



Using Sand Bags When Threatened by Floodwater

The best approach to dealing with floodwater is to prepare your property before it is threatened. However, if you need to protect your property during a flood event, you may obtain empty sand bags at all CDF/Riverside County fire stations. You will have to fill the bags using sand or dirt from your property. In severe situations, the County may establish sand bag filling stations, including sand and a crew to fill bags. If property is

immediately threatened, and resources are available, firefighters and hand crews will be sent to mitigate the situation.

As you deploy sand bags, use the following information to maximize your efforts.

Protecting Structures

Although each house is a unique situation, the following method is used for protection of buildings and other structures near creeks or lakes and in similar situations where water is rising with little or no current.

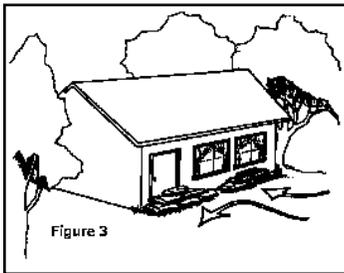


Figure 3

Lay plastic sheeting on the ground and up the building walls to a point at least one foot above the predicted water elevation, and far enough out on the ground to form a half pyramid of sandbags (see Figures 2 & 3). Secure plywood over doors and vents.

Overlap plastic sheeting and sandbags at corners of buildings.

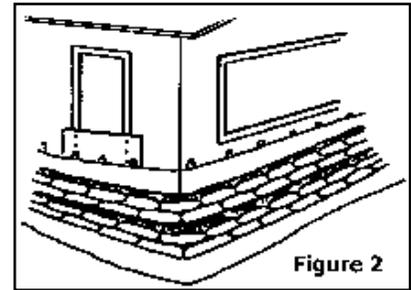


Figure 2

Diverting water away from homes

Homes may often be protected from flood water by redirecting the water flow as shown in Figure 4. The barriers will divert the water flow away from the structure. The sandbags or wooden barriers must be placed at an angle and must be long enough to divert the flowing water into the street gutter.

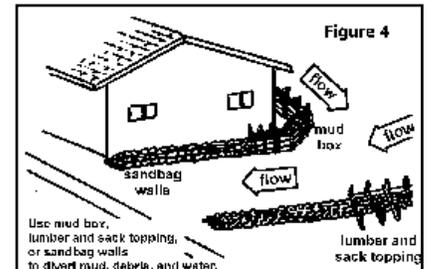


Figure 4

Use mud box, lumber and sack topping, or sandbag walls to divert mud, debris, and water.

Protection of slopes

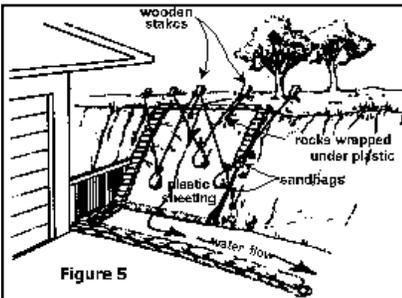


Figure 5

The "raincoat" method is used to prevent further saturation of levee or hillside slopes (see Figure 5). Plastic sheeting is laid out flat on the slope, and stakes are driven into the ground just above the area to be protected. The stakes are four feet apart with a one-foot stagger. The plastic sheeting is secured to the stakes with tie-down buttons or small round rocks and rope.

Use a crisscross method of tying off the sandbags or substitute tires if sandbags are not available. Place a solid row of sandbags on all edges of the plastic sheeting (half on the ground and half on the plastic sheeting).

Sandbagging

When filling sandbags, you should work in pairs with one person holding the bag while the other shovels in the fill material. The first shovel of fill will be placed on the lip of the bag to help hold the bag open. The shoveler should use rounded scoops of fill until the bag is approximately one-third to one-half full. A completely full bag of wet sand or soil will be too heavy to work with. While shoveling, avoid extra movements (turning or twisting of the back) as this will tire you out sooner. The bag holder should bend at the waist until the elbows are resting on the knees while he is holding the bag open (see Figure 7).

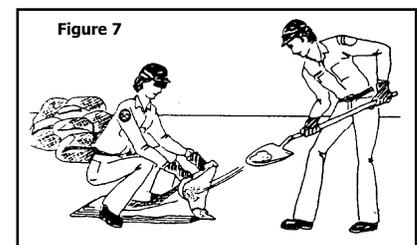
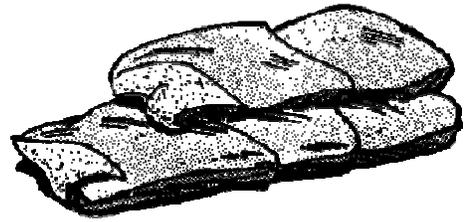
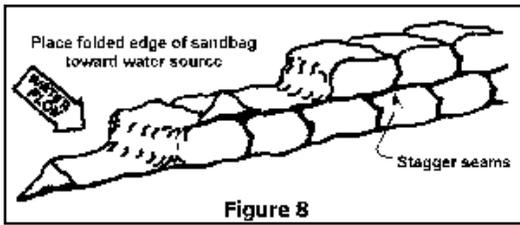


Figure 7

Sandbag Construction

The use of sandbags is a simple but effective method of preventing or reducing damage from flood water or debris (see Figure 8).



Suggestions for constructing sandbags follow:

- Close-weave burlap bags are recommended for all sandbag construction.
- Remove any debris from the area where bags are to be placed.
- Place the half-filled bags lengthwise and parallel to the direction of water flow.
- Place succeeding bags on the folded or flared portion of the previous bag and stamp into place to eliminate gaps and to form a tight seal.
- Stagger the joint connections when multiple layers are necessary.

Materials required for 100 lineal feet of sandbag wall		
Height above ground	Bags required	Cubic yards of sand
1 foot	600-800	10 to 13
2 feet	1400-2000	23 to 33
3 feet	2200-3400	37 to 57
4 feet	5300	88
5 feet	7600	137
6 feet	10000	167