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Deconstruction & Recycling News

The following news articles have been taken from www.smartgrowth.org/information/news except where noted.

Resources on Construction & Demolition Waste

The US Environmental Protection Agency has recently released its first report titled Characterization of Building-Related Construction and Demolition Debris in the United States. EPA estimates building-related C&D debris at 136 million tons per year. The report breaks this total down into residential and non-residential categories and by source - construction, renovation, or demolition. EPA estimates that 65 to 85 percent of the C&D waste stream is landfilled. To order the report call 800-424-9346, or download it at <http://www.epa.gov/msw>. Other C&D waste resources include two documents produced by the National Association of Home Builders Research Center under a cooperative agreement with the EPA. A case study titled Deconstruction - Building Disassembly and Material Salvage: The Riverdale Case Study is available at the Smart Growth Network web site <http://www.smartgrowth.org/library/bytype.asp?typ=2>. And a guide titled Residential Construction Waste Management: A Builder's Field Guide is available from the NAHB-RC at 800 898 2842. - Resource Recycling, Sep 98, p 42, by Ken Sandler.

GreenClips.104.09.23.98

Deconstruction Key to Maximizing Efficiency

Source: www.architecturemag.com

The U.S. Environmental Protection Agency (EPA) reports the gritty truth: Constructing, renovating, and tearing down residential and commercial buildings in this country produced almost 136 million tons of waste in 1996, the equivalent of 2.8 pounds per person per day. Despite increased recycling, most of the debris still

winds up in landfills, where its sheer volume imposes an enormous environmental burden. The problem of construction and demolition (C&D) waste has always taken a back seat to municipal solid waste—the ordinary garbage produced by households and businesses. Totals are hard to come by, but according to the EPA report, C&D waste in the United States amounts to more than half the municipal waste stream, far exceeding previous estimates.

According to the EPA study, demolition debris makes up 48 percent of the C&D waste stream, so leaving existing building components in place or reinstalling them later on is an obvious way to prevent waste. One of the latest strategies is the careful dismantling of a building to maximize the reuse of its materials. Deconstruction can also be linked to a concurrent construction project to maximize efficiency. **In Portland, Oregon, 92 percent of the waste produced when several existing structures were torn down to build a new arena for the Portland Trail Blazers basketball team was recycled. Concrete, asphalt, metal, drywall, rebar, cardboard, and paper were either reused in construction or sent to recycling facilities. Deconstruction currently costs slightly more than demolition, but savings are expected to increase as contractors gain experience and the market for used materials grows.**

The key to making building reuse economical—and reducing the 44 percent of C&D waste contributed by renovation debris—is to design for disassembly. At the simplest level, this strategy involves using a screw instead of a nail, for example. So far, design for disassembly has been used most frequently in Europe in response to extended producer responsibility (EPR) laws that require companies to take back and recycle their products. In Germany, for example, the automotive industry pioneered techniques for disassembly that the construction industry employs. There are currently no such EPR laws in the United States, but private industry may be forced to change its practices, as landfills overflow and tipping fees soar. By the time today's buildings outlive their usefulness, demolition may no longer be an option.

Gina Goldstein is an editor at INFORM, Inc., a New York-based nonprofit organization that identifies practical ways to achieve environmental sustainability. For more information about waste management visit INFORM's Web site at www.informinc.org.

Markets for Deconstructed Wood

Increasing demand for reclaimed lumber in the San Francisco Bay Area and beyond has strengthened markets for used and remanufactured wood products and has created the potential for new ones. Re-milled timbers and beams are typically used as structure in large, high-end homes and in traditionally joined post-and-beam construction, a thriving niche market. Re-milled dimensional lumber four

inches in depth and smaller may be the broadest, most promising market but is still relatively untapped. Using reclaimed wood for flooring, paneling, and siding turns average-to-difficult stock into fast-selling products. But millwork shops buying stock for these products are particular about safety and quality. Many flooring makers are reluctant to risk their equipment on recovered wood though some use it exclusively. Finer architectural millwork - moldings, rails, sills, and trim - requires clear stock without knots, checking, or fastener marks. Aggressive grading of rough and re-milled stock for the clearer pieces and techniques like finger jointing could make architectural millwork from reclaimed stock marketable. For more information, visit the Materials for the Future Foundation at <http://www.materials4future.org/Rec.woodworks.html>. Resource Recycling, Aug 98, p 15, by Lisa Geller.

