Maximising Resource Recovery in Auckland's Post-Disaster Housing Relocation

- Claude Dewerse & Michael LeRoy-Dyson (June2025)

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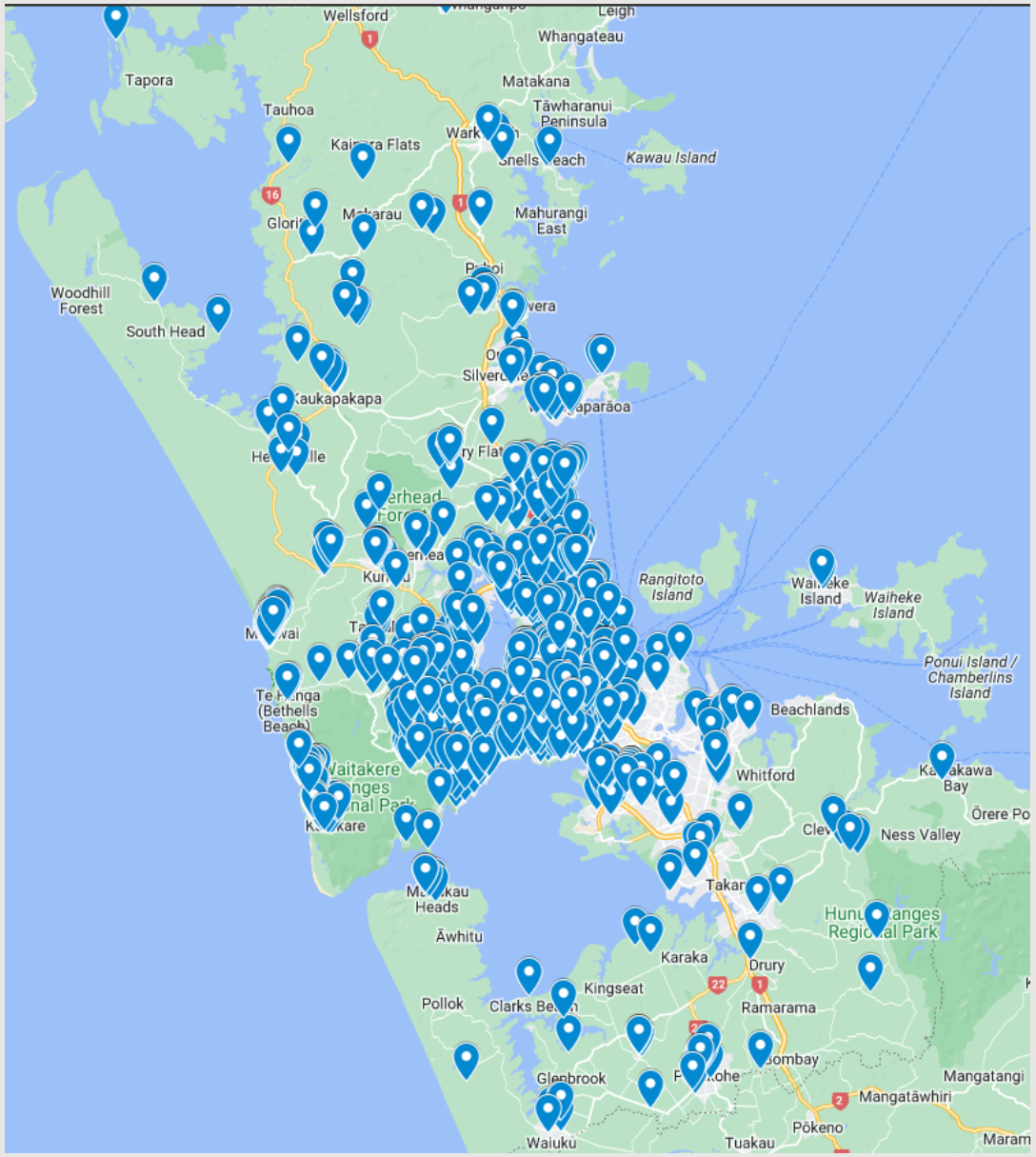
Introduction

- The Storms of 2023 and their impact on Auckland
- Project - properties to clear – by moving or deconstructing
- Focus & Innovations

