

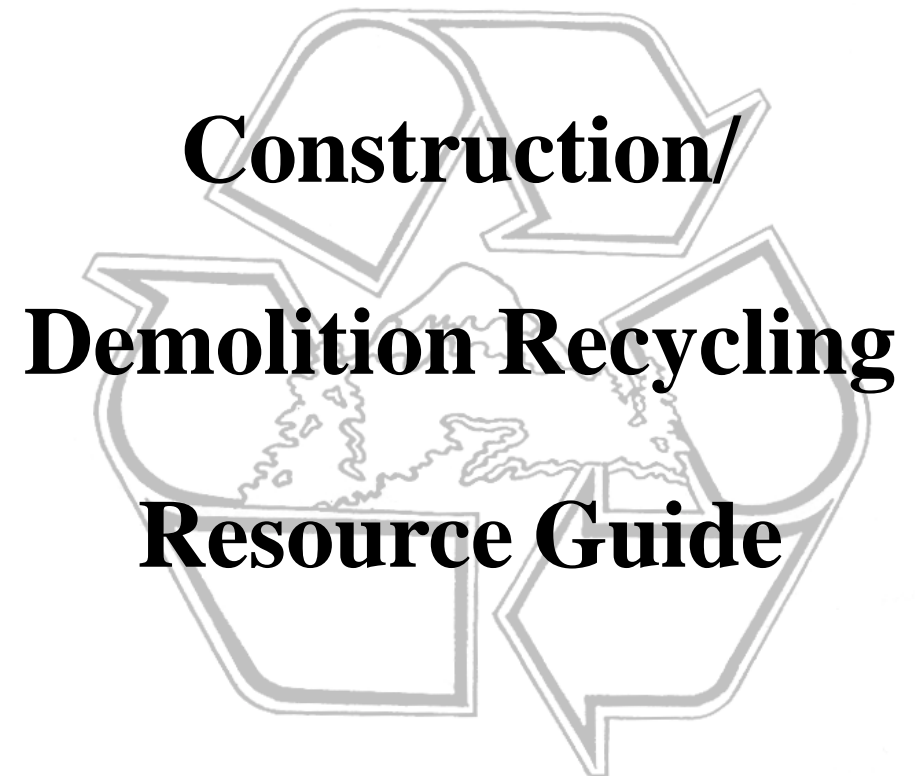
Hazardous Materials

All projects must be reviewed for potential generation of hazardous or other regulated waste before the project begins. **No hazardous materials are allowed in the trash or down any drains.**

Hazardous or regulated waste **cannot** be taken off the premises without approval from the Office of Environmental Health and Safety.

Typical regulated wastes include, but are not limited to:

- lead based paint contaminated debris
- fluorescent light tubes
- PCB containing light ballasts
- aerosol cans
- refrigerant materials (CFCs)
- penta or creosote treated wood
- empty drums (over 5 gal)
- oil based paints
- gas cylinders (propane, acetylene, etc...)
- batteries
- used oil
- spent solvents
- corrosive materials
- poisons



Created by: Nicole Hileman
Formatting by: Todd Partington
Revisions by: Mark Freed

Sources for Information:

Illinois Construction/Demolition Site Recycling Guidebook
1998 Metro Construction Site Recycling Guide

Sponsored by University of Oregon Campus Recycling

March 1999

WASTE REDUCTION AND RECYCLING **AT THE UNIVERSITY OF OREGON**

The University of Oregon is committed to creating a comprehensive program for waste reduction and recycling. As an institution that is constantly evolving, construction projects are an on-going part of University operations. With this in mind, waste reduction/recycling is required in all construction projects performed at the University of Oregon. All contracts include a section as follows:

WASTE MANAGEMENT PLAN:

Contractors shall submit for review, prior to the start of the work, a written document describing the following:

1. Proposal of what materials are to be recycled, including but not limited to: wood, glass, ferrous metals, nonferrous metals, toilet fixtures, light fixtures, doors, windows, and hardware.
2. Report of amounts of materials recycled, including name and location of recycling operation.

