



Land East of Blackmore Farm Melksham

Energy, Waste & Sustainability Statement

April 2026

Key Features of the Proposals

Highly energy efficient buildings, adopting a 'fabric first' approach

Air source heat pumps for heating and hot water

Renewable energy generation via photovoltaic panels

Zero carbon ready

100%
of properties with associated parking to have dedicated EV charging

Adapted to anticipated future changes in the climate

25%
reduction in potable water use against the national average

100%
of properties to have fibre-to-the-home enabled

Construction waste will be managed in accordance with the Waste Hierarchy

The sustainable approach described within this Statement demonstrates that the proposals will meet the relevant requirements of the Wiltshire planning framework, creating a low carbon development which is adapted to future changes in the climate.

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1 Introduction

1.1 This Statement

- 1.1.1 This *Energy, Waste & Sustainability Statement* supports the outline application for the proposed development of up to 275 dwellings on Land East of Blackmore Farm, Melksham in Wiltshire. It has been commissioned by Gleeson Land Ltd (the Applicant).
- 1.1.2 The Statement describes how the outline development proposals address the issue of sustainability, in line with national and local policies and regulations. It includes a Sustainable Energy Strategy and a Waste Audit Statement as required by the *Wiltshire Validation Checklist (August 2025)*:

Sustainable Energy Strategy

- By adopting high fabric standards and a combination of low and zero carbon technologies, the buildings on the development will be futureproofed to become operationally zero carbon over time in line with the emerging Future Homes Standard;
- There will be no natural gas connection to the proposed development.

Climate Resilience and Adaptation

- The development designs will anticipate future changes in the climate;
- Overheating risk will be reduced through passive design measures as required by Approved Document O;
- Open space and landscaping will provide multiple benefits;
- Surface water will be managed with the integration of SuDS.

Domestic Water Efficiency

- High water efficiency standards will be achieved through considered design.

Waste Audit Statement

- Sustainable design practices, including informed material selection and the use of re-used and recycled materials, will reduce embodied carbon;
- Construction waste will be managed in accordance with the principles of the Waste Hierarchy;
- Operational waste arrangements will be designed to align with the requirements of the *Waste Storage and Collection: Guidance for Developers Supplementary Planning Document (2017)* and Building Regulations.

Reducing Carbon Emissions from Transport

- Accessibility to local services and sustainable transport options will encourage residents to prioritise active travel and public transport over private car use;
- Electric vehicle charging infrastructure will be incorporated in line with the requirements of Approved Document S;
- High quality broadband will be provided as required by Approved Document R.

1.1.3 In February 2019, Wiltshire Council passed a resolution to acknowledge the Climate Emergency and subsequently committed to supporting Wiltshire to work towards becoming carbon neutral by 2030. The comprehensive approach to carbon reduction and climate change adaptation described in this document clearly aligns with these aspirations.

1.1.4 The recommendations provided are described in as much detail as is possible at this outline planning stage. Where specifics are not available, the overall approach and standards to be achieved have been set out to ensure that sustainability remains a central feature of the development as the designs develop and the application proceeds.

1.2 The Site

1.2.1 The proposed 27.41ha site is located to the east of Blackmore Farm in Melksham, Wiltshire. It currently comprises parcels of agricultural land which are enclosed by mature trees and hedgerows.

1.2.2 The site is bordered by agricultural land and an area of woodland to the south, agricultural land and an existing solar farm to the east, and by residential properties which front onto the A3102 Sandridge Common to the north. Directly to the west of the site is the consented Blackmore Farm application (Ref PL/2023/11188) for up to 500 dwellings.

1.3 Description of Development

1.3.1 The outline planning application has the following description of development:

Outline application for the erection of up to 275 dwellings (including affordable), associated infrastructure, landscape and biodiversity enhancements, all matters reserved except for access from Sandridge Common.

