

Construction Works

RECYCLING PROGRAMS FOR THE CONSTRUCTION INDUSTRY

We proudly recognize these Construction Works members who embrace the ethic of recycling, waste reduction and the use of recycled-content building materials.

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A Kinder, Gentler Demolition Saves Artistry of the Past

Reuse/Salvage

Hand-demolition of a Mercer Island home initially presented a cost-effective way to accommodate a steep, narrow driveway. But along the way, forethought and the gentler techniques of hand demolition saved money, recyclables, and unique pieces of our architectural heritage.

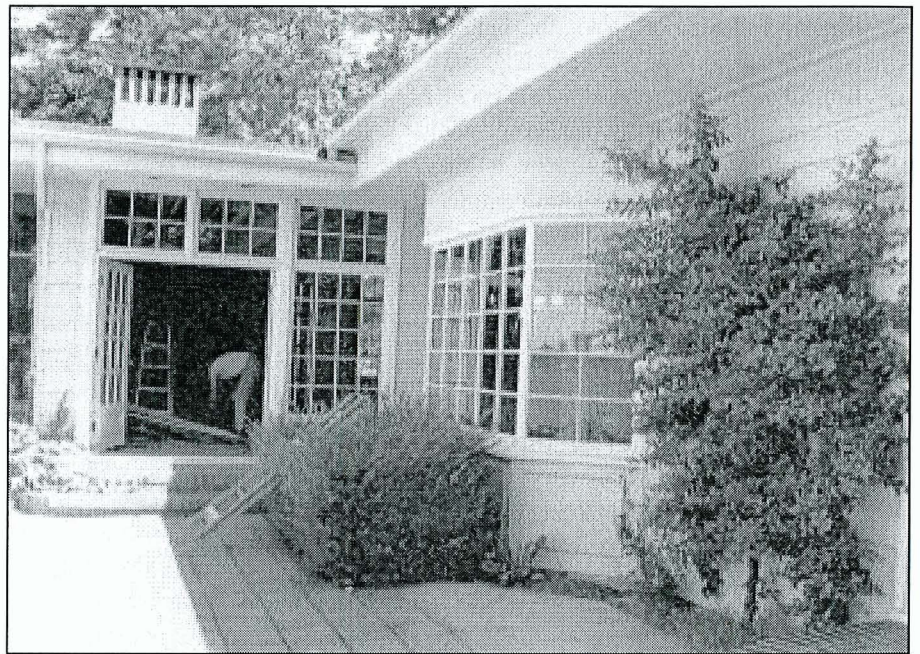
New home-owners wanted a radical design change from their existing 1940's colonial, and decided to start from scratch. When it was clear that the lot's steep driveway and turn-around limitations ruled out the large vehicles

needed for mechanical demolition, the owners turned to salvage and recycling specialist Kurt Petrauskas. His company, Earthwise Demolition, brought subtler techniques and smaller vehicles to the task – and a \$7,000 savings to the bid.

The first line of business was to salvage the beautifully crafted details of the original home. People were invited to tour the house looking for treasures – and they found them. One con-

noisseur bought the entire library interior for installation in his own home. The honey-brown exotic hardwood shelves, paneling, and box beam ceiling featured elegant crown detailing and wainscoting that would be prohibitively expensive to replicate today. Other salvagers bought the entire stairwell, all six sets of french doors, a deep green marble mantle, and the painted wood interior siding and trim. As Petrauskas said, "There were many quality items in this house that would have been destroyed using conventional demolition. We salvaged several things that just aren't made anymore." By pre-selling these architectural gems, the owners avoided extra transportation and storage costs during dismantling.

Salvagers also claimed less-exotic elements: all the doors, windows, and cabinets; most of the plumbing fixtures and dimensional lumber; lighting fixtures, siding, and trim. In all, over half the house was salvaged for future use elsewhere.



Hand demolition enabled over three-quarters of this Mercer Island residence to be salvaged and recycled.

Recycling

Hand-demolition removes a structure in smaller, more intact pieces, which can render recycling easier. In this case, the oak strip flooring held too many nails to be salvaged, so it was recycled, as was the roof framing, its two layers of cedar shakes, the wiring, and the heating ductwork. Recycling of the metals alone netted \$700 in saved landfill fees and premiums paid for scrap. Finally, the concrete foundation was demolished on-site and removed for recycling, as were the brick chimneys.

