Protecting Your Property From Flooding

Federal Emergency Management Agency

Are You at Risk?

If you aren't sure whether your house is at risk from flooding, check with your local floodplain manager, building official, city engineer, or planning and zoning administrator. They can tell you whether you are in a flood hazard area. Also, they usually can tell you how to protect yourself and your house and property from flooding.

What You Can Do

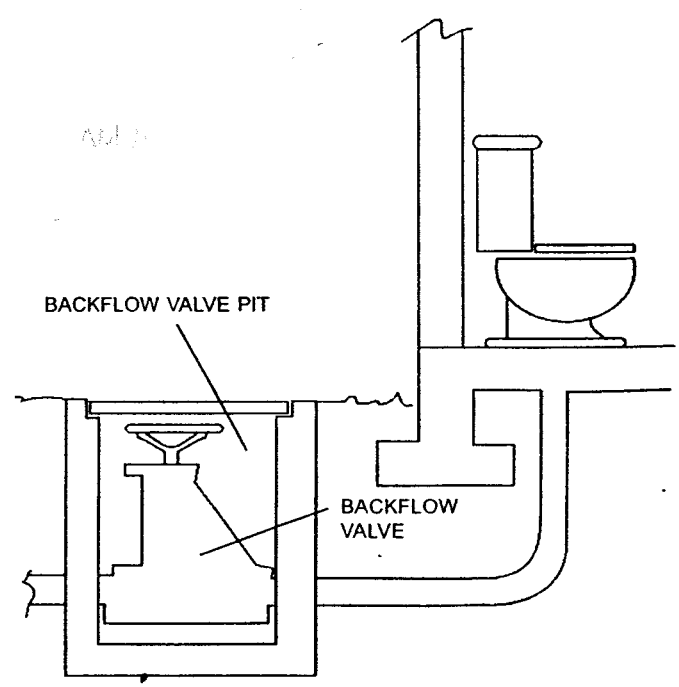
Flood protection can involve a variety of changes to your house and property – changes that can vary in complexity and cost. You may be able to make some types of changes yourself. But complicated or large-scale changes and those that affect the structure of your house or its electrical wiring and plumbing should be carried out only by a professional contractor licensed to work in your state, county, or city. One example of flood protection is installing a backflow valve to prevent sewage from backing up into your house. This is something that only a licensed plumber or contractor should do.

Install Sewer Backflow Valves

In some floodprone areas, flooding can cause sewage from sanitary sewer lines to back up into houses through drain pipes. These backups not only cause damage that is difficult to repair but also create health hazards.

A good way to protect your house from sewage backups is to install backflow valves, which are designed to block drain pipes temporarily and prevent flow into the house. Backflow valves are available in a variety of designs that range from the simple to the complex. The figure shows a gate valve, one of the more complex designs. It provides a strong seal, but must be operated by hand. So the effectiveness of a gate valve will depend on how much warning you have of impending flooding. Among the simpler valves are a flap or check valves, which open to allow flow out of the house but close when the flow reverses. These valves operate automatically but do not provide as strong a seal as a gate valve.

TYPICAL INSTALLATION OF AN EXTERIOR BACKFLOW VALVE



← NORMAL DIRECTION OF FLOW (VALVE PREVENTS FLOW IN REVERSE DIRECTION)

Install Sewer Backflow Valves

Tips

Keep these points in mind if you have backflow valves installed:

✓ Changes to the plumbing in your house must be done by a licensed plumber or contractor, who will ensure that the work is done correctly and according to all applicable codes. This is important for your safety.

✓ Some valves incorporate the advantages of both flap and gate valves into a single design. Your plumber or contractor can advise you on the relative advantages and disadvantages of the various types of backflow valves.

✓ Valves should be installed on all pipes that leave the house or that are connected to equipment that is below the potential flood level. So valves may be needed on washing machine drain lines, laundry sinks, fuel oil lines, rain downspouts, and sump pumps, as well as sewer/septic connections.

✓ If you have a sump pump, it may be connected to underground drain lines, which may be difficult to seal off.

Estimated Cost

Having a plumber or contractor install one backflow valve will cost about $525 for a combined gate/flap valve or about $375 for a flap valve. These figures include the cost of excavation and backfilling.

Other Sources of Information

Protecting Your Home from Flooding, FEMA, 1994

Repairing Your Flooded Home, FEMA-234, 1992

Flood Emergency and Residential Repair Handbook, FIA-13, 1986

Retrofitting Flood-Prone Residential Structures, FEMA-114, 1986

To obtain copies of these and other FEMA documents, call FEMA Publications at 1-800-480-2520. Information is also available on the World Wide Web at **http//:www.fema.gov.**