

Floodwalls



A floodwall is a self-supporting barrier to floodwater. It may look like a garden wall or privacy fence, but it has more internal reinforcing and a more substantial foundation. This heavier construction keeps the wall from tipping or sliding. The foundation also blocks seepage of water under the wall.

A floodwall does more than keep the building dry. It protects the building from unequal pressure on its walls and erosion (or scour) at its foundation. It also protects the building from damage from floating debris.

Considerations

The typical floodwall 4-foot high will cost about twice as much as a permanent levee of the same height. The floodwall, however, will take less ground surface area while requiring more, deeper excavation.

It is difficult to justify a private floodwall taller than 4 feet. For many homes, it is less expensive to raise the building 5 feet than to construct a reliable floodwall that tall.

Neighbors often view floodwalls and levees as aggravating their own flood situations. Protecting the area right around a building may be less objectionable than excluding water from your entire lot. Placing the wall close to the building also will reduce construction costs and your dependence on pumps.

Fail Safe Design

Your floodwall should be designed to allow water to come over the top before the wall is broken by the unbalanced pressure created by standing water. If a floodwall fails suddenly, the water and parts of the wall may come crashing into your building.

Never add to the height of a floodwall without making sure the foundation can handle the extra load.

A system with well-maintained automatic closures and pumps will provide protection when no one is home.

Openings in a floodwall need closures that are as strong as the wall, watertight and easy to install quickly in a flood threat.

Points to Remember

- Floodwalls must be built strong enough, above and below ground, to withstand the force of standing water. Have an engineer analyze the design to make sure it can handle the stress of potential water current.
- Before you dig, find out where water, gas, electrical and phone lines are. Call 811, LA One Call, for assistance locating utility lines and sewer lines. You may need to locate the sewer line yourself if your line is not part of a central system that participates in LA One Call.
- Rain that falls inside the wall needs a way to get out when it's NOT flooding (through drains) and when it IS flooding and the drains are plugged (using pumps).
- Test the closure and pump systems annually.
- Floodwalls have natural enemies: burrowing creatures and tree roots. Check your floodwall each year for cracks and signs of tunneling.
- A floodwall may require a building permit and may fall under height and set-back limitations of a fence ordinance. Check with the local building or permit office.
- Some communities review plans to be sure the floodwall will not interfere with drainage and will not diminish flood storage capacity in violation of local law.
- Plan for your safety in a flood. Decide ahead of time when you'll abandon a flood fight and save your life.

Typical Floodwall

Wood, cement blocks, bricks or poured concrete can be used. Use structural and waterproofing materials that will not be damaged by termites, wildlife or pets.

Provide closures - gates that float, roll or swing into place, removable panels, sandbags or water inflated tubing.

Buttresses at corners and at intervals along the wall add strength. Weaker materials require more reinforcing.

A small levee at the driveway opening can provide protection from low flood levels.

Waterproof sealant or film can be applied to the surface or sandwiched between the bricks or blocks. Choose a material that will sustain its properties under the conditions of use - on an exterior surface exposed to sunlight or sealed in an airtight, dark space.