1.3.2 The image below shows the Illustrative Masterplan for the proposed development:

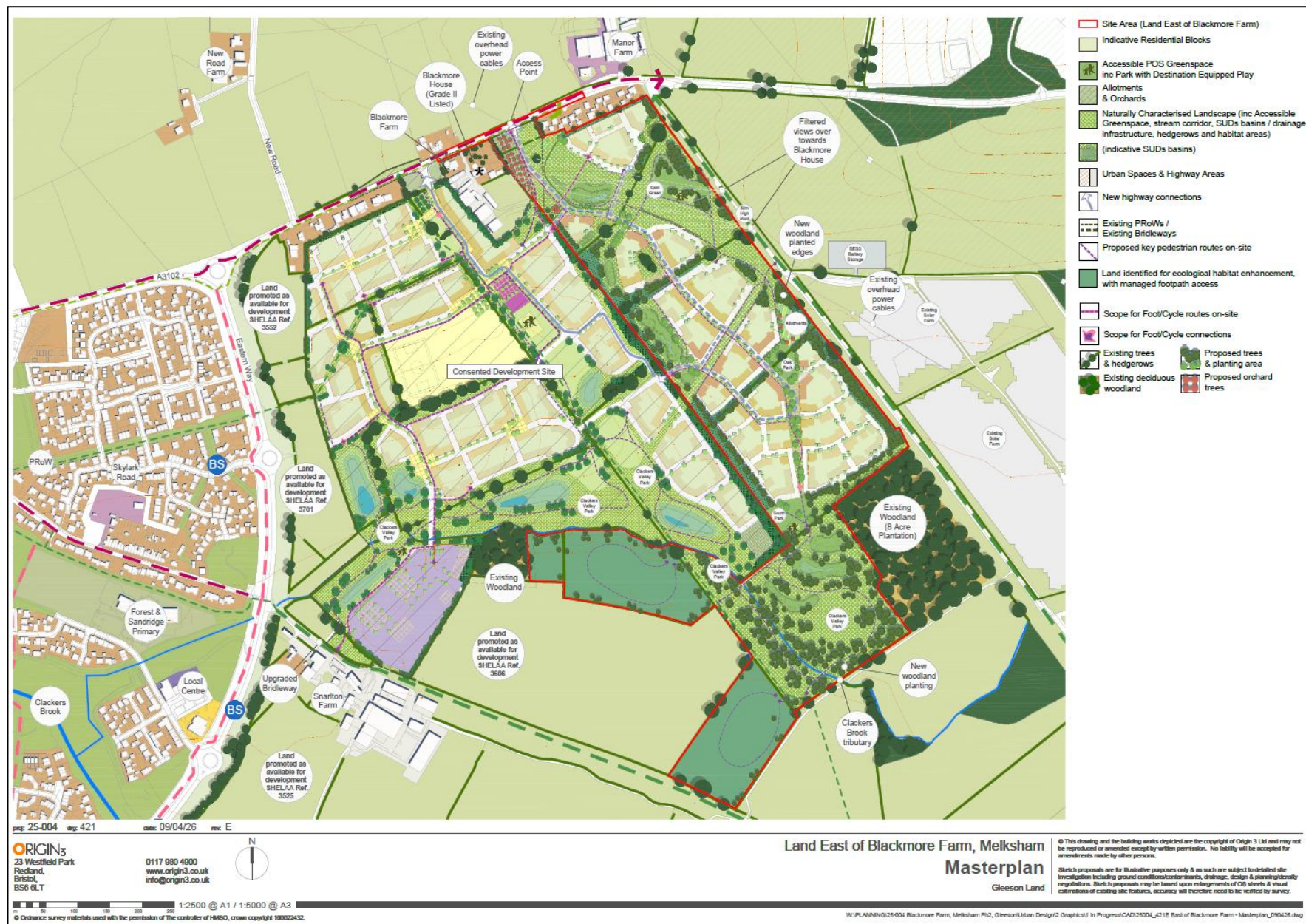


Figure 1: Illustrative Masterplan (Origin3)

2 Sustainability Policy Review

2.1 National Planning Policy

The National Planning Policy Framework December 2024 (NPPF)

2.1.1 The NPPF Section 2 states that the purpose of the planning system is to contribute to sustainable development, and it has three overarching objectives 'to be pursued in mutually supportive ways':

- An economic objective, contributing to a strong, responsive, competitive economy;
- A social objective, supporting vibrant and healthy communities and;
- An environmental objective, protecting and enhancing our natural, built and historic environment.

2.1.2 As such, the NPPF at its heart contains a 'presumption in favour of sustainable development'. Emphasising the need to achieve well designed places, the NPPF states that "*Good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities*".

The National Planning Policy for Waste 2014

2.1.3 The National Planning Policy for Waste (2014) states that local planning authorities should ensure that all new development proposals make sufficient provision for operational waste management, promoting good design and layout to secure the integration of waste management facilities. The document also requires that waste arising from the construction process is reused and recovered as far as possible to minimise offsite disposal.

Acts of Parliament

2.1.4 The Climate Change Act 2008 is the basis for the UK's approach for tackling and responding to climate change. It commits the UK government to reducing greenhouse gas emissions by at least 100% of 1990 levels by 2050.

2.1.5 The Environment Act 2021 introduces new powers and amends existing legislation to address waste management, including the standardisation of waste and recycling across local authorities, stipulating specific materials that must be collected individually from households and businesses, and introducing mandatory digital waste tracking.

Building Regulations

2.1.6 *Approved Document L, Conservation of Fuel and Power, Volume 1: Dwellings (2021)* sets out the Building Regulation standards for energy performance in new developments, placing a greater emphasis on reducing primary energy use, in addition to achieving carbon and fabric efficiency targets, compared to the previous standards. The tightening of fabric energy efficiency standards, air tightness and carbon performance targets are accompanied by updated

calculation and modelling requirements within the compliance mechanism (SAP10.2 for dwellings).

- 2.1.7 *Approved Document F, Ventilation, Volume 1: Dwellings* details requirements for ventilation in domestic properties to ensure that increased air tightness (as required by the updates to Approved Document L) does not impact on internal air quality.
- 2.1.8 *Approved Document O: Overheating* has been put into place to limit overheating risk in new residential buildings. It expands on the provision in the previous Part L and requires the use of passive methods where feasible. Compliance can be demonstrated through a prescriptive or thermal simulation compliance path.
- 2.1.9 Water efficiency targets for new dwellings are driven by *Approved Document G: Sanitation, Hot Water Safety and Water Efficiency (2015)*. Within a domestic setting, the requirement is to limit water use to either 125 litres per person per day or, if required by the planning permission, an enhanced standard of 110 litres per person per day.
- 2.1.10 *Approved Document S: Infrastructure for Charging Electric Vehicles (December 2021)* details regulations for the installation of electric vehicle charging points and cable routes. Requirement S1 from Part S of Schedule 1 and regulation 44D of the Building Regulations states that every new home with an associated parking space must have access to an EV charging point.
- 2.1.11 *Building Regulations 2010 Approved Document H (2015 Edition)* provides guidance in relation to solid waste storage and disposal at new residential development. This includes a requirement that sufficient space is provided for the storage of containers for separated waste, and that these storage areas should be sited so that the distance householders are required to carry/drag refuse does not exceed 30m. There are specific regulations relating to the size, design and siting of the storage areas under different scenarios.

The Future Homes and Building Standard

- 2.1.12 On 24 March 2026, regulations were laid in Parliament to amend the Building Regulations 2010 and the Building (Registered Building Control Approvers etc.) (England) Regulations in order to implement the Future Homes and Buildings Standards. Updated Approved Documents, which provide the statutory guidance accompanying the Building Regulations, were also published.
- 2.1.13 The Future Homes and Buildings Standards will make sure that new homes and non-domestic buildings are future-proofed with low carbon heating and high levels of energy efficiency. Homes and buildings constructed to these standards will not require retrofitting to become zero carbon in use once the electricity grid is fully decarbonised.
- 2.1.14 The regulations and amended guidance will come into force on 24 March 2027 (for non-higher-risk building work) followed by a 12 month transition period. For such building work to be completed to the *current* Part L (2021) standards, relevant Building Regulations documents will need to be submitted to the relevant authority by 24 March 2027 and construction will need to commence by 24 March 2028 (unless other transitional provisions apply).

