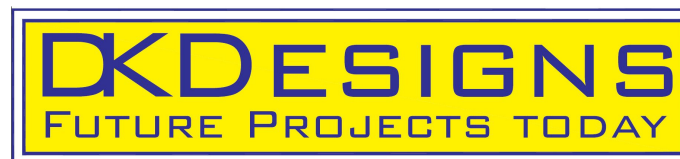




**PROPOSED DEVELOPMENT Of 7 No PLOTS
AT
STATION ROAD, WOMBWELL, BARNSELY**

SUSTAINABILITY STATEMENT

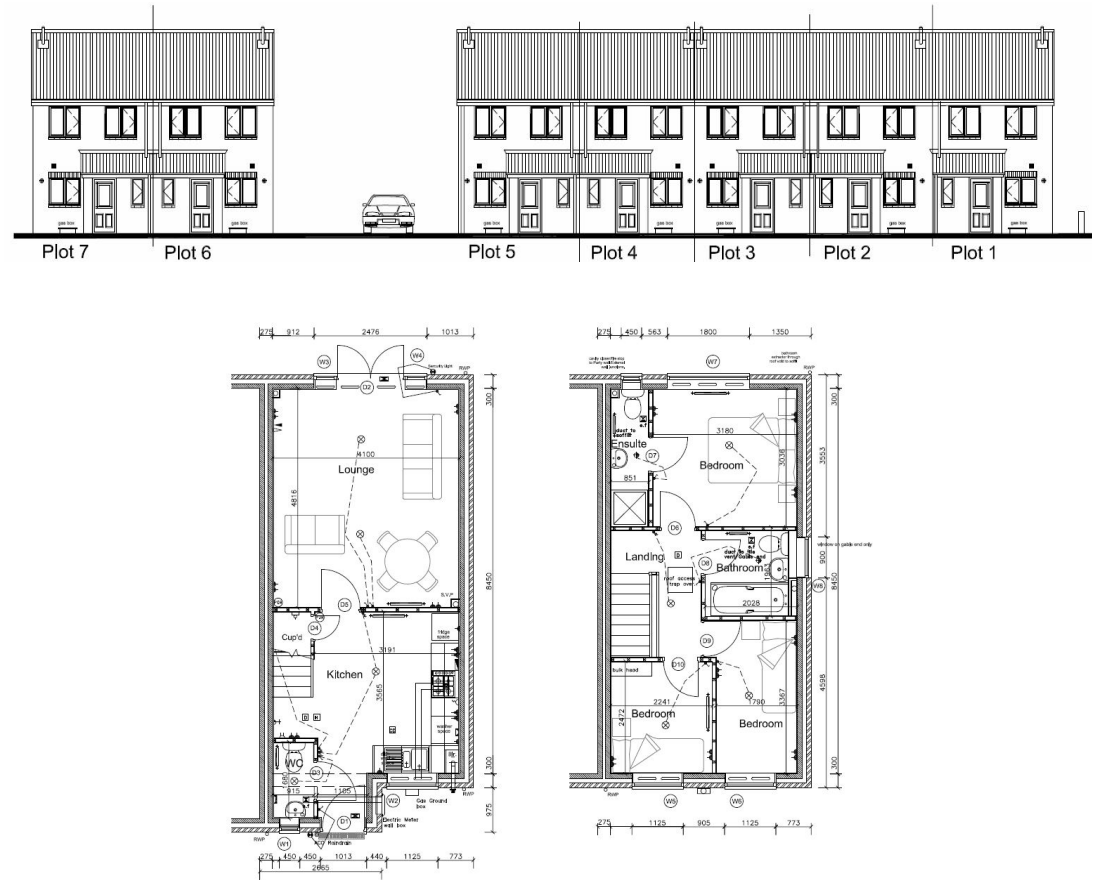


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1.0 Project Background

This report has been produced in support of a planning application with reference to the new build residential development at the land at Low Valley Arms, Station Road, Wombwell, Barnsley

Various other documents have been commissioned supporting the application including drawings, photographs, designs and access statement, flood risk assessment, all of which are aimed at meeting the criteria set by the local authority to achieve sustainability for new homes and developments.

The framework for the design statement follows the nine design categories with an aim to achieve a Code Level 3 rating when assessed against the Code. This is approximately equivalent of the BREEAM excellence rating. The design categories are

- 1 Energy and CO2 emissions
- 2 Water
- 3 Materials
- 4 Surface water run off
- 5 Waste
- 6 Pollution
- 7 Health and Wellbeing
- 8 Management
- 9 Ecology



1.2 Site Description

The site is located at land adjacent Low Valley Arms, Station Road, Wombwell, Barnsley. The overall site has an area of 1160m². The site is relatively flat.

