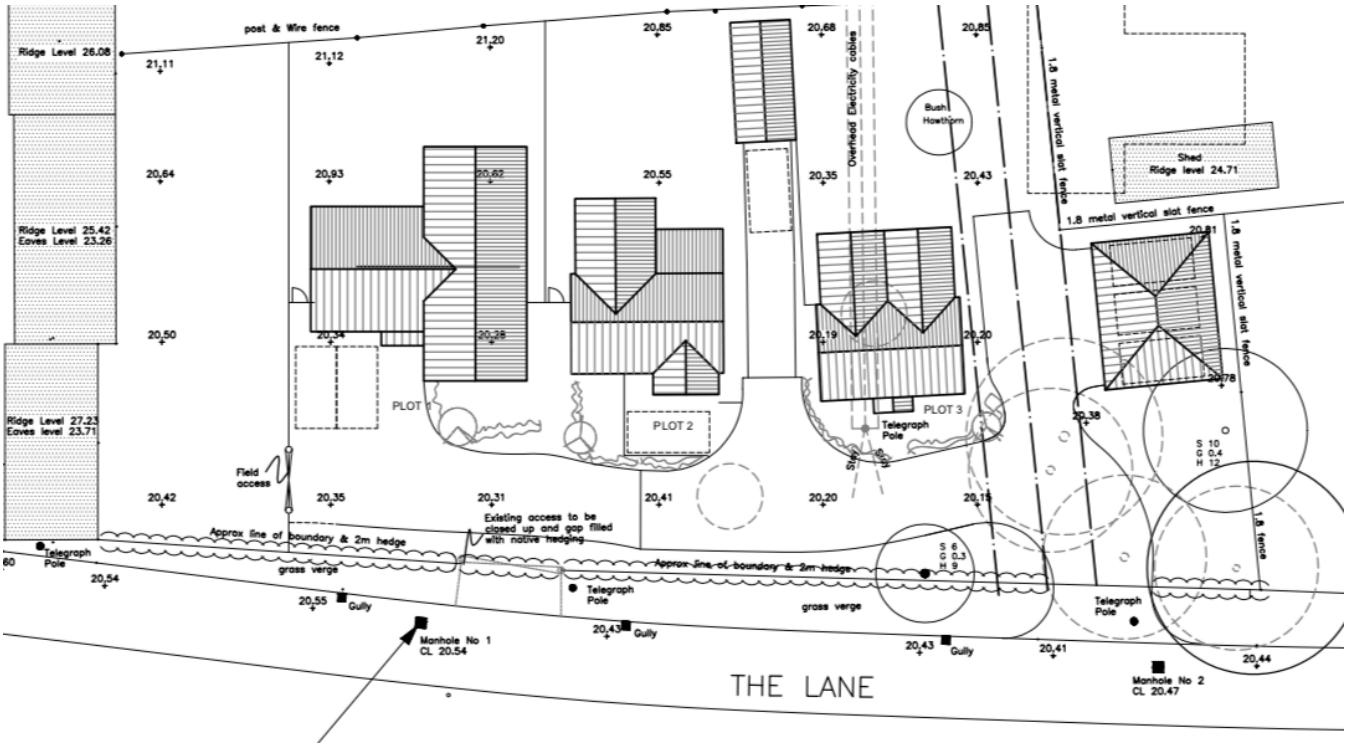
Property and Energy Services Ltd.

Sustainability Statement

Land adjacent to Heddings Farm, 102 The Lane, Wyboston, Bedford, MK44 3AS

Version 1.1



Property and Energy Services Ltd.

1. Introduction

1.1. Property and Energy Services has been appointed by [redacted] (on behalf of the applicants) to produce a Sustainability Statement incorporating an Energy Strategy to support a planning application for the building of three detached houses.

1.2. The site is currently a mix of grass and a few trees, with little use currently.

2. Context and Proposed Development

2.1. The development site is located in a rural area known as Wyboston, about 2Km to the South West of St. Neots. There is open field behind the proposed development and either housing or farm buildings on the lane.

2.2. The proposal is to remove the current vegetation and build three houses with associated parking See the google maps view of the site below:

The proposal consists of three detached houses and two garage buildings.