- 2.1.15 An updated version of the Standard Assessment Procedure (SAP), known as SAP 10.3, will soon be available as an approved calculation methodology to demonstrate compliance with the FHS.
- 2.1.16 It is then expected that the new Home Energy Model (HEM) will be available as an approved calculation methodology later in 2026. Once HEM is approved, it will be possible to use either HEM or SAP 10.3 to demonstrate compliance with the FHS during a 'dual running' period of approximately 24 months, after which the SAP will be phased out.

2.2 Local Planning Policy

Wiltshire Core Strategy (Adopted January 2015)

2.2.1 The Wiltshire Core Strategy (Adopted January 2015) sets out the Council's spatial vision, key objectives and overall principles for development in the county. Addressing climate change is one of the strategic objectives identified within the Core Strategy, highlighting it as a key consideration for Wiltshire Council.

2.2.2 Policy extracts from the Core Strategy which are of most relevance to this document are provided within the following table:

Core Policy	Extract
41	Sustainable Construction and Low Carbon Energy Climate change adaptation New development, building conversions, refurbishments and extensions will be encouraged to incorporate design measures to reduce energy demand. Development will be well insulated and designed to take advantage of natural light and heat from the sun and use natural air movement for ventilation, whilst maximising cooling in the summer. Sustainable construction New homes (excluding extensions and conversions) will be required to achieve at least Level 4 (in full) of the Code for Sustainable Homes*. (...) Renewable and low-carbon energy All proposals for major development will be required to submit a Sustainable Energy Strategy alongside the planning application outlining the low-carbon strategy for the proposal.
57	Ensuring High Quality Design and Place Shaping A high standard of design is required in all new developments (...) Applications for new development must be accompanied by appropriate information to demonstrate how the proposal will make a positive contribution to the character of Wiltshire through: (...) v. the maximisation of opportunities for sustainable construction techniques, use of renewable energy sources and ensuring buildings and spaces are orientated to gain maximum benefit from sunlight and passive solar energy, in accordance with Core Policy 41 (Sustainable Construction and Low Carbon Energy); (...)

* Code for Sustainable Homes was withdrawn in 2015 and has been largely superseded by Building Regulations standards.

Draft Wiltshire Local Plan 2020-2038 (September 2023)

- 2.2.3 Wiltshire Council are currently preparing a new Local Plan 2020-2038 to replace the Core Strategy described above. The Regulation 19 Pre-Submission Draft Local Plan was submitted to the Planning Inspectorate for examination on 28 November 2024.
- 2.2.4 The Draft Local Plan document includes a substantially updated version of Core Policy 41 (*Draft Policy 85: Sustainable Construction and Low Carbon Energy*) which states new build residential development should achieve a zero carbon in operation standard, alongside a new *Draft Policy 87: Embodied Carbon* and a new *Draft Policy 96: Water Resources*.
- 2.2.5 While these are draft policies which may not be adopted in their current form, it is the Applicant's view that the proposed development should aim to achieve high levels of sustainability.
- 2.2.6 This Statement therefore looks ahead to the emerging Future Homes Standard, sets out how the development will be zero carbon ready, and outlines the principles to be adopted to reduce water consumption and embodied carbon, ensuring that the development will align with the broad aims of the emerging policy.

Wiltshire and Swindon Waste Core Strategy 2006-2026 (Adopted 2009)

- 2.2.7 The *Wiltshire and Swindon Waste Core Strategy* sets out the strategic policy framework for waste management and forms one element of the Wiltshire and Swindon Minerals and Waste Development Framework. It includes a set of policies designed to meet identified issues for waste management in the area, relevant extracts of which are included below:

Policy	Extract
WCS5	The Wiltshire and Swindon Waste Hierarchy and Sustainable Waste Management In the interest of sustainable waste management, the Councils will seek to drive waste up the hierarchy by ensuring that developers demonstrate that the most sustainable option for waste management in Wiltshire and Swindon has been promoted.
WCS6	Waste Reduction and Auditing Proposals for developments (...) will be required to design and provide facilities for occupiers of the development to recycle / compost waste (bring systems) and / or facilities within individual or groups of properties or premises for the source separation and storage of different types of waste for recycling and / or composting. (...) Such provision will be expected to have regard to the existing capacity of facilities already available and to the existing Recycling Plan or Municipal Waste Management Strategy relevant to the area. (...)

Household Waste Management Strategy 2017-2027

- 2.2.8 Wiltshire's Household Waste Management Strategy outlines the council's vision of working towards zero avoidable household waste in Wiltshire. To achieve this vision, the council has identified a number of priorities based on the requirements of the Waste Hierarchy, stating that disposal to landfill should be the last resort.

Waste Storage and Collection: Guidance for Developers Supplementary Planning Document (January 2017)

- 2.2.9 The Waste Storage and Collection Supplementary Planning Document (SPD) supports Wiltshire Council's Waste Management Strategy, providing guidance to developers on waste management at new developments.
- 2.2.10 It details how sufficient space for waste management should be integrated into the designs of all developments, and sets out Wiltshire Council's waste collection vehicular access requirements, thereby enabling services to be delivered safely, efficiently and in compliance with regulations.

Wiltshire Design Guide Supplementary Planning Document (Adopted March 2024)

- 2.2.11 The Wiltshire Design Guide SPD provides guidance to developers to ensure a high standard of design for all development in Wiltshire. It includes a chapter on Resources which sets out the council's expectations around energy, waste and recycling.

