

Recovering Reusable Building Materials

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NERC Conference

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Institute for Local Self-Reliance

Goals

- To increase the recovery of building materials through construction waste management, architectural salvage, and deconstruction practices.
- To encourage the use of reclaimed materials in renovation and new construction projects.

Why Deconstruction?

- Workforce Development
- Old Material Preservation
- Waste Diversion
- Energy Conservation
- Green Building

Funding and In-Kind Support

- US Environmental Protection Agency
- PA Department of Environmental Protection
- Sustainable Development Fund
- City of Philadelphia

Architectural Salvage and Deconstruction in Philadelphia: 2003 - Present



Neighborhood Transformation Initiative (NTI) Blight Elimination



Demolition of 1,000 - 2,000 structurally dangerous, abandoned houses each year

West Philadelphia Deconstruction Project



- June 24 - July 15, 2003
- ILSR supervised two City-chosen demolition contractors
- Funded by City of Philadelphia and Sustainable Development Fund

Architectural Salvage

- Doors
- Tiles
- Windows
- Fixtures



Architectural Salvage

Molding, Cabinets, Flooring, Claw Foot Tubs



Disassembly

- Workers removed more than 6,000 board feet equivalent of floor joists and wall framing.



Creating Value-Added Products

- Research by Penn State
- Funded by USDA Forest Products Lab



Marketing Recovered Materials

- Received \$2,518 from sale of architectural salvage items and lumber
- Retail value of the materials is about \$8,000

Deconstruction Pilot Spring 2006



3224 Susquehanna

- Funded by EPA
- Deconstructed by Kevin Brooks Salvage
- Managed by ILSR
- Partnered with PSU/Hamer Center



3224 Susquehanna

Experimentation with Panelization: Cutting floor panels into sections and removing them off-site for processing



3224 Susquehanna Recovered Materials

- Lumber
- Metals
- Architectural features
- Bricks



3224 Susquehanna

Findings

- \$6,530 of materials have been sold or directly used by KBS.
- Deconstruction can be cost-competitive with hand demolition when there are sufficient recoverable materials with market value to offset higher labor costs.

3224 Susquehanna Findings

- The \$8.94 net cost per square foot for the Susquehanna project falls within the range of the average NTI hand demolition cost (\$7.75 - \$9.30).

Philadelphia Civic Center

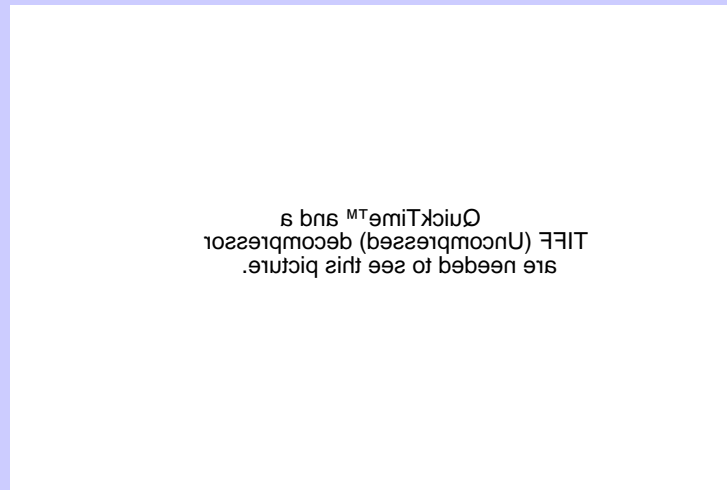
Architectural Salvage Project

2004-2005



Philadelphia Civic Center

- Partnership with Second Chance, Inc., and Pennsylvania Health System
- Each party invested \$35,000 up front to cover the salvage labor costs (Total of \$70,000)



Philadelphia Civic Center

- Three-month Salvage
- Six to eight worker crews

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Philadelphia Civic Center

Recovered \$600,000 of materials (retail value)

- Marble moldings
- Bronze plaques
- Doors
- Seats
- Lighting
- Corbels
- Turnstyles
- And more...

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Philadelphia Civic Center

- The Successful salvage project has resulted in additional work for Second Chance, Inc., at the University of Pennsylvania.
- Second Chance, Inc., plans to open a major retail facility in Philadelphia within the year.

