

# COMPANY WASTE MANAGEMENT



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## Construction waste management

Snave construction  
38 Grace Avenue  
Mt. Maunganui  
New Zealand

### **Why construction-waste management?**

No one enjoys throwing materials away. But with all of the aspects of home building that require management today, why do we need to add waste? Construction waste management can enhance a builder's operation, as well as the image of the entire home building industry.

**Cost** - Even though your disposal costs represent only about 0.5 percent of a home's total construction costs, consider that waste management costs could represent as much as five percent of your profit on a home. Waste reduction can reduce your material purchases; recycling can reduce your total disposal costs.

**Efficiency** - You pay twice for materials wasted on your jobs sites -- once for the original purchase and again when the usable material is hauled off for disposal. It's not difficult to find useful building materials "hidden" within the six-foot-high sides of site dumpsters.

**Resource Conservation** - Roughly 80 percent of a home builder's waste stream is recyclable. Home builders can do their part to conserve natural resources and landfill space by looking at their waste stream and seeing resources instead of refuse.

**Liability** - The general contractor bears some responsibility for any waste generated at jobsites. It is important that you protect your company from any potential liability resulting from unauthorized or illegal disposal of wastes, particularly potentially hazardous wastes.

**Marketing** - Builders who make the effort to build resource efficient homes should take credit for their work. Distinction in the marketplace can lead to positive press and home sales.



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## What becomes of the material?

Material	Potential Use
Asphalt	Crushed and mixed to make new asphalt
Concrete	Crushed and screened aggregate can be used in: <ul style="list-style-type: none"> <li>• road sub-base</li> <li>• cement blocks</li> <li>• asphalt concrete</li> <li>• fill</li> </ul>
Dirt	Landscaping Landfill cover
Metal	Scrap metal dealers
Wood	Timber Wood pulp shredded for: <ul style="list-style-type: none"> <li>• fuel</li> <li>• animal bedding</li> <li>• landscaping</li> <li>• manufactured building products</li> <li>• compost</li> </ul>
Brick	Masonry crushed for ornamental stone
Glass	Fibreglass insulation, sand blast, aggregate in asphalt, reflective beads
Gypsum	Soil amendment, gypsum board, absorbent media
Plastic <ul style="list-style-type: none"> <li>• ABS</li> <li>• PVC</li> <li>• Polyethylene</li> <li>• Polystyrene</li> </ul>	Plastic lumber Highway barriers Traffic cones Insulation
Porcelain	Crushed for aggregate
Corrugated cardboard	Paper mills, fuel pellets
Carpet	Landfill cover
Roofing shingles	Asphalt paving

## Key points

Here are some important generalizations about residential construction waste.



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By weight or volume, wood, drywall and cardboard make up between 60 and 80 percent of jobsite waste. Vinyl and metals are generated in small quantities, but have good recycling value. Cardboard waste is increasing on most jobsites as more components, such as windows, appliances, cabinets and siding, are shipped to builders over long distances. Most wood waste is "clean" -- unpainted, untreated and recyclable. This usually includes dimensional lumber, plywood, particle board without laminates and "OSB". Brick, block and asphalt shingle waste are insignificant in volume, but can be important in terms of weight. For most builders, the largest share of waste that could be considered hazardous is generated from painting, sealing, staining and caulking. Drive-by contamination (waste placed in a container by a party other than the builder or subcontractor) can be as much as 30 percent of the total volume hauled from a site.

### **Some basics about disposal costs**

There are three costs that make up waste management: handling, transporting and tipping.

**Handling** - It takes about 2.4 hours per ton to gather and carry construction waste to a dumpster. However, this number can vary widely based on the type of materials and the distance from the jobsite to the dumpster. Note: The cost of handling construction waste is rarely considered in a builder's total waste management costs.

**Transporting** - Trucking costs include ownership, operation and the driver's labour.

**Tipping** - Tipping is the fee charged by the facility that receives the material. Landfills and recycling outlets can charge by volume ( $m^3$ ) or by weight (ton). Use the [conversions table](#) to work from one type of measurement to the other.



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## Fee Structures

Haulers cover the costs of trucking and tipping by charging builders based on:

- Time - a daily or monthly container rental fee
- weight - a per ton charge
- volume - a cubic meter or "pull" charge
- A combination of the three.

Taken from the *“Residential Construction Waste Management: A Builder's Field Guide”*  
By Peter Yost and Eric Lund

## 3 foundations of good recycling on a building site at BPPoly

### Diving pool

**Economy** - To get rid of waste from our site is expensive and categorizing it will surely reduce the cost of our waste disposal. The more we categorize our waste the more money we will save.



