



Closing the loop: Using building rubble in construction

Woolworths Distribution Centre
Montague Gardens, Cape Town

**By re-using 4 500m³ of old concrete,
Woolworths saved R649 000 on
construction materials and
transport-to-landfill fees.**

CaseStudy

Challenge

The 15 ha site of the new Woolworths Distribution Centre in Montague Gardens originally contained buildings which had to be removed. A quick demolition would have generated more than 16 000 m³ of mixed waste, which would have cost R12.3 million to landfill, with transport costs exceeding R64 000.

Solution

The project developers ensured that the buildings were carefully deconstructed to preserve the highest material value of the rubble. All concrete, mortar and brick were processed and reused, with 90% of the demolition waste being reused. Consequently, the participating projects saved money on raw materials and landfill airspace and they avoided greenhouse gas emissions associated with the extraction, processing and transport of virgin construction materials (higher than emissions associated with the processing of demolition waste). Only PVC piping, roof insulation and sheeting were landfilled.

Secondary materials recovered for reuse

Material	Volume	How the material was used
Concrete – fences, casting beds, pipes	4 500 m ³	All re-used onsite
Brickwork	3 500 m ³	Construction of local school
Asphalt	2 600 m ³	Returned to Much Asphalt for re-use
Laterite from excavations	6 800 m ³	To Killarney Race Track
Windows and doors		Kuils River Building Supplies

Business benefits

Through the application of demolition waste the project reused 4 500m³ of concrete, which resulted in the following financial savings:

- R585 000 saved in material costs (excluding transport)
- R64 000 saved in fuel costs for transport of 'waste' to landfill

For more information or advice on how your company can reuse builders' rubble...

1. Visit our website for other case studies and support:
<https://www.greencape.co.za/content/focusarea/construction-and-demolition-waste>
or contact Dr Kirsten Barnes (Kirsten@greencape.co.za)
2. Become a GreenCape member and receive industry updates, news and events info:
<https://www.greencape.co.za/become-a-member/>



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD



Western Cape
Government

BETTER TOGETHER



INVEST CAPE TOWN
GROWTH - TRUST - POWER

Authored by Kirsten Barnes (kirsten@greencape.co.za; 021 811 0250),

Key players: Graham Lidbetter (Iselula Crushing) and Francois Retief (Sow & Reap Consulting).

Client: Woolworths, Sustainability Consultants: Sow and Reap, Structural Engineers: Aurecon Civils, Main Contractor: Steffanutti Stocks, Demolition Contractor: Greymo Construction, Crushing Contractor: Iselula Crushing