



UK-GBC Project Case Study Green Street New Build

KEY FACTS

Project name: Green Street

Location: Nottingham

Classification: New Build 3 and 4 Bed Homes

Type: Terraced Houses

Size: 95m² to 110m²

Total Capital Cost: Approximately £6.5m to £7m

Client: Nottingham City Council and Blueprint

Project team details: East Midlands Development Agency, English Partnerships (now part of the Homes and Community Agency, HCA) and Igloo (a private investment fund with a sustainability ethos)

Third party certification achieved: Code for Sustainable Homes level 4



PROJECT SUMMARY

A 1.25 acre (0.5ha) site of the former Trent Bridge Primary School close to the City Centre required sustainable regeneration following site clearance by Nottingham City Council. 38 three storey dwellings were constructed to provide mixed tenure housing for families to satisfy an identified need in the area. Due to the proximity of the development to the River Trent and its identified flood plain, the floor levels of the houses had to be built up by 1m to address this issue. From an aesthetic and design perspective the development was required to provide visual impact when viewed from the Memorial Gardens, a Grade II Historic Park and Garden that shares a boundary with the site. As a consequence, the finished development now provides a landmark for the area.

ENVIRONMENTAL IMPACTS

Building orientation/site issues:

The new homes at Green Street were built on a remediated brownfield site. Special attention was given to the orientation of the new homes to ensure that the photovoltaic panels on site receive maximum sun exposure. The houses were also designed to utilise this light internally with large windows built into either side of the building. The 4 bedroom houses also feature sun terraces on the southern elevation, overlooking the Memorial Gardens.

Transport:

The new development is close to the City Centre and so benefits from the associated public transport links. The train station is also just a ten minute walk away.

Energy Efficiency:

The houses were built using an advanced timber frame incorporating high levels of external wall insulation in order to retain heat within the building. A Mechanical Ventilation Heat Recovery (MVHR) is used to heat the houses when required.

Water Efficiency:

All of the properties utilise the latest restricted flow bathroom and kitchen taps to reduce water usage. All surface water from the development discharges to soakaways in accordance with preferred water management practice for Sustainable Urban Drainage Systems (SUDS).

Materials:

In order to achieve CfSH Level 4, materials chosen for this project had to be selected from those listed as A+-D in the BRE's Green Guide to satisfy the responsible sourcing element of the Code.

Indoor environmental quality:

Fresh air is brought into the homes mechanically using MVHR that warms incoming fresh air through a heat exchanger using warm air recovered from inside the house. Natural daylight levels are optimised by orientation and the use of large windows that don't detract from the overall aesthetics.

Operations and maintenance:

The project was designed with sustainability in mind to enrich the users' experience of the homes and save money on energy bills. Local labour and apprentices were recruited to work on this site.

Waste reduction:

Site waste management was controlled, monitored and recorded for independent scrutiny in the form of a Site Waste Management Plan (SWMP).

Biodiversity:

Wild flower gardens were segregated from lawn garden areas to provide a potential habitat for insects. Bat and bird boxes were also installed in the adjacent Memorial Gardens.

OVERARCHING SUSTAINABILITY ACHIEVEMENTS**Health and Safety:**

The site was in close proximity to other houses and schools and so public safety was of paramount importance. In the early stage of the scheme, Lovell offered a Health and Safety assembly to the local school. This ensured that all pupils living and travelling near the site would be aware of the

dangers that can be present on a construction site. School students also attended workshops, carried out in collaboration with Nottingham City Council.

Training and employment:

During construction, Lovell invited students studying construction-related courses at NVQ and BTEC level to visit the site. The visits supported their studies by offering insight and awareness about a sustainable housing development. The students received full Personal Protection Equipment and were inducted by both Lovell's Regional Health and Safety advisor and the Site Manager.



WHAT LESSONS WERE LEARNED AND WHAT CONCLUSIONS CAN BE DRAWN FROM THIS PROJECT?

- Very careful consideration must be given to the financial restrictions placed on projects wishing to attain high levels of sustainability.
- The level of detail necessary to provide information from specification to construction needs to be considered at inception / design stage.
- Education of home owners in the working, using and living with modern technology is paramount if the systems installed are to work at their efficient best.
- The practicality of using advanced timber frame for a multi storey development must be considered if the timber frame manufacturer / supplier is not consulted at the concept stage of the development.
- Consider the design and installation of free standing PV systems on flat roofs to eliminate risk of membrane leaks (as discovered on phase 1)
- Review the application of surface finishes to roof terraces.

AWARDS WON FOR PROJECT

Nottingham Civic Society Award 2012