

SUSTAINABILITY STATEMENT

Erection of Four Dwellings

25 Lower Road, Breachwood Green, Hertfordshire SG4 8NS

Prepared for Mardoc Properties Ltd

Pentangle Design Group | Job Reference 3870 | August 2026

1. Introduction

This Sustainability Statement has been prepared by Pentangle Design Group on behalf of Mardoc Properties Ltd. It accompanies a full planning application for the erection of four dwellings, with associated access, parking, landscaping and boundary treatments, on land at 25 Lower Road, Breachwood Green, Hitchin, Hertfordshire, SG4 8NS.

It should be read alongside the Design, Access and Planning Statement, which sets out the site context, design rationale and full planning policy assessment.

1.1 Policy Context

The statement responds to:

- **National Planning Policy Framework (August 2026)**, and in particular Chapter 5 (Meeting the challenge of climate change). Policy CC2(1) asks that proposals accord with Policies TR3 and TR4 so that sustainable patterns of movement are prioritised and infrastructure is provided to support the transition to zero-emission vehicles; support good access to facilities so as to limit the need to travel; use design approaches which conserve energy in accordance with Policy DP3(2)(b); and take advantage of opportunities to reuse existing structures and materials, including by reusing non-contaminated excavated soil and hardcore within the site. Policy CC3(1) asks that proposals be located where flood risk is minimised, incorporate sustainable drainage in accordance with Policy F8, use design approaches which minimise overheating, and include green infrastructure and suitable tree planting in accordance with Policies DP3(2)(c) and N3.
- **North Hertfordshire Local Plan 2011-2031**, Policies SP1 (Sustainable Development), SP9 (Design and Sustainability) and D1 (Sustainable Design).
- **NHDC Sustainability SPD**, and the Council's declaration of a Climate Emergency in May 2019 with its commitment to net zero carbon emissions in North Hertfordshire by 2030.
- **The Building Regulations**, in particular Parts F, G, L, O and S, and the Future Homes Standard published on 24 March 2026.

1.2 The Scheme

The scheme comprises four dwellings: two three-bedroom semi-detached houses on the Lower Road frontage (Plots 1 and 2), a four-bedroom detached house (Plot 3) and a three-bedroom detached house (Plot 4) to the rear. All four exceed the Nationally Described Space Standards. The site is a cleared, serviced residential plot of 1,398 sqm within the settlement boundary of Breachwood Green, formerly occupied by a single dwelling and two outbuildings.

2. Energy Strategy

The energy strategy follows the established hierarchy: reduce demand through passive design and fabric, then meet the remaining demand efficiently from low-carbon sources, then generate renewable energy on site.

2.1 Orientation and Passive Design

The layout has been developed so that, so far as the plot geometry allows:

- the principal gardens face broadly south, and the main living spaces are located on the southern side of each dwelling;
- habitable rooms receive good levels of natural daylight throughout the day, reducing reliance on artificial lighting;
- controlled solar gain reduces winter heating demand;
- roof slopes suitable for solar generation face broadly south.

This passive approach reduces the energy the dwellings need before any technology is applied, and supports compliance with Parts L and O.

2.2 Fabric-First Construction

The dwellings will be built to a fabric-first specification which meets or exceeds the Part L standards in force at the time of construction, comprising:

- high levels of insulation to floors, walls and roofs;
- low air permeability, with a continuous and clearly detailed air barrier;
- minimised thermal bridging, using accredited or calculated construction details at junctions;
- high-performance glazing, with specification coordinated with the acoustic requirements set out at Section 3.

A robust fabric performance is the most durable element of the strategy: it is fixed at construction, requires no maintenance or user behaviour to deliver, and continues to perform for the life of the building.

2.3 Low-Carbon Heating

All four dwellings will be heated by air source heat pumps providing both space heating and hot water. No fossil fuel heating is proposed, and no gas connection is required. Heat pump locations are indicated on the proposed site plan and elevations.

