

## COMPLEX CHALLENGES ... MADE SIMPLE

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

# CASE STUDY



# NO. 1 SPINNINGFIELDS, MANCHESTER

## Key facts

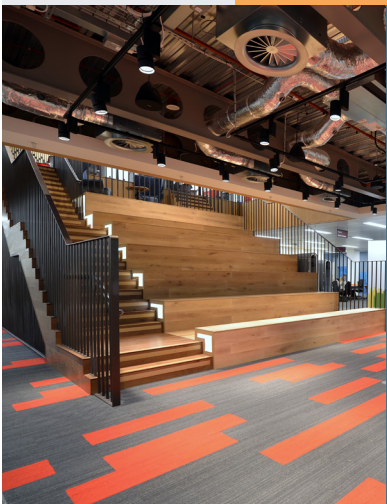
**Project**  
No. 1 Spinningfields,  
Manchester

**Client**  
Allied London

**Architect**  
SimpsonHaugh  
Sheppard Robson

**Project duration**  
2014 - 2018

**Value:**  
£68.5m



## OFFICE SECTOR

### PROJECT OVERVIEW

No. 1 Spinningfields is an iconic new 370,000 sq ft commercial office tower building over 22 floors with two basement storeys. The building is the final in a series of three schemes making up Hardman Square, a key part of the Spinningfields' masterplan.

RoC Earth Sciences undertook a detailed geotechnical investigation to delineate the sandstone/gravel interfaces across a fault line.

The existing single-storey basement from the previous Quay House building was retained during the demolition process to assist with construction and excavation works. The walls from this basement, although not being used for load-bearing purposes, have been retained as part of the new two-storey basement scheme, to reduce the extent of new walls required within the new structure, and to minimise disruption to the busy Quay Street roadway thereby maintaining traffic flow, on this key city centre route.

Furthermore, this section of Quay Street, was subject to temporary lane closure to provide the principal site access, therefore retention maintenance of road was vital to programme and construction methodology.

### CHALLENGES

This iconic building has generated a number of interesting structural challenges, such as the £4.5 million, six-storey cantilever to the east

elevation of the building and the expressed cantilever North Tower elevation.

The design solution was for an integrated services structure above ground floor level to permit flexibility in the efficient distribution of services. A steel framed superstructure with composite design was adopted for the tower.

The ground floor structure was designed as a folded reinforced concrete plate to accommodate complex ground level changes across the site above the two-storey basement. Access and egress to the basement car park was achieved by break through onto the No. 3 Hardman Square basement car park.

The substantial North and East elevation cantilever required the development of a carefully considered construction sequence to integrate the cladding installation programme with the structural programme in order to manage structural deflection, within cladding erection tolerances.

