

Mind the Waste: Deconstruction Vs. Demolition

Instead of trashing materials, consider deconstructing.

Source: CUSTOM HOME Magazine
Publication date: 2008-05-14

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Demolishing an existing house for a renovation or infill project may be quick and easy, but a lot of those building materials unnecessarily end up in landfills. According to the EPA's 2003 estimates, 164 million tons of waste was generated from building activities, including construction, renovation, and demolition. Demolition alone accounts for 54 percent of the total waste stream, says Brad Guy, president of the [Building Materials Reuse Association](#). Guy estimates that deconstruction and re-use currently recapture only about .2 percent of the total waste stream.

But as much as 90 percent of a home could be reclaimed, deconstruction experts say. Salvaging materials for re-use and recycling offers several benefits to the builder/remodeler, the client, and the environment. Reclaiming wood millwork, windows, doors, cabinetry, flooring, wall studs, joists, copper piping and wiring, lighting and plumbing fixtures, appliances, concrete, and other masonry prevents those materials from clogging up landfills, whether they are repurposed for use in another project or sent to industrial recyclers to go back into the product stream. Deconstruction also reduces carbon dioxide production from the manufacture of new materials.

Paul Hughes, president of [DeConstruction Services](#) of Fairfax, Va., has seen demand for deconstruction and salvage increase steadily in the four years he's been in the business. "It's a more hands-on, careful, environmentally friendly way of taking down a structure," he says.

Although deconstruction can add anywhere from several days to several weeks to a project's schedule, the up-front investment in time and labor can yield savings at the end of the job. "When you look at the math, it works out to be more favorable [than demolition]. And people are beginning to understand that paying more up-front saves them money in the long run," says Juli Kaufmann, co-founder of Milwaukee, Wis.-based green building firm [Pragmatic Construction](#), which has just added deconstruction services to its portfolio.

Materials can be donated to non-profit organizations that resell them or use them for community projects. Such charitable donations are eligible for tax deductions, which can be claimed by either the homeowner or the contractor. For Hughes, a walk-through of renovation projects early in the planning stages is necessary so he can estimate deconstruction fees as well as evaluate the materials. "Sometimes we can show them that the tax savings the owner will earn will total enough to offset some of the cost for our services, and thereby the net cost of that general contractor's demo line item could be zero," he says.

Salvaged elements also can be incorporated back into the project instead of being donated. Alternatively, the builder/remodeler could warehouse the materials for use in future projects. For-profit materials recyclers also may offer deconstruction services for a nominal fee along with the rights to the reclaimed materials.

Interest in deconstruction and salvage is likely to grow, experts predict, particularly as urban and suburban infill become more necessary. "Buildings deteriorate and land becomes more valuable for other uses, and there's always going to be a need to recycle buildings," Hughes says. Some municipalities now require recycling of a significant portion of demolition waste, while others offer incentives—such as expedited permits—for recycling activities.



Photo courtesy of Daniel Mackey Construction.

A crew member carefully disassembles old cabinetry during one of Daniel Mackey's renovation projects.

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