Systems will be designed for low flow temperatures, with correspondingly sized emitters, so that seasonal performance is maximised rather than merely nominally achieved. Unit locations have been selected with regard both to system efficiency and to noise, keeping units away from neighbouring habitable room windows.

2.4 Renewable Generation - Photovoltaics

The applicant intends the dwellings to carry roof-mounted photovoltaic arrays. The position on this application is as follows:

- **Planning permission is not sought for photovoltaic installations as part of this application.** For that reason the panels are not shown on the elevations, roof plan or site plan. They do appear on the illustrative perspective views, which are indicative only.
- The installation of roof-mounted photovoltaic panels on a dwellinghouse is permitted development under Class A of Part 14 of Schedule 2 to the Town and Country Planning (General Permitted Development) (England) Order 2015, subject to the limitations in that Class. The site is not within a Conservation Area and contains no listed building, so those limitations are readily satisfied here.
- Panels will be installed under those permitted development rights, and in any event to the extent required by the Building Regulations in force when the dwellings are constructed.

The applicant asks that permitted development rights are not removed by condition, and that any condition relating to roofing materials or external finishes is worded so as not to preclude the subsequent installation of photovoltaic panels.

2.5 The Regulatory Trajectory

The Future Homes Standard was published on 24 March 2026 and the associated Approved Documents come into force on 24 March 2027, with transitional arrangements for dwellings already under construction. The Standard introduces a functional requirement for a minimum amount of renewable energy generation on new homes, for which photovoltaics are the established route, and assumes low-carbon heating in the notional dwelling.

The specification described in this Statement - a fabric-first envelope, air source heat pumps and roof-mounted photovoltaics - is aligned with that direction of travel. The dwellings will be constructed to the Building Regulations standards in force at the time the work commences.

3. Ventilation and Indoor Environment

The site lies beneath the broad approach corridor for London Luton Airport. The Noise Impact Assessment by Anglia Consultants (December 2025) assesses the site as medium risk under ProPG: Planning and Noise and recommends whole-house mechanical ventilation with heat recovery, so that windows need not be opened for background ventilation and acoustic trickle ventilators are not required.

MVHR therefore serves three purposes on this site at once:

- it allows the ProPG internal noise guidelines to be met with windows closed;
- it provides continuous filtered ventilation in accordance with Part F, supporting good indoor air quality;
- it recovers heat from extract air, reducing ventilation heat loss and complementing the airtight fabric.

Systems will be commissioned and balanced on completion, with ductwork designed for low resistance and specific fan power kept low so that the in-use energy penalty is minimal.

4. Overheating

All four dwellings will be designed to comply with Part O. The relevant measures are:

- glazing areas and orientations balanced against solar gain, with the largest areas of glazing to the shaded and garden elevations;
- solar control glazing specified where the assessment requires it;
- cross-ventilation routes available through the floor plans;
- secure night-time purge ventilation, with restrictors and secure opening arrangements so that windows can be left open safely;
- tree and hedge planting providing summer shading to the garden elevations.

Because the acoustic strategy relies on windows remaining closed for background ventilation, the Part O and acoustic assessments will be coordinated at detailed design stage so that the purge ventilation strategy remains deliverable in practice. This is a matter which can be secured by a condition requiring the two to be demonstrated together prior to construction.

5. Water Efficiency

Each dwelling will be designed to achieve a maximum estimated water consumption of 120 litres per person per day, in accordance with the requirement in Part G of the Building Regulations and Local Plan policy. Measures include:

- flow-restricted taps and showers;
- dual-flush WCs;
- water-efficient white goods where fitted;
- water butts to each plot, fed from rainwater downpipes, to support garden irrigation.

6. Electric Vehicle Charging

Every dwelling is provided with a dedicated 7kW electric vehicle charge point adjacent to one of its allocated parking spaces, in accordance with Part S of the Building Regulations. Charge point positions are shown on drawing 3870/05J. Electrical infrastructure will be sized to allow a second charge point to be added to each plot without further excavation.

