

## Carbon Neutral Affordable Housing

Demonstration Project  
at the Building Research  
Establishment

This project, currently on site at the Building Research Establishment's (BRE) Innovation Park in Watford, will be unveiled to the public as part of the InSite09 exhibition on June 1st.

The project is designed to achieve Level 6 under the Code for Sustainable Homes.

It aims to demonstrate that environmentally sustainable affordable housing, designed to meet all statutory requirements and Lifetime Homes standards, can be built for a realistic and affordable cost. The building will be constructed using an Insulated Concrete Formwork (ICF) block for the external walls, and ICF trays forming floors and roofs. The lean-mix concrete core makes use of cutting-edge research carried out by the Concrete Association.



External Perspective

The system enables rapid construction of the building shell without the costly tooling and transportation costs associated with timber and concrete prefabrication, and has inherently excellent thermal and sound insulation properties. Hot water is provided by air-source heat pump and underfloor heating will be provided throughout. Grey water will be recycled and rainwater will be collected and reused.

The building represents a slice of a small 4 1/2 storey apartment building, with a small commercial unit on the ground floor, and one 1 bed 2 person flat and one 3 bed 5 person duplex on the floors above. The duplex makes use of the roof space by providing a mezzanine floor over the living area. The design forms a part of our Sustainable Suburbia research into family housing density carried out for the Homes and Communities Agency.

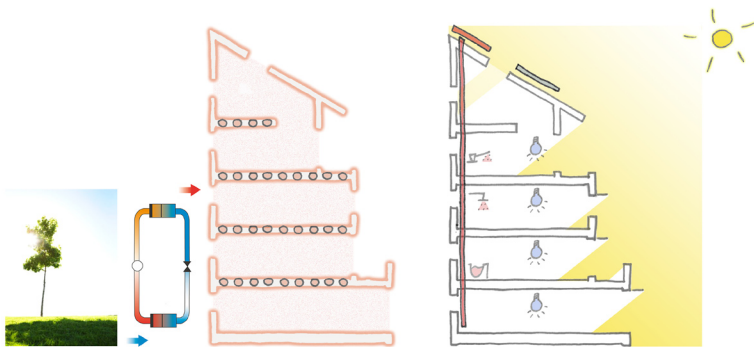
As part of the demonstration project, the BRE will carry out BPS 2020 certification under the standard for Innovative Systems for Dwellings.



Photograph on site

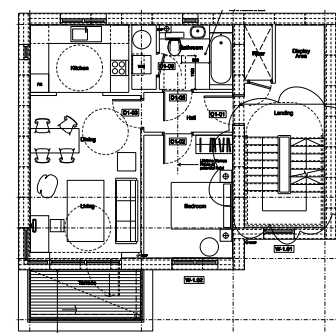


Cut-away axonometric



Heating System: Air-source Heat Pump

Hot water and electricity microgeneration



First Floor Plan

Client CREO ProConcept Ltd.  
 Completion 2010  
 Cost £150,000  
 Contract Type Traditional