# Site-Built Window Wells

by John Leeke

On a recent project, I was called in to find an appropriate treatment for some deteriorating cellar windows. A local mason working on the house had already tried one solution—corrugated galvanized window-well unit; but foundation stones below grade kept him from installing the well to its full depth. Instead, he left 6 to 10 inches sticking up above grade.

The shiny galvanized finish didn't fit in with the 150-year-old Cape Cod house. The effect was so jarring we all stopped to see if we could come up with something more appropriate. This meant taking a closer look at what was causing the problem.

We noticed that rainwater runoff from the roof was causing several problems. The soil was eroding along parts of the wall, and water spilling off the roof washed it further down the wall where it piled up against the cellar windows. In addition, the erosion exposed the rough fieldstone foundation.

In fieldstone foundations, a rough stone wall below grade supports a brick or granite-block wall above grade (see Figure 1). The brick or granite distributes the dead load from the sill and framing and provides a more regular and formal appearance.

Water problems around the foundations of these vintage New England houses are common because the buildings often lack good details to divert water. Many buildings have no gutters or downspouts, and water pours down next to the foundation, eroding a trench. Even when there are gutters, windblown water washes down the walls and falls next to the foundation. On three- or four-story buildings, this is a lot of water.

Adding gutters and downspouts would solve part of the problem, but old-house owners are often anxious to maintain the original appearance of the house and don't want to add a modern aluminum trough to a historic façade. Controlling surface water at the foundation level is the only options.

***Drip course.*** In this case, where the owner objected to the modern intrusion of gutters along the front of the house, we created a drip course embedded in the earth (see Figure 2). The drip course is a row of bricks set on a 40-degree angle to splash water drippings from the edge of the roof away from the building.

On this job we had plenty of brick from a demolished chimney. We selected the darkest red brick because they were the hardest and most moisture-resistant. Water-struck brick or paving brick are even more water resistant, but they wouldn't have matched the foundation and would have added significantly to the cost.

The landscaping contractor regraded the soil around the foundation and laid the brick drip course parallel to the front and back sides of the house. He added fill to cover the rough foundation stones and laid unmortared brick in the loose fill. The final grade was about 1 inch to the foot away from the foundation, plus the drop created by the sloping brick.

***Window wells.*** On the gable ends of the house, where the cellar windows were located (and where there would be no splash from the roof), we dug window wells about 2 feet deep (see Figure 3). The mason repointed the fieldstone wall with a lime-rich mortar modified with Acryl-60 (a mortar additive). As soon as the mortar had set, the mason backfilled the hole, tamping each layer. The last layer was 3 inches of clay which he sloped to channel water away from the foundation.

Next, the mason formed an arch from the salvaged brick (see Figure 4). (You could use a plywood template inside the arch if you don't trust your eyes.) For the window-well arch, the mason used the same white mortar he had used to repoint the foundation. The color of the brick and mortar matched those of the house.

After allowing a couple of days for the mortar to set, we placed a loose backfill against the outside of the arch. In a final step, we installed 2 inches of gravel over the clay in the window well.

Window wells worked on this project because they were on the gable ends of the house. You could also use them where gutters channel most of the water away from the house. We'll monitor the cellar for leaks near the window wells and make sure we aren't allowing water into the cellar.

With a little creative thought, the owner, mason, and I came up with an inexpensive alternative to modern trade practice. The price was right too. With two hours of labor digging out each window well, and about one hour for each lineal yard of drip course and regrading, the solution was well within the owner's budget. While we found no historic evidence for these details, they certainly fit in with the historic character of the house. ■

**The owners objected to the intrusion of modern gutters along the front of the house. So we designed a drip course embedded in the earth, which consisted of a row of bricks set on a 40-degree angle.**

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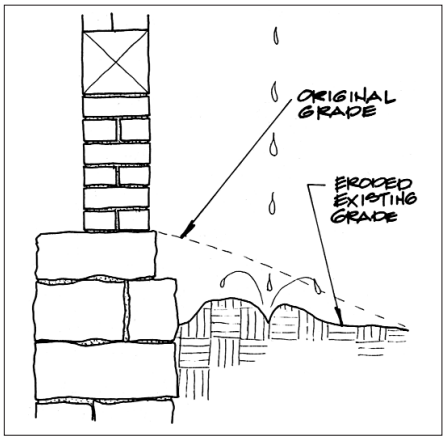


**Figure 1.** *Water dripping from the eaves splashed back toward the house and eroded the soil.*

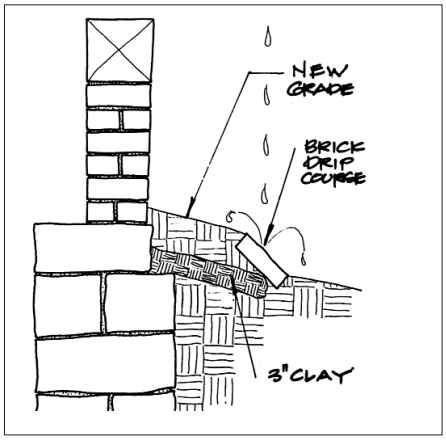


**Figure 2.** *The new drip course made of sloped brick catches drips and diverts water away from the foundation.*

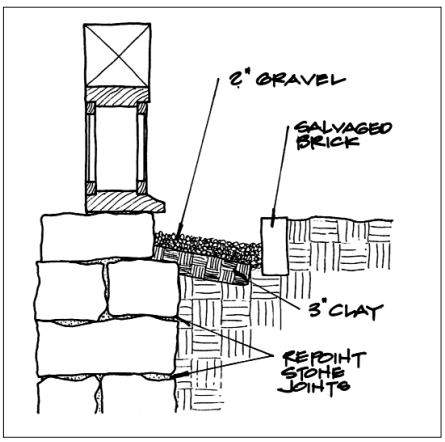


**Figure 3.** *Site-built window wells lowered the ground level, eliminating earth-to-wood contact at the cellar windows.*

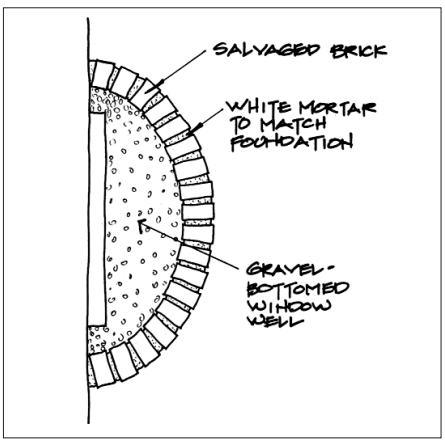


**Figure 4.** *The arched window well, made from salvaged brick, used white mortar that matched the foundation mortar.*