



Linden Homes

Land North of Bartons Road, Havant

Energy Statement

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1.0 Introduction

The Site

- 1.1 The application site crosses the boundary between Havant Borough Council and East Hampshire District. It is located approximately 2 kilometres to the north-east of Havant town centre and 1.6 kilometres to the east of Leigh Park District Centre. The site extends to approximately 0.85 hectares and generally slopes from south-east to north-west, with the southern part of the site raise up towards the level of Bartons Road.
- 1.2 The majority of the north and western part of the site is undeveloped grassland. The Southern and eastern area is developed and comprises several buildings in a mix of uses. Immediately to the north of the site is an area of ancient woodland.
- 1.3 The site is bounded to the west by the railway line that runs between London and Portsmouth Harbour. To the south is Bartons Road. On the opposite side of Bartons Road is a Wyevale Garden Centre and there are residential dwellings on both sides of Bartons Road.

Proposals

- 1.4 This Sustainability Report supports the planning application which seeks to develop the site with 55 dwellings, comprising a mix of detached, semi-detached, terrace and flatted properties. Proposed buildings are arranged around a central area of public open space, and have been designed with active frontage onto the public realm. The scheme is set away from the ancient woodland to the north behind a suitable buffer, and the proposed dwellings front onto this space. The scheme includes a broad mix of housing types sizes and tenures including affordable housing.

Background

- 1.5 Current Government statistics indicate that 40% of the UK's energy consumption and carbon emissions come from the way buildings are lit, heated and used. A report prepared by the Department of Energy and Climate Change (DECC) – Energy Efficiency Statistical Summary (2012), indicates that since 1996, the energy efficiency of homes has improved with a reduction in energy use of 20%. In addition, since 1970 carbon dioxide emissions per household have fallen markedly, with an overall reduction of 40%. Nevertheless, housing still remains a major contributor in the production of CO₂.



- 1.6 Current Building Regulations standards in respect to heat loss and energy efficiency place stringent requirements on developers to provide homes which not only comply, but that also provide comfortable places to live.
- 1.7 This report identifies how the proposed development will meet the current energy efficiency standards in accordance with NPPF requirements and both Havant Borough Council and East Hampshire District Council adopted planning policies.



2.0 Planning Policy Context

- 2.1 The National Planning Policy Framework (NPPF) was published in March 2012 and establishes a presumption in favour of sustainable development, encompassing, amongst other things, delivering a wide choice of high quality homes, meeting the challenge of climate change and using natural resources prudently. It sets out the overarching planning policies on achieving the delivery of sustainable development through the planning system.
- 2.2 East Hampshire District Council's adopted development plan comprises the saved policies of the Local Plan Second Review (2006) and Local Plan Joint Core Strategy (May 2014). Havant Borough Council's adopted development plan comprises the Havant Borough Core Strategy (March 2011) and the Havant Borough Local Plan (Allocations) (July 2014). This section will begin with an overview of the NPPF before summarising the requirements contained within East Hampshire's and Havant's planning policy.

National Planning Policy

- 2.3 The presumption in favour of sustainable development runs as a golden thread throughout the NPPF. Underpinning plan-making and decision-taking, the NPPF sets out 12 core planning principles at paragraph 17. Of particular note one of these principles states that planning should:
- Support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change, and encourage the reuse of existing resources, including conversion of existing buildings and encouraging the use of renewable resources (for example, by the development of renewable energy)
- 2.4 Section 10 of the NPPF has explicit regard to the challenge of climate change, flooding and coastal change. Paragraph 93 identifies the important role planning makes in helping to secure radical reductions in greenhouse gas emissions, adaption to climate change and delivery of renewable energy and low carbon energy and associated infrastructure. This is central to the economic, social and environmental dimensions of sustainable development.



2.5 Paragraph 95 considers that:

"To support the move to a low carbon future, local planning authorities should:

- Plan for new development in locations and ways which reduce greenhouse gas emissions;*
- Actively support energy efficiency improvements to existing buildings; and*
- When setting local requirements for building's sustainability, do so in a way consistent with the Government's zero carbon buildings policy and adopt nationally described standards"*

2.6 Paragraph 96 goes on to state that:

"In determining planning application, local planning authorities should expect development to:

- Comply with adopted Local Plan policies on local requirements for decentralised energy supply unless it can be demonstrated by the applicant, having regard to the type of development involved and its design, that this is not feasible or viable; and*
- Take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption."*

Local Planning Policy

East Hampshire District Council

2.7 Policy CP24 has regard to sustainability and states that

Development will be permitted if:

- a) All residential development achieves at least Code for Sustainable Homes level 4 (advancing to level 5 by 2016) and meets the minimum carbon compliance standards set out under the Zero Carbon Hub report recommendations.*
- b) Provides at least 10% of energy demand from decentralised and renewable or low carbon energy sources (if possible, including connections to a district heating system) unless it is proven that this is not feasible or viable.*



2.8 The supporting text to the policy considers that specific attention needs to be given to energy efficiency in the form of construction of buildings. The policy expects that 10% of energy comes from renewable or low carbon sources, such as wind turbines, the use of passive solar energy, woodfuel, solar water heating, photovoltaics, ground source heat pumps and biomass. Major development proposals (being those of more than 10 dwellings) must ensure that their on-site renewable or low carbon energy production and resources efficiently is maximised.

