

BREEAM MULTI-RESIDENTIAL: LANCASTER UNIVERSITY – PHASE IV RESIDENTIAL

ABOUT THE DEVELOPMENT

The purpose of the development was to provide 800 new student residential rooms for Lancaster University with high levels of environmental performance at an affordable rent. University Partnerships Programme (UPP) had previously delivered over 3300 new student residential rooms on the Lancaster University campus.

The University development brief for Phase IV increased performance standards to new levels:

- 1 Improved product performance – Sustainability and the Environment
- 2 Enhanced living space and social provision
- 3 Improved Design Quality at both scheme level and accommodation level
- 4 Low rent proposition – i.e. lower delivery and running costs.

The commitment of Lancaster University and UPP to environmental issues required that this latest phase of student accommodation should focus on sustainability and improving environmental performance. BREEAM certification was a requirement of Lancaster University.

The new accommodation at Lancaster University is seen as part of the educational offering, and incorporates many of the attributes that support sustainable student living.

KEY FACTS

- BREEAM Rating: EXCELLENT
- Score 71.4%
- Net lettable area: 9240m²
- Stage: Design & Procurement
- BREEAM Version: 2006.

THE BREEAM ASSESSMENT

The development has achieved a BREEAM Excellent rating scoring 71.4%. Overall the scheme performed very well gaining maximum credits within the Management section and achieving high scores in the following areas:

- Health & Wellbeing
- Transport
- Land Use & Ecology
- Pollution

The scheme also achieved a significant proportion of the energy credits due to the high energy standards achieved.

OVERVIEW OF ENVIRONMENTAL FEATURES

- High levels of insulation
- High levels of airtightness
- Mechanical heat recovery ventilation systems
- Low NOx, A-rated gas condensing boilers
- Solar water heating
- Building management system
- Low water use aerated taps and showers, dual flush WCs
- SUDS (Sustainable drainage) wastewater attenuation system
- Full low energy lighting/PIR to common areas
- High levels of acoustic performance
- Dimensioning to accommodate standard building material sizes
- Simple plan configuration
- Use of A-rated Green Guide products
- FSC-certified timber
- Ecologist's recommendations implemented
- Recycling storage space.

BUILDING SERVICES

The overriding approach has been to reduce energy loads by passive means, significantly improving insulation values and airtightness performance to the accommodation. Both the townhouse and cluster flat accommodation are provided with low pressure hot water heating using low NOx, A-rated gas condensing boilers. High levels of insulation and excellent airtightness performance have reduced space heating requirements and the largest energy load is providing hot water.

Whole house mechanical heat recovery ventilation units are used to deliver fresh, filtered air to all habitable rooms, with 80% heat recovery efficiency. Solar thermal collectors are used on cluster flat accommodation to pre-heat water.

Aerated taps and showers deliver controlled amounts of water, and dual flush WCs are used throughout.

Metering of utilities is discrete to each townhouse enabling each dwelling to review and compare actual usage online. The University is implementing an incentive scheme to promote responsible utility usage.

GREEN STRATEGY

Attention has been given to the construction process and waste generation during construction.

The building incorporates significantly higher levels of insulation and airtightness than required by current



Building Regulations, and the high levels of airtightness encouraged the use of mechanical heat recovery and ventilation systems to provide a controlled, filtered whole house ventilation system.

A variety of measures have been adopted to ensure a healthy internal environment, in particular quality of indoor air, levels of natural light and improved acoustic performance.

Wherever possible natural and benign materials and finishes are used internally, care being taken to avoid materials which omit unwanted VOCs. All paint finishes are based on natural technologies and solvent free. Traditional solvent-based adhesives/sealants are avoided.

The use of controlled ventilation with heat recovery ensures a continuous supply of fresh air to all habitable rooms, and helps maintain optimum humidity levels in the accommodation.

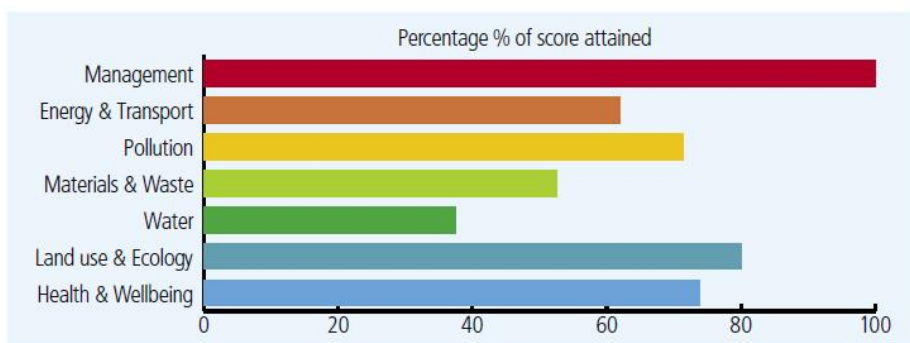
The townhouses are designed so that only the party walls are load bearing with floors spanning between these walls. This allows the internal space to be flexible in respect of layout and may be reconfigured if necessary, future proofing the accommodation.

DESIGN TEAM DETAILS

University Client: **Lancaster University**
 Developer Client: **UPP Ltd**
 Architect: **Goddard Wybor Practice**
 M&E Consultants: **Bailey Gomm**
 Principal Contractor: **Norwest Holst**

WHAT HAVE YOU LEARNT ABOUT BREEAM?

We have found the discipline of undertaking the BREEAM assessment to be helpful to the project delivery team and not difficult to satisfy given the background and approach to the student residential concept, which is based on sustainable principles.



"The generally accepted definition of sustainable development places upon us an approach to development whereby every action has to be taken while considering its future effect. BREEAM facilitates that decision-making process."