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**Health and environment** - Good waste disposal will give us a cleaner building site and safer environment that will reduce injuries and sick leaves in our staff.

**Outer environment** - Good categorizing will do more than good just on the building site and easier recycling because for example that they can make other materials out of the old ones after use.

## **Calculate how much waste is going away from your building site -**

We can easily find out what types of materials we are going to dispose of but it is not as easy to find out exactly how much of it we need to get rid of. With this document we can estimate how much of which material we will dispose of.

Our building area is approximately  $1630\text{m}^2$  so we would take that number and multiply it with 29 which is the amount of waste on our type of building. We do this to be able to assume how much waste per  $\text{m}^2$  we have..... --> 47.200 kg according to this plan. It sounds extremely much and we will therefore divide that with 2.

In our project at BPPoly Diving pool which is about  $1,630\text{ m}^2$  we will have a good recycling plan where we will categorize 80% of our waste. It is nearly impossible to categorize more than that because then we would have to have one worker constantly working on categorizing the material.

Prizes in the recycling process may vary but we could always get an offer from the recycling firms.

## **Estimation of waste**

We have to estimate how much waste will come from our project and the best way to start is to use this table which says how much of every material we will have to get rid of



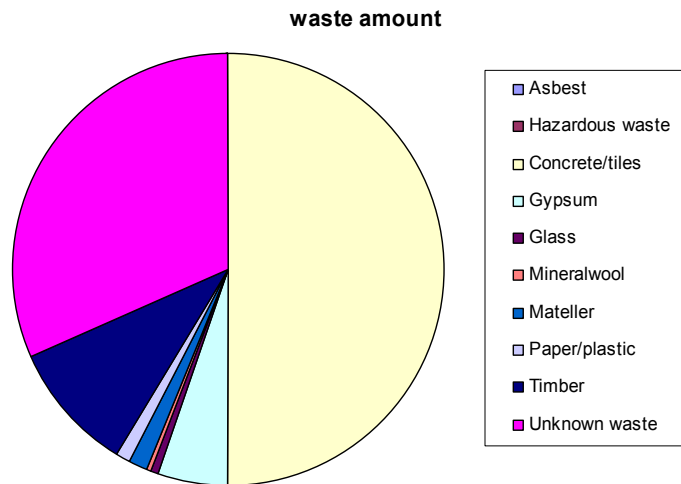
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according to the size of the project. We chose to use “New building-large” which is the most alike our project.

Different waste amount in different projects	Total	Asbestos	Hazardous waste	Concrete/tiles	Gypsum	Glass
New building-small	35	0	0,017	6,5	3,5	0,27
New building-large	29	0	0,017	14,5	1,5	0,122
New building-different buildings	31	0	0,017	15,7	0,8	0
Different waste amount in different projects	Total	Mineral wool	Metal	Paper/plastic	Timber	Unknown waste
New building-small	35	1,2	0,15	2,58	11,1	9,6
New building-large	29	0,1	0,43	0,29	2,8	9,2
New building-different buildings	31	0,1	1,2	0,41	4,1	8,8

kg/m<sup>2</sup> BTA



## Estimation of cost

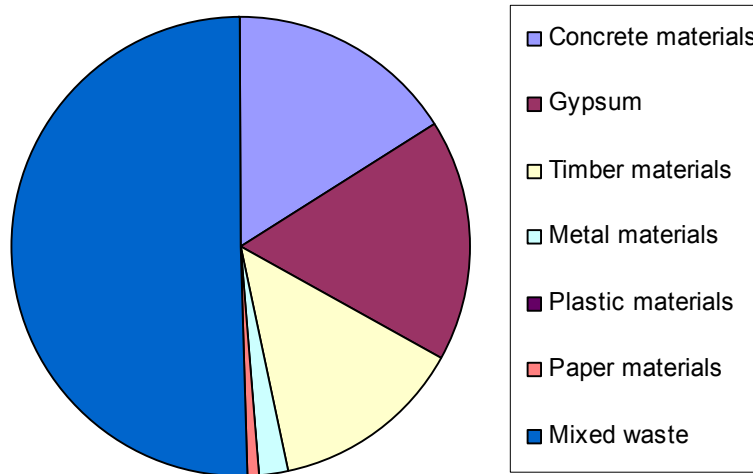
When estimating the cost of removal of waste we estimate about 25 tons that can be removed in about 5 container. This gives us a price of \$15.010 according to Waste managements offer.



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## Cost estimation



These tables are only for estimation but as our company, Snave construction, develops and gets more experience in this area we will be able to be more accurate in the estimation of how much waste comes from each and every project.