Building Smarter
Wasting Less

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Driving impact through collaboration

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Lessons from skip diving...

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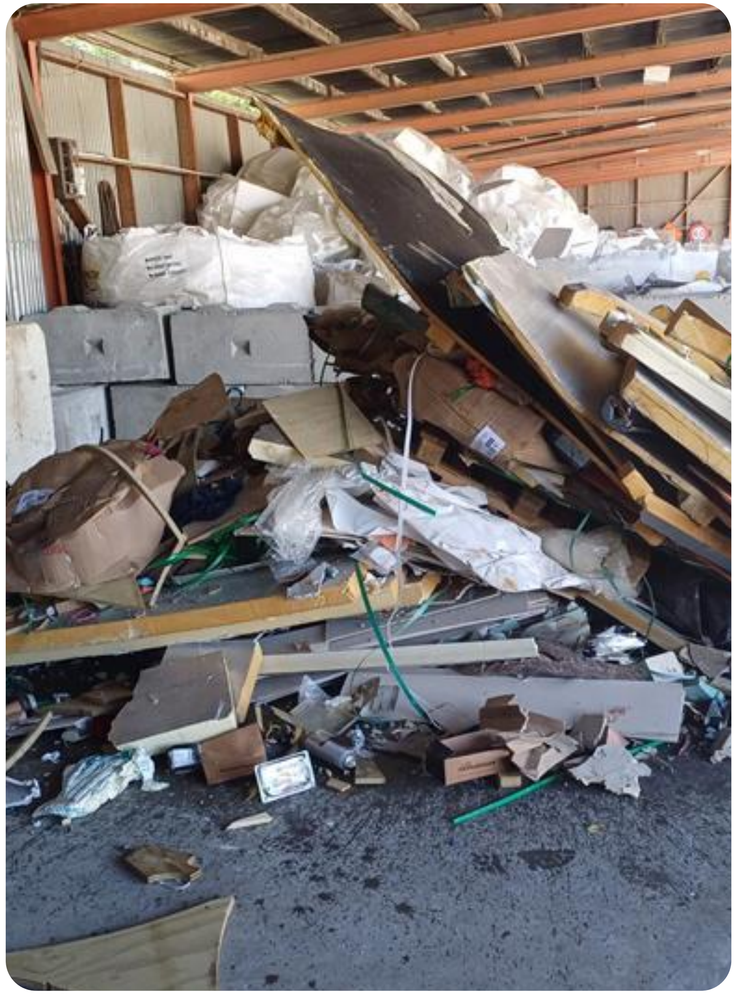
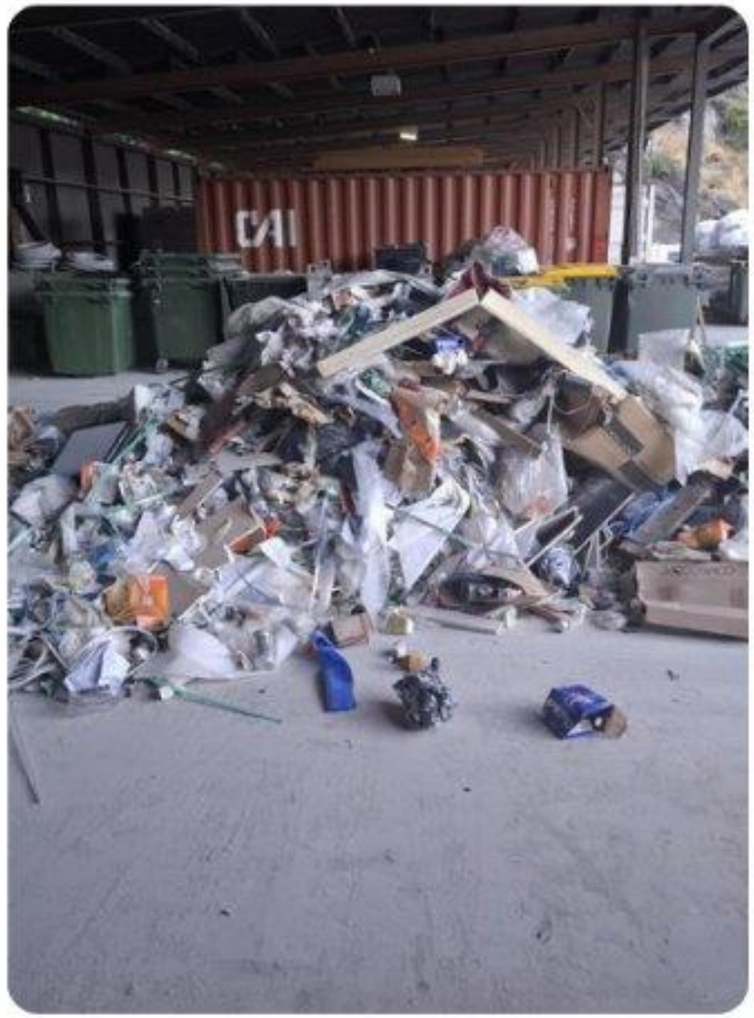