3. Sustainability planning framework

3.1. The planning framework consists of a national policy, with regional and local planning policies filling out the local details. As national policy provides guidelines, these are not discussed here. Of more importance is the local

requirements which are set out in the relevant planning policies.

3.2. Planning policies play a key role in securing the reductions in CO2 emissions required in the national guidelines. The National Planning Policy Framework (NPFF) expects all the detail to be applied at the local level.

3.3. Paragraph 150b of the NPFF states that the development aim to reduce greenhouse gases and paragraph 151b points to the use of renewable energy sources.

3.4. The most relevant policies which need to be considered when assessing the scheme's compliance to sustainability policy are those provided within local development documents. Bedford's Local Plan sets out the council's local planning policies. The documents relevant to the sustainability and energy requirements of new development are:

Bedford Borough Local Plan (2002 - 2021)
Section 9 - Transport
Bedford Borough Supplementary Planning Document (SPD)- Climate Change snd Pollution
Policy CP26 - Requirement for energy reduction and Energy Statement
Bedfordshire County Council's Managing Waste in New Developments SPD section on Flooding
Bedfordshire County Council's Managing Waste in New Developments

4. Sustainability Statement

This section shows how the proposed development addresses the requirements of the Bedford Borough Local Plan (2002 - 2021) plus the Bedford Borough Supplementary Planning Document - climate Change snd Pollution and follows the general sections of this document.

4.1. Effective Use of Land and Building

As stated in the NPFF, under utilised green field sites should be considered for development of an appropriate nature. The Lane and other nearby roads on which these houses are proposed is mostly a single depth of detached houses, some with business use. There is also a storage and transport company 300m down The. Lane.

The proposal therefore follows the national and local policy and guidelines to maximise the use of existing under used green field land.

4.2. CO2 Reduction

The SPD section Climate Change and Pollution requires that all development proposals shall seek to minimise carbon dioxide output through a combination of sustainable design, use of modern construction techniques, use of energy efficient devices and use of renewable energy

products where possible. Developments of less than 10 units require a 10% reduction in CO2 from building regulations (2013).

An energy assessment has been carried out as the final design is not approved yet.

The steps to reduce the CO2 output for this site are:

Minimising heat loss from the fabric of the building with better than building regulations minimum requirements for the walls, floor, roof areas, windows and doors.

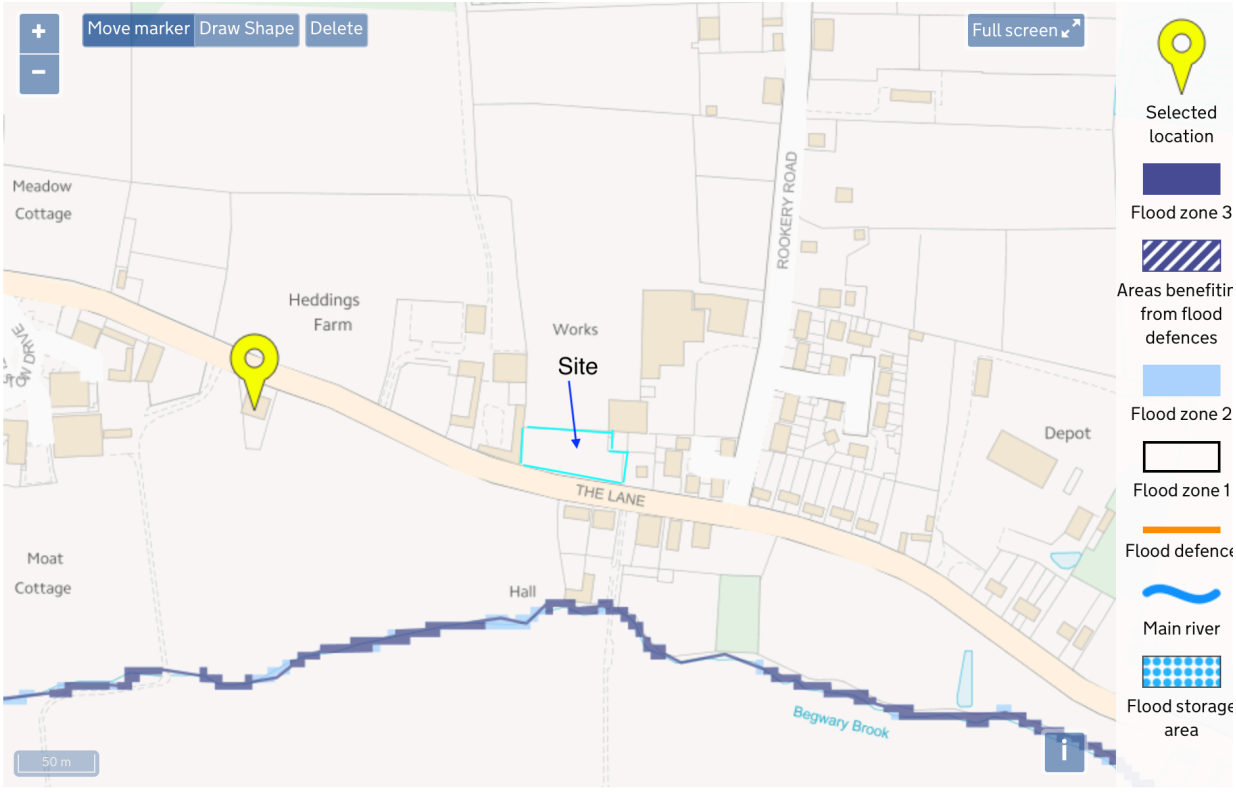
Using LED lighting to deliver maximum lighting for the power required.

