



# RE-USE Consulting

Say “No!” To The Track-Hoe

Sustainable Alternatives to Demolition

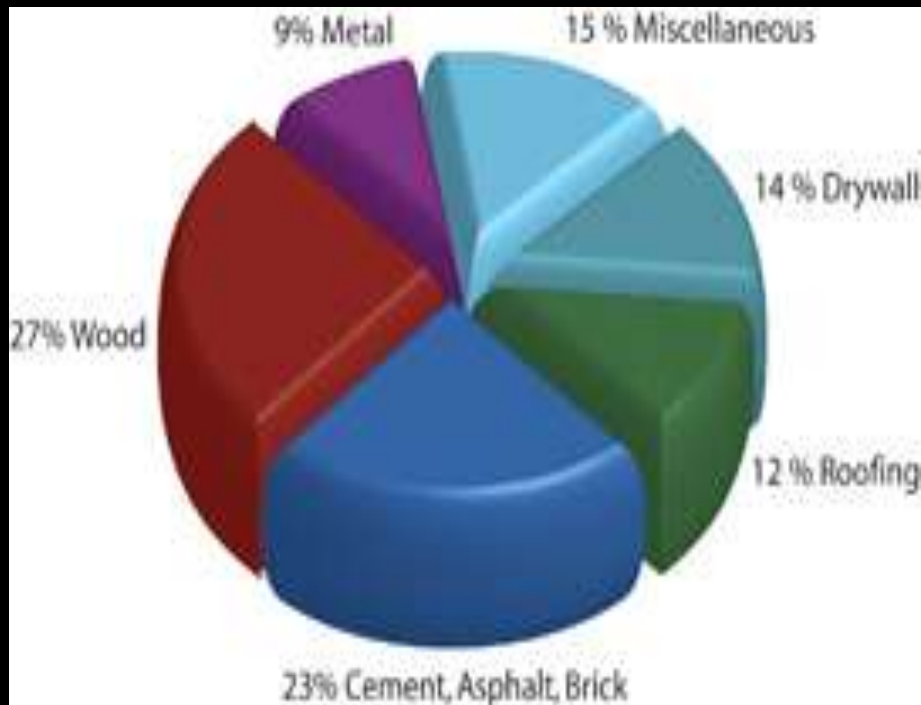
Building Deconstruction—Material Salvage—Used Building Material Sales

# The Basics and Benefits of Deconstruction



# Construction and Demolition Debris

- 136 million tons per year
- L.E.E.D. projects
- C+D recycling facilities  
reduce costs



**20% - 40% of  
US waste stream**

**30%-40% MSW LF**  
**35%-45% C&D LF**  
**20%-30% Recycled**

Haven't we seen it all?

Not yet!



## RE-USE

By the numbers:

50,000 sq ft store

1200 jobsites in 1 yr

600 of 3000 buildings  
deconstructed

50 Jobs created

42 States

4 Provinces

1 mission

# Traditional Deconstruction

98% of people want it

Unless it :

1. Costs too much
2. Takes too long

# Demolition: The baseline price



# The road to full deconstruction has many stops on the way.



Demolition



Deconstruction



Moving structures or preserving them in place is off the chart (a good thing!).  
Demolition is a dead end street for your community.

# Recycled Materials

## Recycled Items

- Metal
- Wood
- Painted Wood
- Sheetrock
- Foam Carpet Pad
- Cardboard
- Light ballasts/bulbs

