



A BRE audit found that more than 95% of demolition materials from a 1960s housing estate could be profitably diverted from landfill, with further earnings to be made from other reclaimed materials.

‘The audit not only detailed the extensive potential for economically diverting demolition materials from landfill, but also provided valuable advice on gaining the most benefit from reclaiming and reusing building products. This environmental approach follows Willmott Dixon Innovation and Sustainability policy,’ says Steve Wallace, Production Manager from Willmott Dixon.

The project

Willmott Dixon Housing commissioned BRE to carry out a pre-demolition audit of the Stoneyhall housing estate in Stevanage. The aim was to establish the potential for reusing, reclaiming or recycling materials and components, prior to the estate’s demolition and phased reconstruction.

The estate primarily consisted of four buildings of concrete crosswall construction faced in brick, containing 43 housing units, and 30 brick garages in four brick blocks. Most of the units were flats, each having a balcony with metal railings, metal framed windows and timber internal doors.

The audit

BRE conducted the audit using architectural drawings and data gathered in a site survey, during which non-invasive inspections were made and photographs taken. The audit:

Identified the types and determined the volumes



Part of the Stoneyhall housing estate in Stevanage.

and weights of materials arising from demolishing the main structures, and of the remaining internal components.

Estimated the values of these materials on the recycling market.

Identified items suitable for reclamation and advised on maximising their potential for reuse.

Findings

The materials

The volumes of materials arising from each of the buildings on site were determined. This helped the project team to efficiently plan the vehicles and containers needed to

process and transport the materials during the phased demolition of the estate.

The audit identified 11 key demolition product groups and detailed the extensive potential for diverting demolition waste from landfill, with more than 95% by volume available from quick wins (concrete, brickwork and metal recycling) making sound economic sense.

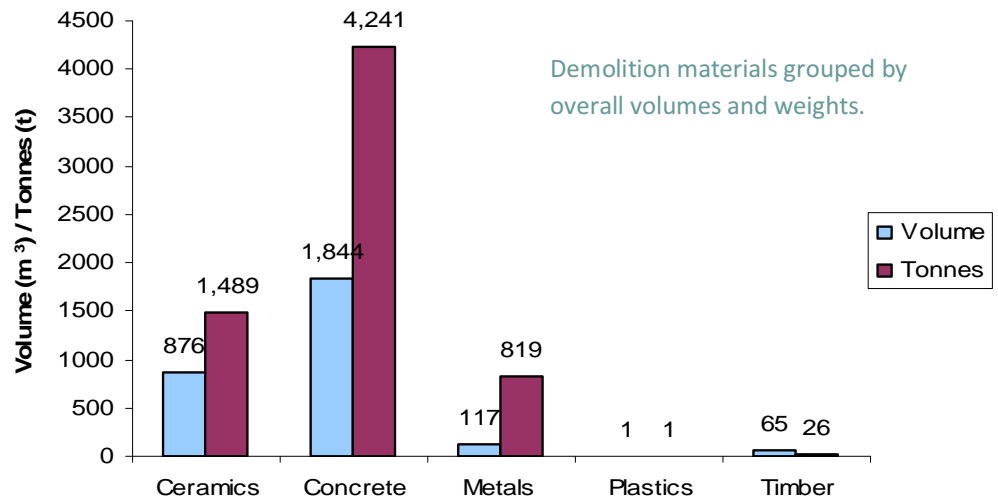
Valuation

The material volumes were then converted into tonnes so that the value of materials on the recycling market could be



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estimated. Knowing the worth of materials helped the project team to prepare the tender documentation for the demolition works, and set material recovery targets.

The audit identified, for example, that recovering the ferrous and non-ferrous metals from the buildings and structures would gain the project approximately £30,000.

Aluminium is the most cost-effective metal to recycle. Recycled aluminium saves 95% of the energy costs and CO₂ emissions associated with virgin production. Recycling one tonne of aluminium saves ten tonnes of raw materials and 14,000 kWh of energy.

One tonne of recycled steel saves two tonnes of raw materials and 70% of

the energy required to produce virgin material.

Reclamation

As the Stoneyhall housing estate was built in the 1960s, the items identified as suitable for reclamation were not considered to be of high value in the way, for example, that architectural salvage items often are. Nevertheless, it is always worth maximising opportunities to reuse building products.

The items identified as suitable for reuse at Stoneyhall included, hardwood entrance doors, timber internal doors, decorative wrought ironwork, entry, lighting and fire-alarm systems, emergency light fittings and electricity meters.

The best chances of finding uses for such items, and those with the

greatest environmental and financial benefits, will generally occur near to the site – they could perhaps be used as part of the redevelopment itself or elsewhere by the same client, or sold or given away locally.

There are a number of strategies that can help maximise reuse potential, such as setting aside storage on site for segregating and salvaging items. It is helpful to advertise specific salvage items (for free) on www.salvo.co.uk, or low value materials on www.salvomie.co.uk

It is also worth contacting local architectural salvage merchants about specific items – Salvo publishes a directory of these on their website – and checking out the local options listed on BREMAP, www.bremap.co.uk



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