Centre Point, London WC1A

John F Hunt

Almacantar

£11, 750, 000

75 weeks

Project Overview

We carried out extensive structural alterations in preparation for a major redevelopment of one of London's earliest skyscrapers from office blocks to high-end luxury residential apartments.

Our scope of works included soft strip and extensive asbestos abatement, where 1200 AIB window spandrel panels were removed and disposed of. Remodelling included cutting openings for 34 service risers on each of the 33 floors. This was carried out concurrently with scaffold and crane erection.

Major structural alterations followed where we removed walls and slabs to create an open-plan space and reshaped columns to create architectural features. We carried out these works on multiple work faces concurrently, to minimise the programme.

Challenges

An extensive amount of scaffold was required to cover the tower which would have been extremely heavy.

To reduce the leg-loads of scaffold at ground level the scaffold comprised four independent structures, beamed out from every tenth floor. This allowed greater programme continuity on completion of works as we were able to remove each section concurrently.

The historical structure had shifted and turned (within building tolerance levels) but was no long completely vertical. To ensure service risers were perfectly straight throughout the structure we used a 3D BIM model to calculate cutting angles.

On the ground floor of the tower we removed the entire mezzanine slab and designed and installed temporary bracing in its place to make room for a deep swimming pool for residents. We demolished the existing car park ramp and filled it in to provide additional floor space for parking, with the ramp being replaced with a car lift.

At roof level we carried out permanent structural strengthening using steel. Floors 32-34 were taken up by extensive plant and the floor slabs were irregular in shape.

We cut and lifted out the plant then removed the floor slabs for 32 and 33, replacing with extensive propping for the follow-on contractor to pour new floor slabs.
To protect the existing structure, made of high alluvial cement, which is highly susceptible to water, we installed a temporary roof.

The western edge of Centre Point interfaces with the new Tottenham Court Road Crossrail station. Our works to this edge were carefully integrated with the Crossrail construction programme to avoid delays to this iconic infrastructure project.

In the basement we undertook pile enabling works and below-ground slab construction for the lift pits including the and car lift.

Situated directly above Tottenham Court Road London Underground and Crossrail station and with busy St Giles's High Street passing under the building serving numerous London Bus's routes, this landmark location provided logistical constraints. The programme was driven by the vertical transport ability to remove materials from site.

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A regimented material movement strategy allowed arisings to be continuously removed from the 34 floors to ground level via the internal access lifts and tower crane then removed from site using just-in-time 'wait and load' vehicles in a pit lane and gantry at street level. Later in the programme we sequenced removal of materials around the main contractor's follow-on trades.

We met strict planning requirements by protecting and retaining heritage items such as the Breise Soleil and steel spandrels around the lower part of the interior.

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To protect the residents occupying the fourth floor, whilst reconfiguring the retail units within Centre Point House we designed and installed a scaffold with acoustic panels forming a fully enclosed 'box' to retain the noise of our works to the lower three floors.

Due to the residents in-situ we were unable to use a crane. Instead we used a hoist for vertical transportation of removed materials. Sections of slab were cut into squares, rolled on a pallet, lifted on to the hoist and then rolled off on pallets at ground floor to waiting waste vehicles.

We cut and lifted the entire mezzanine slab to increase the floor to ceiling height for the new restaurant.

We reshaped the existing Y Columns to create an architectural feature whilst retaining the structural integrity. To create additional floor to ceiling height in the ground floor entrance façade we relocated the slab support beams from the underside of the slab to above.

Large internal support walls were removed to create an open plan space for the restaurant by installing large replacement beams.

Achievements

- Completing major structural demolition and alterations whilst Centre Point House remained occupied was extremely demanding, however our sympathetic approach was met with much praise
- The extensive planning undertaken by our team and the client during the long pre-construction period lead to successful completion of the works
- Successful protection of heritage items ensuring compliance with planning conditions