This booklet has been provided to assist you in this process. Additionally, a waste generation and economics worksheet is also provided.

Because the recycling industry changes rapidly, information relating to the businesses in this guide may have changed since publication. Fees may have changed based on market value, and new fees may now exist. Use this guide to shop around for services that fit your needs.

For information on alternative recycling resources call:
Campus Recycling Program Manager
346-1529

For special waste and water service issues call:
UO Environmental Health and Safety
346-3192

- laminated scrap and other composite/plastic interior finish material scrap
- leftover snack and or lunch scraps, food containers, wrappers and cups
- plaster from lath and plaster walls
- plastic pipe or plastic conduit scrap including PVC, CPVC, ABS, etc.
- vinyl siding and vinyl window frames
- waxed corrugated cardboard
- worn-out or dirty plastic drop cloths and tarps

For information on hazardous material handling and disposal contact **UO Environmental Health and Safety** at **346-3192**.

For asbestos concerns contact **UO Facility Services Asbestos Office** at **346-2272**.

Waste Management Priorities

Priority 1. Waste Reduction

Purchasing - Only purchase as much as the project will require.

Inventory Control - Use up old products before purchasing more of the same.

Substitution - If recycled products are of the same quality, use them in place of virgin products. Buy recycled products, so we can recycle the products we buy.

Source Reduction - Use only as much product as necessary for the project. More product is not always the answer to a problem.

Product Exchange - Make non-hazardous materials available to be recycled or used for other projects. Take advantage of other leftover pieces for small projects.

Recycling/Reuse - Maximize material use, choose to reuse materials before considering recycling options.

Priority 2. Material Segregation

Segregate materials to maximize recycling/reuse benefits.

Priority 3. Waste Options

Contact local recyclers to collect non-hazardous materials (see enclosed chart). No contamination is to be introduced to the storm water or waste water systems. This includes rinsing equipment on paved surfaces and allowing drainage off the immediate work area. More product is not always the answer to a problem.

DEMOLITION SALVAGE AND RECYCLING

Demolishing buildings generates huge volumes of waste. The practice of tearing apart a building and disposing the waste is expensive. Dismantling, salvaging and separating recyclable materials is one cost-effective method of managing materials.

TIPS

1. Modifying an existing building for new use can preserve the greatest amount of building materials and provide the greatest overall savings.
2. Identify salvagers. Use the resource guide included, or contact Campus Recycling or UO Environmental Health and Safety.
3. Plan the project so that materials are moved systematically to prevent them from becoming mixed or destroyed by weather and requiring disposal.
4. Allow time in the schedule for salvage and recycling. The more time allowed, the greater the potential to divert waste and save money.
5. Reuse the components of the demolished structure in the new project.