2.9 CP26 (water resources / water quality) sets out that development will be required to protect the quality and quantity of water, and make efficient use of water. Of particular note the policy requires that demand technologies are incorporated into proposals to meet the appropriate levels of the CfSH.

Havant Borough Council

2.10 Policy CS14 (efficient use of resources) requires that residential development achieves at least Code for Sustainable Homes Level 3, and this requirement will be periodically reviewed over the plan period. The policy also requires that particular attention is placed on water efficiency measures. Allowable Solutions' may be used to achieve higher levels of carbon reduction where on-site proposals are not feasible or viable.

The supporting text to the policy identifies that on-site renewable energy will be sought on major development (defined as 250 dwellings or more) only, but that developers will be required to submit Site Waste Management Plans to help developers reduce waste during construction.

Policy CS16 (high quality design) grants planning permission for development that is designed to a high standard, and that helps to create places where people want to live, work, and relax. All development should demonstrate that its design:

1. Responds to, draws inspiration from and respects local context
2. Produces a positive relationship between buildings, street and spaces both existing and proposed
3. Contributes to the improvement of the public realm close to the development, particularly sites close to town, district and local centres and other priority regeneration areas by using



high quality hard and soft landscape material and street furniture; and where development is of a significant scale or prominence makes provision for public art.

4. Is inclusive by considering the needs of those with disabilities, ensuring safe and convenient access for all; and integrating affordable and supported housing with market housing through tenure blind design to minimise social exclusion and promote social integration.
5. Maximises opportunities for mixed use developments, particularly in town and district centres; and encourage higher densities (50+ dwellings per hectare) where appropriate.
6. Mitigates negative environmental impacts through sustainable design and construction methods, resource efficiencies, particularly water and the provision of facilities for waste recycling.
7. Adapts to the changing needs of the users and the changing climate over the lifespan of the building.



3.0 Approach to Sustainable Construction

- 3.1 The application proposals seek full planning permission and it is envisaged that, subject to planning permission being granted, the leading authority (Havant Borough Council) would seek to include a planning condition to ensure that the development achieves its standards as set out in Policy CS14.
- 3.2 As a priority Linden Homes will seek to achieve the requisite Code level 3 by adopting a 'fabric first' approach to design and construction. In this way the proposals will follow the energy hierarchy through prioritising a reduction in energy demand, followed by improvements in building services efficiencies, followed by the consideration of low carbon and renewable energy generation.
- 3.3 Linden Homes envisage that improvements to the fabric of dwellings and improvements in the efficiency of the heating, ventilation, lighting and integrated appliances will provide sufficient carbon dioxide reductions ($\geq 25\%$) to achieve the ENE1 credits applicable to Code for Sustainable Homes Level 3. In line with Havant Borough Council's adopted planning policies proposals of this size do not generate a requirement for on-site renewable technologies, and as such these will not be installed at this site.
- 3.4 The benefits of adopting a 'fabric-first' approach are significant. The principle advantages are considered to be:
- The reduction in CO2 emissions achieved through energy demand reduction measures is applied to every dwelling on site and is an intrinsic part of the building.
 - The reduction in CO2 emissions achieved through fabric measures is built in for the life of the building
 - The fabric first approach is inseparable from the building and requires little or no maintenance to ensure it continues to provide CO2 savings.
- 3.5 Traditional construction techniques utilising local materials will provide thermal mass benefits and will improve air tightness. Thermal bridging between junctures in the fabric of the building will be avoided, as well as ensuring the effective sealing of cavities and service pipes. Thermal mass improvements will ensure that external fluctuations in temperature do not impact on the internal environment of each dwelling, thus preventing any need to artificially heat the properties in winter or



cool them in summer.

The construction of the houses will seek to use natural, locally sourced materials including for instance facing bricks and roof joists from sustainable sources. These materials will be responsibly sourced therefore providing development which meets the needs of the present without compromising the future generation's ability to meet their own needs, for example 100% of timber used on site will be certified by the Forest Stewardship Council (FSC). Furthermore the use of locally sourced materials will help create a development which sits comfortably within its setting.

