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Specification Today

Hackney Hybrid

Waugh Thistleton has designed a lightweight structural system for a site with restricted pile depth

Photos
Tim Crocker

A hybrid timber and steel structure features at 6 Orsman Road, a £10m flexible workspace project beside the Regent's Canal in Hackney, east London, designed by Waugh Thistleton for Boultbee Brooks Real Estate.

A lightweight structural system was necessary to ensure that the development potential of the plot was maximised, since it falls within the Crossrail 2 safeguarding zone where both loading and pile depth are restricted.

Due to the advantages of using two prefabricated materials, the 4500 square metree building is being delivered using a site-specific solution, ensuring fast and precise assembly on the tight urban site.

The building's core and floor slabs are made of pre-cut CLT panels, while the internal superstructure is formed from steel I-section columns and cellular beams. The hybrid solution allows wide spans while the resulting large open-plan spaces will permit internal walls to be reconfigured to create different floor plans as required.

Timber soffits are left exposed, with the mechanical and electrical services routed through the supporting castellated beams. This suggests an industrial aesthetic while reducing the requirement for expensive finishes.

The detailed design was developed in collaboration with specialist CLT contractor B&K Structures. Most of the connections are exposed, so exacting coordination was essential to ensure a good visual appearance. More complex junctions, including the spliced connections between the steel columns, are hidden within the raised access floor, providing a streamlined, uncluttered backdrop to future work spaces.

The building steps back progressively over six storeys, preserving views down Orsman Road and creating large terraces which overlook the canal to the north and the city to the south. Deep-set ribbon windows on the south facade will minimise solar gain while the white panelised facade will lend a modern appearance. The project is due to complete in October.

Key

1 Composite window

2 Fibre-C rainscreen cladding system, 180mm mineral wool insulation, vapour control layer, 5-ply cross-laminated timber panel, cavity, two layers of plasterboard

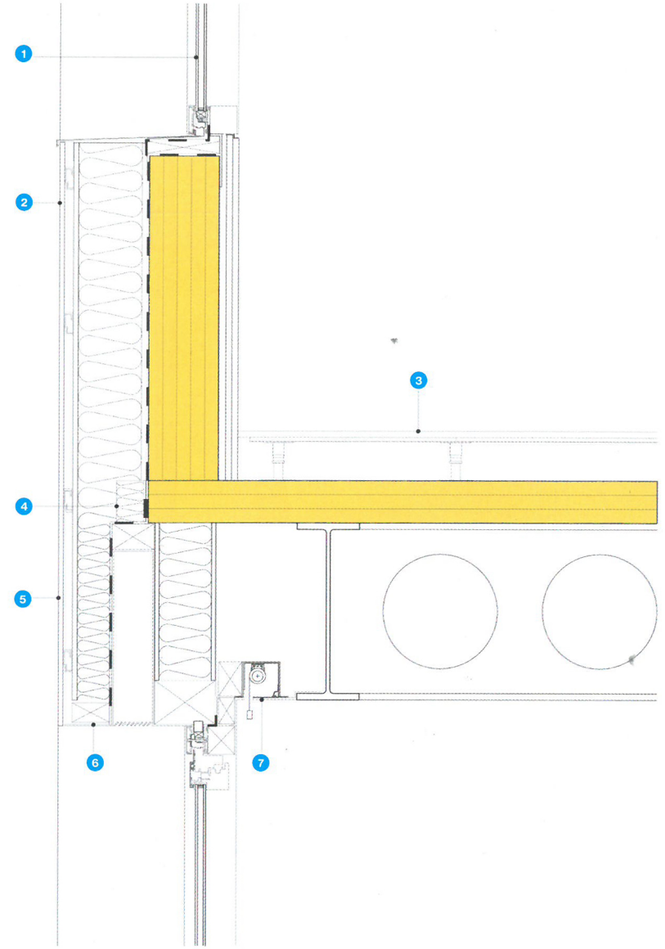
3 Raised-access floor system, 120mm 3-ply CLT slab, steel cellular beam

4 Cavity barrier

5 Fibre cement rainscreen cladding system, 100mm mineral wool insulation, plenum ventialtion box, 150mm steel frame system infilled with mineral wool

6 Black anodised aluminium plate

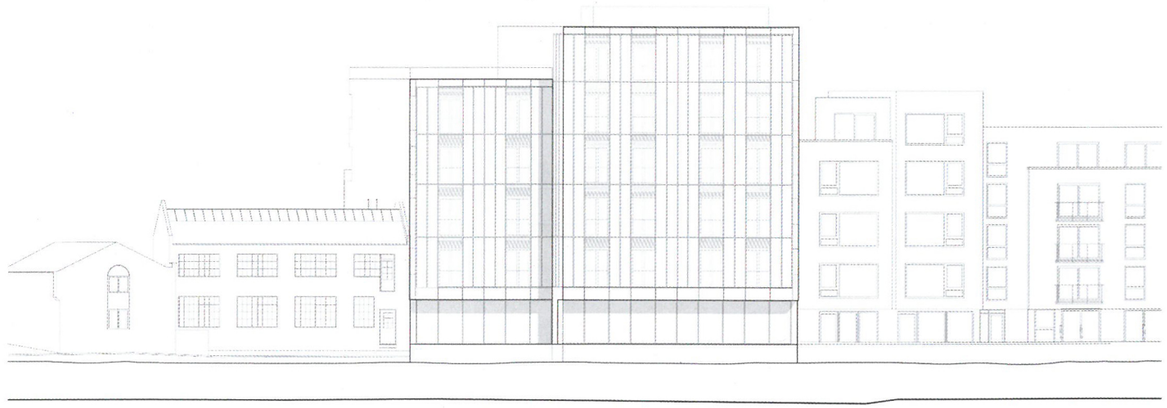
7 White anodised aluminium plate, concealed blinds