## Disposal items

- Carpet
- Torch down roofing
- Vinyl tile flooring







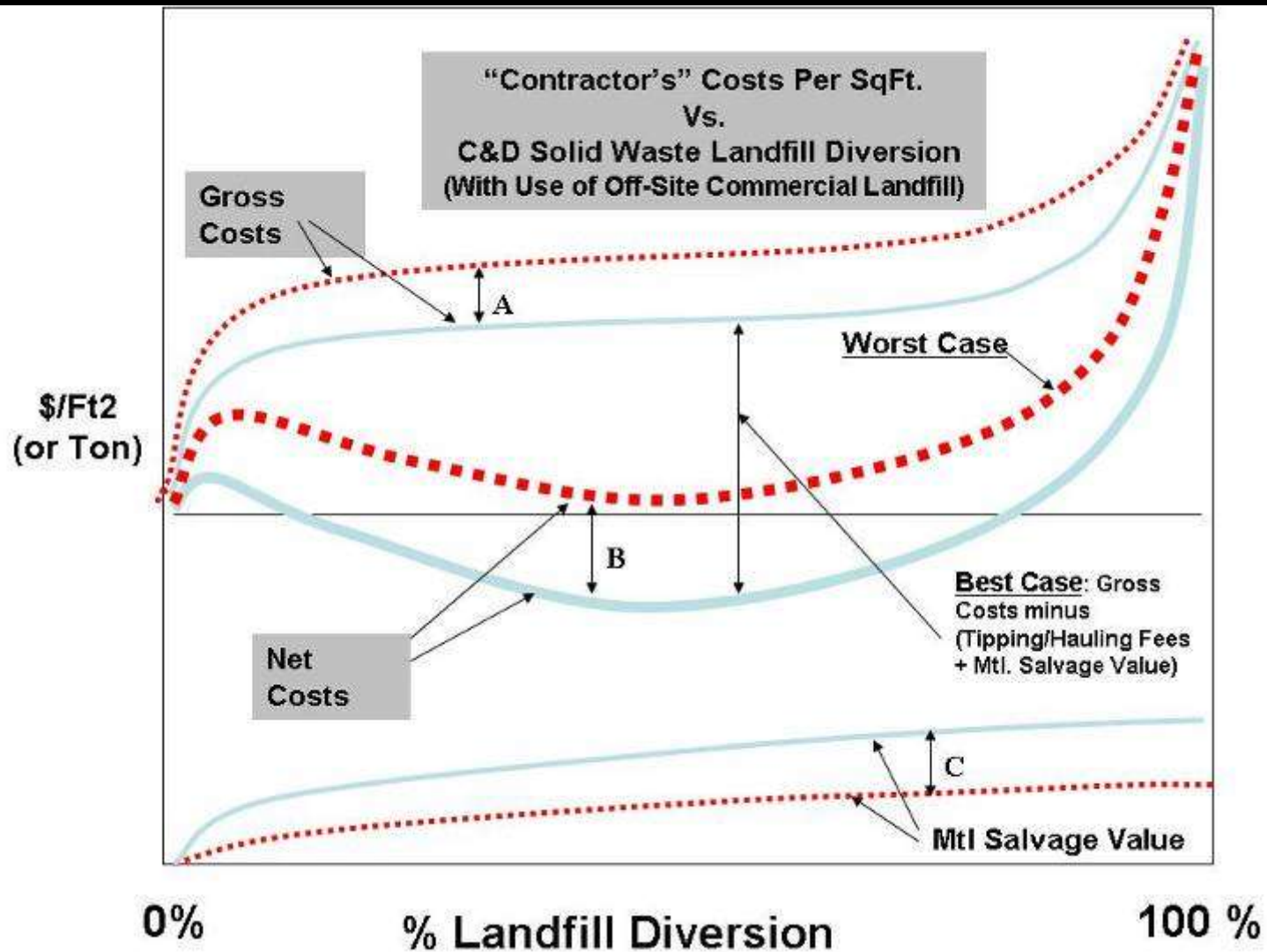
# Diversion = Savings on disposal

Disposal comparison for a 120,000 lbs home (not including the foundation)								
DEMOLITION			DECONSTRUCTION					
60 tons of materials disposed of at:			10 tons disposed of + 25 recycled at 40% cost of disposal:				Hours of	
\$/ton		Disposal \$	\$/ton		Disposal/Recycling	Savings	Labor Paid for	
\$125/ton	equals	\$ 7,500.00	\$125/ton	equals	\$ 2,500.00	\$ 5,000.00	200.00	
\$115/ton	equals	\$ 6,900.00	\$115/ton	equals	\$ 2,300.00	\$ 4,600.00	184.00	
\$105/ton	equals	\$ 6,300.00	\$105/ton	equals	\$ 2,100.00	\$ 4,200.00	168.00	
\$95/ton	equals	\$ 5,700.00	\$95/ton	equals	\$ 1,900.00	\$ 3,800.00	152.00	
\$85/ton	equals	\$ 5,100.00	\$85/ton	equals	\$ 1,700.00	\$ 3,400.00	136.00	
\$75/ton	equals	\$ 4,500.00	\$75/ton	equals	\$ 1,500.00	\$ 3,000.00	120.00	
\$65/ton	equals	\$ 3,900.00	\$65/ton	equals	\$ 1,300.00	\$ 2,600.00	104.00	
\$25/ton	equals	\$ 1,500.00	\$25/ton	equals	\$ 500.00	\$ 1,000.00	40.00	