Category 3 properties are region wide



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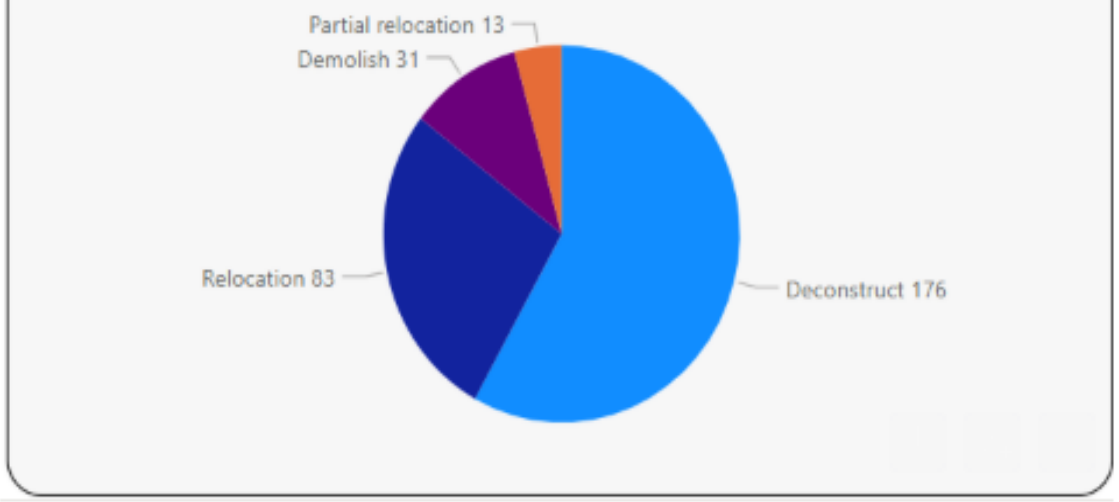
Background numbers

- ~3600 properties assessed for flood impact
- 1194 confirmed as ‘Category 3’ - assessed as ‘having an intolerable risk to life’
- Council/Government to purchase these Cat 3 properties - 50/50 cost share
- All structures to be removed
- To date 763 of these have been purchased and are ready to be processed
  - 30% Relocations,
  - 10% Demolition,
  - 60% Deconstruction

Status	Property Count
Keys Received	688
Houses Under Contract	283
Houses In Progress	41
Houses Removed	223



All sorts of houses…

In all conditions…

And some...

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Project objectives

- Clear all Cat. 3 properties by Dec 27
- Optimise recovery of resources
- Promote socially beneficial outcomes
- Meet financial requirements
- Manage environmental and H&S risks
- Change demo sector practice - innovate!

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Increase pressure for relocations

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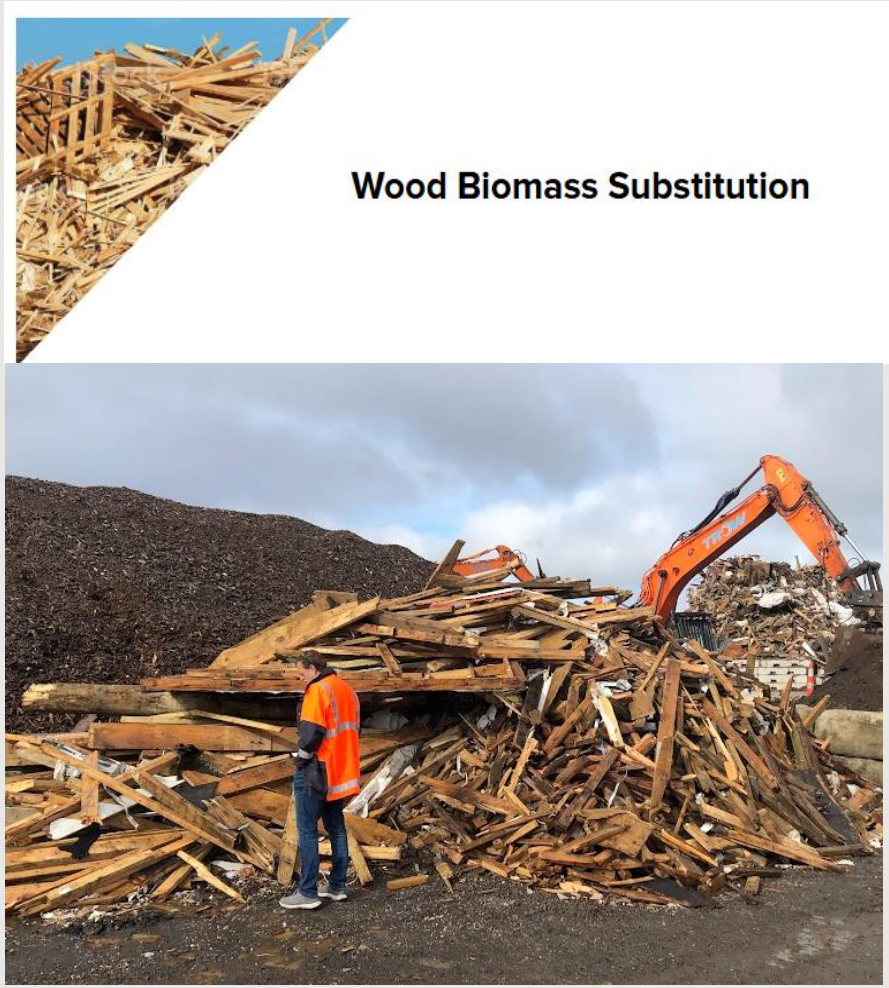
Decrease downcycling of construction timber