Objective

Construction & Demo waste is responsible for nearly 50% of waste to landfill in NZ.....

What are we throwing away ?

Why does it exist ?

How do we reduce ?

Methodology

The report and corresponding waste audit adopted a holistic approach by assessing all materials leaving the site, whether directed to landfill, clean fill, recycling, or reuse streams.

This approach recognises that any material leaving the site represents a loss of resources, energy, and embodied carbon, regardless of its disposal pathway.

Diverted Materials

Any reused, repurposed or clean fill materials were recorded using the BRANZ conversion chart as a guide to estimate material weight. Recycled materials were separated on site, and weights were recorded as per provider invoices.

General Waste

General waste skips were transported to the waste contractor's facility (All Waste), where each load was weighed before being tipped onto a hardstand area for manual sorting.


BRAZIER SCAFFOLDING

Total Waste Profile

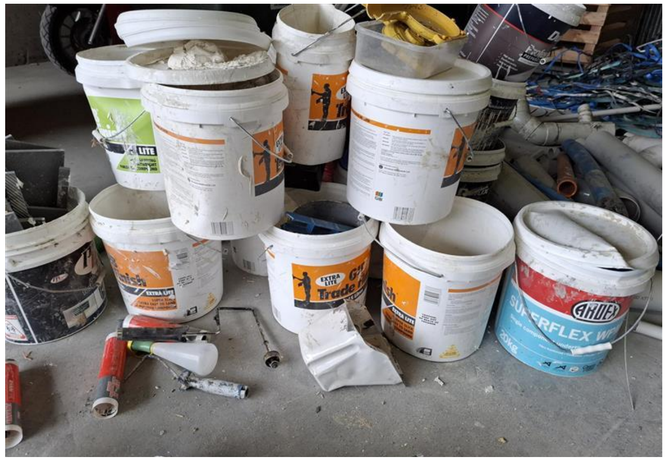
- General Waste: 59.8 tn (18%)
- Plasterboard: 11.96 tn (4%)
- Metal: 8.88 tn (3%)
- Soft Plastics: 5.95 tn (2%)
- Pallets: 5.87 tn (2%)
- Cardboard: 3.69 tn (1%)
- Untreated timber: 2.49 tn (1%)
- Polystyrene: 0.4 tn (0.1%)
- Community materials: 10 tn (3%)
- Circular / Take Back Schemes: 0.6 tn (0.2%)
- Cleanfill (construction): 225 tn (67%)