Joint Melksham Neighbourhood Plan 2020-2038 (Made July 2025)

- 2.2.1 The Joint Melksham Neighbourhood Plan forms part of the Development Plan for Wiltshire. It includes the following policies which are of relevance to this document:

Policy	
1	Sustainable Design and Construction As appropriate to their scale, nature and location, development proposals should demonstrate how they have mitigated and been designed to adapt to the impacts of climate change. This includes: a. the submission of a Sustainable Energy Strategy to demonstrate how carbon emissions are minimised, with the target of zero carbon in operation (regulated and unregulated energy); b. embedding the Energy Hierarchy within the design of buildings by prioritising fabric first, orientation, design, and landscaping, to minimise energy demand for heating, lighting, and cooling, as well as maximising renewable energy generation. Proposals should respond positively to opportunities to improve space heating and energy consumption by considering a range of low-carbon and renewable technologies; c. demonstrating good connections to existing services and facilities, and/or a mix of uses that minimises the need to travel by private vehicle; d. using carbon sequestration and other sustainable approaches such as shade; and e. the retention of existing buildings where practicable, and the incorporation of associated retrofitting measures to improve the energy performance of existing buildings.
4	Ultra Low Emission Vehicle Charging Insofar as planning permission is required, proposals for the installation of public on-street electric charging facilities will be supported subject to heritage and other related design matters.

Additional Planning Policy Documents

- 2.2.2 Further guidance exists relating to transport, parking, flood risk and ecology. These are covered in more detail in the other reports accompanying this submission. This Statement does however summarise the outputs of these reports where relevant to give a rounded picture of the approach to sustainable design and construction issues.

3 Sustainable Energy Strategy

3.1 Introduction

- 3.1.1 This Energy Statement describes the design principles which will be applied at the proposed development to ensure that the dwellings achieve the requirements of Core Policy 41 of the Wiltshire Core Strategy whilst satisfying the core themes of the Draft Local Plan:
- The development will be 'zero carbon ready', and will be futureproofed to become operationally zero carbon over time as the Grid decarbonises;
 - Space heating demand will be reduced by:
 - Balancing solar gain against overheating risk;
 - Applying 'fabric first' principles and adopting a highly efficient thermal specification.
 - Operational energy use will be reduced by:
 - Installing high efficiency lighting and appliances;
 - Installing low carbon air source heat pumps.
 - Energy will be generated on-site via roof integrated solar photovoltaic panels.
- 3.1.2 Since this application is in outline, there are areas within this section where a definitive solution cannot currently be provided.
- 3.1.3 The approach described will therefore continue to be refined and adapted to ensure the development complies with the local planning framework in place at the point of determination.
- 3.1.4 Further detail, accompanied by compliance calculations to demonstrate performance, can therefore be provided at Reserved Matters and be secured by Condition if necessary.

3.2 The Energy Hierarchy

- 3.2.1 The Energy Hierarchy underpins the entire approach to building performance for this development, thus prioritising a reduction in the demand for energy as far as possible through thermally efficient, easily controlled, well designed and oriented buildings.
- 3.2.2 This 'fabric first' approach is in line with the requirements of Core Policy 41 of the Wiltshire Core Strategy and Policy 1 of the Joint Melksham Neighbourhood Plan:

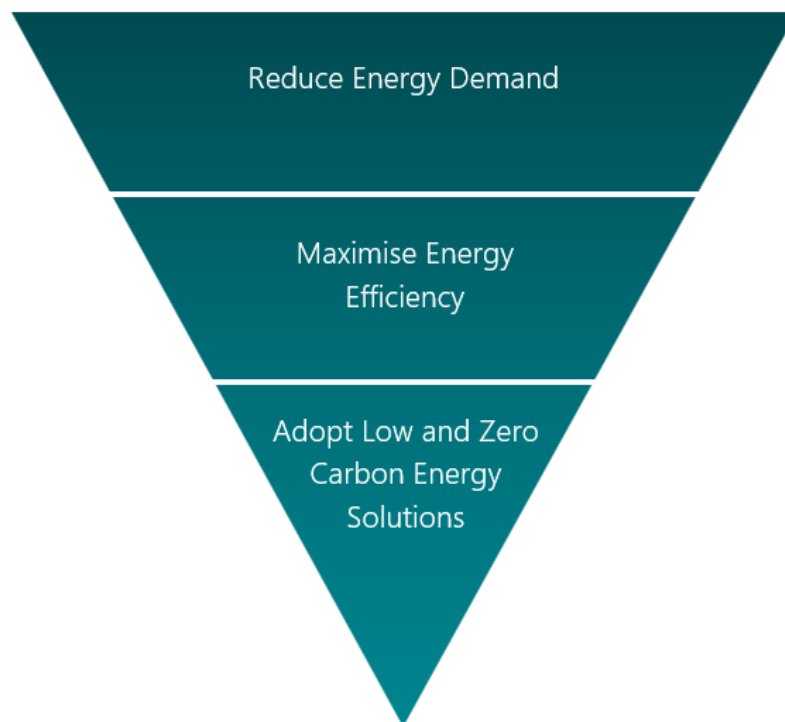


Figure 2: The Energy Hierarchy

3.3 Site Layout and Property Orientation

- 3.3.1 The orientation of buildings, along with the size and location of glazing and the extent of overshadowing, plays an important role in energy performance. Improving a building's orientation so that the main living spaces benefit from the heat and light of the Sun can reduce the requirement to use fuels to perform the same function thus reducing costs, energy use and associated carbon emissions.
- 3.3.2 When buildings have a southerly orientation, they can benefit from the Sun during the middle portion of the day without suffering from potential overheating later in the afternoon. This orientation can also help to ensure that they still benefit as much as possible from sunlight during the winter when the Sun's path is shortened.
- 3.3.3 However, there is a balance to be struck between maximising solar gain and the risk of overheating. Section 4 of this Statement discusses approaches to addressing and managing this risk which align with the requirements of Building Regulations Approved Document O.

- 3.3.4 The proposed layout of the site will be developed with respect to identified spatial, topological and visual constraints, all of which need to be carefully considered. Within these parameters, a proportion of the properties will have a southerly orientation. Furthermore, the relatively low density of the development will ensure appropriate spaces around dwellings, reducing overshadowing.
- 3.3.5 The impact of orientation on the viability of photovoltaic panels is discussed in Paragraph 3.6.8-3.6.9.

