

Salvage Materials

“A penny saved is a penny earned,” wrote Ben Franklin. We care about reusing building materials because of the energy and resources they represent. It takes energy to down-cycle them into recycled-content materials (think of old concrete from a building ground into three-quarter-inch aggregate for use in concrete or as the base material for a parking lot or roadway), so why not use them in their original form instead of throwing them away or using them in some devalued form?

LEED recognizes the value of salvaged or reclaimed materials, such as decorative brick, heavy timbers and other framing lumber, doors, millwork, furniture and partitions, by rewarding projects that use them for at least 5% of the total value of all building materials (not counting equipment). On a typical \$10 million (construction cost) project, this would represent \$225,000 worth of such materials, not an insignificant amount. One benefit of this practice is the development of local enterprises based on deconstructing buildings and salvaging such materials. If you consider how much useful material is saved from old cars by auto salvage yards in every town, you’ll see the benefit of this practice.

With the advent of Web-based auction sites such as eBay and retail/wholesale reclaimed building materials stores in most large metropolitan



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At the University of California, Riverside, an older building was deconstructed and most of the materials salvaged by artist Jason Middlebrook for making furniture and other useful products.

areas, there is now a nationwide market in reclaimed building materials for building projects. So, there is no longer an excuse for not being able to find materials. The only issue is their quality and availability, along with transportation and storage costs.

Some creativity might be required to find and reclaim salvaged materials. The first LEED Platinum project, the Chesapeake Bay Foundation building in Annapolis, Maryland, used large wooden tanks from a former pickle manufacturing facility to harvest rainwater from the roof of their new building. The three tall pickle barrels create a strong visual and architectural element at the building entrance.



Schools, Green

In the late 1990s, researchers in California conducted a classic study of the benefits of daylighting. Analyzing the test scores of more than 21,000 school children in the Seattle area, Fort Collins, Colorado, area and southern California and correlating the scores with the amount of window area, daylighting and views to the outdoors, their study showed conclusively that test scores went up 7% to 21% when kids had more windows, daylighting and views outside.¹³⁶ This study put to rest probably the worst idea in school design, the advent of windowless classrooms in the 1970s to save energy and keep kids focused on their boring lessons. A follow-up study of 8,000 children in 450 elementary classrooms in central California showed similar results. However, classroom design was critical to obtaining these results: daylighting and windows need to have measures to reduce glare and direct sun penetration, to have photosensor controls for daylighting and to have good thermal comfort controls, especially in a warmer climate.

Many people greeted this study with incredulity that such a simple measure could have such dramatic results. I'll lay odds that the majority of so-called educators, school superintendents and school boards still don't know it exists. Beyond the effect on kids' health and performance, you'd probably find that more daylighting and views to the outdoors is also healthier for teachers and other staff.

I've wondered why this result should be surprising. The last thing most kids want is to be cooped up for hours each day in poorly lit classrooms with few windows. Why do we consign our most vulnerable