



SANDBAG CONSTRUCTION

The use of sandbags is a simple, but effective way to prevent or reduce floodwater damage. Properly filled and placed, sandbags can act as a barrier to divert moving water around instead of through buildings. Sandbag construction does not guarantee a watertight seal, but is satisfactory for use in most situations. Sandbags are also used successfully to prevent overtopping of leveed streams and for training current flow to specific areas.

Untied sandbags are recommended for most situations. Tied sandbags should be used only for special circumstances when pre-filling and stockpiling may be required or for specific purposes such as filling holes, holding objects in position or to form barriers backed by supportive planks. Tied sandbags are generally easier to handle and stockpile, however sandbag filling operations can generally be best accomplished at or near the placement site and tying of the bags would be a waste of valuable time and effort. If the bags are to be pre-filled at a distant location, due consideration must be given to transportation vehicles and placement site access.

The most commonly used bags are untreated burlap sacks available at feed or hardware stores, but there are also polypropylene bags available in many stores. Empty bags can be stockpiled for emergency use and will be serviceable for several

years if properly stored. Filled bags of dirt will deteriorate quickly, if the bags are porous.

A heavy bodied or sandy soil is the most desirable for filling sandbags, but any usable material at or near the site has definite advantages. Coarse sand could leak out through the weave in the bag. To prevent this, double bag the material. Gravelly or rocky soils are generally poor choices because of their permeability characteristics.

A single row of sandbags three layers high will form a stable barrier, but if additional height is necessary, the pyramid placement technique should be utilized. The area a filled sandbag will cover varies, but approximate dimensions are 15" wide, 20" long, and 4" deep.

Two people can easily construct sandbag barriers, as most individuals have the physical capabilities to carry or drag a sandbag weighing approximately 30 pounds.

HOW TO FILL A SANDBAG



Filling sandbags is a two person operation: One member of the team should place the empty bag between or slightly in front of widespread feet with arms extended. The throat of the bag is folded to form a collar and held with the hands in a position that will enable the other team member to empty a

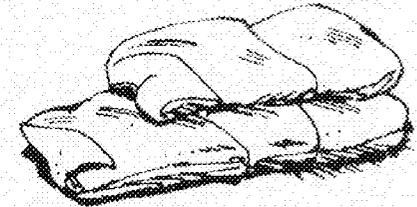
rounded shovel full of material into the open end. The person holding the sack should be standing with knees slightly flexed and head and face as far away from the action of the shovel as practical.

The shoveler should carefully release the rounded shovel full of soil into the throat of the bag. Haste in this operation can result in undue spillage and added work. The use of safety goggles and gloves is desirable and sometimes necessary.

For large-scale operations, filling sandbags can be expedited by using bag holding racks, metal funnels, and power loading equipment. However, the special equipment required is not always available during an emergency.

Bags should not be filled more than half full or less than one third of their capacity.

PLACEMENT



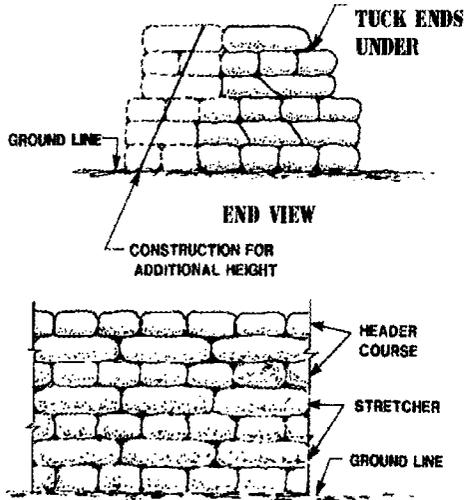
Remove any debris from the area where the bags are to be placed. Place the ½-filled bags lengthwise and parallel to the direction of the flow.

Fold the open end of the unfilled portion of the bag to form a triangle. If tied bags are used, flatten or flare the tied end.

Place succeeding bags on the folded or flared portion of the previous bag and stamp into place to eliminate voids and form a tight seal.

Stagger the joint connections when multiple layers are necessary. For unsupported layers over three courses high, use the pyramid placement method.

PYRAMID PLACEMENT



PYRAMID PLACEMENT METHOD

Pyramid placement is used to increase the height of sandbag protection.

Place the sandbags to form a pyramid by alternating header courses (bags placed crosswise) and stretcher courses (bags placed lengthwise).

Stamp each bag in place, overlap sacks, maintain staggered joint placement and tuck under any loose ends.

SANDBAGS



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