Four weeks later, only the shrubs and landscaping remained – untouched, thanks to Earthwise's low-impact methods. The old house was gone, but not wasted: over 80% of it was either salvaged or recycled, keeping 240 tons of material out of landfills, and saving almost \$9,000.

For more information on how Earthwise, Inc., demolishes structures by hand, contact Kurt Petrauskas at 206/842-8995. ●

Architectural gems salvaged at the project included a complete stairwell, six french doors, and a deep green marble mantel

Sometimes the best-laid plans work beautifully — just ask Baugh Construction. Baugh's commitment to waste prevention and recycling is built into its business: a recycling plan defines goals, objectives, and the company's commitment; frequent meetings keep all on-site personnel current with the plan and its practices; and sub-contractors stay in the loop through meetings and the establishment of on-site standards.

Baugh showed its recycling savvy while building the Boeing Commercial Airplane Group Headquarters, a new office building in Renton. Following its plan, the builder achieved an amazing 97% recycling rate. Baugh Construction recycled wood, drywall, concrete, asphalt, metals, cardboard, and landclearing debris. They recycled on-site concrete and asphalt, breaking it down for roadbeds and building pads. The 1-1/8" form plywood from a previous project got new life at Boeing, and all wood from the site-clearing operation was chipped and used in non-structural applications.

For Baugh Construction, full-scale recycling means giving materials a round-trip ticket. Baugh used many innovative recycled-content materials at the Boeing site: the receptionist's counter-top is recycled newsprint; the carpet is manufactured from 100% recycled denim; remanufactured scrap steel supports the structure; and the parking lot curbs and landscaping headers are recycled plastic.

Clint Jellison, Baugh's superintendent at the Boeing site (*pictured*), can answer any questions about the company's recycling plan and how its implementation achieved a 97% recycling rate. Clint can be reached at 425/393-2725.

Most new homes offer built-in features that make a difference in living comfort and convenience. In the Klahanie housing development in Issaquah, homes were designed with an additional built-in feature: scrap reduction. From architects to hauling crew, the Lozier Homes team anticipated where they could save exterior space, lumber, and costs without compromising living space or quality. Their efforts, while invisible to the new-home buyer, made a real difference at the landfill by diverting 132 tons of recyclable materials.

Lozier architects set a target to reduce waste from the start of the project. Dimensions throughout each house were factored in even multiples, so that pieces cut from plywood or beams could be used elsewhere in the structure. Framers and architects numbered sub-flooring sheets and beam stock, and ordered lengths that would minimize scrap. Lozier also used 2x4 framing instead of 2x6 to shrink the house's footprint. According to project architect Paul Burkhart, the narrower exterior walls saved 70 square feet per house, living space remained the same, and over the 60-house project, Lozier saved over 4,000 square feet of materials — the equivalent of two houses' worth.

Scott Hamann, Construction manager for Lozier Homes, built a waste corral of wire mesh and stakes at each home site. Workers separated the wood waste from the rest of the construction waste as they built; when it was

time to haul it away, workers disassembled the corrals and sorted the material into trucks.

no extra crew time, and resulted in 55% of the waste being recycled.

Lozier cut hauling costs by unloading both wood waste and garbage at one site, Regional

require rented dumpsters, the Klahanie project's portable, inexpensive corral system eliminated those rental fees.

in the landfill and a little savings for us. So we do it. Our customers may not realize we recycle as much as we do, but we think they'd appreciate it if they did."

mation on the Klahanie housing development in Issaquah, contact Scott Hamann, Construction Manager, Lozier Homes, at 425-454-8690.

oes your job site contain acoustical ceiling tiles, roofing, plastic film or carpet you'd like to recycle? King County Construction Works can tell you where and how to recycle these materials – while saving money! Call **Theresa Koppang** today at **206/296-8480**.

The *Evergreen Builder's Guide* is a valuable new resource for builders wishing to improve their environmental performance. The City of Issaquah and Port Blakely Communities funded the *Guide* for builders participating in the Issaquah Highlands project and in future projects in and around Issaquah. The *Guide's* ultimate purpose is to help change building practices throughout the Pacific Northwest; it will address site conditions, industry innovations, local building codes, and financial considerations that affect building.

In the *Guide*, the professional builder will find help with sustainable building practices. The “three E's” of sustainable building – Environment, Economy, and Equity – are a unifying

thread throughout the *Guide's* treatment of single family and multi-family residential construction. The *Guide* helps builders understand how to turn sustainable building practices into common practices, and to identify new environmentally friendly materials, practices, and principles. A builder working with these advantages can offer consumers housing with long-term economic benefits and lower environmental impacts.

