

PROPOSED RESIDENTIAL DEVELOPMENT

Motte & Bailey, Pirton

SG5 3QD

SUSTAINABLE CONSTRUCTION AND ENERGY STATEMENT

November 2025

INTRODUCTION

This report has been prepared by PLC Architects about the proposed erection of 1no. 4 bed detached dwellings (Use Class C3) with new access off Crab Tree Lane, associated park and landscaping, and reconfiguration of the public house car park and garden on land to the rear of The Motte & Bailey Public House. 1 Great Greem, Pirton, Hitchin, Hertfordshire, SG5 3QD.

This statement has been prepared with regard to the provisions of the Pirton Neighbourhood Development Plan 2011-2031 and the North Hertfordshire District Local Plan 2011-2031, with particular reference to Policy PNP2 of the Neighbourhood Plan. It also draws upon the principles set out in the Building for Life guidance, which emphasise the reduction of a building's energy demand and the minimisation of lifecycle carbon emissions.

POLICY CONTEXT

The following documents were considered:

- **North Hertfordshire District Local Plan 2011-2031**
- **The Pirton Neighbourhood Development Plan 2011-2031**

PROPOSAL

The performance of the building fabric, the efficiency of the building services and the management strategies of the occupants of a dwelling broadly determine the energy consumption and carbon emissions of a dwelling. The proposed sustainability strategy considers the potential carbon savings and energy demand reduction through an enhanced fabric specification.

The proposed sustainability strategy places great importance on the efficiency of a property's thermal envelope and internal building services combined with bolt-on technology, to invest resources in reducing a property's long-term carbon emissions.

To comply with Policy PNP 2 – Design and Character from the Pirton Neighbourhood Development Plan 2011-2031, the proposal should be in accordance with the Build for Life Principles (Evidence Base 15).

The Build for Life Principles focus on reducing consumption through efficiency, then generating the remaining energy from renewable sources, and doing so in a way that minimizes environmental impact.

Key principles include a highly insulated and sealed building envelope, efficient systems, and the use of renewable energy like a solar wind. The overall goal is to minimize a building's energy demand and its carbon footprint throughout its entire lifecycle.

CONSERVATION OF ENERGY

Reasonable provision shall be made for the conservation of fuel and power in buildings by:

- Limiting heat gain and losses through thermal elements and other parts of the building fabric and from pipes, ducts, vessels, etc. used for space heating, space cooling and hot water services.
- Providing fixed building services which are energy efficient, have effective controls and are commissioned by testing and adjusting as necessary to ensure they use no more fuel and power than is reasonable in the circumstances.

To comply with Part L 2021 shown in Table 1 below, heat loss elements should be properly insulated according to regulatory requirements and regulated u-values for external walls, floor and roofs.

Table 1

Element	Maximum U-Value W/m ² k
Roof	0.16
Wall	0.26
Floors	0.18
Party Wall	0.20
Doors	1.6
Window	1.6
Rooflight	2.2
Air Permeability	8.0 m ³ /h/m ² @ 50Pa 1.57 m ³ /h/m ² @ 4Pa

* For U-Values: See Approved Document L 2021 Building Regulations

SUSTAINABILITY MEASURES

Building Regulations from June 2022 requires all new dwellings to deliver 31% CO2 reduction in Dwelling Emission Rate compared to the Target Emission Rate. We will look to meet the required target through a combination of energy efficiency measure and renewable energy.

The following summarizes the proposed additional sustainability measures for the development:

- Sufficient glazing will be provided to the dwelling to ensure enough natural lighting, thus reducing the energy consumed in the artificial lighting of the room.
- High levels of insulation across all thermal elements within the builds.
- Addressing thermal bridging limits heat loss across junctions.
- High levels of air tightness to be achieved withing the construction of the dwelling to reduce unnecessary heat loss.
- Window and doors achieving minimum standards of efficiency with the Building Regulations.
- Natural ventilation is the most energy-efficient form of ventilating a space. To this end, the dwellings will be naturally ventilated via open-able windows and trickle vents.
- 100% dedicated low-energy lighting.

- All external light fittings will be provided with energy-efficient light bulbs with appropriate control systems for efficient usage.
- Use local suppliers for materials to reduce transportation costs and ensure responsible sourcing.
- Retaining existing trees and providing hedgerows to help with CO2 absorption to improve air quality.

CONCLUSION

This report demonstrates that the proposed development complies with the North Hertfordshire District Local Plan 2011-2031 and the Pirton Neighbourhood Development Plan 2011-2031.

The scheme utilises a suite of enhanced sustainability measures, all designed to meet, and where possible exceed, the applicable Building Regulations and policies requirements.