Ceramic tiles

Cable reels

Timber

Unused product



Paint and plaster buckets

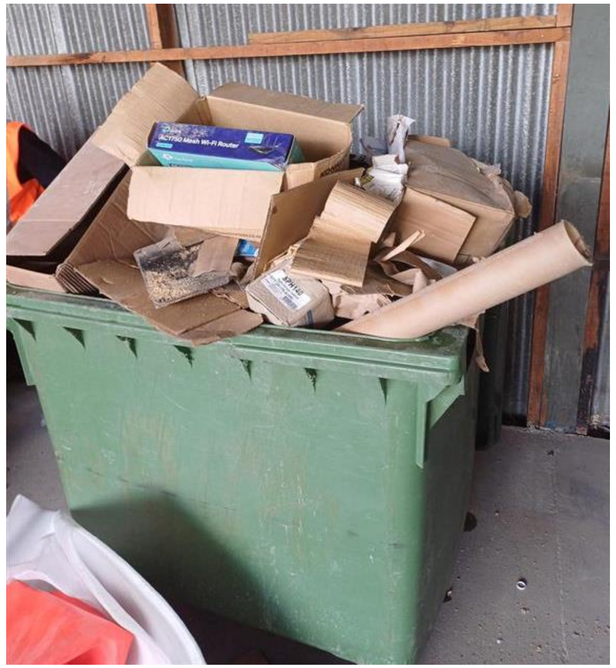
Polyfoam

PVC / HDPE pipe

Plastic strapping

Cable ties & screw gun backing

Pipe lagging



Cardboard

PIR board

Metal

PPE

Sweepings

Vinyl flooring

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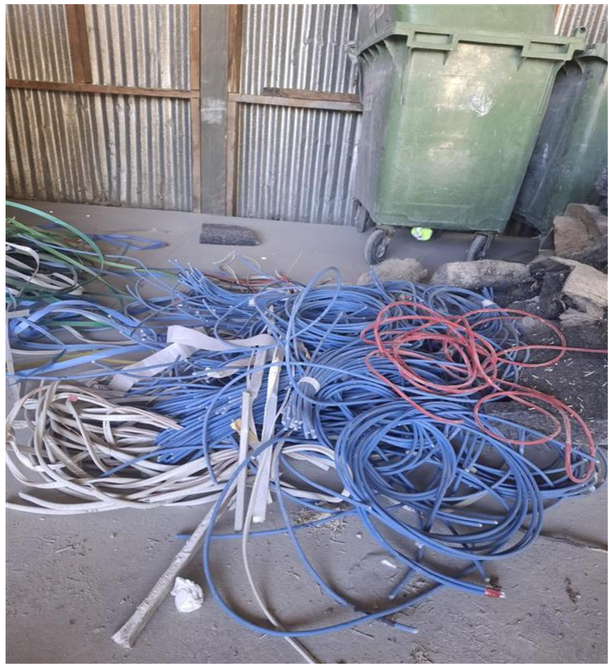
Silicon / sealant tubes

