



Structural steelwork has allowed the team to replace a 1960s-built structure with a much larger building.

# Steel-framed offices provide West End boost

A new commercial development, situated on the corner of Oxford Street and Wells Street, is one of many changes taking place along the capital's most famous shopping street.

Between Oxford Circus and Tottenham Court Road, the eastern end of London's famous shopping street has seen a number of developments and refurbishment schemes over the past 10 years or so.

Although many of the larger department stores are at the other western end of Oxford Street, the overall landscape is changing fast. The opening of the Elizabeth Line and new entertainment venues, coupled with the post-COVID return of office workers have all helped to boost footfall, particularly along the eastern end of Oxford Street.

Interestingly, over the past year alone, more than 10 retailers have opened stores along this part of Oxford Street, while major new commercial developments are providing a further boost.

One of these schemes is taking place on the corner of Oxford Street and Wells Street, where a seven-storey 1960s block has been demolished to make way for a new 10-storey building, known as The Ribbon.

Designed by Orms Architects, the steel-framed structure will create 40% more floorspace, with retail outlets occupying the lower levels and the upper floors accommodating modern offices.

Creating even more valuable floorspace, once the demolition phase had been completed, the site's existing basement was deepened, from a single level to two floors. Piled foundations were then installed as well as a centrally-positioned concrete core that provides the new steel frame with its stability.

"Given the prominent location, a steel frame was selected to maximise construction efficiency in a constrained site. As a lighter weight structural option, it required less foundations and piling," says Orms Architects Project Associate, Oli Cowan.

To keep the construction programme on schedule, there are two tower cranes feeding the site and these vital pieces of equipment had to be installed before the steel erection could begin. One crane sits on top of the core and was initially installed, along with its supporting temporary steel

grillage (that transfers loads into the core) with the aid of a mobile crane, positioned in Wells Street during a weekend closure of the thoroughfare.

Once the first tower crane was in place, it then helped to install the second crane, which is positioned in the southern half of the site, close to the main Oxford Street elevation.

As space is at a premium, the grillage for this crane is installed on top of the ground floor slab and is supported by a temporary steel braced frame, founded on the lowest basement level.

Including four steel columns that pierce through two concrete floor slabs, the frame helps to transfer the crane loads into the building's foundations.

Forming the initial part of the overall steel programme, approximately 26t of steelwork had to be manoeuvred into the basement and assembled via bolted connections to erect the second tower crane's support frame.

Bounded by main roads on two elevations, a passageway known as Adam & Eve Court to the

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west and another building to the north, the new structure occupies the plot's entire footprint and consequently there is little room for materials to be stored.

Making use of both tower cranes, steelwork for the project has to be offloaded from a pit lane on Wells Street and immediately erected. Working in a phased programme around the site, Billington Structures is erecting two floors at a time, working in tandem with the metal decking team.

SMD is supplying and installing the metal decking and working one phase behind the steel erection, the sequence allows Billington to always have a completed floor slab to position the MEWPs for the next steelwork installation phase.

In total, SMD is installing 9,688m<sup>2</sup> of metal decking, which requires approximately 25,000 shear studs.

Founded on the concrete basement substructure, the steel frame starts at ground floor and wraps around the core. The steel design incorporates a grid pattern consisting of perimeter columns set at 6.5m centres and internal spans of 12m. This pattern creates the desired open-plan office floorplates, with just a single row of internal columns.

Fabricated cellular beams that accommodate the building's services within their depth are used throughout the project. The beams, along with the columns, will all be left exposed within the completed scheme, creating the desired modern and industrial-looking office environment.

In keeping with this exposed aesthetic, project structural engineer, Heyne Tillett Steel says, some of the service pipework has been designed to be embedded within the internal columns, creating a clean uncluttered finish.

For most of the building, the steel frame has a regimented design, with the exception of the four uppermost floors that incorporate steps that create terraces along the Oxford Street and Wells Street elevations.

"The ends of the floorplate aren't composite to the upper levels, where we have terraces around the perimeter of the building," says Heyne Tillett Steel Director, Elliott Furminger.

"This detail was developed to ensure level access, while maintaining a flush finish to the bottom of the steelwork level and maximising the floor-to-ceiling height."

These partially non-composite beams are also transfer beams that accommodate the progressive set-backs.

Topping the structure, the roof will support a plant deck, located on the north, close to the party wall that separates the project from the adjacent building.

The project is due to be completed in the third quarter of 2025. ■

## FACT FILE

**The Ribbon, Oxford Street, London**

Main client: **CBRE**

Architect: **Orms Architects**

Main contractor: **Wates**

Structural engineer: **Heyne Tillett Steel**

Steelwork contractor: **Billington Structures**

Steel tonnage: **1,000t**

Impression of the completed scheme.

