

# Broadgate Circular Economy – Steel Reuse



2023

## 100 Liverpool Street



Completed 2020

67,649 m<sup>2</sup> GIA

BREEAM 2014 Outstanding, WELL v1 Gold  
British Land's First Net Zero Building

From the outset significant measures were taken to ensure that as much of the existing building was retained and reused. This resulted in:

- Retained sub and superstructure elements accounting for nearly half (**47%**) of the mass of the building.
- A total saving of **7,515tCO<sub>2</sub>e**, equivalent to powering 2,600 typical UK households for 1 year.
- Retained steelwork accounting for a nearly third (**32%**) of the building's steel frame, saving **3,435 tonnes** of carbon.
- Where new steel was needed, the project sought to maximise steelwork manufactured via Electric Arc Furnace.

## 1 Broadgate



Practical completion 2025

78,605 m<sup>2</sup> GIA

BREEAM 2018 Outstanding, WELL v2 Pilot  
Platinum, Nabers 5.5\*

As part of our commitment to using resources more efficiently and reducing carbon emissions, the project team have collaborated on maximising the value of the materials coming out of the existing building.

A pre-demolition audit and circular economy workshops during tendering helped to pinpoint the key materials and identify the potential recycling or reuse strategy for each, this included **140t** of structural steelwork removed, tested and repurposed in another development, equivalent to the weight of a 787 Dreamliner.

This was built upon when developing the Circular Economy strategy for 2 Finsbury Avenue.

## 2 Finsbury Avenue



Practical completion 2027

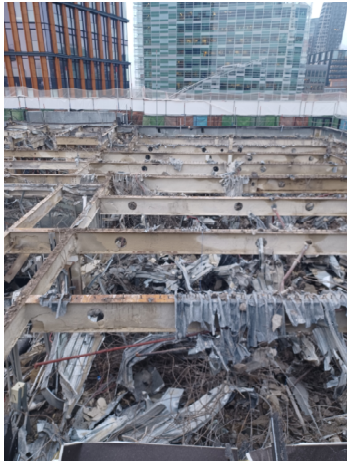
105,733 m<sup>2</sup> GIA

BREEAM 2018 Outstanding, WELL v2  
Platinum, Nabers 5.5\*

Building on the successes of 1 Broadgate, the 2FA project team set improved targets and identified further ambition for circular economy development.

- Ramboll have successfully developed a demountable composite beam for 2 Finsbury Avenue with the support of William Hare, SRM, SCI and Cambridge University.
- Identification of **25t** of structural steel to be incorporated in to the new building.
- Early stage engagement has led to a wider circular economy strategy.
- Ongoing development of Materials passport which once produced will provide a clear line of site for future steel and material use.

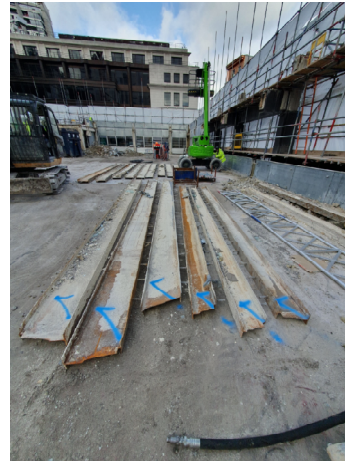
## 2 Finsbury Avenue



Strip Back of Existing Steel



Cut and Remove Steel



Inspection and Selection



Removal from Site



Delivery for Process & Storage

As part of the wider procurement and carbon strategy for 2 Finsbury Avenue work has been undertaken to promote and include circular steel and economy within the tenders:

- The tender specifications require the specification of steel which are produced in the modern EAF (Electric Arc Furnace) route, using 100% scrap as a raw material (upcycling). EAF steel production technology allows for significant reductions of noise, particle, and CO2-emissions and saves water and primary energy in the production process.
- Through our tender stage, steel tenderers are proposing to use up to an additional 500T of re-used steel from the market in the structure (this is subject to the final chosen Contractor)
- 240m<sup>2</sup> of aluminium panels have been recovered from the demo and stored by Alloy Fabweld to be developed by the Design Team into feature walls, bike lockers, wayfinding signage etc.

To learn more about Broadgate  
Circular Economy

