

An award winning development for Hounslow

The purpose:

London Borough of Hounslow had committed to building 5000 new homes by 2022 to address the Borough's housing shortage. It took to heart Government advice to be innovative in building new homes and to make the best use of available space, and chose United Living with extending existing housing stock. Wilson House was an obvious candidate. The development comprised three connecting three-storey flat-roofed blocks with a central stairwell. By adding a rooftop development (RTD), three new two-bedroomed apartments could be delivered alongside the potential to reduce the whole site's carbon emissions and improve energy efficiency.



The solution:

We designed, supplied and installed the entire superstructure. With Langley's in-house expertise across the fifth façade, we could offer a complete, coordinated package that was compliant and cost-effective.

Our off-site construction of the RTD cassettes facilitated the build speed, completing the superstructure in just three weeks and all on-site works in nine weeks.

The existing superstructure and foundations have limited residual spare capacity when adding an additional floor to a building. Although weight is always a consideration, the lightweight pitched roofing joists and lightweight metal strip tiles limited the dead load imposed on the structure. The low weight of the FTP roof system enabled a pitched roof design which was also the client's preference.

The new flat roof over the stairwell, connecting the three new apartments, was waterproofed using our TA-30 Flat Roofing System and guaranteed for 30 years. Internal guttering was replaced with an external rainwater discharge system and we designed and installed the load path and support steels for photovoltaic (PV) panels.



MAIN CONTRACTOR:

United Living



CLIENT:

London Borough of Hounslow

The result:

London Borough of Hounslow has achieved new homes to modern standards without using more land. The RTD offers reduced embodied carbon over conventional housebuilding techniques. It also delivers a more sustainable, lower-cost development.

Being responsible for the entire structural fabric elements of the rooftop extension, we were able to oversee the project as a whole and address potential issues from the outset. Thus we designed and managed the build to efficiently address weight-loading considerations for the existing structure, integration of the diverse roof structures and the constrained location facing Eltham High Street.

Using one source to design, supply and install the RTD, the upgrade was completed with residents in situ quickly, minimising disruption to the existing residents.

The improved energy strategy means the property's thermal performance is significantly improved, making all electric air source heat pumps viable. As a result, residents will benefit from warm, dry and comfortable homes combined with the new PV panels; they will also have reduced energy bills.

The Flat to Pitched Roof addition improves the property's aesthetic and, thus health & wellbeing of the residents and surrounding community. Conversion of the original internal rainwater drainage to external helps to mitigate stormwater flood risk. The Wilson House project was singled out by industry experts winning, Best Use of a Flat-to-Pitch Roof System at the 2022 Pitched Roof Awards.

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