Damaged joinery

Dust masks / PPE

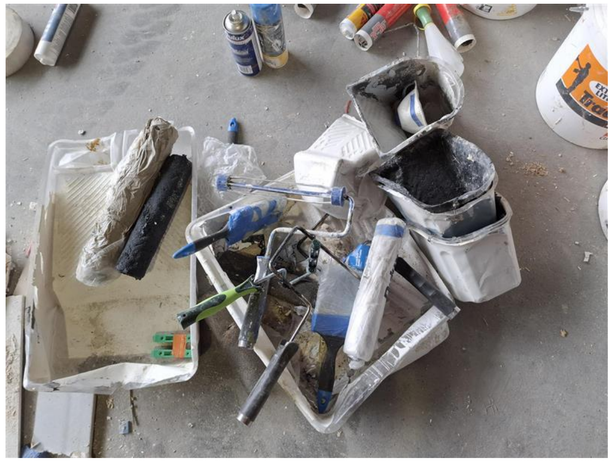


Data cable

Concrete dust

Electrical cable

Energy cans / bottles



Paint equipment

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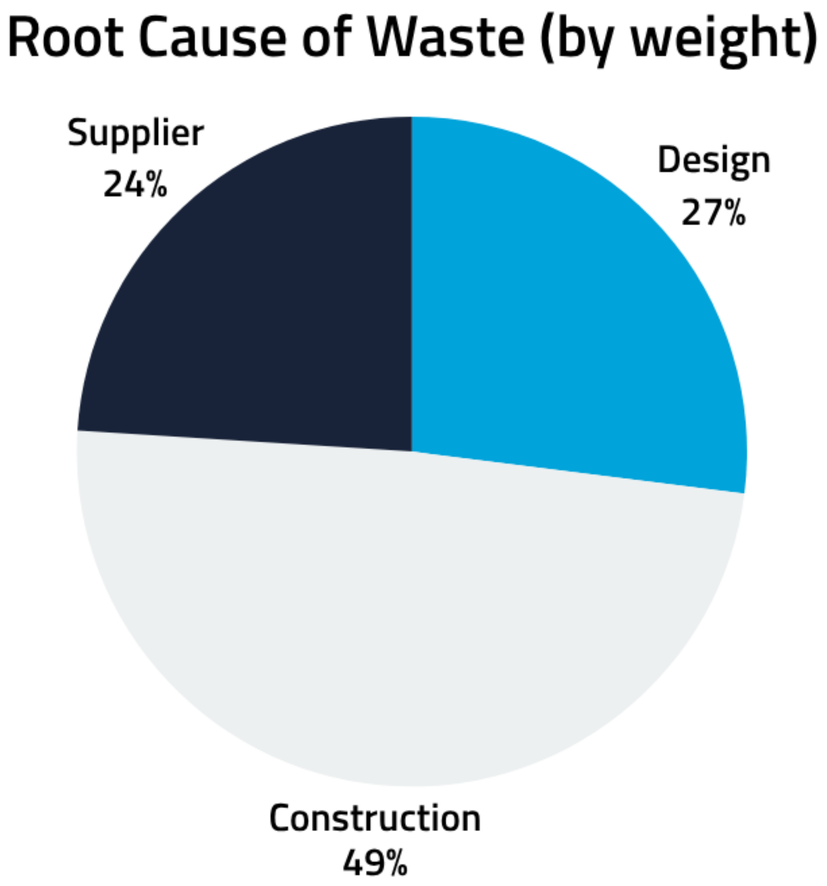
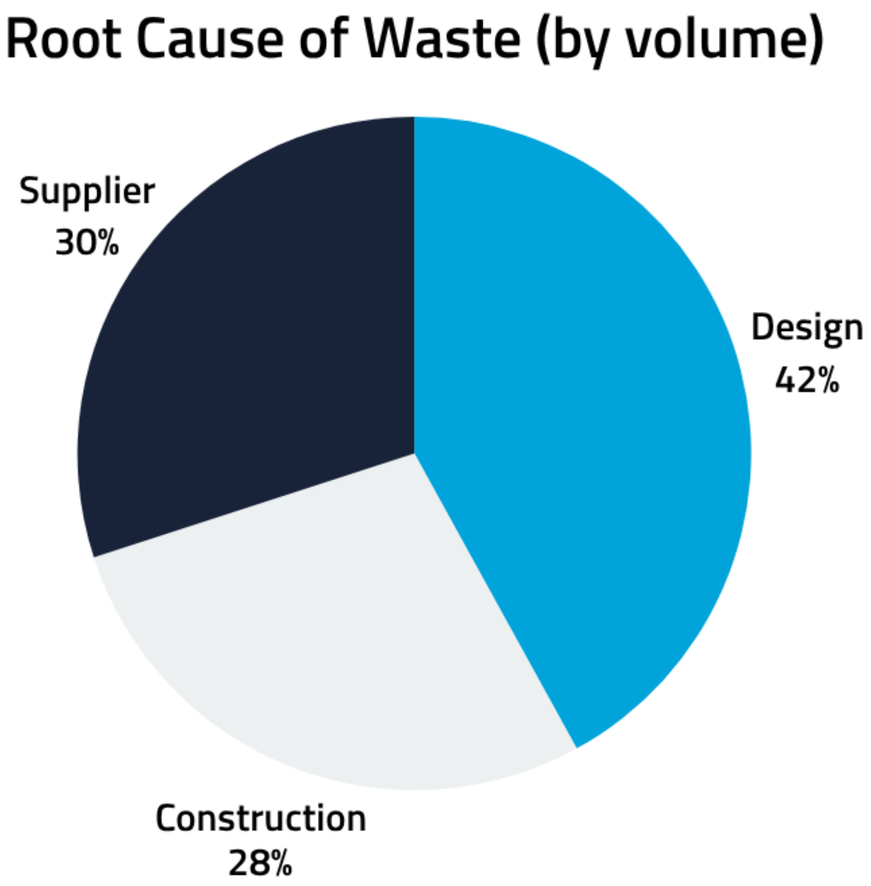
What are we sending to the landfill?