The new development is planned to create 7 new dwellings providing 100% parking for the residents all serviced by new private drive off Station Road

1.3 Aims and Objectives

This report supports the planning application and aims to provide the design intentions with regard to achieving the standards required by Local Authority's. In production of this statement reference has been made to LBB SPD Sustainable Design and Construction Document 2007. Aspects are as follows:-

Environmental Impacts of materials

Surface water management

Storage of non recyclable waste and recyclable household

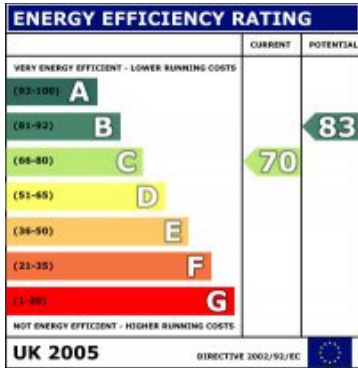


2.0 Energy and CO2 Emissions

It is aimed on site to create the equivalent to Code Level 3 with a minimum percentage reduction in the dwelling emission rate over target emission rate of 44-100% should be achieved. The category provides a number of issues that can be addressed in order to achieve this. In the case of Clay Pits Lane, opportunities for the use of low carbon technologies have been explored for which credit can be achieved as detailed below.

2.1 DER

The dwellings will require SAP 2010 calculations to be carried out to produce an EPC . Therefore the design intention is to possibly achieve a 44-100% improvement of DER over TER





2.2 Low or Zero Carbon Technologies

The use of low carbon technologies.

2.2.1 Technology Options

For this development the possible options listed below are to be considered:-

- a) Solar thermal hot water systems
- b) Photovoltaic cells (PV)
- c) Wind turbines
- d) Heat Pumps (ground / air / water source / exhaust air)
- e) Geothermal
- f) Biomass (boilers / stoves / community heating / CHP)

These recommended technologies for space and water heating are also efficient with regards to Nitrous Oxide emissions, as there is to be limited use of natural gas and no fossil fuels with any extreme temperatures being reached. This is also beneficial to the residents as nitrous oxide emissions are believed to aggravate asthmatic conditions. They also react with oxygen in the air to produce ozone, which is another irritant therefore improving the well being of each occupant.

2.2.2 Solar Domestic Hot Water Heating and Photovoltaic Panels

Solar water heating could be used for the domestic heating systems. When used in conjunction with air heat pumps and combi condensing high efficiency boilers, low NO producing boilers are extremely cost effective whilst maximising the efficiency of the power supplied

2.2.3 Photovoltaic Panels

The size of the photovoltaic installation is expressed in its kilowatt peak (kWp) potential, which gives an indication of how much electricity the system could generate at peak/optimum conditions. The electricity generated would be a direct saving on required electricity for power, lighting, heating and hot water (depending on systems installed). Whilst initially expensive these systems often generate enough electricity to be able to sell back





surplus generated power therefore generating cost effective solution in the long term

2.2.4 Wind Turbines



Wind Turbines have been considered but have been ruled out due to the location.

2.2.5 Air Heat Pumps

Air heat pumps could be installed to be accompanied by the renewable energy provided by the solar vault. This should secure the targets specified by the government and local authority.



2.2.6 Ground Source Heat Pumps

Ground source heat pumps have been considered, but have been ruled out due to the quantity of piles and beams required in this build which will interfere with the overall efficiency of the pumps, and possibly causing problems and damage during the installation or piling.

2.2.7 Geothermal

Geothermal options have been considered but have been ruled out due to the site restraints
Biomass



Biomass options have been considered but have been ruled out due to the site restraints

2.2.8 Building Fabric



The building fabric including all design features, insulants (including global warming potential, GWP) and materials utilised within the building specifications are laid out in the design statement. Thermal performances of the building envelope are currently not available at the time of this draft document, but are to meet building regulations or better

2.2.9 Internal & External Light

It is intended that energy efficient light fittings and bulbs will be installed at the most frequented locations within the dwelling therefore achieving a £7.00 per year saving on the electricity bill per bulb equating to an approximate reduction of the carbon emissions of 43 Kg per year per bulb. Compact fluorescent light bulbs are to be installed to each fitting.

High frequency ballasts will also be installed on all fluorescent, and compact fluorescent lamps specified within the building, with the additional feature of microcontrollers to carry out advanced dimming.



2.2.10 Energy Labelled White Goods

All of the appliances/white goods to be installed in each unit will be of “A- star energy efficiency” rating along with instructions for recycling of these goods at the end of their lifespan.

Where white goods are not supplied in the development, information will be supplied in the Home buyers pack regarding the EU Energy Efficiency Labelling Scheme of efficient white goods.



2.2.12 Cycle Storage



Secure weatherproof cycle storage is to be supplied within the rear garden area. By encouraging the use of the bicycle we are contributing to reducing these car journeys, which in turn will contribute to the improvement of the local noise / air pollution and traffic movement, whilst also influencing personal wellbeing and independent fitness.