3.4 Highly Efficient Building Envelope

Thermal Elements

- 3.4.1 A 'fabric first' building specification will be developed to ensure that the envelope of each dwelling, including the wall, roof, floor, glazing and doors, will be highly energy efficient. This will reduce energy demand and increase comfort.
- 3.4.2 Thermal bridges will be minimised through the application of design details and products that provide continuous insulation, such as insulated lintels.
- 3.4.3 The specification will be confirmed at a later stage in the planning process once housetypes have been finalised. It will be designed to ensure that the dwellings meet Building Regulation requirements, with the option of further refining the specification should this be required by local policy.
- 3.4.4 Table 1 in Section 3.7 provides an indication of the levels of performance required, including u-values for different thermal elements.

Air Tightness and Controlled Ventilation

- 3.4.5 It is vital that dwellings have sufficient levels of air tightness to reduce heat loss and minimise draughts. Air tightness is also an important factor in managing interstitial condensation and reducing sound transmission through structures.
- 3.4.6 The current target for the development will be to ensure the dwellings are constructed with an air permeability level of $c.5\text{m}^3/\text{m}^2@50\text{Pa}$ or less.
- 3.4.7 Where the as-designed air permeability is less than $5\text{m}^3/\text{m}^2@50\text{Pa}$, it may be necessary to install mechanical extract ventilation units (ideally with heat recovery) in each dwelling to ensure adequate and controlled ventilation, in line with the requirements of Approved Document F.
- 3.4.8 All of the dwellings will also benefit from natural cross ventilation via openable windows which will enable rapid purges of air and will contribute to maintaining internal air quality.

- 3.4.9 The air tightness specification and ventilation strategy for the dwellings will be designed to align with regulatory requirements and will be confirmed later in the planning process once housetypes are available to model. The issue of overheating is discussed further in Section 4.

3.5 Lighting, Fixtures and Fittings

- 3.5.1 Further energy savings will be made by maximising the efficiency of appliances, lighting, fixtures and fittings.
- 3.5.2 All internal and external fixed electric lighting will be categorised as 'energy efficient' in line with regulations to minimise lifetime energy use and associated emissions.
- 3.5.3 All appliances where installed will be high efficiency, further minimising the use of both electricity and hot water. Moreover, where these are not installed, they will be provided to incoming residents within the list of optional extras. There will be space in all gardens for clothes drying to discourage the use of tumble dryers.
- 3.5.4 Taps and shower fixtures and fittings that reduce hot water consumption with low and/or aerated flows will be specified; more detail in relation to potable water management is provided in Section 5.
- 3.5.5 A further option that could be explored is the installation of Waste Water Heat Recovery units (WWHR) in those dwellings that can accommodate them. WWHR units enable heat to be recovered from the waste water produced in bathrooms via baths or showers. This heat is then used to pre-warm water in the system, and thus reduce the amount of energy needed to provide hot water for use within the property. The impact is a further reduction in energy use

3.6 Low Carbon Energy Supply

- 3.6.1 The UK is rapidly moving towards electrification of the heating system. Indeed, it has been confirmed that the Future Homes Standard will not permit the installation of gas or oil boilers.
- 3.6.2 The Applicant has therefore confirmed that this development will seek to avoid gas connections and will instead look to alternative options for energy supply and heating provision.

Air Source Heat Pumps

- 3.6.3 It is anticipated that air source heat pumps will be installed to provide space and water heating to all properties at this development, subject to detailed design and compliance with the required standards.
- 3.6.4 High quality, well installed units can deliver a seasonal heating efficiency in excess of 300%, significantly reducing both operational costs for occupiers and carbon emissions when compared to gas or direct electric baselines.
- 3.6.5 The heat pump solution will ensure the homes are 'zero-carbon ready', setting the development on a trajectory to net zero emissions over time: the rapid expansion in renewable and low carbon energy supply within the Grid in recent years means that Grid electricity is considerably cleaner per unit than natural gas, and will continue to decarbonise over time:

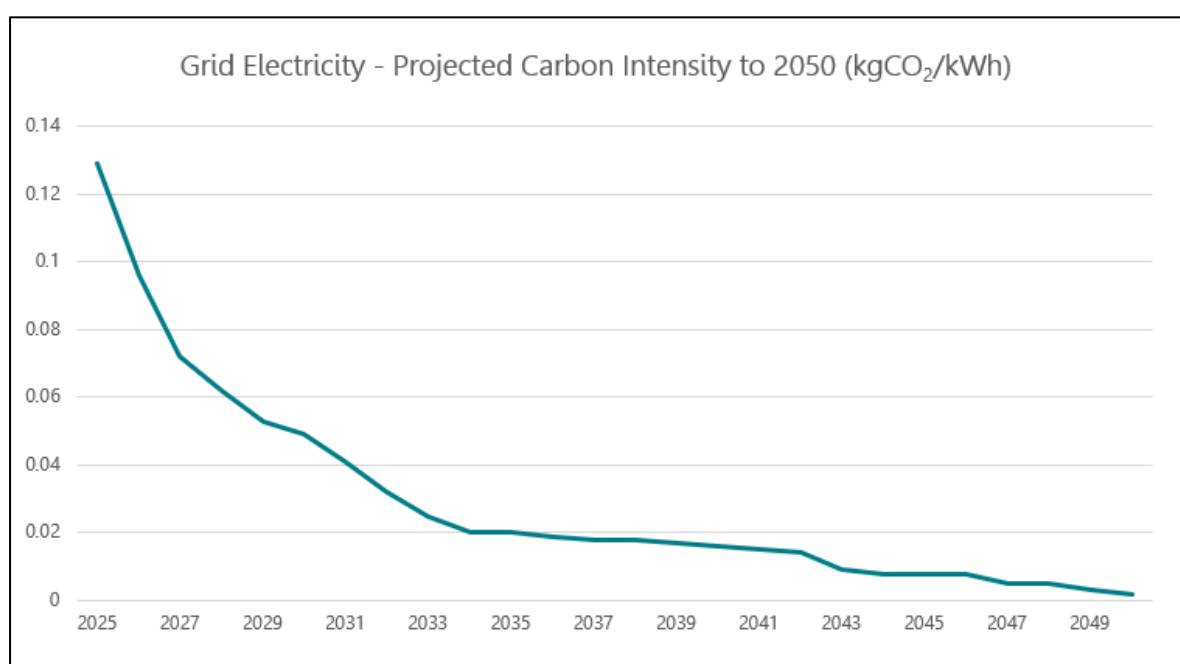


Figure 3: Projected Grid Decarbonisation
(Source: UK Government Green Book, Supplementary Guidance, November 2023)

