

CASE STUDY

CITIBANK & MARCONI HOUSES, 332-336 STRAND LONDON WC2

Temporary works, Piling, Groundworks and Reinforced Concrete.

Cantillon Ltd undertook this complex demolition project on one of London's busiest thoroughfares, including the erection of a bespoke façade retention system at Marconi House. The asbestos removal, soft strip, and demolition works were followed by an extensive groundworks package, which was partnered with our approved contractor O'Keefe Construction Greenwich Ltd.

Client:

Grupo Urvasco Ltd

Principal Contractor:

Cantillon Ltd

Contract Duration:

62 weeks

Contract Value:

£7,300,000



Limited information at tender stage had led to a decision being made to carry out exploratory work to determine the existing foundation type to the façade foundation. These varied work to determine the existing foundation type to the façade foundations. These varied greatly and we designed a continuous ring beam and foundation solution to overcome the problem instead of the mini piled solution suggested by the engineers.

Eternally the façade retention steelwork would sit upon this ring beam for the inner leg and upon pile caps externally. Hence a mini pile scheme was designed incorporating 300mm diameter mini piles which were formed at paving level through the footpath construction, basement vault and into London clay to a total depth of 22 metres. These piles had to be positioned to avoid all services, underground lines, an adjacent subway and existing structures of the building.

Thereafter upon construction of the façade steelwork this in turn was strengthened by RC shear walls which had to be constructed at basement level with no means of direct access.



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Contiguous Piled Wall

The new hotel was formed over two previous buildings which had split level basements, part of which were flanked by the façade retention scheme. A contiguous pile wall had to be constructed from the basement levels with piles up to 20m deep utilizing specialist rigs to facilitate the restricted working area. These rotary bored piles were also used in the construction of the bearing piles for the new structure. The sequence and construction of the plies, were made more problematical by the depth of the basement and the logistical difficulties of exporting 20,000m³ of excavated material.

Groundwork

The groundwork and foundation construction for the piles, capping beam, ring beam and temporary works foundations (a series of raking shores were designed to stabilise the basement construction and the 7 storey façade internally) were constructed whilst the building was being demolished in the upper floors or working adjacent to the demolition area. Some excavations were to a depth of 7.5m from the existing basement level and involved heavy temporary support in the ground.

Temporary works

Internally, O'Keefe designed, fabricated and installed a complex structure of raking shores and cross braces over two levels to retain the excavated 3 storey basement and existing brickwork façade. The walings had to be formed whilst the building was still being demolished on the upper floors, the complexity being worsened by the differing angles from face to face of the building structure.

