

Target Sustainability House Builders Project

Jennian Homes

About the Project

Company: Jennian Homes

Project: Exley John Place, Christchurch

House size (floor area): 247.5 m²

Building type: Brick cladding, timber frame

Waste contractor: Budget Bins

Sorting site: Reworks



Jennian Homes © Copyright

Introduction to the Project

Jennian 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.

Jennian 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 3 bedroom, brick clad, single storey house.

Waste Reduction Initiatives

The majority of waste was sorted off-site due to limited space on-site for waste sorting. Jennian 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:

- Provided a separate wheelie bin for non-recyclable waste to avoid contamination of potentially reusable or recyclable waste.

- Set aside foundation timber for reuse on other building projects.
- Collected excess materials for use on other projects.
- Talked to suppliers about minimising plastic packaging.
- Put up a sign asking the sub-contractors to flatten boxes before they went in the skip. Flattened boxes save room in the skip and ensure materials are easier to recover at the sorting site.



Sign asking sub-contractors to flatten boxes © Copyright



Wheelie bin for non-recyclable waste © Copyright

Waste Sorting

Jennian Homes were simultaneously undertaking a house-building project on another site where recyclables were being sorted on-site. On that site the main difficulty encountered with on-site sorting was the lack of space for storage of materials. This meant the site was difficult to keep tidy which affected safety and efficiency.

For this project Jennian Homes trialled off-site waste sorting with materials being co-mingled in a skip on-site. Budget Bins provided skips and a separate wheelie bin for non-recyclable waste to avoid contamination of potentially reusable or recyclable waste. Four 7.5 cubic metre skips were removed for sorting during the house construction.

Reworks recorded the waste composition in the skips by doing a visual estimate when they were emptied. They sent this information to Jennian 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 vibration screen and sorting line where the materials,

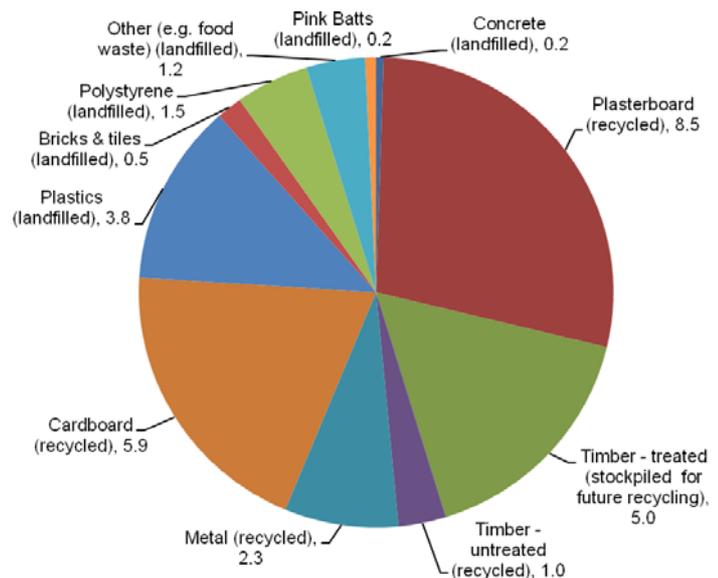
Waste Summary and KPIs

Total waste weight	4.57 tonnes
Kilograms per 100 m ² floor area	1,846 kg/100m ²
Total volume of waste	30.0 m ³
M ³ recycled/reused per 100m ² floor area	9.2 m ³ /100m ²
M ³ landfilled per 100m ² floor area	3.0 m ³ /100m ²
Percentage recycled/reused/stockpiled for recycling	75.5%
Percentage to landfill	24.5%

e.g. cardboard and metals, are separated. Reworks 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). 75.5% of the waste material in the skips was reused or recycled. The main materials that were landfilled were plastics and polystyrene. The treated timber was stockpiled for trialling as a fuel in a consented, high-temperature furnace.

Waste Composition and Destination (m³)



Difficulties

- The wheelie bin provided for non-recyclable waste could have been utilised better. **Tip: Use signs, letters and reminders to educate contractors and sub-contractors.**
- Through the Target Sustainability House Builders Project, a letter was sought from the local council building inspectors allowing Pink Batts off-cuts to be left in the ceiling. Unfortunately, this letter was not received until this house was complete. The Pink Batts off-cuts were disposed of in the skip. **Tip: Use off-cuts of insulation in the internal walls or leave them in the ceiling (check this with your local council first).**
- Despite signage on the skip, cardboard boxes were not always flattened. **Tip: Allocate someone on-site to be responsible for monitoring and reminders.**
- Some brick pallets are from Australia and cannot be returned for reuse. **Tip: List these on the waste exchange (www.terranova.org.nz) or ask NZ brick manufacturers if they would like them for reuse.**
- Sometimes, materials set aside for reuse inadvertently ended up in the skip. **Tip: Clearly label stockpiles of material so that it is clear where they should end up.**

Future Plans – Jennian Homes

- Jennian Homes are looking into permanent signage for skips to ensure cardboard is flattened and to keep non-recyclable waste out of the skip.
- Jennian Homes are now using hardfill skips on all their sites to ensure hardfill is separated for recycling.
- Jennian Homes commits to including waste management and minimisation as a regular agenda item in project management meetings.

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

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