Solar Photovoltaics

- 3.6.6 Solar photovoltaic (PV) panels will be installed to complement the heat pump solution where required by regulations. This option will result in further carbon reductions and energy cost savings by generating electricity on-site.
- 3.6.7 The quantity of PV installed at each property will be determined later at the Reserved Matters stage once housetypes and the local centre have been designed and the timing of construction (and therefore the relevant Building Regulation regime) has been confirmed. Where the Future Homes and Buildings Standards apply, it is expected that the sizing of the PV system will be equivalent to around 40% of the ground floor area of the property, unless specified exemptions apply.
- 3.6.8 The PV panels will be roof integrated to minimise visual impact, so the orientation and design of the buildings and roofscapes will therefore need to be carefully considered. For example, roof designs will seek to avoid features on southerly orientations that significantly limit the installation of PV, such as hipped roofs, dormers and Velux windows. It is however recognised that orientation to maximise solar PV potential is just one of many considerations when determining residential development layouts, and some flexibility in approach will be needed to achieve an acceptable final site layout.
- 3.6.9 Increasingly, east-west facing split systems are being adopted, providing a more even amount of generation through the day, and without any significant loss in annual output. It should not therefore be assumed that all roofs need to face between southeast and southwest to accommodate PV when finalising the layout.

Control Systems

- 3.6.10 The dwellings will feature smart control systems to help future residents maximise the efficiency of their heating and energy generation systems. These are likely to include highly granular time and temperature zone control and weather compensation. Clear and straightforward system user guides will be provided to incoming residents as part of their welcome packs.

3.7 Indicative Specification

- 3.7.1 Due to the outline nature of this application, it is not possible to provide an exact specification for the dwellings.
- 3.7.2 Table 1 instead provides an illustration of the levels of performance which may be applied at the proposed development:

Element Type	Illustrative Specification for the Proposed Development
Roof / Sloped Roof	0.11 W/(m ² .K)
External walls	0.18 W/(m ² .K)
Ground floor	0.13 W/(m ² .K)
Glazing	1.2 W/(m ² .K)
Doors	1.0 W/(m ² .K)
Air permeability	<5.0m ³ /m ² /hour@50Pa
Ventilation system	dMEV
Heating system	Air source heat pump
Photovoltaic system	High efficiency panels where required by policy and regulations

Table 1: Summary of Illustrative U-Values and Specifications

- 3.7.3 The specification to be applied at the site will be for determination as part of a Reserved Matters application. At that point, detailed energy calculations can be provided, demonstrating more accurately the impact of the proposed approach and how it complies with the local policies and national regulations in place. This includes the Future Homes Standard and the Wiltshire Local Plan, should it be adopted policy at that stage.

4 Climate Resilience and Adaptation

4.1 Adapting to the Future

- 4.1.1 The ability of a development to adapt to anticipated future changes in the climate is an important aspect of its longevity, and ultimate habitability. The principle of adaptation applies to both the built and external environment, and indeed how they interact.
- 4.1.2 This section discusses how the issues of climate resilience and adaptation are being considered in the designs of the proposed development in line with the requirements of Core Policy 41 of the Core Strategy and Policy 1 of the Joint Melksham Neighbourhood Plan.

4.2 Reducing Overheating Risk Through Design

- 4.2.1 The risk of the overheating of living spaces is of increasing concern, given our knowledge of future climate. Approved Document O details requirements for mitigating this risk in new residential dwellings and methods for demonstrating compliance, including the use of either a compliance checklist or the *CIBSE Guide TM59 Design Methodology for the Assessment of Overheating Risk in Homes* (CIBSE, June 2017).
- 4.2.2 The dwelling designs for the proposed development will undergo overheating risk modelling at the appropriate design stage.
- 4.2.3 Acceptable strategies for reducing overheating risk described in Approved Document O focus on passive design features and include:
- Limiting solar gains:
 - Fixed shading devices such as shutters, external blinds, overhangs or awnings;
 - Glazing design including size, orientation, glass g-value and depth of window reveal;
 - Shading provided by adjacent permanent structures.
 - Removing excess heat:
 - Opening windows and ideally cross ventilation;
 - Ventilation louvres in external walls;
 - A mechanical ventilation system;
 - A mechanical cooling system as a last resort.

4.3 The Multiple Benefits of Open Space and Vegetation

- 4.3.1 The development proposals feature extensive areas of green open space including natural landscape areas to the north and east, and the Clackers Valley Park to the south which will form a natural link with the area of parkland in the consented development to the west.
- 4.3.2 Many of the existing mature trees and hedgerows around the site boundaries will be retained and enhanced with additional planting, and attenuation basins will provide opportunities for wetland marginal species.
- 4.3.3 This landscape led approach will provide multiple benefits in a changing climate:
- The deciduous trees will provide shading in the summer months, reducing heat gain into dwellings and therefore reducing the need for mechanical cooling;
 - Trees throughout the site will also help maintain a comfortable external environment in hot periods by providing shading in gardens and shared spaces and reducing any urban heat island effect;
 - The trees, hedges and shrubs will contribute to the reduction of wind speeds, improving comfort levels and reducing air infiltration into buildings on windier days;
 - Vegetation acts as a 'carbon sink' and improves air quality through dry deposition of gases (including NO_x, SO_x, PM₁₀ and O₃);
 - Trees, hedges and shrubs also help reduce levels of ambient noise.
- 4.3.4 This landscape led approach will also result in biodiversity gains through ecosystem improvement. The Preliminary Ecological Appraisal for the site should be referred to for full details in this regard.

