

commended: successful projects spinningfields, manchester



No.1 The Avenue was the 10th building in a line of eleven projects delivered by Capita Symonds' Structures team for Allied London at its Spinningfields development in central Manchester.

Spinningfields is a prime city centre regeneration project with an overall construction value circa £360million and generating £5.4m in fees over a nine year period, reflecting a successful partnering arrangement with a commercial client.

The No.1 The Avenue project involved the design and construction of a landmark development on a confined site in the heart of Manchester, incorporating a 23m 3-storey high cantilever. Close designer and contractor co-operation, in conjunction with a series of award-winning technical innovations and construction solutions, led to a holistic approach to the project and successful delivery on time and within budget of a BREEAM Excellent scheme.

Capita Symonds provided both novated civil and structural design services to the contractor and retained monitoring role to the client, in keeping with the successful Spinningfields delivery model.

The client's brief involved creating a new landmark gateway on the line of a historic processional route between Manchester's Town Hall and Crown Courts. The building massing was driven by planning requirements to maintain views of the adjacent Grade 1 listed John Rylands Library. The resulting form of two parallelograms, oppositely handed and positioned over each, other creates a roof terrace to the west and a 23m 3-storey high cantilever to the east.



The building was to provide a mixed use retail and commercial unit, which would complement neighbouring units within the Spinningfields development.

Key awards won by the project team include:

- IStructE Lancashire & Cheshire Regional Awards – Winner, Medium Project
- ICE Northwest Regional Awards – Highly Commended
- BCSA Awards 2009 – Commendation
- LABC Northwest Region Awards – Winner, Sustainability Award
- Manchester Building Control Awards – Winner, Sustainability Award
- Manchester Building Control Awards – Winner, Built in Quality Award

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- Manchester Building Control Awards – Winner, Technical Innovation Award

The key challenges overcome on the project included:

- Resolution of the 23m cantilever using a three storey high elevational truss.
- Truss replication to all upper block elevations provided both vertical support and lateral stability to the floors, removing the need for structural cores at high level.
- Using an integrated services structure with Fabsec floor beams minimised the depth of floor construction and cladding required.
- In-depth floor plate dynamic assessment was undertaken to ensure end user comfort, incorporating bay-by-bay analysis and harmonisation of step changes in floor response to mitigate the clients concerns.
- Close co-ordination with the architects to ensure the truss geometry corresponded to the cladding arrangement.
- Structural stiffening to ensure compatibility with cladding system was undertake, following in-depth prediction of the differential deflection of cladding modules.
- Close collaboration with all parties for progressive loading analysis of the structure to mirror the construction sequence and provide the contractor with an early warning system to monitor structural movements.
- Deflections on release of all temporary steelwork showed strong correlation with predictions.

NOMINATED BY:

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keys to success

- Capita Symonds project team provided the client with the award winning development they required, achieved by a collaborative, open and enthusiastic working approach with the client, contractor and other consultants at all stages of design and construction.
- The successful project is an excellent example of the strong relationship and understanding - over 11 separate projects on the same development - that the Structures team has built with their client