*Raging Inexorable Thunderlizard for Change*

# Construction & Demolition Waste

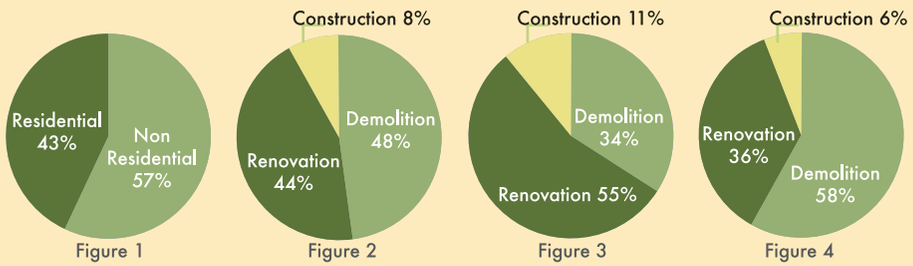


**Figure 1:** Residential and nonresidential contributions
**Figure 2:** Category contributions
**Figure 3:** Residential marketplace
**Figure 4:** Nonresidential sector
**Source:** *Franklin Associates, 1998:ES-2 and ES-3*

**by Brian Yeoman**

***Note:*** *In September, NAEP began hosting* ***"DoGreatThings,"*** *a sustainability community on www.naepnet.org. We will deliver best practices that will significantly improve your institution's carbon footprint. "DoGreatThings" will have listservs, blogs from experts, white papers, and links to useful sites. In this issue of the* ***Journal****, we've decided to deliver Brian's column as an executive summary, with the full in-depth column located at www.naepnet.org/dogreatthings. Please join our community and send us your feedback and contributions. Get involved by changing our world, one purchase at a time. We want to help you DoGreatThings.*

Construction and demolition (C&D) waste accounts for much of the solid waste stream in the United States with higher education institutions as a major contributor. Although most goes to landfills, 90 percent may be reusable. There are two primary approaches and a third emergent practice for systematically addressing the C&D debris cycle, and they are Central Processing Facilities, Job Site Material Recovery and On-Site Material Processing.

## Central Processing Facility

This requires transporting C&D waste to a central processing facility where high-graded material is sorted out. What remains is crushed and/or compacted and then sorted again using screens, magnets, and human sorters. Success depends to a major extent on the degree of contamination.

## Job Site Material Recovery

Sorting and processing at the job site can result in a higher degree of material recovery but is less commonly used due to lack of experience, unavailable on-site space, and time constraints. To sort onsite requires debris haulers to pick up at specific stages in the C&D waste generation cycle or provide individual containers for specific materials.

## On-Site Material Processing

This emerging method consists of processing selected materials for reuse at the job site and borrows tactics from the other two approaches. A portable grinder capable of handling common building materials is required. A study conducted in 1999 concluded that 90 percent of the waste stream is potentially recyclable or reusable on-site. This will probably become the dominant method of processing east of the Mississippi.

## Mitigation Strategies

Cities and agencies throughout the United States have successfully employed numerous waste-mitigation strategies for C&D waste. Contractor strategies, building code specifications, and a technique called "optimum value engineering" can all help to minimize the C&D waste stream.

"Optimum value engineering," also called "efficient framing," is a homebuilding industry engineering technique that reduces the amount of wood used in the framing process without compromising structural integrity.

Methods such as deconstruction rather than demolition, "efficient framing," and local adoptions of waste-reduction goals have also been shown to greatly reduce the C&D waste stream. Most important, perhaps, is the policy prospective of the political jurisdiction that operates the landfills.

## What Can Procurement Do?

When bids are solicited, contractors should be required to include a plan for reducing, reusing, or recycling the wastes generated on-site. You can provide an incentive by allowing them to keep the recycling revenues and the landfill savings. Although it can be difficult to find recycling or reuse markets for some materials, one resource is the Construction Materials Recycling Association (CMRA), which is an association of C&D debris generators, haulers, processors, recyclers, and remanufacturers. The contractor plan should include a list of the materials needed; identification of markets for recyclable materials; establishing recycling systems on-site; and ensuring that both contractors and subcontractors receive instructions on sorting and handling.

Deconstruction, rather than demolition, can also maximize reuse or recycling by disassembling in stages. Items such as flooring, siding, windows, doors, bricks, plumbing fixtures, ceiling tiles, and structural components … all are candidates. Deconstruction also brings benefits such as job creation because it requires more labor than demolition. Some locales use deconstruction to train at-risk youth and to employ welfare-to-work program participants.

Procurement can play a critical role in the C&D cycle. So go forth and DoGreatThings!

For the expanded text of this article with additional charts, go to www.naepnet.org/dogreatthings.

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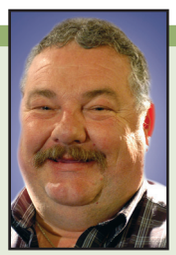

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