2.2.13 Home Office

As the need to reduce commute times and levels increases the number of people working from home has also increased along with the many job functions being able to be completed remotely. Therefore quiet space is required where possible for the planning of a Home Office. In some instances the parts of the lounge or bedroom or the second bedroom could be used. Two phone lines and broadband internet for data transfer are to be supplied within the dwelling.





3.0 Water

It is estimated that potable water use in the home is approximately 150 litres per person. To achieve Code Level 3 (Building Regulations) the maximum potable water use per person is 125 litres/day, however on this development we be looking to achieve 80 litres/day (code 5 and 6) therefore minimising the use of potable water by approximately 20 %. Detailed designs are ongoing to attempt to improve on this saving and further options for using grey water are being sourced. However there is limited space within the development to accommodate additional grey-water storage.



A number of strategies could be utilised within this project to further reduce the consumption of potable water in the development. These include rainwater recycling/harvesting for the use in toilet flushing, washing machines and all external tap fittings to be used in conjunction with variable flush cisterns with an effective flush volume of 4.5 litres or less such as 6/4 dual flush toilets. The recycled rainwater can also be specifically isolated for specific use with the washing machines and also to external taps for cleaning.

It is intended to accommodate rainwater storage within the site with the dwelling having its own individual water meter installed, thus ensuring that the volume of water is measured and counted with the meter positioned at easy access locations for ease of reading. This information can be used to ensure maximum efficiency regarding the use of available recycled water.

4.0 Materials, Surface Water Run Off

All endeavours will be made to use materials with the lowest possible environmental impacts over there life cycle. Materials will be selected to achieve a 'green guide' rating in categories A to D. These sections are addressed within the design and access statement, The site is not within a Flood Risk Areas.

5.0 Waste



5.1 Refuse Arrangements for Construction Waste

The details regarding the waste produced during the demolition and construction works will be provided in the Site Waste Management Plan (SWMP) This highlights arrangements for the handling of site waste, including ongoing handling to recycling plants and designated landfill sites where relevant. During the conversion and construction phase, all waste will be sorted into separate colour coded bins for maximisation of the recycling of general waste. Removal of these bins will be pre-arranged on site prior to overfilling to avoid any pests or vermin nuisance and at a time when the adjacent streets are quieter for traffic so as not to have a detrimental effect on the local rush hours. Any reclaimed suitable hard core arising will be crushed in-situ for reuse within the development, as per the site waste management plan which the development and final issue is to be provided by the chosen contractors

5.2 Refuse Arrangements for Domestic Refuse

We have contacted Barnsley MBC and domestic refuse and recycling and have requested details of the requirements for refuse and recycling storage on site – we are awaiting a response on this.

5.3 Waste & Recycling

The domestic refuse is to be stored in the basement in coloured bins for green waste, non-recyclable and recyclable materials. With the new residents being responsible for the separation of their own waste materials. The bins provided will accommodate Barnsley MBC guidelines and requirements for size and quantity of bins and also ease of emptying by the local authorities refuse contractor. Instructions and guidelines on recycling waste in a business/home buyer's pack.





6.0 Pollution

All insulation materials utilised within the construction of developments have a GWP of less than or is equal to 5 and are not made from materials or from techniques likely to contribute to global warming. To reduce global warming from blowing agent emissions arising from the manufacture, installation and final disposal of foamed thermal and acoustic insulating materials the use of these materials should be limited where ever possible. The design plan submitted by the project architect details the materials used.



7.0 Health and Wellbeing

The house has been designed where possible to conform to the lifetime homes.

8.0 Management

The end user of the house will receive a home user guide in the form of a pack highlighting areas as touched upon with in this document. The home user guide will contain all operator instruction /maintenance manuals for the heating and hot water systems, air conditioning, ventilation, all installed white goods (or the energy efficiency labelling scheme). Details will also be included about the everyday use of the home in an easy to read format. The guide will also detail the recycling and waste collection service including which waste is recyclable and which bin it is to be disposed of. It will also provide details of local services, public transport timetables and further relevant information aimed at the occupant for easier living.

9.0 Ecology

Possible bird nesting boxes could be installed on the site at completion of the project, offering a local haven for birds and insect life which in turn encourages further wildlife





9.1 Parking

This development provides nine number parking spaces which will allow this area to be overlooked by existing houses within the area. The parking bays could be supplied with a power socket for rechargeable. The resident is to be possibly supplied with a Travel card for Rotherham This takes into account the local environment and the requirement for greener travel and individual carbon footprint reduction.



10.0 Summary

In summary, the client is expecting to reach an equivalent to level 3, code certificate for sustainability on this development showing their commitment to government and local authority initiatives and efforts for long term improvements in the environment. This statement demonstrates the developer's commitment to embracing renewable energy resources, and low emission technologies in the construction of new and re-furbished property.

Sap calculations and other documentation will be available as the project progresses

11.0 References

1. Planning for Renewable Energy, A Companion Guide to PPS22. ODPM,
2. Code for Sustainable Homes