NON-RECYCLABLE/NON-HAZARDOUS CONSTRUCTION AND DEMOLITION DEBRIS

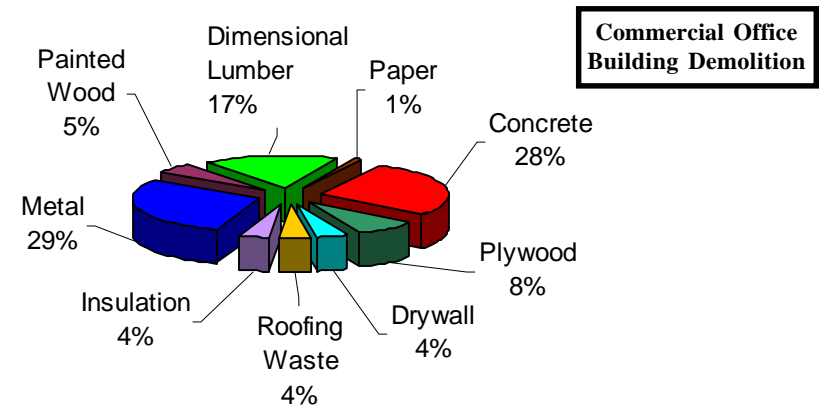
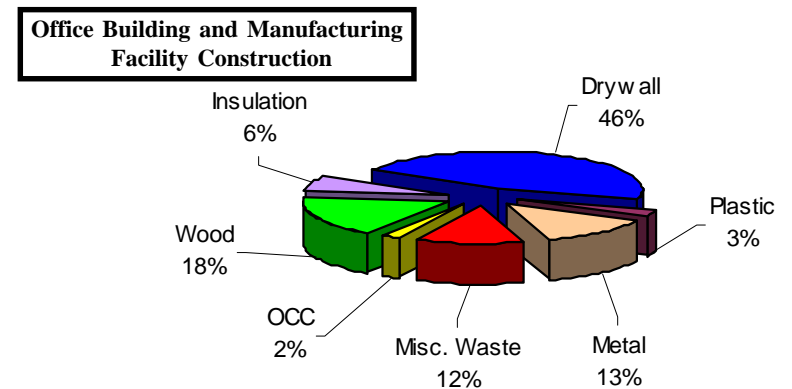
The following materials should be disposed of as solid waste:

- dry latex paint chips and completely dried-out latex paint
- empty paint buckets, cans, and caulking tubes
- sprayed-on foam insulation or foam from non-aerosol foam-in-a-can products

INTRODUCTION

Construction waste and demolition debris comprise a significant amount of solid waste produced in this area. This guide offers tips for setting up recycling or salvage/reuse programs on construction projects.

Recycling, salvaging, and reusing construction can save you money by reducing disposal costs. Lane Co. garbage disposal fees are \$46 per ton. For the same price, options are available for on-site collection of waste materials which go to a local material recovery facility where recyclables are separated out. Contact **Ecosort** at **726-7552** or **Sanipac** at **747-2373**.



<i>SANIPAC will provide commercial drop boxes to collect waste materials. Boxes are taken to EcoSort where materials are sorted out for recycling. CONTACT SANIPAC at 747-2373.</i>				
*Contact Campus Recycling for project office paper recycling at	346-1529	Aluminum	Appliances	Asphalt Roofing
BRING Recycling call for nearest location	746-3023	*		
DC Metals 380 S. Danebo Rd.	344-3741			
Delta Sand and Gravel 999 Division Ave.	688-2233			
EcoSort (LLC) 3425 E. 17th	726-7552	*		*
Eugene Mission 1542 W. 1st	344-3251			
Glenwood Central Receiving 3100 E. 17th	687-4119	*	*	
Goodwill Industries 855 Seneca Rd.	345-1801		*	
Lane County Rural Transfer Stations contact Lane City Waste Management at	687-4119			
Lane Forest Products 2111 Prairie Rd.	461-2427			
Northwest Electronics Surplus 2509 W. 11th	485-3016			
Phoenix Pallet Recycling 299 Garfield St.	344-8036			
Rexius Forest By-Products 1250 Bailey Hill	342-1835			
Roofgone Inc. 1019 28th	741-8333			*
Schnitzer Steel 111 HWY 99N	686-0515	*	*	
St. Vincent de Paul 705 S. Seneca Rd.	345-1412	*	*	
Weyerhaeuser 3425 E. 17th	744-4100			

