

High Performing Envelope

In order to reduce energy consumption the units have been designed with a fabric first approach before turning to energy saving systems such as PV panels.

To this end, thermal bridging will be reduced and air tightness will be increased to lower air permeability and heat loss, therefore, reducing energy use.

U-values for building elements will be designed to meet or exceed building regulations.

As required for Building Regulation approval, photographic evidence will be taken on site to confirm air tightness at floor, wall and roof junctions.

Sustainable Location

The site is close to train services allowing for sustainable travel options throughout Hertfordshire and into London.

The site is also within walking distance of local amenities such as restaurants. It is near to public footpaths.



Planting

There will be a great deal of biodiversity enhancements included in the proposals. These include the planting of new native trees, shrubs and hedging; and laying down lawns and flower beds.

The planting scheme will include trees and planting that provide shading and evaporative cooling close to the buildings where possible. Deciduous trees will be prioritised in the planting scheme as they allow sunlight to reach buildings during winter and protect them from sunlight and overheating during summer.



Wildlife Habitat

The landscape scheme will be designed to add foraging and shelter to the habitat of local wildlife, enhancing the local ecosystem.

Bird and bat boxes will be fitted to existing trees or built into the fabric of the new houses, to improve the nesting of any local birds and bats.



Water Collect and Conserve

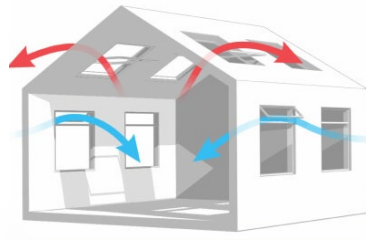
Rainwater would be collected, stored and re-used in the gardens using water-butts.

The buildings will be fitted with efficient appliances and plumbing fixtures such as efficient washing machines, aerating taps and low flow showers to reduce its energy and water consumption.



Re-use

All timber within the construction will be from sustainable sources; all bricks and construction materials to be sourced from local companies.



Overheating Mitigation

The proposed houses will be designed to pass the Part O building regulation, demonstrating they can overcome overheating using passive means.

The ventilation strategy will incorporate mechanical ventilation whilst achieving a good amount of air tightness to reduce the demand for heating.

This strategy will ensure a comfortable living environment for the new and future occupants.



PV Panels

Electric photovoltaic panels are proposed reduce reliance on the grid and reduce electricity bills.

The buildings orientation has been considered with proposed PV panels utilising the south facing roofs for their installation.



Low Carbon Technology

Air source heat pumps will be used to provide heating and hot water to these units. This technology is a carbon neutral ready technology. When the grid becomes carbon neutral, the houses will be carbon neutral.

Air source heat pumps will be positioned in direct sunlight were possible to improve their efficiency during the winter months.

The houses will be fitted with efficient fittings and appliances such as lights, kitchen appliances and plumbing fixtures to reduce its energy and water consumption.

If waste water heat recovery is fitted, they will be installed in the most used bathrooms to maximise efficiency.

Green Technology

Buildings will be fitted with green and smart technologies. Electric Vehicle charging points will be installed on all plots to facilitate the use of electric vehicles.

Electric smart meters will be installed as well as up to date heating control, and appliances with high energy ratings, to improve the buildings energy consumption.



Sustainable Drainage

Soft landscape will incorporate SuDS design, dealing with surface water run-off locally as a priority.

Hard surfaces can use permeable paving materials were required to ensure the scheme mitigates surface water run-off.



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