

# Medina Elementary School

The contractor on this project, State Construction, was newly introduced to deconstruction but found it to be a worthwhile endeavor and a method they intend to utilize on future projects.

## Deconstruction Case Study

Dismantling the past for a more valuable future.



***“Reusing on-site saved me the cost of both hauling off and importing structural fill.”***

- Bill Busselle, Project Manager,  
State Construction

### About the project

#### Project Background

- Brick and post-and-beam 1957 school building in Bellevue School District .
- Covered 35,859 square feet.
- Bid as a demolition/rebuild project. Demolition/deconstruction portion bid at \$86,000 by State Construction.
- Deconstruction occurred between July and August 2005.
- New, 67,000 square foot building will be completed by September 2006.

#### Resources Saved

State Construction reported saving tens of thousands of dollars from salvage and reuse activities, and says it wants to incorporate more salvage and reuse into its future projects.

- 100 percent of the 5,000 tons of concrete foundation and asphalt were either reused on-site as fill or recycled.
- Nearly 100 percent steel disassembled and resold, reused, or recycled.
- 95 percent of copper wiring recovered and taken to a company that melts it down for use in new products.
- Over 8,000 linear feet of non-structural lumber and 450 individual items, totaling more than 60,000 pounds and having a retail value of over \$20,000, were salvaged.
- Usable lumber, 2'x6' and larger, recovered and resold.
- Windows in good shape salvaged and resold.
- Casework and electronic equipment donated to other schools.
- Eight I-beams resold, used for site lighting and artwork at the school, or recycled.
- Soil reused on-site as fill rather than exported to a topsoil facility.



## King County

Department of  
Natural Resources and Parks  
**Solid Waste Division**

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### Challenges

- Schedule constraints. Because of the tight demolition timeline, the project manager was not able to determine the feasibility of salvaging materials until some of the demolition had begun. This resulted in some materials being disposed of in the landfill before it became apparent that salvaging made the best economic sense.
- Salvaging windows with hazardous asbestos in the putty. Each window needed to be assessed for its reusability, and many of them had to be specially handled and disposed of because of the hazardous putty.

### Pre-Contract Steps Taken

- The school district organized a steering committee during design phase to plan deconstruction and salvage
- The school district wrote salvage and reuse requirements into construction contract, including:
  - » Salvaging casework, clocks, a telecenter, outside lights, fire alarm panel and pull stations, heat detectors, signage (exterior and interior), faucets, drinking fountains, backflow preventer, bathroom flush valves, lavatories, picnic tables, and basketball backboards
  - » Reusing existing I-beams as light poles for exterior side lighting
  - » Reusing asphalt and concrete as part of a construction mitigation plan
  - » Raising the height of the existing playfield with on-site soil to minimize the amount of exported soil
- The non-profit Pomegranate Center, which served on the planning steering committee, specified reusing materials for an art project on-site

### Lessons Learned & Recommendations

1. Hiring a salvage consultant can significantly defray disposal costs. Every ton of salvaged wood the consultant arranges to have removed from the job site saves \$50 - \$90 per ton in tip fees plus the costs for truck and driver. State Construction saved tens of thousands of dollars in avoided disposal costs.
2. Salvaged items must be in reasonable condition and regionally marketable in order to save money.
3. Successful deconstruction projects require adequate preplanning to ensure that the cost savings from material resale and disposal outweigh the additional labor and equipment costs required to salvage the materials.

### For more information, contact

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*This material will be provided in  
alternate formats upon request.*

**The King County Construction Works web site also provides helpful information:**

<http://www.metrokc.gov/dnpr/swd/construction-recycling/constructionworks.asp>