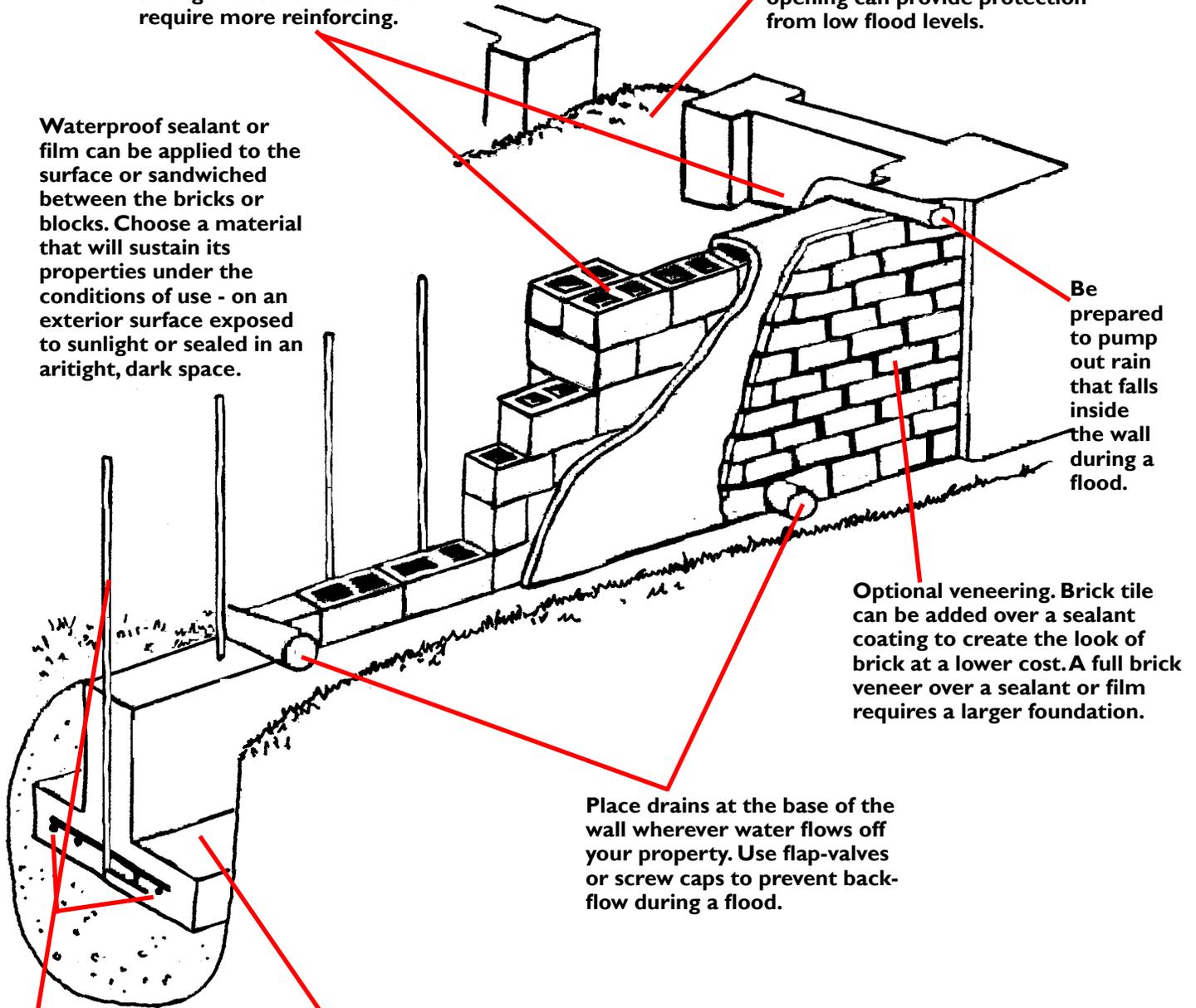
Be prepared to pump out rain that falls inside the wall during a flood.

Optional veneering. Brick tile can be added over a sealant coating to create the look of brick at a lower cost. A full brick veneer over a sealant or film requires a larger foundation.

Place drains at the base of the wall wherever water flows off your property. Use flap-valves or screw caps to prevent back-flow during a flood.

Steel rebar strengthens the foundation and ties the wall to the foundation. Lock the rebar in the wall by filling blocks with mortar.

Bury the foundation so it will resist toppling and be unaffected by erosion or scour. A taller floodwall needs to be stronger and have a larger foundation than a shorter one.



2012 Insurance Reforms Impact Investment Decisions

Before you decide to invest in restoring or improving your home, ask your insurance agent about proposed increases in flood insurance premiums and how these can affect you. Subsidized rates are being phased out beginning in 2013, resulting in much higher premiums for properties that are too low in a flood hazard area.

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This publication is part of a series of fact sheets and videos about permanent and temporary methods for preventing flood damage. The complete series can be found on the Web in a broader collection of articles on “Preventing Flood Damage” at LSUAgCenter.com/Rebuilding.

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