4.4 Managing Water in a Changing Climate

- 4.4.1 Any new development on a previously undeveloped site will inevitably increase the amount of hard standing (roofs, roads, pavements) and therefore the amount of surface water run-off. The integration of different Sustainable Urban Drainage (SuDS) features into the landscape layout will therefore be pivotal in its development, in order to enable the necessary storage volumes associated with a 1 in 100 year storm event, plus a 40% allowance for the impacts of climate change on rainfall distribution throughout the year.
- 4.4.2 The Flood Risk Assessment (FRA) which accompanies this application provides further details in relation to the level of flood risk and the management of surface water flows at the proposed development and this should be referred to for full details in this regard.
- 4.4.3 As housetypes are developed later in the planning process, consideration should also be given to design features such as increased diameter guttering and downpipes to cope with additional intensity of storm water.

5 Water Efficiency

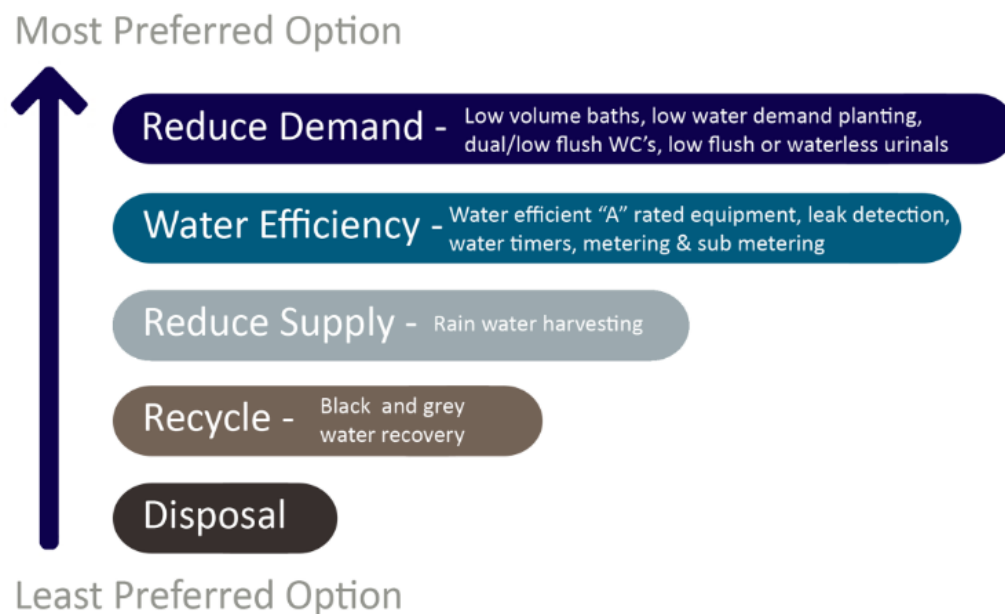
5.1 Introduction

- 5.1.1 Water efficiency becomes increasingly important in a changing climate with diminishing water resources.
- 5.1.2 In the UK, the national average for water consumption is around 143 litres per person per day (l/p/d) which includes potable water being used for flushing the toilet, washing the car and irrigating gardens.



Figure 4: Domestic Water Consumption by End Use

- 5.1.3 In order to reduce this figure, the management of water at the proposed development will follow the principles of the Water Hierarchy:



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Figure 5: The Water Hierarchy

5.2 Water Reduction Measures

- 5.2.1 Policy 41 of the Core Strategy refers to the *Code for Sustainable Homes* Level 4 which required all new residential developments to achieve a water efficiency equivalent of 105 litres per person per day (l/p/d). When the *Code for Sustainable Homes* was withdrawn, this water efficiency target was replaced by the enhanced standard set out in Approved Document G, which requires a water use of 110 l/p/d..
- 5.2.2 The dwellings will include water efficient fixtures, fittings and appliances plus rainwater recycling (water butts) to ensure that daily water use will be calculated to not exceed the 110 l/p/d target. The following table is an illustrative list of specifications which typically achieve this standard:

	Measure	Unit	Performance / Specification
1	Showers	Litres per minute	11
2	Aerated taps	Litres per minute	3
3	Kitchen sink taps	Litres per minute	4
4	Bath	Litre capacity to overflow	140
5	WC	Litres per flush	4 / 2.6 (dual flush)
6	Washing machine	Litres per kg dry load	7
7	Dishwasher	Litres per place setting	1.08

Table 2: Illustrative Water Specifications

- 5.2.3 The final specification to be applied at the development can be confirmed at detailed design stage, at which point the Approved Document G calculation can be used to demonstrate compliance.

6 Waste Audit Statement

6.1 Introduction

- 6.1.1 This section sets out the overarching principles which will be applied at later stages of the planning and development process to ensure that the issue of embodied carbon is considered, and that waste arising from the development (both during its construction and operation) is appropriately managed.
- 6.1.2 Embodied carbon refers to the 'upfront' emissions associated with building construction, including the extraction and processing of materials, and the energy and water consumption in the production, assembly, and construction of the building. It also includes the 'in-use' stage (e.g. maintenance, replacement), and the 'end of life' stage (demolition, disassembly, and disposal) plus any transportation. Broadly speaking, these, alongside the operational emissions described in Section 3, make up the Whole Life Carbon (WLC) associated with a development.

6.2 Sustainable Building Materials

- 6.2.1 Procurement throughout the development process will be outcome-focused with well-defined deliverables covering environmental, social and economic issues.
- 6.2.2 These will include resource efficiency and carbon reduction, and will provide opportunities for the local supply chain:
- Selection criteria will be adopted which incorporates consideration for sustainability, and wherever possible allows for the most sustainable solutions to be procured;
 - Key materials will be sourced using suppliers with recognised environmentally focused accreditations and management systems such as ISO:14001;
 - Materials derived from recycled, repurposed or reused products will be specified where possible;
 - 100% of timber will be sustainably sourced with full FSC or PEFC chain of custody. This certification will ensure that all timber and timber-based products used on the project will be legally harvested and traded products;
 - Preference will be given to materials with low embodied carbon, as stated on the Environmental Product Declaration provided by the material supplier;
 - Single use plastics will be identified and replaced with alternative sustainable solutions wherever possible;
 - Low volatile organic compound (VOC) products will be specified internally where feasible to ensure a healthy indoor environment for residents;
 - Local suppliers of materials will be used where viable to reduce transportation.