# Required Diversion- Lessons From Diablo Dam



# Dollar/hour Analysis



# Tax Deductions – Closing the Gap (The Legal Version)

Tax deduction option - recommended					
		Demolition		Deconstruction	
Bid Price		\$	10,000.00	\$	14,000.00
Value of deduction		\$	-	\$	6,500.00
Net removal price		\$	10,000.00	\$	7,500.00

# COLLECTION

- Pickups
- Salvage
- Deconstruction
- Scratch and dent
- Donations
- Connect with value-added shop
- Supplementing with new materials



# Retailing – Completing the cycle

- Wholesale – examples
- Retail – examples
- Jobsite sales
- Key items
- Value Added items
- On-line sales
- Wish list





What do you see?



# Benefit: Partner with Green Collar Jobs efforts

## Decon/pickup/salvage workers:

Nail pullers  
Truck loaders  
Decon lead assist  
Machine operator  
Site lead  
Decon estimator/logistics

## Store workers:

Store cleaner  
Store stocker  
Store assistant manager

## General positions:

Maintenance worker

## Value added shop positions:

Value added shop clean up  
Value added lead

## Admin positions:

General manager  
Accountant  
Controller / office manager

Raking / Clean up  
Site labor  
Truck Driver  
Decon lead  
Decon manager  
Pickup/salvage crew

Sign maker  
Store sales associate  
Store manager

Mechanic

Value added labor  
Value added designer

Marketing specialist  
Book keeper  
Executive Director

Construction – Service Industry – Retail – Marketing – Management – Manufacturing



# Value-Added Products



RE-USE Consulting



Sustainable Alternatives to Demolition

Building Deconstruction -- Material Salvage -- Used Building Material Sales

# Win-Win Scenario



- Win: Jobs created (25 reuse workers for every 1 demolition worker)
- Win: Environmental problems mitigated (75-95% landfill diversion, etc)
- Win: Low-income homeowners can now afford to fix up their homes
- Win: Ex-offenders able to get deconstruction jobs and these jobs are often in inner-city areas where few opportunities exist

# Section 4: The Future of Buildings



## All Structures Are Temporary

- If the buildings of your past are in my present, then they have no future.

# Design: Waste

- When we design waste into a structure, we get waste out of a structure
- Example: Torch down vs. 3-tab vs. metal roofing (EPDM?)

# 'RE-Buildings': Building Small Buildings Out Of Larger Buildings





# RE-USE Consulting – Sustainable Alternatives To Demolition

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# Learning Objectives

- Learn about deconstruction process
- Learn about how to specify deconstruction of buildings
- Learn about the challenges and opportunities that are part of deconstruction projects
- Learn about how future buildings will be designed to be disassembled as part of zero waste and sustainable building efforts

Learn about the challenges and opportunities that are part of deconstruction projects

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-Leveraging Value

-\$/hr analysis

# Panels/SIPs

- Structural Insulated Panels
- Lock/bolt together
- The 'key' is that I should be able to 'unlock' them



# Modules/Complete units



# Decon – Breakdown of costs

Typical Deconstruction vs. Demolition scenario					
		Demolition		Deconstruction	
Total bid		\$10,000		\$14,000	
Cost breakdown:					
Disposal				\$ 1,900.00	14%
Labor				\$ 5,000.00	36%
Equipment				\$ 1,000.00	7%
Tools				\$ 250.00	2%
Misc costs				\$ 1,350.00	10%
Foundation removal				\$ 3,500.00	25%
Trucking				\$ 1,000.00	7%
Total		\$ 10,000.00		\$ 14,000.00	

# Unclear items – Unknown Territory



What should be specified on such an item?

- Reuse difficult?
- Prior use unclear?
- Markets exist?
- Weight and equipment needed to handle?



# (9) Future buildings – zero waste by design (DESIGN FOR DISASSEMBLY)



# Demountable panels – adaptable spaces



# Floating Floors/Less Fasteners



# Construction Adhesives – bad for reuse



# Spray foam insulation – now you can't reuse it or recycle it

