

# Install Sewer Backflow Valves



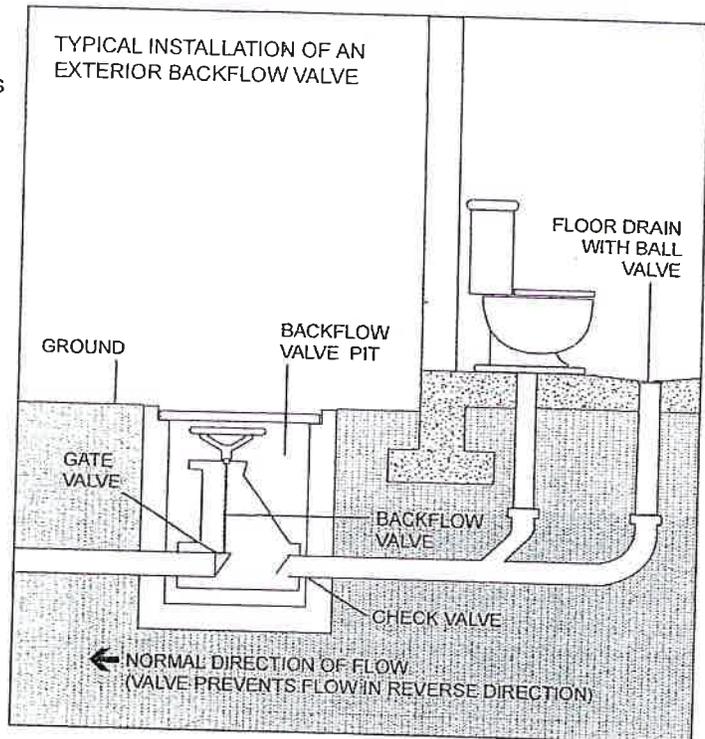
FEMA

## PROTECTING YOUR PROPERTY FROM FLOODING

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

A good way to protect buildings from sewage backups is to install backflow valves, which are designed to block drain pipes temporarily and prevent return flow. 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. The effectiveness of a gate valve will depend on how much warning you have of impending flooding.

Among the simpler valves are flap or check valves, which open to allow flow out of the structure but close when the flow reverses. These check valves operate automatically but do not provide as strong a seal as a gate valve.

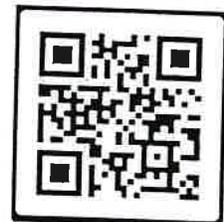


## BENEFITS OF UTILIZING THIS MITIGATION STRATEGY

- Helps to prevent damage to a structure and avoids hazardous and costly cleanup.
- Helps to protect the health and safety of the structure's occupants

## TIPS

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



- ✓ Changes to the plumbing in your property 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 main waste drain pipes that leave the structure or that are connected to equipment that is below the potential flood level. Therefore, 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 approximately \$1,400 for a combined gate/flap valve or about \$600 for a flap valve. These figures include the cost of excavation and backfilling.

## OTHER SOURCES OF INFORMATION

FEMA 348, *Protecting Building Utilities from Flood Damage*, November 1999, <http://www.fema.gov/library/viewRecord.do?id=1750>.

FEMA P-499, *Home Builder's Guide to Coastal Construction*, "Protecting Utilities," Technical Fact Sheet No. 8.3, December 2010, <http://www.fema.gov/library/viewRecord.do?id=2138>.

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