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Focus on relocation

Change perception of what can be moved

Focus on relocation

Repurpose top stories

Focus on relocation

Move to a safer location

Focus on relocation

Difficult moves

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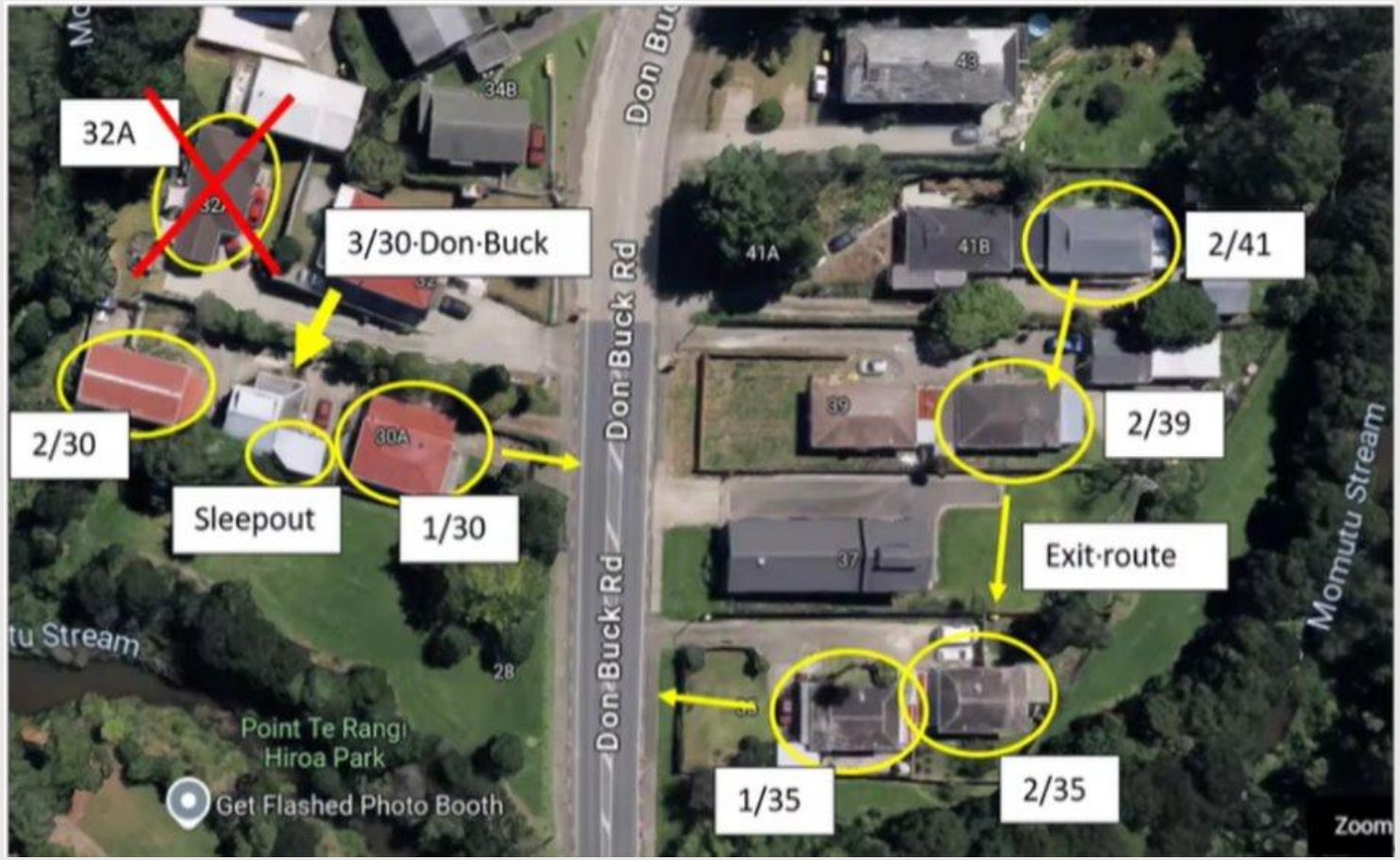
Focus on relocation