If you would like to learn more about the *Evergreen Builder's Guide*, or would like to receive a copy of the *Guide*, contact David Fujimoto with the Resource Conservation Office at the City of Issaquah, 425/837-3412.

– for all

the right reasons. Sustainable building incorporates energy efficiency, water conservation, solid waste management, use of resource-efficient products, protection of indoor and outdoor air quality, and pollution prevention in all phases of a building's life. The benefits are environmental, economic, and far-reaching.

To consolidate environmental, industry, and public interests in construction practices, a broad public/private partnership has developed the Northwest Sustainable Building Action Plan. The goal of the Plan is to make sustainable building the standard practice in the region, and merge the ideals of resource-efficiency and economic development.

Participants in the Plan included nearly 200 people from architectural and construction firms, public agencies, and community organizations. Several organizations joined the City of Seattle as partners in sponsoring the development of this plan: the Department of Energy/Seattle Regional Support Office, NW Energy Efficiency Alliance, Northwest Energy Efficiency Council, City of Portland Energy Office, Pacific NW Economic Region, Seattle Chamber of Commerce Business and Recycling Venture, Sellen Construction Company, and the King County Solid Waste Division.

If you would like a copy of the Plan, contact Peter Hurley at 206/684-3782.

The King County Reusable Building Materials Exchange is a free-to-use and convenient way for contractors, home remodelers, reuse businesses, do-it-yourselfers, and others to easily exchange small or large quantities of used or surplus building materials, such as:

Anyone with access to the Internet can use this program. Just direct your browser to the Web address listed above. Browse through listings of materials available or wanted in any of these categories. Or, register online to create and post your own listings. Your user name and password prevent anyone else from deleting or modifying your listings.

Construction and demolition waste accounts for nearly 30% of all the waste that is disposed of in our nation's landfills.

New houses generate 4 lbs. of waste per square foot of construction.

The Reusable Building Materials Exchange can help you turn disposal costs into profits by:

- Saving money by reducing disposal costs
- Reducing the need for materials storage
- Locating free or low-cost materials
- Locating hard-to-find items
- Creating a value for used and surplus building materials



Sellen recycling champions: George Montaperto and Lynne King.

Sellen Construction Targets Waste, Saves \$24,698

Shoppers expect savings at Target Stores, but Sellen Construction Company saved Target money when building its new Woodinville store. Using new techniques and old-fashioned attention to detail, Sellen saved Target \$24,698 in disposal fees (a 65% cost savings) while completing the store in just eight months. The significant savings stemmed from an 82% job-site recycling rate – a satisfying figure to both Target and Sellen as members of the U.S. Green Building Council (see Green Building sidebar).

The store is a 122,650 sq. ft. single story, slab-on-grade structure, consisting of structural steel framing, bar joists and a metal roof deck. Target specified a super-flat concrete floor, which Sellen achieved with cutting-edge laser-screed technology. This technology also saved 2,000 feet of wood edge forms, 800 steel screed pins, 1,400 steel edge dowels, and required only three concrete pours instead of four. Concrete unneeded for a pour was returned in the concrete truck for recycling by the supplier. Crews washed and

separated the rock and sand for reuse, and used the slurry to make new batches of concrete.

Even the walls went up efficiently, using gypsum wallboard manufactured to a specific height to eliminate end-cut waste. Any leftover wallboard was recycled, as were wood, cardboard, concrete, metals, and office materials. In all, Sellen kept 257 tons of waste out of landfills.

Sellen closed the recycling loop by using recycled-content building materials. At Target-Woodinville, recycled steel makes a comeback in bike racks and steel joists (100% recycled), reinforcing steel (92-100%), and steel deck (25-30% recycled). Cast iron pipe and fittings, drains and cleanouts are made from 75-100% recycled iron; copper tube and fittings contain 65-100% recycled copper.

Target's concrete contains 15-18% fly ash; the gypsum drywall consists of 5-36% synthetic gypsum; and recycled glass makes up 46% of the acoustical ceiling tiles and 30% of the fiberglass insulation.

For more information on Sellen's construction of the Target – Woodinville store, contact Lynn King at 206/682-7770. ●

Green Building

The U.S. Green Building Council is a non-profit, member consensus coalition promoting the understanding, development and accelerated implementation of "Green Building" policies, programs, technologies, standards, and design practices. Visit their Website at www.usgbc.org.

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