

Project:	<i>Bourbon Lane, White City, London</i>
Client:	<i>Octavia Housing and Care</i>
Main Contractor:	<i>Como Homes</i>
Architect:	<i>Cartwright Pickard Architects, B+ C Architects</i>
Steelwork Contractor:	<i>Billington Structures Ltd.</i>
Structural Engineer:	<i>Campbell Reith</i>
Planning Authority:	<i>London Borough of Hammersmith and Fulham</i>

The Development

This multi award winning housing scheme in Bourbon Lane, White City has been delivered by Como Homes for Octavia Housing and Care. Built using modern methods of construction this development utilised Nordicon light steel wall cassettes assembled offsite around a structural steel frame as well as a combined heat and power (CHP) engine to achieve an EcoHomes Good rating.

Awards

RIBA Award
 Civic Trust Award
 English Partnerships Housing Scheme of the year 2008
 Housing Design Awards

Consisting of a mix of family houses, maisonettes and flats at three, four and five storeys the development provides 78 affordable homes including shared ownership opportunities as well as affordable rented housing.

By providing affordable homes, built to EcoHomes Good standard with inclusion of CHP and provision of a balcony, terrace or roof garden for each dwelling, this ground breaking development goes a long way to ticking the boxes of economic, environmental and social sustainability.

The Site

This was a challenging site; a crescent confined by gardens of traditional terraced housing on one side and Shepard's Bush Westfield shopping mall on the other. The requirement was for a wide range of housing types fitting in with the urban surround, which maximised the use of space whilst retaining an open feel to the development.



Photo: © Morley von Sternburg

Cartwright Pickard Architects, in partnership with French company B+C Architects, developed an innovative cantilevered design, with steel at its heart, which was preferred to options worked up in precast concrete and timber. The design was chosen over these others as it allows maximum use to be gained from the site whilst still maintaining provision of private space for residents and semi-public courtyards in the style of traditional London mews.

All homes are double aspect giving an airy and light feel with the north-south orientation allowing access to morning and evening sunshine. The flats have balconies, one to each aspect, with maisonettes profiting from roof gardens either in the cut-aways or terraced over the cantilevered apartments.

The Frame

Structural steel enabled the 6m cantilevered sections, principle architectural features of the development, to be realised.

The cantilevered sections consist of storey-high Vierendeel girders containing 254mm columns; the rest of the frame uses 203mm beams and columns with 150mm precast hollow core floor and 50mm in-situ structural topping to give floor plates with few downstands. This solution was chosen after careful consideration of several structural options by engineers Campbell Reith.

Progressive collapse has been guarded against by ties between members with structural stability provided by cross-bracing in the transverse direction and a sway frame in the longitudinal direction.



Photo: Courtesy of Billington Structures Ltd.

The Cladding

Over 5,000 m² of Nordicon wall elements were installed onto the frame. These pre-fabricated light-gauge steel panels were manufactured offsite to be fully weather protected, complete with windows and doors. Panels arrived in sealed packs and were hoisted up and fixed to the structural frame by expert installers who then affixed the larch rainscreen cladding using cherry pickers. The offsite solution was chosen to help minimise onsite construction and deliveries in this heavily congested area and ensure a highly consistent build quality.



Key sustainability features:

Offsite manufacture

The offsite manufacture of both frame and cladding lead to a reduction in the construction programme compared with more on-site solutions. As well as shortening the construction time and necessitating fewer onsite labourers, this method of construction meant fewer deliveries and much less waste on site.

Cantilevered sections

These allowed excellent use of space, maximising the available footprint whilst maintaining an open feel on the development.

Information compiled by the Steel Construction Institute



Private space

Every dwelling has a garden, roof garden, terrace or balcony; a rare thing in London and largely enabled by the steel cantilevers.

Efficient use of resources

A natural gas fired CHP plant provides low carbon affordable electricity to the homes as well as heat for domestic hot water use and space heating. Additionally each home is provided with a meter to enable the occupants to easily keep track of their energy use.

Land Reclamation

This was a previously run-down and contaminated brownfield site which has now been transformed into an award winning housing development.



Photo: © Morley von Sternburg