Poor condition

Focus on relocation

Programme management



Increase resource recovery for reuse

Every dollar spent preparing materials for reuse or recycling returns between $1.20 and 3.20 in social benefit

- CRCs & other Social Enterprises
- Commercial Businesses – timber & joinery recyclers, carpets
- In and outside of Auckland
- Overseas (Waiheke, Gt Barrier, Tonga)
- Maraes, BCITO projects etc

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Increase resource recovery for reuse

Working closely with Council supported CRCs.

- CRCs are building capacity to store and process more material
- CRCs are offering back to the community at good rates
- Seeing examples of upcycling

Create options for other valuable items

- Kitchen Appliances
- Septic and Water Tanks
- Heat Pumps
- Bathrooms & Kitchens (Cabinetry)
- Insulation

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Influence industry practice

Resource Recovery Schedule

- Determine ‘outcome’ for the overall property (Relocation / Deconstruction / Demolition)
- Detail material to be recovered including destinations, staff, methodology, risks, etc
- Basis for pricing job
- Onsite “live” document - updated as job progresses
- Completed RRS to be submitted at end of each job for reporting

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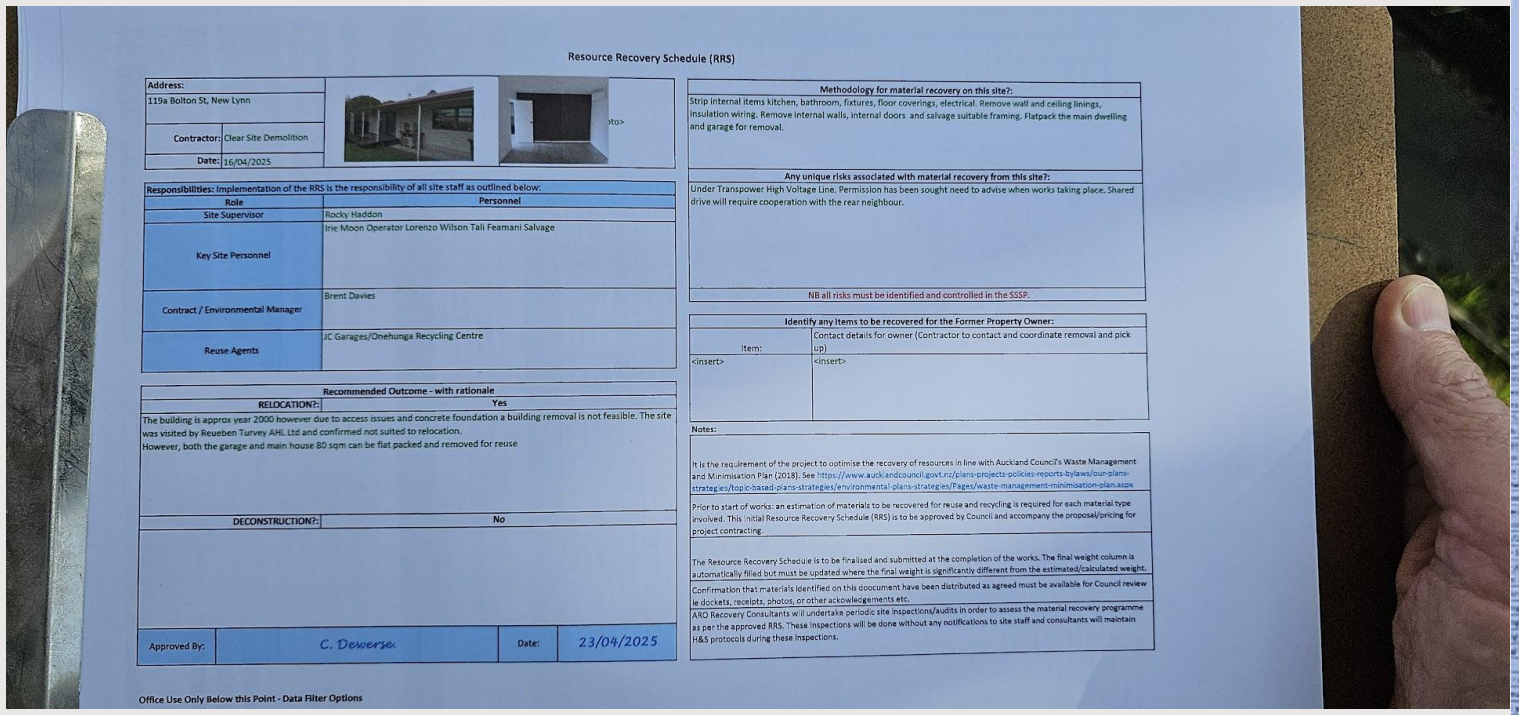
Recovery schedule