Linden Homes are committed to considerate construction methods and will implement a Site Waste Management Plan in order to ensure that construction waste is minimised and where unavoidable recycled appropriately.



4.0 Energy and Water Demand Reduction and Improved Efficiency

4.1 The following energy demand reduction measures and improvements in building services efficiencies will be incorporated at this site in addition to building fabric improvements:

- Passive solar design
- Passive cooling
- Water efficiency measures;
- Energy efficient condensing boilers;
- A and A* rated integrated appliances;
- Energy efficient lighting as standard; and,
- High quality landscaping and natural surveillance.

Passive Solar Design

4.2 Passive solar design has been incorporated into the layout and internal arrangements of properties in as far as the site permits. The benefit for each house will vary across the development but, whilst the orientation of windows may not be optimal for solar gain in all cases, this can be combated to a degree by the type of glazing installed. Fenestration is oriented to maximise natural lighting into habitable rooms and to reduce the pressure on artificial lighting during daylight hours, which will create a high standard and comfortable living environment. The solar transmittance (g value) of the glazing will be carefully considered to strike the balance between useful solar gain in the winter and unwanted solar gain in the summer.

Passive Cooling

4.3 The dwellings have been designed to provide natural ventilation through openable windows, which allow sufficient air exchange rates to purge any stale air and heat build-up from the dwellings. This will provide comfortable internal living areas for residents. Where noise mitigation is in place on properties fronting the railway line, alternative mechanical ventilation systems will be used to ensure that noise levels within the buildings from passing trains does not reach an unacceptable level whilst also allowing adequate ventilation.



Water Efficiency

4.4 Water efficiency is an important feature of a sustainable home and various methods can be incorporated to reduce water consumption and ensure a more sparing use. The proposed development will incorporate the following measures:

- Flow restrictors

Flow restrictors restrict water flow and reduce the outlet flow and pressure. These are typically fitted within the console of the tap or shower head, in pipework or at the mains inlet to the dwelling.

- Dual-flush WCs

WCs can account for 25% of the water-use in a typical household. Dual-flush WCs can vary the flush depending on the amount of waste, thus helping to reduce water use on a day-to-day basis.

- Energy efficient white goods

Although not a construction issue, installing white goods with a high energy rating can help to reduce water use. The Code for Sustainable Homes does not permit the award of a credit where provision of better than typical practice white goods have only been set within the tenancy agreements as it is unlikely that such a requirement can be enforced. Thus the proposals include energy efficient white goods in all dwellings as standard.

4.5 The proposed scheme also incorporates a number of measures with which to reduce the surface water run-off from the site. A significant proportion of the site is given over to garden areas and landscaping, in addition where parking and paving are proposed these areas have been kept to a minimum and constructed using permeable materials.

Efficient Building Services

4.6 Heating systems will be installed with efficiencies in excess of the minimum requirements of the building regulations. This will reduce energy consumption require for space and water heating and



consequently the associated emissions. Energy saving will also be made in the installation of A and A* rated integrated appliances, where including in the properties, as well as energy efficient lighting systems as standard.

- 4.7 These measures will ensure that energy and water consumption of the buildings in operation is kept to a minimum, and this coupled with fabric improvements will ensure an overall lower consumption rate with reduced fluctuations throughout the year.

High Quality Landscaping and Natural Surveillance

- 4.8 The design has been influenced by the desire to maintain the existing character of the area. Where possible existing boundary vegetation has been maintained and additional vegetation is incorporated to soften the appearance of the site. The buildings have been arranged in a traditional street layouts and this together with the proposed and existing vegetation provides shelter and shading for the properties and the area surrounding to ensure a more comfortable living environment.
- 4.9 Another design consideration, which plays a key role in ensuring sustainable and comfortable places to live, is security and natural surveillance. All properties front onto the public realm to ensure that this space is self policed by future residents. Active frontages surrounding the central green create a safe environment and will help to create community cohesion.



5.0 Summary

- 5.1 The impact of climate change has been taken seriously throughout the design of this proposal, and it is considered that the proposal represents a highly sustainable development. As a priority Linden Homes will ensure that all dwellings achieve Level 3 of the Code for Sustainable Homes. This will be achieved by prioritising a reduction in energy demand through a 'fabric first' approach to design, and by addressing other key environmental issues outline in the Code.
- 5.2 The proposed high quality homes will be energy efficient and will reduce the impact on the environment, the design and layout makes the best use of the site and efforts have been made to promote the use of more sustainable transport methods. The proposed development will create an attractive and comfortable place to live, which encourages and facilitates a lifestyle in which resources are used more prudently.