- 2nd : **Determine when the target materials will be generated during the construction or demolition process:**
- For construction, a recycling program can be developed to take place in stages to correspond with the times that the specific materials are generated.
 - For demolition a series of steps can be performed. First remove salvageable items. Then roofing and siding materials. Finally, structural materials such as steel, concrete, brick and wood.
- 3rd : **Evaluate the economics of salvaging or recycling your target materials:**
- Determine if additional labor will be required by your staff and subcontractors to separate the target materials from the waste. In most cases, little or no additional labor is required.
 - Set aside time to manage the program. Designate someone on your staff to promote and monitor the program, educate staff and subcontractors, keep records of salvaged and recycled materials, and work with waste and recycling programs.
 - Determine the cost per month of salvaging and recycling service providers who accept your target materials.
 - Estimate the disposal cost savings due to the salvaging and recycling, and how much will be saved per month.
- 4th : **Identify on-site limitations that may hinder recycling programs. Limitations may include:**
- storage space restrictions.
 - excessive dust or noise produced.
 - poor access from point of generation to recycling container area.
 - material conditions that make separation of material difficult.
- 5th : **Develop a recycling plan.**
- Take the information from target materials, generation schedules, economics, and limitations and develop a plan for implementing a recycling/waste reduction program.
 - Each plan should address the following:
 - waste reduction and reuse practices to employ.
 - target materials to salvage and recycle.
 - methods of recycling to be used.
 - designation of person responsible for the program.
 - methods to educate workers on material segregation.
 - methods of monitoring the program.
 - methods of promoting the program.

HOW TO BEGIN RECYCLING

1. **Research Options**
Investigate recycling and disposal options before the job begins. Work with your hauler or recycler to determine what materials should be separated for recycling.
2. **Place Bins Carefully**
Place recycling bins in a location that will prevent misuse or contamination by the public. Even a small amount of garbage in a bin of recyclables can make the entire bin unacceptable for recycling.
3. **Educate Subcontractors**
Clearly identify recycling bins with large signs. Educate subcontractors about what materials will be recycled for the project. Include recycling as a part of the subcontract. All personnel on site are responsible for keeping garbage out of the recycling bins.
4. **Coordinate Pickup**
Work with the designated recycler to coordinate pick up and delivery of recyclables.

HOW TO RECYCLE

1. Walk through the building with salvagers to determine what items have value for resale or reuse. Salvaged items are typically paid for or hauled away for free.
2. Remove salvageable items as early in the project as possible. Work with the project manager to coordinate the removal of salvageable items.
3. Look for salvage opportunities as the project progresses. For example, carpet removal may reveal hardwood flooring that is salvageable.

REMODELING SALVAGE AND RECYCLING

Remodeling produces salvageable items and recyclable materials during the demolition and construction phases. You can make money on a project by carefully removing building components and fixtures for salvage.

Evaluate recycling on a remodeling project based on the quantities of scrap materials that will be produced and the time necessary to keep the material separated.

TIPS

Here are some guidelines and tips for salvaging:

Appliances - store for reuse on project; donate or sell usable units; recycle unusable units with metal recycler. *Before decommissioning refrigerators, coordinate freon and door removal.

Cabinets - store reusable doors, drawers and trim for reuse on project; donate or sell usable units; recycle unusable units with wood, hardware with metal.

Doors - salvage reusable doors; recycle damaged doors with wood, hardware with metal.

Electrical - recycle wire with metal.

Wood - reuse lumber when possible; recycle remainder with wood.

Heating - recycle ducts and trimming with metal.

Insulation - reuse clean scraps as extra attic insulation or for chinking around windows; recycle remainder. For asbestos concerns contact UO Facility Services Asbestos Office at 346-2272.

Millwork - remove castings and moldings for reuse; recycle unusable items with wood.

Paint - reuse leftover paint as primer; coordinate disposal of paint and related products through UO Environmental Health and Safety at 346-3192.

Pressure-treated wood - reuse when possible; contact UO Environmental Health & Safety for assistance on proper disposal.

Roofing - recycle composition roofing and roofing felt.

Siding - reuse siding in good condition; recycle damaged wood siding and dispose of damaged vinyl siding.

Windows - salvage reusable windows; remove and recycle glass; recycle wood and aluminum frames. Vinyl and fiberglass frames are not recyclable.

Wood flooring - salvage reusable flooring; recycle damaged flooring with wood.