7. Surface Water and Drainage

A sustainable drainage approach will be adopted, subject to ground conditions and detailed design:

- permeable Tegula block paving to the parking court, driveways and access;
- infiltration prioritised where ground conditions allow, with percolation testing to BRE 365 at detailed design stage;
- attenuation provided where infiltration proves unsuitable, with discharge restricted to greenfield rates;
- design in accordance with the National Standards for Sustainable Drainage Systems, as required by Policy F8(2)(a) of the Framework, with maintenance arrangements secured for the lifetime of the development through the private management arrangement for the access and parking court;
- rainwater harvesting through water butts to each plot;
- a small wildlife pond of approximately 5.4 sqm, which also provides a landscape and biodiversity benefit.

The site lies within Flood Zone 1 and is not at risk from any other source of flooding.

8. Biodiversity and Landscape

The site is a non-major development of 0.14 hectares. Following the amendments to the Biodiversity Net Gain regulations which took effect on 6 August 2026, the statutory biodiversity gain condition does not apply to this application. The scheme nevertheless delivers a package of on-site biodiversity enhancement:

- retention of the native hedgerows and trees to the eastern and western boundaries;
- a new native species hedge to the Lower Road frontage;
- a designated species-rich grassland area of approximately 278 sqm, managed as wildflower grassland rather than amenity lawn;
- pollinator-friendly garden and shrub planting, and new tree planting within and around the parking court and access, in accordance with Policy N3 of the Framework;
- a small wildlife pond;
- integrated swift bricks and bat boxes at high level on the new dwellings, in accordance with Policy N2(1)(f) of the Framework;
- hedgehog-permeable boundary treatments, with 13cm x 13cm gaps.

Full details are set out in the Design, Access and Planning Statement and in the accompanying Preliminary Ecological Appraisal and Bat Emergence Survey Report.

9. Materials, Embodied Carbon and Waste

Construction will prioritise:

- materials with lower embodied carbon where they are available at comparable performance and cost;
- responsibly sourced timber, certified under FSC or PEFC schemes;
- locally sourced materials where practicable, reducing transport emissions;
- durable, low-maintenance external materials with long service lives - facing brick, slate and through-coloured render - so that replacement cycles are long;
- segregation and recycling of construction waste, under a site waste management approach agreed with the contractor.

Material from the demolition and clearance of the site has been crushed and retained on site for reuse as fill and sub-base where it is suitable, reducing both disposal and imported aggregate. This responds directly to Policy CC2(1)(d) of the Framework, which asks that proposals take advantage of opportunities to reuse existing structures and materials, including by reusing non-contaminated excavated soil and hardcore within the site.

10. Climate Resilience

The dwellings are designed to remain comfortable and serviceable over their lifetime:

- overheating addressed through Part O compliance, shading and ventilation, as set out at Section 4;
- surface water managed on site through infiltration and permeable surfaces, reducing pressure on the local network during intense rainfall;
- new tree and hedge planting providing shading, evaporative cooling and habitat;

- drought resilience supported by water-efficient fittings, water butts and planting selected for the local climate;
- a robust, well-insulated fabric which moderates internal conditions in both hot and cold weather.

11. Summary

The proposed development delivers a coherent and deliverable sustainability strategy:

- passive solar design, with south-facing gardens and living spaces;
- a fabric-first envelope meeting or exceeding the Part L standards in force at construction;
- air source heat pumps to all four dwellings, with no fossil fuel heating;
- whole-house MVHR, coordinated with the acoustic strategy, providing filtered ventilation and heat recovery;
- provision for roof-mounted photovoltaic generation, to be installed under permitted development rights;
- Part O compliance for overheating;
- 110 litres per person per day water consumption;
- 7kW electric vehicle charging to every dwelling;
- SuDS-led drainage with permeable surfacing and infiltration;
- retained native hedgerows and a package of biodiversity enhancements.

Taken together these measures accord with Policies CC2, CC3, F8, N2 and N3 of the National Planning Policy Framework, with Policies SP1, SP9 and D1 of the North Hertfordshire Local Plan, and with the objectives of the Council's Sustainability SPD and its Climate Emergency declaration.

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