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ENERGY AND SUSTAINABILITY STATEMENT

TOP O' TH' TRENT PUBLIC HOUSE SITE, WOODLAND STREET, BIDDULPH, STOKE-ON-TRENT

ON BEHALF OF ASTWOOD PROPERTIES

TOWN & COUNTRY PLANNING ACT 1990 (AS AMENDED)
PLANNING AND COMPULSORY PURCHASE ACT 2004

Pegasus Group

5 The Priory | Old London Road | Canwell | Sutton Coldfield | B75 5SH

T 0121 308 9570 | **F** 0121 323 2215 | **W** www.pegasuspg.co.uk

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1. INTRODUCTION

1.1 This Energy and Sustainability Statement relates to the proposed development of the Top of the Trent Public House site which is to comprise of 14 dwellings.

1.2 The Statement has been produced with reference to national and local policy and outlines the systems and standards which are proposed to be adopted in regards to design and policy.

2. POLICY CONTEXT

2.1 The Energy and Sustainability strategy for the proposed development has been developed in accordance with the relevant national and local planning policy.

National Policy

2.2 The National Planning Policy Framework (NPPF) was issued by the government in March 2012 and placed sustainable development at the heart of the planning system.

2.3 Section 10 of the NPPF 'Meeting the challenge of climate change, flooding and coastal change' sets out the role of the planning system in achieving the move to a low-carbon future, including through minimising energy and water consumption and promoting renewable energy.

2.4 The Government Productivity Plan was issued in July 2015 and provides an update on the national policy position. Chapter 9 'Planning freedoms and more houses to buy' states that;

> *"The government does not intend to proceed with the zero carbon Allowable Solutions carbon offsetting scheme, or the proposed 2016 increase in on-site energy efficiency standards, but will keep energy efficiency standards under review, recognising that existing measures to increase energy efficiency of new buildings should be allowed time to become established."*

Local Policy

2.5 The Staffordshire Moorlands Core Strategy was adopted 26th March 2014 and is in accordance with the NPPF.

2.6 Policy SD1 Sustainable Uses of Resources focuses on development and climate change, requiring all development to make sustainable use of resources and adapt to climate change. This will be achieved by:

- Giving encouragement to development on previously developed land in sustainable locations;

- Requiring that development is located and designed to minimise energy needs and to take advantage of maximised orientation to achieve energy savings in line with Policy SD3;

- Ensuring all major-scale planning applications (10 or more residential units) are accompanied by a Sustainability/Energy Statement. This should address the energy efficiency, water conservation, sourcing of construction materials, and site orientation aspects of the scheme, and where possible the feasibility of integrating micro-renewables. The degree of detail expected will depend on the scale/complexity of the proposal;

- The Council will expect that all developers investigate the potential for re-using construction or construction waste materials, especially those sourced locally and integrated where possible on-site waste management facilities;

- The Council will promote water conservation standards in approved schemes which exceed those set out in the Building Regulations (for example as expressed in the Code for Sustainable Homes and the BREEAM office scale).

2.7 Policy SD3 Carbon-saving Measures in Development states that the Council will promote carbon-saving measures in development in the following ways:

- Supporting developers who propose exceeding the thermal efficiency standards required by law for new buildings or extensions, at the time of the application. In the case of larger developments such as housing estates the Council will support measures such as 'communal' micro-renewables, or District Heating installations;

- The Council will support measures by landowners/developers designed to contribute to existing or emerging District Heating networks;

- The Council will support measures designed to improve the sustainability of existing buildings (such as improved thermal insulation, water conservation, or the installation of micro-renewables).

3. ENERGY STRATEGY

3.1 The following section outlines the proposed energy strategy in order to achieve project aims and policy accordance through low carbon design and materials.

3.2 Low carbon buildings offer many benefits including better design and operation, better internal environment and lower carbon emissions. One of the most popular benefits is usually the lower running cost of the building.

3.3 Additional benefits include the better Energy Performance Certificates and improved market/retained value.

3.4 There are a number of techniques that can be utilised when designing buildings to help reduce the amount of energy consumed. A 'fabric first' technique has been followed as part of this proposal.