Air tightness targets below the minimum of building regulations.

Use of air source heat pumps to provide heating and hot water for the houses in an efficient manner. This qualifies as using a renewable energy source. This will reduce the CO2 by 15% for the three houses.

4.3. Flooding and Surface Water Drainage

Following the SPD, the development site is assessed for flood risk from various sources. The Environment Agency map shown below identifies the entire site as in Flood Zone 1, which is the lowest level for flood risk. The nearby zones of higher flood risk are lower and have no possible route for flooding.



There is an increase in hardstanding where the houses will be set, but the drives will have permeable surface. All the properties will use SUDS drainage for surface water run off with soak aways in the grounds of each property.

Each house will be provided with a rain water butt connected to a down-pipe, to encourage use of this water for gardening in line with the SPD minimum requirements.

4.4. Water Usage

Potable water usage will meet the standard requirement of 125 litres per person per day by using low flow products or flow restrictors as required.

4.5. Building Design and Layout

The three houses will be set out so that the front of the building faces South, giving a long wall area to help with solar gain. Each house will have a parking area and garage. There will be a single entrance onto The Lane and hedges and fencing used as appropriate.

4.6. Waste Management

The management of waste falls into two areas:

Construction
Residential usage

Bedfordshire County Council's Managing Waste in New Developments SPD will be used for guidance in the proposed development. A Waste Audit will be prepared when the construction materials have been chosen. During construction all site waste will be separated as required and a target of at least 75% of all site waste will be recycled.

Following occupation, the development must provide for local recycling. This will be delivered through multi bin systems in the houses to encourage recycling. A leaflet showing how to compost some food items in a garden composter will also reduce the amount of waste going to landfill. The houses will have the required orange, green and black lidded bins provided.

All properties will be given a leaflet on how to compost plants and garden waste. All three houses will be provided with a composting unit and instructions on its use. The details of local waste collection services and nearby recycling centres will be on a separate leaflet.

4.7. Sustainable Transport

The application has a provision of 2 cycle hangers in the garage for each house and space for three cars including a garage space.

There is a local bus stop 100m from the site and the main A1 is 0.5 miles walk where a bus service to Bedford, St. Neots and Cambridge is available (with footbridge over the A1).

4.8. Pollution

Any new development can potentially lead to detrimental environmental effects and these potential effects have been considered during the planning stages of this proposal. The development is not of the scale that would require an Environmental Impact Assessment (EIA), however the measures as outlined in this section, and subsequently implemented, will ensure that any potential impact can be managed.

4.8.1. Light Pollution

As the development has housing on both sides of it, it is not anticipated that there is a need for street lighting. There will be external lights for the houses and garages, where lighting will be controlled by motion sensors or local manual switches. Careful location of the lights will ensure no light spills over into the neighbouring properties.

