding can cause sewage from sanitary sewer lines to back up into homes through the drainpipes. These backups not only cause damage that's difficult to repair but also create health hazards. A good way to protect a home from sewage backups is to install back-flow valves, which are designed to temporarily block drainpipes and prevent flow into the home.

Protect Wells From Contamination

Floodwaters often carry hazardous and toxic materials, including raw sewage, animal waste, oil, gasoline, solvents and chemicals. Floodwater that enters a well can contaminate the groundwater and make the well water unsafe to drink or use, and the effects may last long after the floodwaters have receded. Taking steps to construct a well properly will help protect a well against contamination—by extending the well casing at least two feet above the highest known flood elevation, for example. Keep in mind that potential contaminants shouldn't be stored within 100 feet of the well.