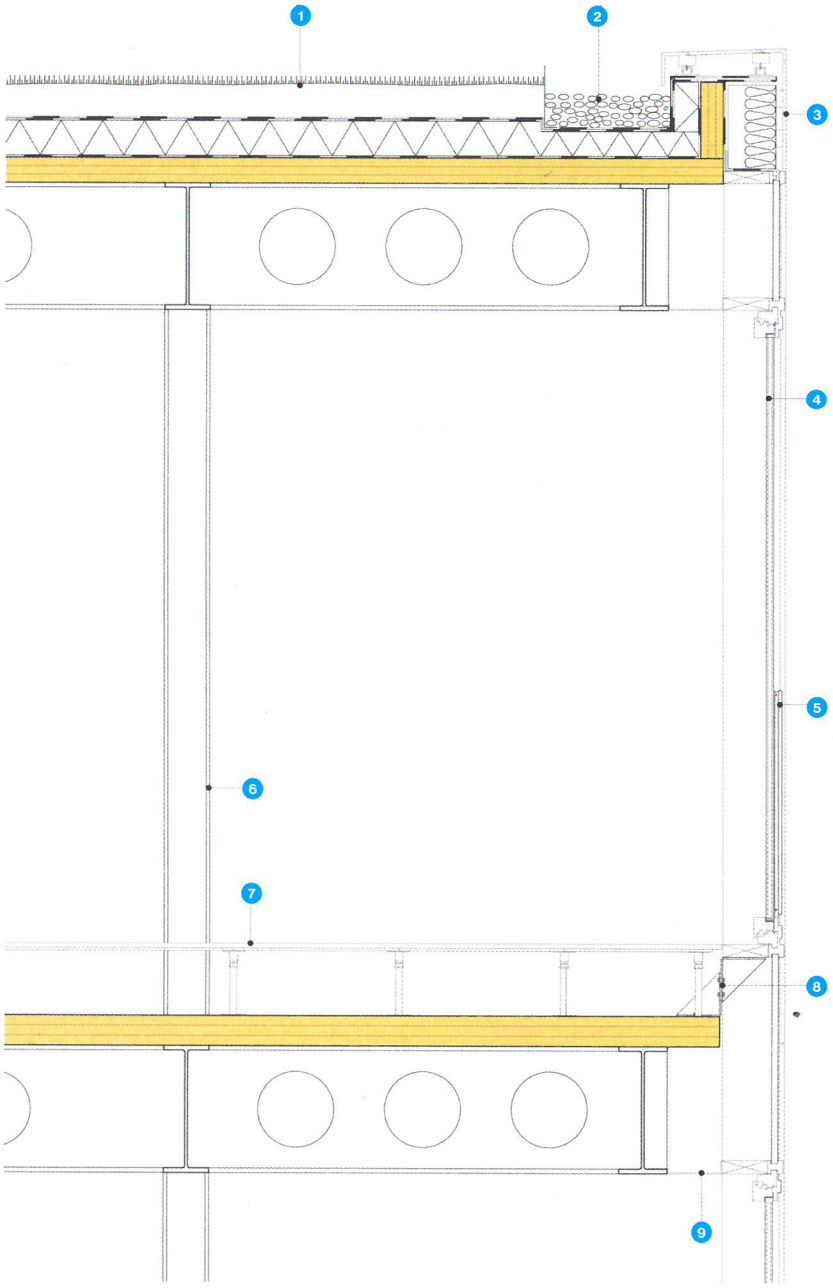


Above
South facade, typical window detail.

Left
More complex junctions are concealed within the raised access floor.

Below
Canalside elevation.





Project team

Architect
Waugh Thistleton Architects
Structure
Engenuiti, GDC
Services
Mendick Waring
CLT
B&K Structures
Construction manager
RFM
Client
Boultbee Brooks Real Estate

Key

1 Vegetation blanket with 14 different species of wild flowers; 100mm intensive biodiverse substrate, 140mm PIR insulation board, vapour control layer, 100mm 3-ply cross-laminated timber slab, steel cellular beam

2 Pebbles

3 Fibre-C rainscreen cladding system

4 Composite curtain wall system

5 Frameless glass balustrade

6 I-steel column

7 Raised access floor system, 120mm 3-ply CLT slab, steel cellular beam

8 Fixing bracket

9 White anodised aluminium plate

Above
North facade, curtain wall detail.

Far left
Junction of castellated steel beams.

Left
Visualisation of Orsman Road facade.