New external lighting will be limited to safety and security lighting and will avoid upward light spillage through following the ILE guidance on the Reduction of Obtrusive Light.

4.8.2. Noise Pollution

the site currently is a grassed area. The new planning application for the construction of three houses is not expected to yield significant noise concern.

4.9. Construction Materials

Maximising the sustainability of all the materials used in the build will be built into all plans from the outset. The design team will commit to the following criteria to ensure as low an environmental impact as possible:

4.9.1. Material Specification

Where possible building materials will be selected to minimise environmental impact. Examples of measures that will be considered include, the use of recycled materials in substrates and in concrete aggregates, specifying locally-sourced timber where feasible, and ensuring no construction or insulation materials are to be used which will release toxins into the internal and external environment, including those that deplete stratospheric ozone.

4.9.2. Procuring Materials Responsibly

Following the appointment of the main contractor, consideration will be given to the responsible sourcing of main construction materials. For example, suppliers will preferentially hold an Environmental Management System (EMS), and where possible accredited to ISO 140001. In addition, all timber in the scheme will be FSC (or equivalent) and procured in accordance with the UK Government's 'Timber Procurement Policy.'

4.9.3. Design for durability and resilience

The design of the building will ensure protection of exposed elements, therefore minimising the frequency of replacement and maximising materials optimisation.

4.10. Energy Strategy

In accordance with NCM guidance, the appropriate methodology for calculating the residential development's energy performance is "The Government's Standard Assessment Procedure for Energy Rating of Dwellings". This procedure will be undertaken using Elmhurst FSAP 2012 version 4.10r08 which is a DCLG approved methodology and software for undertaking SAP assessments.
This energy assessment relates to the 3 proposed new houses under the requirements of *Part L1A: conservation of fuel and power in new dwellings*

4.10.1. Fabric First

The accepted approach to reducing energy and CO2 output of domestic properties is to reduce the energy demand by improving the fabric of the building first. In energy calculations we use the u-value of fabric elements to show how much heat a particular element (e.g. a wall) allows to pass through it.

This development uses the following u-values:

Element	Part L1A target	Design specification
Floor	0.22	0.12
Timber frame walls	0.28	0.21
Ceiling (insulation at joists level)	0.16	0.11
Skeiling (insulation at rafters level)	0.18	0.15

4.10.2. **Air permeability**

This is a measure of the amount of air that will leave the house through small cracks, holes and other points of leakage under a set pressure difference between the inside and outside of the property. this pressure difference is equivalent to a light wind blowing over the property.
The houses will have a target of 5 m3/hr/m2 of fabric. Building regulations sets a minimum of 10m3/hr/m2 of fabric.

4.10.3. **Lighting**

Building regulation requires all lighting to be minimum of 45 lumens per circuit watt and more than 400 lumens per lamp. This effectively means that LED lighting is used throughout the design of the properties. The lighting specification will set these as the minimum requirements, but the SAP calculation simply want to know the lighting meets the minimum specification.

4.10.4. **Space and water heating**

For the houses, an air source heat pump with internal hot water cylinder will used. ASHP are considered to be renewable energy sources as they generate their heat from the external air and the efficiency of the devices mean they generate more heat energy than the electricity they use.

4.10.5. **Ventilation**

Low energy extract fans will be installed in the bathrooms and kitchen, plus window trickle vents to meet individual room requirements following the requirements in Part F. Table 5.1a defines the requirements for extract fans and Table 5.2a defines the

requirements based on the floor area of a room.

5. Conclusion

This Sustainability Statement incorporating an Energy Strategy accompanies a planning application for the development of the site on land adjacent to Heddings Farm, 102 The Lane, Wyboston, Bedford, MK44 3AS The statement demonstrates how the proposals have considered the relevant planning policy for sustainability of Bedford Council.

The proposed development would make a contribution to sustainability by enhancing the urban landscape and providing further residential space in West Berkshire. The scheme has bene designed to enhance the provision of high-quality residential property with some of the key benefits of the project including:

The scheme will enhance the existing built environment, maximising the use of available space and providing further residential development in Wyboston and the Bedford area.