

Target Sustainability House Builders Project

Mike Greer Homes

About the Project

Company: Mike Greer Homes

Project: Perry St, Christchurch

House size (floor area): 240 m²

Building type: Celcrete cladding, timber frame

Waste contractor: Concut Skips

Sorting site: Becon Canterbury



Mike Greer Homes © Copyright

Introduction to the Project

Mike Greer Homes signed a Memorandum of Understanding with the Christchurch City Council to participate in the Target Sustainability House Builders Project. The objective of the project was to reduce solid waste going to landfill and cleanfill from new house construction. The project also aimed to test the REBRI (Resource Efficiency in the Building and Related Industries) guidelines and to develop measure-to-manage tools and key performance indicators for new house construction.

Mike Greer Homes chose one construction project on which to identify opportunities to reduce waste to landfill and cleanfill and apply the REBRI Guidelines and measure-to-manage tools. The house was a 4 bedroom, celcrete and timber house.

Waste Reduction Initiatives

The majority of waste was sorted off-site due to limited space on-site for waste sorting. Mike Greer Homes did the following on-site to try to minimise the amount of waste going into the skip and to maximise the amount of waste that could be recovered off-site:

- The project manager put up laminated signs asking sub-contractors to put wet waste (e.g. food scraps) into a black rubbish bag. When full, the bag was tied up and put in the skip. Keeping the materials in the skip clean and dry, maximises the amount that can be recovered for reuse and recycling at the sorting site.
- Stored materials under cover to keep them dry and to prevent damage.
- Stockpiled 10 m³ of soil during site preparation and reused this back on-site during landscaping.
- Kept timber off-cuts in separate piles for reuse on-site as dwangs and noggs for basins and sinks.

- Kept the celcrete off-cuts in neat piles for reuse on-site.
- Asked the carpet layer to leave the larger carpet off-cuts on-site. Four large carpet off-cuts were left for the owners to use as mats.
- Spare paint was left on-site for the owners.



Signs asking sub-contractors to put wet waste in the black bag © Copyright



Celcrete off-cuts for reuse on-site © Copyright



Soil stockpiled for reuse on-site © Copyright



Timber off-cuts in separate piles for reuse © Copyright

Waste Sorting

Space on house building sites is often limited. Therefore, the use of skips and off-site waste sorting was considered to be the best option. Concut Skips collected the skips and took them to Becon for materials sorting. Four and a half 7 cubic metre skips were removed for sorting during the house construction.

Concut Skips recorded the waste composition in the skips by doing a visual assessment when they were emptied at the sorting site. They sent this information to Mike Greer Homes using a simple data collection sheet. The composition and destination of the waste in the skips is shown below (right).

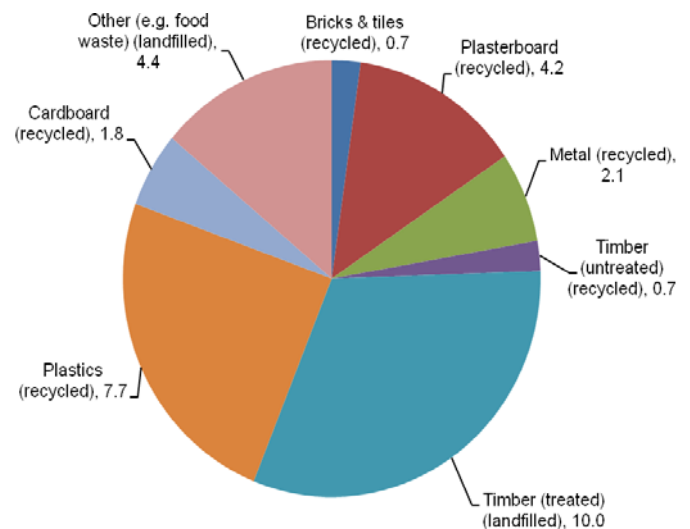
Once at the sorting site, all of the material from mixed skips is put over a large Materials Recovery Facility (MRF) sorting line where the materials, e.g. cardboard, plasterboard, metals and plastic, are separated. Becon provided information on the materials that were recovered for reuse and recycling.

The Key Performance indicators for the house build project are shown below (left). 54% of the waste material in the skips was reused or recycled by Becon. The main material that was landfilled was the treated timber and general waste from site cleanup (included in the pie chart as "Other").

Waste Summary and KPIs

Total waste weight	5.38 tonnes
Kilograms per 100 m ² floor area	2,242 kg/100m ²
Total volume of waste	31.5 m ³
M ³ recycled/reused per 100m ² floor area	7.1 m ³ /100m ²
M ³ landfilled per 100m ² floor area	6.0 m ³ /100m ²
Percentage recycled/reused/stockpiled for recycling	54%
Percentage to landfill	46%

Waste Composition and Destination (m³)



Difficulties

- Through the Target Sustainability House Builders Project, a letter was sought from the local council building inspectors allowing Pink Batt off-cuts to be left in the ceiling. Unfortunately, there was not adequate room in the roof space due to this house having a flat roof in places. Two bags of Pink Batts were disposed of in the skip. NB They are included in the "Other" category.
Tip: Use off-cuts of insulation in the internal walls or leave them in the ceiling (check this with your local council first). Encourage your installer to minimise insulation off-cuts.
- Unauthorised dumping (fly tipping) in the skip was a problem as the house building site was in a developed residential area. For example, a broken vacuum cleaner was disposed of in the skip and the last ½ skip contained a large amount of fly tipping.
Tip: Put up a fence around the site and put up signs warning the public against putting their waste in the skip. Move the skip away from the fence to prevent waste being thrown over. Consider asking your waste contractor to provide a lockable lid.

Future Plans - Mike Greer Homes

- Mike Greer Homes are working with Concut on signs to warn against unauthorised dumping in the skip for trial on 10 Mike Greer Homes branded skips. It is proposed that the sign read "No Fly Tipping" and have a recycling symbol. This will advise the public and sub-contractors that the skip is going for materials recovery and not straight to landfill.
- Mike Greer Homes plan to use the data they have obtained through this project to educate their sub-contractors to help them to improve their practices.
- Mike Greer Homes are looking at contract conditions to prevent waste from other sites being put in the skip e.g. "only waste from this house building site to be put into the skips".

Want more information? Visit the Target Sustainability website at www.target sustainability.co.nz

The REBRI guides are available at www.rebri.org.nz