

Building Materials Salvage

Environmental and business development opportunity



About the project

Building type: 15 buildings including single- and multifamily residential, low-rise commercial

Year built: 1910-1970s

Square feet: 135,000 (15 building total)

Construction: wood frame, concrete, steel

Location: Capitol Hill neighborhood, Seattle

Project completed: In progress. Initial salvage Fall 2008; demolition to start January 2009.

Diversion method: non-structural salvage; goal for achieving 75% recycling rate on demolition debris

Sound Transit had planned to conventionally demolish fifteen buildings on a dense urban block of Capitol Hill to make way for a light rail station. Hearing about Seattle Public Utilities' deconstruction pilot program they decided to find out if opportunities existed for their project.

Approach

After evaluating logistics and schedule, Sound Transit agreed to allow the Northwest Building

Salvage Network to perform significant interior non-structural salvage throughout the buildings. Crews of three to four people from the ReStore, Earthwise, and Second Use spent several months harvesting valuable materials from the buildings that would have otherwise been sent to the landfill. Salvaged items included plumbing fixtures, architectural moldings and trim, doors, cabinets, hardware, fir flooring, dimensional lumber, appliances, lighting fixtures, furniture, and metal railings.

At the same time, Sound Transit was preparing to issue a Request for Proposals for demolition of the buildings. As part of their efforts to reduce waste, Sound Transit stipulated a minimum 75% recycling requirement for all demolition debris as part of the contract —the first of such efforts for the organization.

NRC Environmental Services was awarded the contract and is working diligently with Sound Transit and Seattle Public Utilities to explore additional salvage and deconstruction.

Project participants

Owner:

Sound Transit
www.soundtransit.org

Salvage contractor:

Northwest Building
Salvage Network
- Earthwise Salvage
www.earthwise-salvage.com
- RE Store
www.re-store.org
- Second Use
www.seconduse.com

Demolition contractor:

NRC Environmental
Services
www.nrces.com

Capitol Hill Transit Redevelopment

Fifteen buildings slated for demolition to make way for Sound Transit's Capitol Hill Light Rail Station utilize salvage and recycling strategies to save valuable resources from landfill disposal.

A targeted 75% of the overall demolition debris will be recycled in 2009.

Resources

Seattle 's City Green Building Program

technical assistance and advice on green building strategies, including sample deconstruction specifications, design for disassembly guidelines, remodeling guide to salvage and reuse, and how-to information on salvaging windows, doors, and flooring. City Green Building also provides incentives and assistance to increase the environmental performance of buildings in Seattle.

www.seattle.gov/dpd/GreenBuilding

King County GreenTools Program

directory of recycling and salvage services for construction materials, lists recycling rates for local companies handling construction and demolition materials, and has additional deconstruction case studies.

www.greentools.us

Seattle Dept. of Planning + Development Client Assistance Memos (CAMs)

CAM 336: Reuse of Building Materials

CAM 337: Demolition Permits

CAM 1302: Building Material Salvage and Recycling

www.seattle.gov/dpd/publications/

WA Dept. of Ecology: Demolition Debris

Describes the solid waste and hazardous waste elements of demolition debris.

www.ecy.wa.gov/programs/hwtr/demodebris/

For more information

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This information available in other formats upon request.



Building Materials Salvage

Capitol Hill Transit Redevelopment

Schedule

Fall 2008: High-value, interior non-structural salvage complete.

January-July 2009: Demolition, with 75% recycling and salvage rate as a goal. May include additional salvage.

Lessons learned

This project represents two public agencies collaborating to find new ways of doing business with benefits to both the environment and taxpayers' wallets. Sound Transit's standard practice was to hire demolition contractors for work at the lowest bid. However, their interest in sustainable building practices led to a desire to evaluate different strategies for this project.

There was a learning curve for Sound Transit to institute new practices for both salvaging and for contracting. Viewed as taking on additional risk, Sound Transit managers needed to feel confident that changing their business practices would not impact their schedule or their bottom line budgets.

Ensuring liability coverage was a challenge for this project. Salvage crews were only allowed to remove non-structural items, leaving any potentially valuable items that might undermine the building's structural integrity if removed. Likewise, concerns over public safety and building security meant that exterior doors and windows were off limits to the salvage team. These two issues limited the amount of materials salvaged from the project.

Additionally, the building tenants had various dates for vacating the buildings. This created logistical challenges, as salvage crews needed to mobilize at various times over the course of several months and maintain clear communication with each other and with the building tenants.

Setting up procedures to address safety and cost efficiency for project required extra staff time as a result, although the project saved money on disposal costs. Overall, the high volume of salvaged materials and the creation of new jobs for twelve laborers to perform the work resulted in a successful project.

Seattle Public Utilities and Sound Transit are currently evaluating what worked well and developing an action plan for continuing the salvage efforts in future phases of the project.

Project savings

| | |
|---|--------------------|
| Avoided cost of disposal* | \$3,552.00 |
| Estimated market value of salvaged materials (tax deductible) | \$90,000.00 |
| Total project savings | \$93,552.00 |

* Assumes a disposal rate of \$120 per ton

Materials recovered

| Salvage contractor | Tons |
|------------------------------|-------------|
| Earthwise | 7.5 |
| Second Use | 14.4 |
| RE Store | 7.7 |
| Total tons recovered* | 29.6 |

* Tonnages are as of December 2008; this project's expected completion is July 2009.