Resource Recovery Schedule (RRS)

Address:	119a Bolton St, New Lynn
Contractor:	Clear Site Demolition
Date:	16/04/2025

Responsibilities: Implementation of the RRS is the responsibility of all site staff as outlined below:

Role	Personnel
Site Supervisor	Rocky Haddon
Key Site Personnel	Irie Moon Operator Lorenzo Wilson Tali Feamani Salvage
Contract / Environmental Manager	Brent Davies
Reuse Agents	JC Garages/Onehunga Recycling Centre

Recommended Outcome - with rationale

RELOCATION?:	Yes

The building is approx year 2000 however due to access issues and concrete foundation a building removal is not feasible. The site was visited by Reueben Turvey AHL Ltd and confirmed not suited to relocation.
However, both the garage and main house 80 sqm can be flat packed and removed for reuse

DECONSTRUCTION?:	No

Approved By:	C. Dewerse.	Date:	23/04/2025

Office Use Only Below this Point - Data Filter Options

Methodology for material recovery on this site?:

Strip internal items kitchen, bathroom, fixtures, floor coverings, electrical. Remove wall and ceiling linings, insulation wiring. Remove internal walls, internal doors and salvage suitable framing. Flatpack the main dwelling and garage for removal.

Any unique risks associated with material recovery from this site?:

Under Transpower High Voltage Line. Permission has been sought need to advise when works taking place. Shared drive will require cooperation with the rear neighbour.

NB all risks must be identified and controlled in the SSSP.

Identify any items to be recovered for the Former Property Owner:

Item:	Contact details for owner (Contractor to contact and coordinate removal and pick up)
<insert>	<insert>

Notes:

It is the requirement of the project to optimise the recovery of resources in line with Auckland Council's Waste Management and Minimisation Plan (2018). See https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/topic-based-plans-strategies/environmental-plans-strategies/Pages/waste-management-minimisation-plan.aspx

Prior to start of works: an estimation of materials to be recovered for reuse and recycling is required for each material type involved. This Initial Resource Recovery Schedule (RRS) is to be approved by Council and accompany the proposal/pricing for project contracting.

The Resource Recovery Schedule is to be finalised and submitted at the completion of the works. The final weight column is automatically filled but must be updated where the final weight is significantly different from the estimated/calculated weight.

Confirmation that material's identified on this document have been distributed as agreed must be available for Council review ie dockets, receipts, photos, or other ackowledgements etc.

ARO Recovery Consultants will undertake periodic site inspections/audits in order to assess the material recovery programme as per the approved RRS. These inspections will be done without any notifications to site staff and consultants will maintain H&S protocols during these inspections.