GreenClips.102, 08.26.98

Recycling C&D Debris Saves Landfill Space

Facing dwindling capacity, Landfill of Des Moines has extended the life of its construction and demolition (C&D) debris landfill by recycling an extensive list of materials. A grant from the Iowa Department of Natural Resources helped the company - now Central Construction & Demolition Recycling, Inc. - shift its business toward recycling. With five of its 23 acres dedicated to recycling, Central recycled 43 percent of the 87,038 tons of material it received last year. Its in-town location is the key attraction to the company's 300 general contractor and hauler customers, who pay a \$30-per-ton tipping fee. Clean loads of wood and metal go directly to their own separate areas where a worker removes any odd materials and buying customers can select what they need. Source-separated asphalt shingles are shredded for reuse as road base or driveway blacktop and source-separated drywall - mostly new material rejects - is reground for use in new product. Mixed loads of asphalt and concrete, cardboard, metals, and wood go to a 50-foot conveyor for manual sorting. Asphalt and concrete sell as gravel or material for new concrete. A tub grinder reduces the wood, removing nails with a magnet. Central does landfill some materials for lack of markets or, like some roofing systems, because it can't clean and recycle them economically. - BioCycle, Oct 98, p 35, by Dave Block.

GreenClips.107.11.04.98

Armstrong Recycles Ceiling Tiles

Armstrong World Industries now recycles acoustic ceiling tiles from commercial building renovations, adding the old tiles to the slurry used for manufacturing new

ones. Here's how the new Armstrong Ceilings Reclamation Program works. The existing ceiling tiles needn't be Armstrong tiles, just the right kind [mineral fiber without foil backing]. The replacements, of course, must be Armstrong tiles. An Armstrong representative and the general contractor coordinate the logistics of recycling and compare the cost of landfilling the tiles to the cost of shipping and recycling them at the nearest Armstrong plant [in Macon, Georgia; Marietta and Beaver Falls, Pennsylvania; or St. Helens, Oregon]. Depending mainly on the distance to an Armstrong plant, recycling often, though not always, saves money. Recycling 230,000 square feet of ceiling panels from a Portland [Oregon] building, for example, cost \$4,550 compared with \$7,500 for landfilling them. [For more information, email <techline@armstrong.com>.] - Environmental Building News, Nov 98, p 5.

GreenClips.110.12.16.98

County Tenants Prompt Green Design

King Street Center, a new [327,000-square-foot] Seattle office building that will house King County's departments of Natural Resources and Transportation, was designed to optimize the building's energy efficiency, indoor environmental quality, and resource conservation systems. The building, nearing completion, is a joint venture of King County and developer Wright Runstad & Co. "Green" elements weren't part of a preliminary design from architectural firm NBBJ, according to County project manager Laurel Rhoades. But when the County tenants suggested a green building, the developer, consultants, and subcontractors agreed enthusiastically. "At every turn we said, 'Is there a different way we can do this?'" Rhoades says. "It was very informal, and it seemed to work. The results showed we were willing to work together, and go for big-ticket items like water reclamation, carpet and lighting." The lighting, which relies on sweep sensors, occupancy sensors, and daylight dimmers, operates at only .86 watts per square foot overall - 28 percent below the maximum allowable under the city's energy code. In the basement, three giant tanks store rainwater that supplies 60 to 80 percent of the building's water for toilets. Contractor Lease Crutcher Lewis recycled 80 percent of construction debris. - Seattle Daily Journal of Commerce, 10 Jun 99, by Jon Savelle. [Full DJC text: <<http://www.djc.com/data/news/19990610/10053354.htm>>] [More: <<http://splash.metrokc.gov/dnradmin/press/990618ks.htm>>]

GreenClips.124.07.14.99

Pallas Offers Asian-Inspired Eco Wallcoverings

Pallas Walls has developed three new ecological wallcoverings inspired by the

Asian aesthetic of visual simplicity, neutral colors, and earthy textures. Textile designer Linda Thompson had the DialTone, Earth Papers, and Alabaster Matte products made in Japan under its strict residue and emissions laws. The papers are made with few chemicals. DialTone is 50 to 70 percent recycled Japanese phone books and 30 to 50 percent pulp. Since the pages are already tinted, the paper needs only a little dye. Earth Paper blends 65 percent pulp, 25 percent stone powder, and 8 percent straw for a soft, stucco-like appearance. Alabaster Matte comes from 67 percent bark infused with linen and mulberry and 33 percent pulp. The papers work well in corporate conference areas, executive suites, and hospitality rooms but not in heavy duty corridors, elevators, or health care facilities. [For more information, call Pallas Walls, 800 472 5527.] - Interiors, Feb 99, p 30, by Katherine Day Sutton.

