

**PROJECT FOCUS**

**KINGSTON  
UNIVERSITY  
REGENERATION**

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*A regeneration scheme across two of the University's campuses to deliver a significant improvement in the quality of the University's own accommodation offering through the internal refurbishment of rooms, creation of new rooms and the kitchen and common rooms.*

## PROJECT FOCUS

# KINGSTON UNIVERSITY REGENERATION

Kingston Student Living  
Seething Wells & Kingston Hill Campus

The Frankham Consultancy Group are appointed by ENGIE as Civil and Structural Engineering, Mechanical, Electrical, Public Health Engineering and Sustainability Consultants for the Kingston Student Living project. The regeneration scheme includes redevelopment of 5 listed buildings to create a new student union, multi-purpose function space, start-up business incubator, further accommodation and reception and cafeteria functions.

The key objective for Kingston University is to deliver better quality accommodation for their students in response to the new private developments across London, which will include new kitchen common rooms for each group of flats to enable more social interaction and an enhanced sense of wellbeing for the students.

### Improving student accommodation and experience

Across the two sites, student rooms are increasing in number by 116 to 887 rooms. Original rooms were all standard and basic, with new facilities being designed in a Smart Buildings approach to allow future flexibility and technological advances.

At the Kingston Hill site, room numbers are decreasing as expansion is not achievable when providing new shared kitchen and common rooms. At Seething Wells, new horizontal and vertical extensions allowed numbers to be increased significantly. Both extension types are formed in lightweight steel framing systems to reduce weight and potential for settlement. Extensive ground investigations were undertaken to enable us to justify both new and existing foundations for increased loads.

A number of historic and Listed buildings will be brought back to life for amenity use at Seething Wells. We worked closely with a specialist heritage consultant to ensure all conservation matters were satisfied.

External improvements are being incorporated across the Seething Wells site to make it more accessible and promote the use of the external areas. Ecology is being encouraged with the use of swales and insect hotels, improved lighting and space for activities.

Design has been developed collaboratively throughout with several design and risk workshops.



### Saving energy and reducing emissions

Being a major refurbishment project, liaison with the local council had to be pursued to agree on the expected regulated carbon emission reductions targets for the existing buildings on site. For newly built buildings, the London plan calls for a 35% reduction of regulated carbon dioxide emissions below Building Regulations ADL2A.

This required us to prepare an Energy Strategy that has followed the energy hierarchy set out in the current London Plan and GLA Energy Assessment Guidance.

The design strategy includes the provision of thermally efficient external fabric in the newly built buildings, plus upgraded fabric to the existing where possible, and high efficiency building services systems throughout the development delivering the heating, lighting and ventilation. The energy strategy includes Air Source Heat Pumps in the historical buildings and Photovoltaics across the sites. This was the most appropriate form of renewable technology onsite, having followed the mayors' energy hierarchy first maximising passive energy efficiency, before delivering energy via efficient building services, and then applying suitable low or zero carbon technologies.

Applying the energy hierarchy, the refurbished areas at Seething Wells achieve a 57% reduction in regulated carbon dioxide emissions. 533 Tonnes of CO2 are to be saved after energy demand reduction measures and 36 Tonnes of CO2 from renewable technologies per year. The new construction buildings achieve a 10% reduction in carbon emissions through energy demand reduction alone.

Including the additional Solar PV arrays across the existing buildings, the new build development areas achieve a 44% reduction on regulated carbon emissions, beyond the 35% below Building Regulations target required by the London Plan.



***The historic listed buildings were formerly a nineteenth century waterworks. Along with general offices, stores and housing, there are large structures that were coal stores.***

To improve the thermal environment, we justified the existing iron roof trusses for increased load from new insulation which we did insulation using historic codes and stresses commensurate with the age of the original construction.