

## Overview - 1 Liverpool Street, London

Part of the process for the demolition of the Liverpool Street building, involved the erection of a hoarding around the perimeter to protect the public from the site works.

John F Hunt utilised the existing concrete Kentledge blocks inherited from Crossrail's Elizabeth Line hoarding and re-used them at the Liverpool Street site. This avoided the need to fabricate new blocks and provided an opportunity for carbon saving, contributing to the ICE zero carbon emissions goal.

### Quantifying the Carbon Saving

To be able to quantify the amount of carbon saved from reusing the blocks, three different scenarios are used for comparison purposes:

**Scenario 1: New Concrete Blocks, Timber Frame and Plywood Sheeting** - complete fabrication with raw materials obtained directly from the suppliers and delivered to site. Concrete mix - 100% Portland cement.

**Scenario 2: Concrete Blocks with 70% GGBS, Reused Timber Frame and Plywood Sheeting** - blocks made on site using Ground Granulated Blast-furnace Slag (GGBS), a by-product from iron ore blast furnaces, replacing 70% of cement needed to make the blocks. Frame and sheeting re-purposed from an unsafe site hoarding.



**Scenario 3: Earth Friendly Concrete, Reused Timber Frame and Plywood Sheeting** - Green method - alternative components and chemicals to replace the Portland cement option, with an Earth Friendly Concrete. EFC uses a geopolymer binder system made from by-products of blast furnace slag and fly ash - a reduction of up to 63% of embodied energy compared with standard concrete mixes.

Using these methods on projects going forward, John F Hunt is on target for lowering its Carbon Emissions to the current required levels by 2030.



### Estimated Carbon Saving by Equivalent

By reusing the concrete blocks, the Liverpool Street project produced a significant sustainable benefit.

40 tonnes of concrete saved  
1.1 tonnes of wood saved  
equalling 11,000 kgCO<sub>2</sub>e

The equivalent of:



12 one way flights from London to New York



6 people's meat, dairy & beer consumption in 1 year



3 average family cars running for a year

- No virgin materials are required
- No carbon is emitted from any transportation
- No heavy lifting plant required, just use of a pallet truck
- No waste products generated
- No allocated site area for fabrication