- 6.2.3 The homes will be designed with a palette of materials that is both appropriate and in keeping with the local architectural vernacular. As such the form of construction will not require the use of unusual materials, those with significant environmental impact or those that require significant off-site processing and development before use on site.
- 6.2.4 In addition, suppliers that have recognised environmentally focused accreditations and management systems such as ISO:14001 will be used, and all timber will be sustainably sourced with full FSC or PEFC accreditation.

6.3 Designing for Durability and Flexibility

- 6.3.1 Later in the design process, the durability, flexibility and adaptability of the dwellings can be considered:
- Ensuring there is synchronicity between materials selected and building life expectancy reduces waste and the need for replacement (and reduces in-use costs);
 - Ensuring the building is adapted now to future climate scenarios means it is futureproofed without the need for future intervention (see Section 4);
 - Flexible layouts will allow homes to be reconfigured over time to suit residents' changing needs.
- 6.3.2 By designing homes in this way from the outset ensures building longevity and minimises the need for extensive refurbishment which has implications for waste minimisation and embodied carbon.

6.4 Sustainable Waste Management

- 6.4.1 Waste generation, storage, treatment and disposal before, during and after construction will be managed in accordance with the Waste Hierarchy.
- 6.4.2 This is in line with the priorities of the Wiltshire Household Waste Management Strategy and Policy WCS5 of the Waste Core Strategy which requires developers to demonstrate that the most sustainable option for waste management has been promoted.



Figure 6: The Waste Hierarchy

- 6.4.3 The Outline Waste Management Strategy and Audit which accompanies the application should be referred to for details regarding the proposed approach to construction and operational waste management.

7 Reducing Carbon Emissions from Transport

7.1 Accessibility and Sustainable Transport

- 7.1.1 The Transport Statement which accompanies this application demonstrates that the site is well situated to make the most of existing road networks and public transport routes.
- 7.1.2 A Travel Plan Statement has also been developed for the site which sets out a suite of measures which will be put into place to promote more sustainable travel (walking, cycling and public transport) with the aim of reducing reliance on the private car.
- 7.1.3 To encourage cycling, all the proposed properties will include a secure and weatherproof means of cycle storage in line with local policy requirements.

7.2 Provision of Electric Vehicle Charging Points

- 7.2.1 Increasingly, energy and transport systems are becoming interlinked as the nation transitions from the use of petrol and diesel vehicles to zero emission solutions based around electric charging.
- 7.2.2 There is therefore a need for charging infrastructure to support this wholesale shift to cleaner vehicle technology and this is supported by policy: Approved Document S of the Building Regulations described in Section 2 sets out the comprehensive standards and detailed specifications required at new residential development.
- 7.2.3 The Applicant will design and manage the power network to provide the level of EV charging infrastructure required by Approved Document S. To this end, each dwelling with associated parking will have EV charging infrastructure installed.
- 7.2.4 Approved Document S should be referred to for full details including installation requirements, the cost cap and standards for charging points and cable routes.
- 7.2.5 The full details of the EV charging provision to be installed on the proposed development will be confirmed at the detailed stage in the planning and design process.

7.3 Provision of Fibre to the Premises

- 7.3.1 The availability of high-quality, reliable broadband infrastructure is increasingly viewed as critical to the functioning of a development and its continued attractiveness to incoming residents.
- 7.3.2 Indeed, such provision can facilitate better home working, enabling clear video calling and effective file sharing, which can contribute to a reduction in commuting.
- 7.3.3 Better quality, reliable internet connections for all have wider social ramifications too – reducing the risk of exclusion, a lack of access to services (which are increasingly internet based) and enabling people to better connect with society as a whole.

- 7.3.4 The provision at the development will align with *Approved Document R Volume 1 (2022 Edition)* which sets out requirements to ensure that, during construction, all new homes are equipped with gigabit-ready infrastructure.

8 Summary

- 8.1.1 This *Energy, Waste & Sustainability Statement* describes how the proposed development on Land East of Blackmore Farm, Melksham in Wiltshire will adopt sustainable construction principles with a focus on climate change mitigation and adaptation. It has been commissioned by Gleeson Land Ltd (the Applicant).
- 8.1.2 Throughout the Statement, national and local planning policy objectives and standards have been addressed to demonstrate the Applicant's commitment to these issues.
- 8.1.3 In particular, the Statement provides as much detail as is possible at this stage in the planning process to demonstrate that the proposals will achieve the Future Homes Standard and will meet the relevant requirements of Wiltshire's adopted planning framework to create a highly sustainable development:
- The dwellings will be highly energy efficient, adopting a fabric first approach. They will be orientated to maximise solar gain where possible;
 - There will be no natural gas connection to the site;
 - Heating and hot water will be supplied via highly efficient low carbon air source heat pumps which will be complemented with PV panels where required;
 - The development will be designed to adapt to a changed climate:
 - Overheating will be managed through considered design;
 - The retention of existing trees and additional planting will provide more comfortable microclimates in warmer weather;
 - The landscape design will provide multi-functional benefits, supporting increased biodiversity and enhancing the overall aesthetic;
 - Surface water will be managed via the integration of SuDS into the development.
 - The development will employ a combination of highly efficient fixtures, fittings and appliances to reduce domestic water use to achieve the 110 l/p/d target;
 - Embodied carbon will be reduced by applying sustainable design principles, including informed material selection and the use of re-used and recycled materials during construction;
 - Construction and operational waste will be managed in accordance with the principles of the Waste Hierarchy;
 - High quality broadband will be provided in line with Approved Document R;
 - Accessibility to local services and sustainable transport options will encourage residents to prioritise active travel and public transport;
 - Electric vehicle charging points will be installed in line with policy requirements.
- 8.1.4 As the planning and development process progresses, and as the wider regulatory environment develops, the approach proposed will be kept under review. The final design solution and associated detail will be provided at the Reserved Matters stage.

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