

Flood Preparedness Manual (Revised 3-24-2023)

Salt Lake County's Public Works Flood Control & Engineering Divisions have developed a Homeowners Guide for Emergency Flood Control for use in preparing for flooding events. This manual presents some simple actions homeowners can take to prepare for and reduce the impact of flooding to homes and businesses.

The Salt Lake Basin has historically been subject to devastating floods resulting in substantial property damage. During floods, the primary responsibility of the Flood Control Division is the control of flood waters in the major rivers and channels throughout the basin. Therefore, assistance to individual property owners from flood control personnel is not always immediately possible.

The contents below cover typical installations of sandbags, timber and plywood to protect property.

Periods of Flood Risk

	Low	Mod	High	Flash Flood
Jan	■			
Feb	■			■
Mar		■		■
April		■		■
May			■	■
June			■	
July		■		
Aug		■		■
Sept		■		■
Oct	■			
Nov	■			
Dec	■			

The above figure highlights times when residents are most vulnerable to flooding events. **Floods occurring due to springtime snow-melt often reach their peak around midnight**, which is why prior preparation is important during times of elevated flood risk, especially for those living near waterways.

Do-It-Yourself Debris Control Aides

Water and debris control aides provide inexpensive protection compared to the cost of replacing damaged property. They can be constructed and installed using normal household tools and consist of materials readily available at your local lumber yard, or from Salt Lake County. Call 385-468-6101 for information on obtaining aides.

Debris Control Materials:



Sandbags



Sand



Lumber



Plywood

Each situation is different!

However, some basic rules should always be followed in cases involving moving debris.

- **NEVER** underestimate the power of debris flows
- **TRY** to direct debris flows away from improvements
- **AVOID** trying to confine the flows more than is absolutely required
- **CLEAR** a path for the debris
- **USE** your house or building as a deflector if necessary
- **ALWAYS** place protection to deflect debris, not to dam it
- **DEBRIS** will often enter a building through windows -- Board them up
- **REMEMBER** to protect your most valuable property, first -- your home
- **THEN** consider what time and money are available to protect other less valuable objects, such as swimming pools or landscaping
- **TRY** to work with adjacent impacted property owners
- **BE** prepared to sacrifice the use of portions of your property to achieve protection

Sandbags

Sandbags, when properly placed, will re-direct storm and debris flow away from property improvements. They can be obtained from:

**Salt Lake County Public Works
Operations Division
604 W 6960 S
(385) 468-6101**

Filling

1. **Fill sandbags half full.** Sand is preferable if readily available however local soil may be used.
2. Gather top of sandbag and tie securely with heavy string.



Placing

Care should be taken to stack sandbags in accordance with the illustrations. **Tamp each sandbag into place**, completing each layer prior to starting the next layer. Limit placement to three layers unless a building is used as a backing or sandbags are pyramided as shown.



Limitations

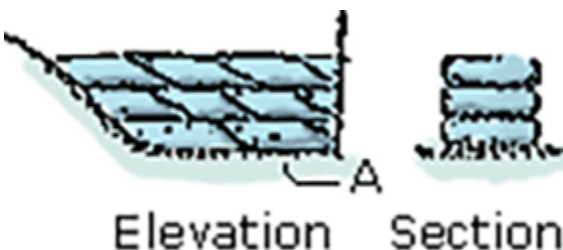
- Sandbags will not seal out water.
- Sandbags deteriorate when exposed for several months to continued wetting and drying

Using sandbags to prevent overtopping of existing levees and for retaining flood waters where no back-up material is available

Fill sandbags 1/2 to 2/3 full but leave enough flap to turn under. Ends can be left open.

For heights of one foot or less

1. For heights of 1 foot and less, lay 3 single courses with sacks lengthwise.



For heights greater than one foot

When bags are placed, flatten out and fill voids by mashing bags with feet and vigorously tamp each course of the levee section. This action is important for creating a stable levee which will be as impervious to water as possible. Loosely-placed sandbags improperly keyed together may result in failure and cause serious damage.



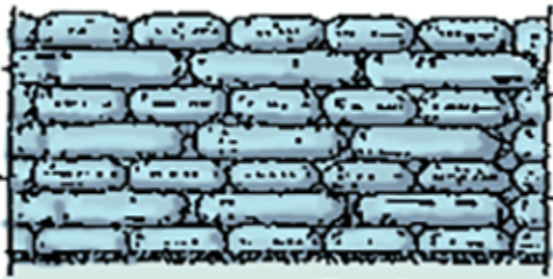
Levee Section

For heights in excess of 2 feet (approx. 3'-6') follow the same pattern and build on the side as indicated by dashed lines above. Alternate header course (bags placed crosswise) and stretcher courses (bags placed lengthwise)

Estimating Materials: Average weight of each filled sandbag is approximately 50 lbs. Approximately 1,000 sandbags are required for each 100 sq. ft. of surface (height multiplied by distance).