GreenClips.116.03.24.99

Reusable Building Materials Exchange

The Reusable Building Materials Exchange operates as a Web-based bulletin board where users can post available or sought materials. The Energy Outreach Center, a nonprofit organization in Washington State, devised the system that enables local governments anywhere to set up exchanges. Local government offices or solid waste management jurisdictions can subscribe to the service on a sliding scale fee from \$1,500 to \$2,100 a year, depending on population. Subscribers receive their own waste exchange bulletin board and marketing materials to help notify potential users of the service. Any user can respond to a posting by contacting the poster directly. The listings offer a good balance of available and sought materials across a wide range of categories. An "available" posting for used pressure-treated wood shows the value of such exchanges since reuse may be the only environmentally viable way to handle this material. For more information, visit <<http://www.rbme.com>>. - Environmental Building News, Oct 98, p 4.

GreenClips.107.11.04.98

Deconstruction Tested at Fort ORD

The Ford Ord Reuse Authority has dismantled several buildings at the former US Army base near California's Monterey Bay as part of a pilot deconstruction project that shows how carefully taking buildings apart can recover valuable materials for reuse. About 1,200 of Fort Ord's 7,000 buildings don't meet building codes and contain hazardous materials. Demolishing them and disposing of the materials, estimates say, would cost well over \$100 million. To study a less expensive and

less wasteful alternative, a \$200,000 grant from the David and Lucile Packard Foundation funded deconstruction of four buildings on the base last year. Built in the 1940s, the deconstructed buildings add up to about 11,000 square feet and include a mess hall or health clinic-type building, barracks, and garages. The buildings took from ten days to four weeks each to dismantle. Workers salvaged roof boards, framing lumber, tongue- and-groove Douglas fir flooring, subflooring, and unpainted drywall (reclaimed for composting). Exterior siding boards of Douglas fir are warehoused until an inexpensive way is found to remove their lead-based paint. "If the boards were clean and relatively new," says FORA project manager Stan Cook, "they'd be worth about \$4 million." All told, salvagers reclaimed up to 90 percent of the materials. "That's higher than what would be feasible long-term in the commercial market," notes Dale Stansbury, assistant dean of economic development at the University of California-Santa Cruz. "If recovery went down to 75 percent, the cost would be about half as much. Economic analysis," he explains, "indicates where the line of demarcation is between deconstruction and demolition." The project confirmed Stansbury's belief that deconstruction is the best option in the vast majority of scenarios. Cook evaluates feasibility by considering, in order, available time, quality of materials, and volume of materials. [For more on FORA's activities, visit <<http://www.fora.org>>.] - BioCycle, Nov 98, p 46, by Dave Block.

GreenClips.109.12.02.98

Earthwise Deconstruction

Seattle's Earthwise, Inc. deconstructs homes scheduled for demolition and markets the salvaged materials at its retail store. "I had to do something about the massive waste I saw, and having built houses, taking them down was second nature," says Earthwise owner and general contractor Kurt Petrauskas who took on his first deconstruction project four years ago. Today Earthwise's hand demolition projects range from interior strip-outs to complete tear-downs that salvage reusable items like cabinets, light fixtures, windows, studs, exterior siding, and moldings. For one house, Petrauskas advertised a presale of its more reusable items and took verbal bids on them as potential buyers walked through the property. But competing with mechanical demolition on a time and labor basis is difficult. Though many people would like to deconstruct, they usually can't afford it except where difficult access improves its economics. And now that salvaged materials are more common and owners are beginning to ask for return on the sale of salvage, Earthwise is shifting its focus toward selective removal. For more information, phone Earthwise at 206 624 4510. BioCycle, Aug 98, p 30, by Adrienne Pandora Touart.

GreenClips.102, 08.26.98

For questions, comments, or further information please email cwrc@deq.state.or.us or contact the Department of Environmental Quality's Solid Waste Policy and Program Development Section, 811 SW Sixth Avenue, Portland, OR 97204, 503-229-5913 or toll-free in Oregon, 1-800-452-4011.

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