Material summary

Address:	House Floor Area (Est. m2)	154
142 Pooks Road, Ranui	Has Asbestos be identified on site	No
	Style:	Architectural
	Site Slope:	Flat
	Roof type:	Corro
Contractor:	Access - Trees, Wires, Houses etc:	Tight
JFC	Cladding type:	Weatherboard
Date:	Number of levels:	2
28/02/2025	Quality / Damage:	Original Average
RRS Status:	Age:	80-90s
Approved	Foundation type:	Piles and timber

Total material under contract (t)	163.1
Total hardfill material left on site (t)	72.5
Total construction material recovered for Reuse and Relocation - excludes recycling & hardfill (t)	8.9
(%)	58.6%
Total C&D material recovered for Relocation, Reuse & Recycling - excludes hardfill (t)	11.4
(%)	**75.2%**
Total material diverted from landfill - including hardfill (t)	159.4
(%)	**97.7%**

Materials Summary	%	Estimated (t)	Final (t)
Relocation	0.0%	0.0	0.0
Reuse	58.6%	8.9	8.9
Recycling (hardfilll excluded)	16.5%	2.5	2.5
Landfill	24.8%	3.8	3.8
Contaminated Waste (t)	0.0%	0	0
TOTALS	100.0%	15.1	15.1

Benefactor of Reused Material	(%)	Estimated (t)	Final (t)
Council's Community Recycling Centre	74.8%	6.6	6.6
Other Social Enterprise	23.3%	2.1	2.1
Other Commercial Reuse	1.0%	0.1	0.1
Net difference between Estimated and Final tonnes to Reuse			100%

Hardfill Left in Place (t)	49%	72.5
Hardfill Recycled (t)	51%	75.5
Total Hardfill (t)	100%	148.0
Total to Landfill (t)	0.0	3.8

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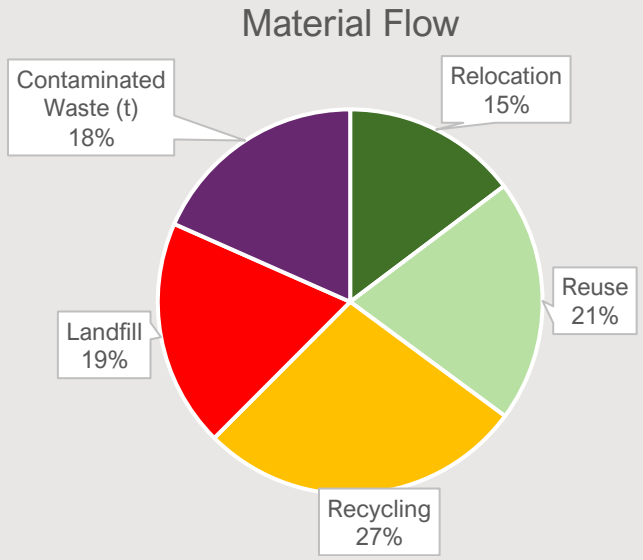
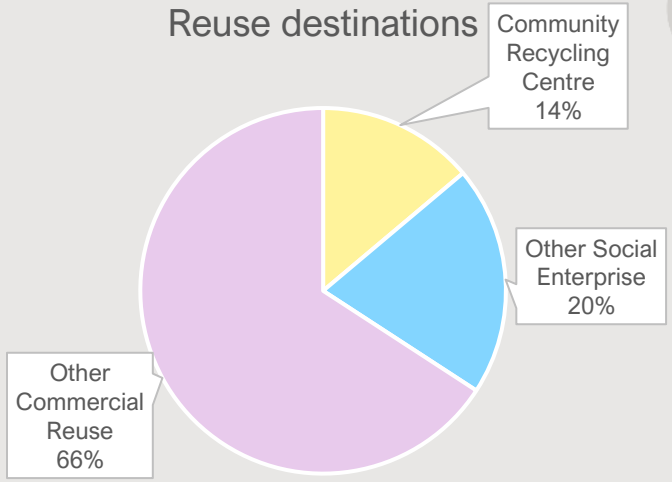
1st 40 Houses...

Total material under contract	4,180t
Total C&D material recovered for Reuse or Relocation (excludes recycling & hardfill)	535.0t (43%)
Total C&D material recovered for Relocation, Reuse & Recycling (excludes hardfill)	951t (77%)
Total hardfill material left on site	429t
Total material diverted from landfill - including hardfill	3,608t (96%)





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Thanks

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