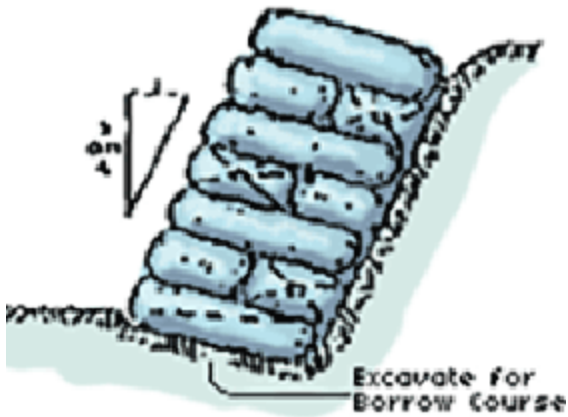
Revetments

Revetments are used for emergency bank protection, to prevent under cutting, and to control the course of a flooding channel.



Instructions

1. Fill sandbags 2/3 full and tie open end.
2. Tuck in bottom corner of bag after filling.
3. Place bags perpendicular to slope.
4. Lay stretcher and header courses with choke and side seams as shown on right.



Estimating Materials

- Average weight of each filled sandbag approximately 65 pounds.
- Approximately 320 sandbags are required for each 100 square foot of surface to be revetted.

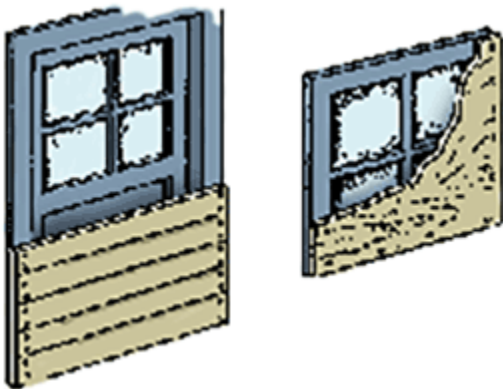
Fill Material

The ideal material for filling sand bags is a fine sand or course silt. Avoid, as much as possible, the use of coarse gravel and heavy clays.

Door and Window Protection

PREVENT debris from entering doorways and windows by using of baffle boards.

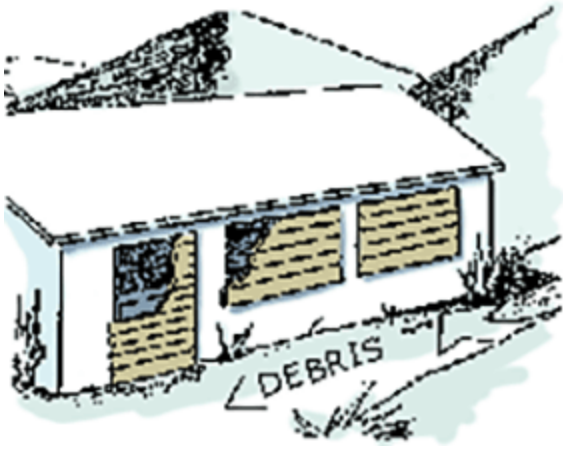
HAZARDS may require complete closure of a door and necessitate the use of another entrance.



Typical door and window protection

MATERIALS can be dismantled after the storm season and stored year to year.

USE low grade plywood, and overlap windows, vents or doors three to four inches on all sides.



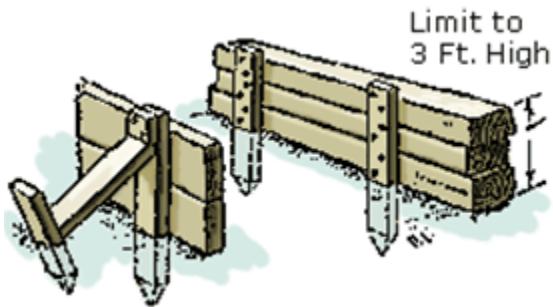
Use of door and window protection

SECURE the plywood with four or more nails, screws or bolts; a stake and board may also be used to wedge boards in place. USE low grade lumber and overlap section with protruding face downstream.

Wooden Deflectors

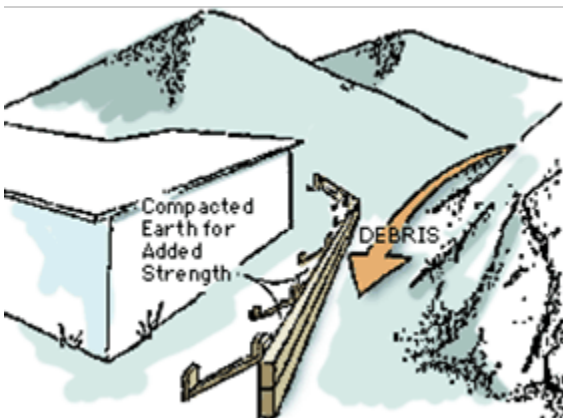
USE low grade lumber and overlap section with protruding face downstream.

DRIVE stakes to at least one half their length to insure proper anchorage.



PLACE deflectors on solid, level soil to reduce the hazard of undercutting.

DO NOT attempt to use the lumber as a dam.



EARTH packed behind the deflector will provide needed additional strength. IF deflector required is more than three feet in height, house will have to be protected with sandbags and used as a deflector.