Case study 2: Gibraltar Barracks, Minley, Surrey, Caledonian Modular (CM)

Benefits

Sustainability: 82 per cent reduction in vehicle movements to site

Sustainability: elimination of waste to landfill

Time: reduced construction time on site

Cost: increased certainty of project cost

Health and safety: 75–80 per cent reduction in the number of workers required on site

Client: Royal School of Military Engineering

The project

CM has won a £42m contract with Holdfast, to construct eight new accommodation blocks for the Royal School of Military Engineering (RSME) on three different training sites by 2013.

The modular approach allows a considerably shorter project time-frame, a high quality of construction, greater certainty of project costs and significantly reduces the number of deliveries entering the construction site.

This case study focuses on the delivery of modules to the RSME Minley, located at Gibraltar Barracks in Surrey, and describes how the supply chain has helped improve waste minimisation and management.

CM construct approximately 73 per cent of the project's value at their Newark facility, resulting in minimal disruption on site. Materials on site are reduced which has an effect on reducing waste. Labour is reduced to 20–25 per cent of that required for traditional build. Additionally, as the construction happens under a roof, materials delivered to site are stored within the facility away from the elements, minimising waste through unnecessary damage. The reduction of waste, delivery vehicles, handling and on site trade all have a significant health and safety benefit.

Waste minimisation and management

Waste from construction is one of the principal waste streams to landfill sites. Manufacture in a factory allows far better management of the waste stream, as materials can be used more efficiently, exact amounts of materials can be ordered and materials can be carefully stored.

CM has a corporate responsibility to apply many initiatives within its operations to reduce the impact of its activities on the environment. Although the primary driver for CM's move towards more sustainable operations is an ethical one, the company also realise tangible cost benefits and savings.

CM currently reduces, reuses and recycles 100 per cent of its waste, and has proactively taken steps to minimise waste through its supply chain before it reaches its facility.

Initiatives being implemented include the segregation of materials into waste management containers (currently CM segregate wood, plastic, cardboard, metal, plasterboard and residual waste) and the use of balers for plastic and cardboard packaging to minimise the use of space and ensure that only full skips are being sent off site.

Full utilisation of the skips provides a cost saving in itself, but the use of balers means that all cardboard and plastic become valuable resources that can be sold back to the waste contractor. CM report that this covers the cost of removing the waste from site.

Identified ways to minimise packaging:

To reduce over-packaging, CM has worked with suppliers to reduce and eliminate packaging. In addition, after completed modules have been delivered, the packaging is returned to the factory for use on future projects after delivery to the site.

Call-off deals with major suppliers:

CM has instigated deals with major suppliers for shorter lead times – within four weeks of starting a project, which reduces the time material is stored on site.

Cut-to-size components and design modification:

Materials such as flooring and plasterboard are supplied in sizes specifically requested by CM to align with the module design, therefore reducing the amount of off cuts.

CM maintain good relationships with their suppliers by hosting regular meetings with the supply chain to identify new initiatives that could assist in reducing the amount of waste and deliveries to site.

Contact

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