RoC
CONSULTING

COMPLEX CHALLENGES ... MADE SIMPLE

RoC Consulting is a highly experienced and qualified team of civil, structural, geotechnical & geo-environmental engineers

CASE STUDY

10 - 12 WHITWORTH STREET WEST, MANCHESTER

Key facts

Project
10-12 Whitworth Street West Manchester

Client
Inhabit

Architect
5Plus Architects

Project duration
2006 - Ongoing

Value
£60m

RESIDENTIAL SECTOR

PROJECT OVERVIEW

RoC Consulting was appointed by Mercer Estates in 2014 to undertake a feasibility study to determine the critical height for a new build tower block on this constrained city centre site.

The design team developed optimums for structure; mechanical and electrical services and architectural design, in order that a rationale commercial solution could be developed.

After completing the feasibility study RoC were instructed to develop the design through to **RIBA Stage 4** and we are currently evaluating Contractor's proposals.

The building will be approximately 116m above ground level and will provide 32 levels of residential accommodation. The ground floor provides reception and amenity space. Residential accommodation is provided at second floor, together with a gym and plant space. Further plant room space is provided at Level 19. A communal residential space is provided at Level 35 and BMU is located at roof level to provide access for maintenance.

The building comprises a 36-storey reinforced concrete framed structure with post tensioned floors, located on a narrow site between Whitworth Street West and the Viaduct, carrying the Preston and Liverpool lines to the West and North, which will be upgraded to link to the Ordsall Chord.

CHALLENGES

The proximity to the railway viaduct has necessitated detailed negotiation with Network Rail and investigation of the viaduct foundations.

The rail exclusion zone to the viaduct requires a clearance of 2.75m from the face of the viaduct leaving a construction zone of only 850mm from the face of the viaduct to allow for maintenance and construction of the south facing elevation.

The reinforced concrete structure has been designed using a variety of computer aided design software that uses finite element analysis tools and the building was also modelled and tested in a wind tunnel to develop an understanding of sway and compliance with comfort factors.

The site has now been cleared and we look forward to a construction implementation in 2017.

Commercial Wharf, 6 Commercial Street, Manchester M15 4PZ **T** 0161 214 5390 **W** rocconsulting.com