



Massachusetts
Department
of
ENVIRONMENTAL
PROTECTION

case study

Construction and Demolition Waste Reduction

This case study is one in a series developed by Massachusetts Department of Environmental Protection (DEP) to highlight techniques for saving money and protecting the environment through reuse and recycling of construction and demolition debris.

Project Description: MIT Media Lab, Cambridge, Massachusetts

W.K. MacNamara Demolition Co. of Waltham was the lead contractor for the demolition of the Media Lab of the Massachusetts Institute of Technology (MIT). The Media Lab was comprised of two buildings, located in a congested urban area.

McNamara recycled 4,519 tons of material and disposed of 193 tons of mixed construction and demolition waste, for a total waste reduction rate of 96 percent.



Summary

Cost Savings:
\$17,684

Project:
Commercial
Demolition
47,000 sq. ft.

Recycled:
4,519 Tons of
Material:
Asphalt, Brick,
Concrete,
Timbers, Ceiling
Tiles, Doors.

**Total Waste
Reduction:**
96%

193 Tons
Disposed

Contract:
\$345,000
Lump Sum,
Private Owner

Work Site:
Urban

Completion:
March 2002

Spotlight: Reuse of Furnishings and Equipment

Before demolition work began, MIT reduced the amount of material requiring disposal by giving away unwanted office furnishings and equipment, including cubicle dividers, desks and blackboards. For example, the Media Lab donated 20 desks to the Cambridge school system.

The building manager offered surplus items through a chain of recipients, beginning with MIT faculty, staff and alumni, then the community at large, including municipal government, public schools and local charities. Anything left over was offered to the demolition company.

Keys to Success: The Contract Process

This project demonstrates a number of steps a building owner can take to minimize the costs and environmental impacts of a demolition project:

Project Planning: Highlight waste reduction requirements during the pre-bid process.

Bidding Process: Use bid specifications to require waste reduction.

- Provide a list of materials to reuse and recycle, tailored to the project.
- Require reuse/recycling when it is less expensive than disposal.
- Require a waste management plan from the contractor.

Keys to Success (continued)

Contract Award/Management: Use the contracting process to leverage waste reduction.

- Provide alternatives to awarding low-bid contracts, such as offering points for "best value" that incorporates life-cycle analysis.
- Establish contract terms that reward performance, such as incentives for meeting waste reduction goals.

Project Team

- **Client**
MIT Media Lab
75 Amherst Street, Cambridge, MA 05565, Telephone: (617) 452-4981
Contact: Hugh Colasacco
- **Contractor**
W.K. MacNamara Corp.
45 Independence Drive, Devens, MA 01434, Telephone: (781) 891-0900
Contact: Heather McGuirk

Additional Resources on Contracts

- Massachusetts Department of Environmental Protection (DEP) Web site on Construction and Demolition Materials: Reuse and recycling resource for building and demolition contractors includes case studies, model specifications, best practices and a list of organizations that accept donations of used or unwanted materials.

<http://www.state.ma.us/dep/recycle/recycle.htm>

- Vermont Agency for Natural Resources (VANR) Web site:

Model Specifications: VANR provides links to three different sets of waste reduction specifications (King County, Washington; WasteSpec of North Carolina; and WasteCap of Wisconsin).

<http://www.anr.state.vt.us/dec/wastediv/recycling/specs.htm>

Model Waste Management Plans: VANR also provides links to model waste management plans for waste prevention planning, new construction projects, demolition projects.

<http://www.anr.state.vt.us/dec/wastediv/recycling/CGC&D.htm>

- Peaks to Prairies Pollution Prevention Resources Center

More Model Waste Management Practices: includes links to a wide variety of resources, including model specifications, waste management plans and more.

<http://peakstoprairies.org/p2bande/construction/c&dwaste/infolinks.cfm>

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