



# FLOOD WRAPS AND TEMPORARY SHIELDS

## Using Plastic Sheeting to Keep Flood Water Out

Plastic sheeting is a versatile flood barrier. Using plastic sheeting in a sandbag levee improves the levee's performance significantly.

Dry floodproofing seals a building permanently so water will not enter; plastic sheeting can be used against the outside walls to provide similar temporary protection. The plastic can be supported on structures built out from the building, so landscaping around the building is not displaced and the building does not feel the force of water on its walls.

It is necessary to block doors, windows, small drains and other openings and to prevent sewer backup when you make a temporary flood barrier with plastic sheeting.

### Cost and Considerations

When plastic is supported on the building, the wall is exposed to the unbalanced force of water on one side. Properly constructed walls in good condition should be able to withstand the pressure of 3 feet of water, but buildings poorly constructed or suffering from decay or termite damage may not.

Depending on the duration of flooding and the ease with which water flows through the soil, the slab may be exposed to buoyant (upward) force. In a flooded building, this is balanced by the weight of water above the slab, but when flood water is excluded, the unbalanced buoyant force may cause damage. Wrapping is most suited to areas with clay soils, where floods are short in duration and where flood levels are below 3 feet.

Using a temporary wrap avoids any moisture problems that may be associated with permanent coatings.

Buildings on piers or pilings are more difficult to wrap than buildings on slabs. Plastic supported on barriers other than the wall can be used to protect such buildings.

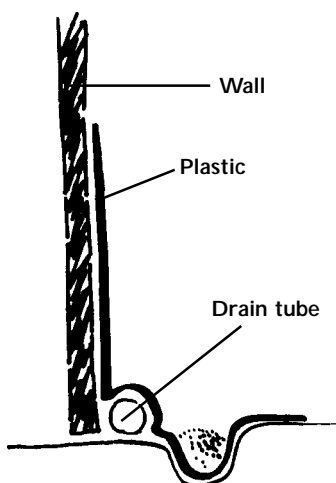
The materials required to wrap a 1,500-square-foot building on a slab with 6-mil polyethylene cost about \$500 (not including pumps). The cost increases significantly if you hold the plastic away from the building on a temporary structure.

You can make a support system out of wood, aluminum, steel or other material. It must be strong enough and anchored well enough to withstand the force of the flood waters. Consult an engineer and confirm the adequacy of the design and materials you plan to use.

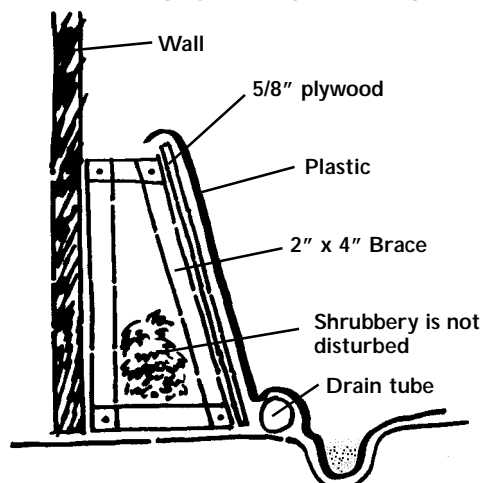
A commercially constructed barrier system with heavy-weight plastic and a steel support framework comes in heights ranging from 3 feet to 10 feet. A 3-foot-high system rents for about \$20 per linear foot, including installation and post-flood removal.

