

**For Presentation at the
Asia-North-American Waste Management Conference
Los Angeles, California
December 6-9, 1998**

CHARACTERIZING CONSTRUCTION AND DEMOLITION WASTES

Jacob E. Beachey
Franklin Associates
A Service of McLaren/Hart
Prairie Village, Kansas
(913) 649-2225
Fax: (913) 649-6494
E-mail: jake_beachey@mclaren-hart.com

ABSTRACT

Construction and demolition (C&D) debris consists of wastes generated when new structures are built and when existing structures are renovated or demolished. Structures include all residential and nonresidential buildings as well as public works projects, such as highways, bridges, piers, and dams. Many state definitions also include trees, stumps, earth, and rock from the clearing of construction sites.

Since much of C&D debris is inert, solid waste rules in most states require a lower level of environmental monitoring than is required for other waste streams, including municipal solid wastes (MSW). As a result, there has been a lack of published information on the characteristics (i.e., quantity, composition, and management practices by source) of C&D debris.

In recent years, there has been a growing interest in C&D debris, because it is recognized that this is one of the more voluminous waste streams and that significant savings in resources and landfill space can be realized by increasing efforts to reduce, reuse, and recycle materials and products from this waste stream.

This presentation presents the results of a study completed in June 1998 for the United States Environmental Protection Agency that developed a methodology for characterizing a large segment of C&D debris, (i.e., the building-related wastes), and summarized the current waste management practices for this waste stream. The methodology used combines national Census Bureau data on construction industry activities with point source waste assessment (sampling and weighing) data to estimate the amount of wastes produced nationally.

**SUMMARY OF ESTIMATED BUILDING-RELATED C&D
DEBRIS GENERATION, 1996**
(Roadway, Bridge, and Land Clearing Debris not included)
(Thousand Tons)

Source	Residential		Nonresidential		Totals	
	Thou tons	Percent	Thou tons	Percent	Thou tons	Percent
Construction	6,560	11	4,270	6	10,830	8
Renovation	31,900	55	28,000	36	59,900	44
Demolition	19,700	34	45,100	58	64,800	48
Totals	58,160	100	77,370	100	135,530	100
Percent	43		57		100	

Source: Franklin Associates

**ESTIMATED MANAGEMENT OF BUILDING-RELATED
C&D DEBRIS IN THE UNITED STATES, 1996**

Management Option	Million tons/year	Percent of Total
Recovered for recycling	25-40	20-30
C&D landfills	45-60	35-45
MSW landfills and other*	40-55	30-40
Totals	136	100

* Includes combustion and disposal in unpermitted sites.

Source: Franklin Associates