



## Wet Basements

A. R. Jarrett, Professor of Agricultural Engineering

### Symptoms

Wet basement floors: from small streams or wet patches on floors and walls to the accumulation of several inches of water. Slight problems will show as wall stains or wet patches. Walls may crack or move under soil and water pressure.

### Cause

Soil water from underground water flow or water from the roof gathers outside the basement wall above the basement floor level. Pressure from this water causes leaks through the wall or along the floor slab.

### What To Do

In this case prevention is better than curing the problem after it occurs. Basement walls should be made tight on the exterior. Redesign outside drainage to prevent water accumulation. Walls with soil against them should be built as shown in Figure 1. If you have an existing house, the cure is not easy or inexpensive.

1. For most wall leakage problems including wall displacement, the only permanent solution is to excavate the soil along the wall down to the footing. Clean the wall thoroughly, make any needed repairs, then apply water-proofing as shown in Figure 1. A water drain line (or French drain) system must be placed as shown, at least as low as the bottom of the footing. The drain must conduct the water to an open outlet.

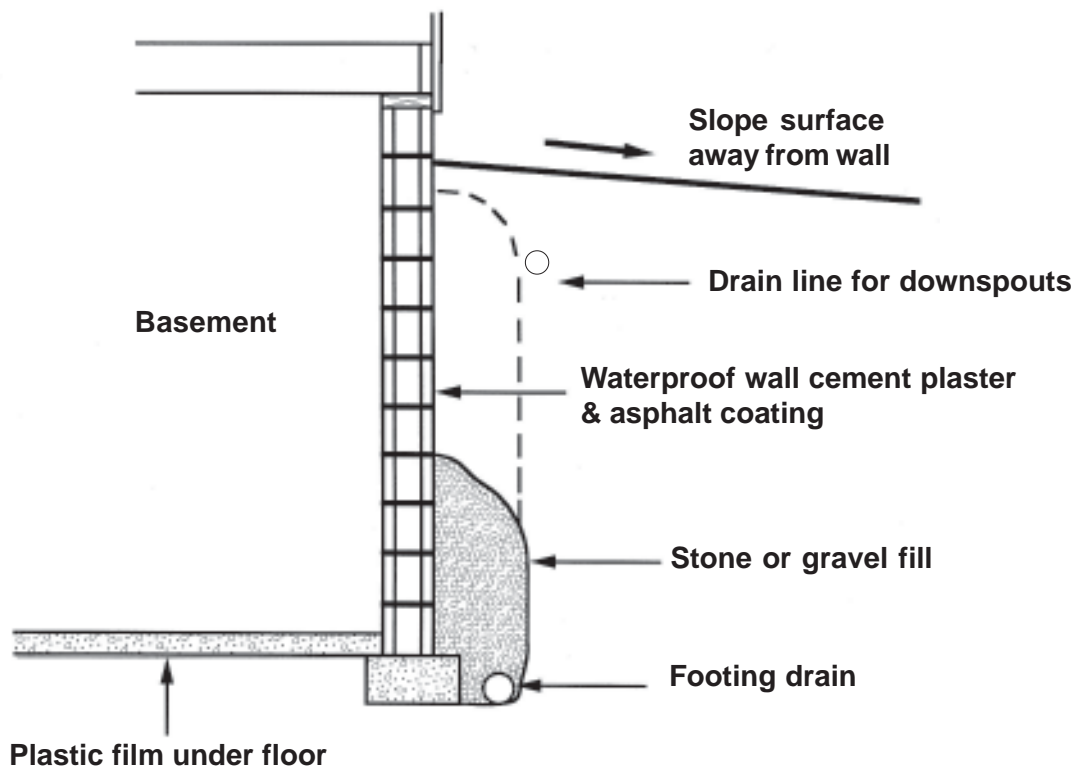


Figure 1. Cross-section of a home foundation.

A dry well outlet does not work well in impervious soils. If the slopes of the lot do not allow an open outlet, a sump may be built to collect the water. An automatic sump pump can be used to move the water to a suitable release point.

2. For damp spots, (not condensation), the wall can be painted inside with a waterproof cement paint. Apply when there is no active leakage through the wall. Fill existing cracks before painting. If the waterproof cement paint will not adhere to the wall, follow option 1 above.

3. Check the downspout drainage system to be sure roof water flows away from the house. The soil around the house should slope away from basement walls.

PSU/05

For a copy of our Fact Sheet listing contact:  
Agricultural and Biological Engineering Extension  
246 Agricultural Engineering Building  
University Park, PA 16802  
telephone: (814) 865-7685 FAX (814) 863-1031