10 largest waste streams by WEIGHT	
Treated timber	19,785 kg
Sweepings (<100mm)	3,796 kg
Plasterboard (non recyclable)	1,607.4 kg
PIR Panels	1,352 kg
Ceramic tiles	1,020 kg
Sports Floor / Rubber matting	920 kg
Fly tipping*	859 kg
Cardboard	791 kg
Butalyn membrane	760 kg
Plasterboard (recyclable)	640 kg

10 largest waste streams by VOLUME	
Treated timber	71.1 m3
PIR Panels	37.6 m3
Sweepings (<100mm)	33.8 m3
Cardboard	21.2 m3
Soft Plastics	17.7 m3
Plasterboard (non recyclable)	10.9 m3
Polyfoam / polystyrene wrap	8.7 m3
Fly tipping*	8.6 m3
Lunchroom general waste	8.6 m3
Sports flooring / rubber matting	8.3 m3

What is causing the waste?





Insights

1

Design decisions lock in waste early

2

On-site discipline determines diversion outcomes

3

Waste carries significant financial costs

4

Waste is a carbon liability

5

When project pressures hit, waste outcomes get worse

6

Regional waste infrastructure limits what sites can achieve

7

Waste is a lag indicator of overall project performance

8

Circular systems work – when we plan for them.

Reverse logistics need to be unlocked for these systems to be effective

9

High disposal costs can drive the wrong behaviours

10

The unconscious burden of packaging

Design decisions lock in waste early

- Material selection, details, buildability, and module sizing influence downstream waste generation.
- Small design details create lasting and significant waste.
- Designing out waste at the outset enables us to move up the waste hierachy to avoid as the first priority, rather than relying on the consumer to find a suitable disposal / diversion option.

The unconscious burden of packaging

- Every product installed within a build, comes with some form of packaging
- The default to manage packaging is recycling, but we need to challenge the system move up the waste hierachy and
- Cut packaging at the source – bulk options, takeback schemes, single type material, packaging size...
- Unlocking reverse logistics is needed to enable this shift

Waste carries significant financial costs

We don’t just pay to dispose of waste....we pay to buy it first

Opportunities

Design

Adopt Integrated Design Processes to allow for circular economy & waste avoidance into design briefs.

Contractor

- Non-negotiable on-site leadership & accountability for all personnel on site from concept to completion.
- Embedded in the expectations of operational delivery alongside cost, programme and quality.

Supplier

- Expand take back schemes / Product Stewardship Programmes.
- Cut packaging at the source or design packaging for circularity.

Industry & Policy

- Adopt standardised measurement industry benchmarks.
- Advocate for investment in diversion infrastructure.
- Reduce reliance on hard-to-recover materials.

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If you would like a copy of the full report – reach out

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