Divine Lorraine Hotel

Architectural Salvage Project

August - December 2006



Divine Lorraine Hotel

Provenance acquired salvage rights

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Divine Lorraine Hotel

- Work being performed by wholesale architectural salvage companies and by day laborers from local homeless shelter



Divine Lorraine Hotel

Estimated Retail Value of Materials: \$150,000

- Flooring
- 12-foot bath tubs
- Doors
- Marble tiles
- Molding

Rebuild Opportunity

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Habitat's Use of Reclaimed Flooring from
Divine Lorraine Hotel Salvage Project

We are making progress...

Opportunities for Deconstruction

Southeastern PA

Opportunities for Deconstruction

- Chester Project
- Suburban Municipalities' Development Initiatives
- Residential Custom Home Development

Opportunities for Deconstruction

Northern New Jersey

Cape May County

Northern New Jersey Deconstruction Service

- Dodge Foundation funded ILSR to serve as catalyst
- Second Chance, Inc. provided deconstruction services and training
- New Community Corporation provided workers for on-site training

Summit, NJ Project

Summer 2007



Materials recovered:

- Joists
- Doors
- Wood Work
- Mantels
- Flooring
- Stairways

Summit, NJ



Materials Recovered:

- Windows
- Wall Framing
- Porch Posts
- Shutter
- Blue Stone
- Fencing



Markets for Recovered Materials

Bricks

Lumber

Architectural Salvage

Bricks

- Fill
- Landscaping (crushed or whole)
- Historic preservation



Lumber

- Remilled for flooring or furniture (depending on wood species)



Architectural Salvage

- Consumer demand is increasing
- More than 300 retail outlets in US

Policy Initiatives

Review

Policy Initiatives

- Architectural salvage rights for some condemned buildings (City of Baltimore, MD, and King County, WA)

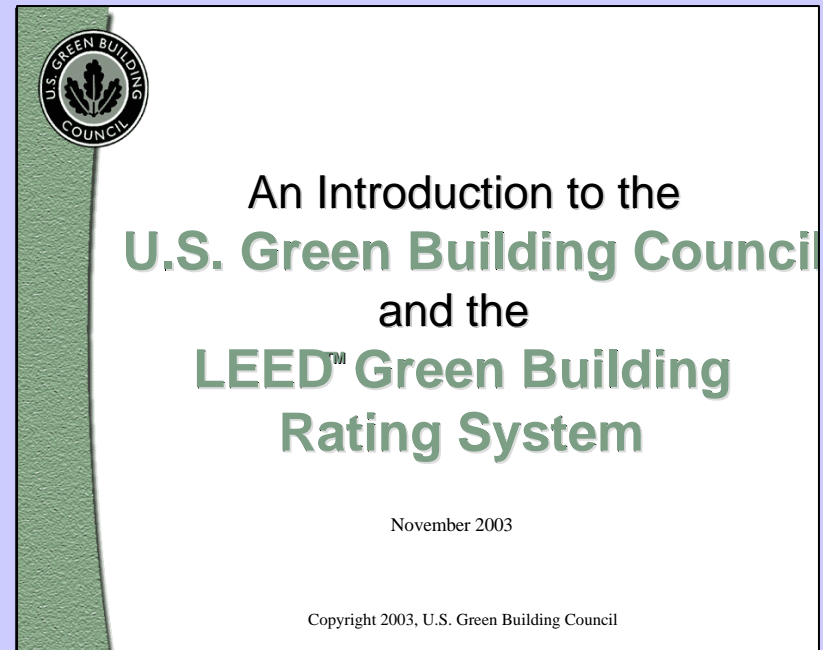


Policy Initiatives

- Construction and Demolition Material Management Plans (California)
- Landfill Ban for Some C&D Materials (Massachusetts)
- C&D Debris Recycling Ordinance (Woolwich, Township, NJ)

Private Sector Incentive

- USGBC Leadership in Energy and Environmental Design (LEED) points for construction waste management and use of recovered materials



The Challenge



Next Steps

- Partnerships with design and building professionals
- Pilot projects for recovered material reuse
- Dialogue with developers and general contractors
- Public policy initiatives that support emerging restoration economy

www.Unbuild-Rebuild.org

- Policy Options
- Calendar
- Resources
- Business and Non-Profit Directory

Questions?