## Ways to Support Plastic Sheeting

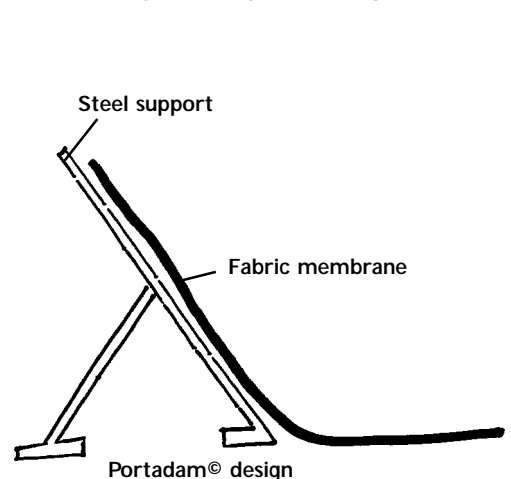
PLASTIC SUPPORTED BY WALL



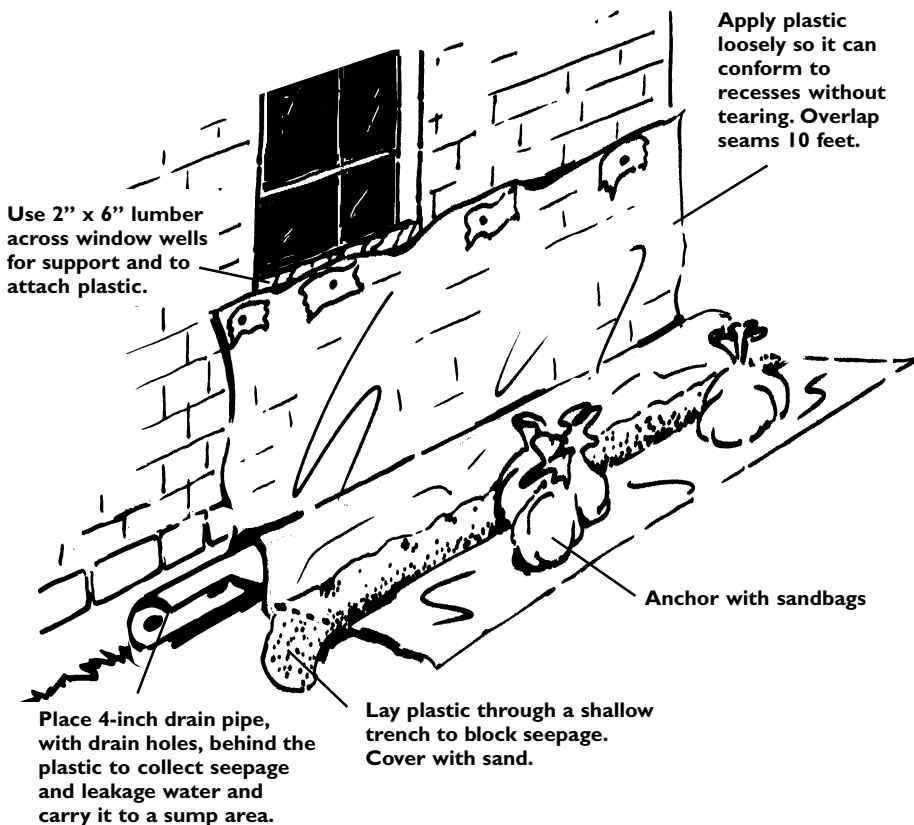
PLASTIC SUPPORTED BY PLYWOOD WITH FORCE TRANSFERRED TO WALL



PLASTIC SUPPORTED ON FREE-STANDING FRAMEWORK



# Building Wrapped with Polyethylene Sheeting



Additional flood protection and recovery information is available from parish offices of the Louisiana Cooperative Extension Service or from our website at [www.louisianafloods.org](http://www.louisianafloods.org)

Extension's flood mitigation work is supported by the Federal Emergency Management Agency through its Hazard Mitigation Grant Program. The HMGP is administered in Louisiana by the Louisiana Office of Emergency Preparedness.

Pat Skinner, *Disaster Programs Coordinator*  
David Bankston, Ph.D., *Specialist (Engineering)*  
Claudette Reichel, Ed.D., *Specialist (Housing)*  
Gene Baker, P.E., *Associate Vice Chancellor (Information Technology)*



Visit our website: [www.agctr.lsu.edu](http://www.agctr.lsu.edu)

Louisiana State University Agricultural Center, William B. Richardson, Chancellor  
Louisiana Cooperative Extension Service, Jack L. Bagent, Vice Chancellor and Director

Pub. 2769 10/99 (10M)

Issued in furtherance of Cooperative Extension work, Acts of Congress of May 8 and June 30, 1914, in cooperation with the United States Department of Agriculture. The Louisiana Cooperative Extension Service provides equal opportunities in programs and employment.

## Tips for constructing barriers with plastic sheeting

- Do not attempt to construct temporary barriers to withstand water depths greater than 3 feet.
- Prevent tears in the plastic by reinforcing it with duct tape wherever nails penetrate or the plastic will rub on sharp objects.
- Use heavier plastic when floating debris may strike the film.
- Practice installing your wrap or barrier system, including closures for windows, doors and other openings.
- Install valves in sewer lines to prevent back-flow. (Refer to fact sheets on panels, pumps and back-flow protection in this series.)
- Have one or more sump areas and pump(s) to discharge water that leaks or seeps in. If your temporary barrier stands away from the building, remember to consider rain inside the barrier when estimating your pumping requirements.
- Have an evacuation plan. Structural failure or over-topping can result in sudden and forceful entry of floodwater. Plan in advance when you will abandon a flood fight and save your life.