3.5 Fabric first techniques include adequate insulation to minimise heat loss and reduce U-values. The design will aim to reduce thermal bridging where heat transfer can happen with greater ease (particularly at floor/wall junctions) and will be ensure that air leakage and heat loss is minimised. The design of this scheme will aim to reduce the large unwanted internal heat gains through minimising excessive glazing and utilising solar shading. Triple glazing could be provided to increase energy saving as part of the development.

3.6 Passive design measures are also proposed to enhance the energy efficiency of the development. These measures use layout, fabric and form to increase energy efficiency. These techniques have been utilised to reduce energy demand.

3.7 The use of natural daylight reduces the need for artificial lighting and therefore reduces energy consumption. Lighting can be further improved through the use of energy saving bulbs. The orientation of buildings can enhance natural daylight levels and landscaping can be used to provide shade to prevent overheating. All of the dwellings have generously sized principal windows which provide natural light to the main living areas and reduce the need for artificial lighting.

3.8 Natural ventilation will be utilised to reduce the need for mechanical ventilation and the associated energy consumption.

3.9 In terms of materials, the development will utilise locally sourced material wherever possible in accordance with local planning policy. The materials

indicated on the application forms, such as the Marley Modern Tiles and Brindle Block Paving, are available from local suppliers.

Low and Zero Carbon Technologies

3.10 Improving the energy efficiency of buildings should always be the first step. This approach can reduce levels of energy consumption and therefore can also reduce the requirement for expensive low-carbon technologies resulting in a better value, sustainable development.

3.11 In accordance with local planning policy, the feasibility of Low and Zero Carbon (LZC) technologies has been reviewed.

3.12 It has been concluded that the use of LZC technologies is inappropriate for this development. The reasons for this are outlined below:

- Combined Heat and Power (CHP) Plant - community heating schemes using CHP are unlikely to be financially viable below 300-400 dwellings. This is clearly considerably in excess of the proposed development.
- Wind Turbines – small-scale roof-mounted turbines were not proposed due to the impact on the local area and the fact that they would not be in-keeping with the local area.
- Photovoltaics – photovoltaic panels are not proposed. Traditionally, these have been restricted by high costs however individual householders may elect to pursue this approach at a later date as appropriate.
- Solar Thermal – these technologies produce hot water, in the UK water is generally heated by gas therefore solar thermal negates gas rather than electric demand and therefore does not achieve a carbon reduction significant enough to merit inclusion on a small-scale scheme.
- Ground Source Heat Pumps – these require separate trenches and boreholes to lay the necessary pipework. Given the sites location in an existing built-up area and the presence of two sewage pipes running through the site this option was not considered to be feasible.
- Air Source Heat Pump – the Energy Saving Trust does not recommend these for properties supplied by an existing gas network. It is anticipated

that the proposed dwellings would be connected to the existing gas network and therefore these would be inappropriate at the proposed development.

- Biomass Boilers – these are generally considered to be inappropriate in built-up urban locations, such as Biddulph.

3.13 The above demonstrates that the use of LCZ technologies is not feasible at this site and therefore none are proposed as part of this application.

Water Conservation

3.14 Water conservation could be included as part of the development. These features could include water butts on downpipes to enable small-scale rainwater harvesting.

4. CONCLUSIONS

4.1 This Statement has examined the development and practical methods to reduce energy use for the proposed development. This is primarily proposed to be achieved through 'fabric first' approaches and sourcing materials locally wherever possible. This complies with the Council's stated aim to pursue the sustainable use of resources and adapt to climate change.

4.2 The Statement also assessed the potential for inclusion of low and zero carbon technologies in accordance with local planning policies. It is considered that it would not be feasible to include LZC technologies as part of the proposed development due to the small-scale nature of the development and the site's location in an urban area with existing connections to the gas network.

4.3 This Statement has demonstrated that the proposed development is in accordance with both local and national planning policy with regards to energy and sustainability.