Sustainability Statement

In support of

PROPOSED ERECTION OF 26 AFFORDABLE RESIDENTIAL APARTMENTS

AT

THE FORMER POPULAR GARAGE SITE, MILL STREET, LEEK

Prepared by

Brealey Associates
Architects Designers

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Proposed Erection of 26 Affordable Residential Apartments at the former Popular Garage site, Mill Street, Leek.

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PLANNING STATEMENTS & ASSESSMENTS

March 2011

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1.0 Introduction:

This document has been produced to provide supplementary information as part of making a Full Planning Application for 26 affordable apartments at 113 Mill Street, Leek in the Staffordshire Moorlands.

2.0 The Proposals:

The site is currently vacant.

This application seeks Full Planning for the redevelopment of the existing Popular Garage site, Mill Street, Leek for a residential scheme. Planning permission is sought for the erection of 26 affordable 2 bedroom apartments of varying sizes, their net floor space, ranging between 57m² and 67m².

3.0 Lighting Assessment:

It is the aim of the development to minimise or completely avoid light pollution wherever possible. This will be achieved by good planning and appropriate lighting design incorporating the principles of The Institute of Lighting Engineers “Guidance notes for the reduction of obtrusive light”.

The following building characteristics should be noted that would contribute to the minimising of light pollution;

- Most elements of the building can be downlit with controlled lighting.
- It is proposed to utilise lighting sources of minimum intensity to fulfil individual requirements around the building.
- It is proposed to control any lighting that may affect neighbouring buildings by means of timers or PIR (passive infra red) detectors incorporating photocell override (whereby lights are only turned on when daylight lighting levels are insufficient).
- It is proposed to install light fittings that can be directed more accurately towards the area that it is required, minimising ‘spill light’.
- It is proposed to minimise upward facing lighting by means of reflectors and appropriate light shading methods.

In addition to the above mentioned lighting pollution prevention methods, it is also the intention to install low frequency, energy efficient lighting throughout the building. This imminently means reduced light outputs/usage and ensures overlighting does not take place.

4.0 Sustainable Design & Energy Statement:

Introduction

The purpose of the Sustainable Design & Energy Statement is to provide an overview of the proposed development with regard to its approach to sustainability through good design, careful selection of materials and construction methods and the employment of green technology.

References

National and local policy that has informed our review of the sustainability of the proposals is listed below:

National Policy:

- Energy White Paper - At the national level the Department of Trade and Industry published their Energy White Paper – Creating a low carbon economy in February 2003.
- Sustainable Communities - The Department for Communities and Local Government (DCLG) published Sustainable Communities: building for the future in February 2003. This sets out the Government's strategy in relation to housing, growth and creating sustainable communities with a strong sense of place.
- Planning Policy Statement 22: Renewable Energy (PPS22) sets out the Government's policies for renewable energy.
- Planning Policy Statement 1 (PPS1) sets out the Government's overarching planning policies on the delivery of sustainable development.
- Planning Policy Statement: Planning and Climate Change – Supplement to Planning Policy Statement, sets out how planning, in providing for the new homes, jobs and infrastructure needed by communities, should help shape places with lower carbon emissions.

Regional Policy:

- The Regional Spatial Strategy (RSS) for the West Midlands

Other documents:

- Building Regulations Part L
- Code for Sustainable Homes

Assessment Methods

The project is committed to achieving a Code Level 3 of the Code for Sustainable Homes.

The version of the Code for Sustainable Homes which the development site must be Compliant with is version October 2008, and the criteria, together with the credits Scored for each section is set out over the following pages. The BREEAM Code for Sustainable Homes Technical guide should be referred to for the full details of the criteria.

The Code measures the sustainability of a new home against categories of sustainable design, rating the 'whole home' as a complete package. The Code uses a 1 to 6 star rating system to communicate the overall sustainability performance of a new home. The Code sets minimum standards for energy and water use at each level and, within England, replaces the EcoHomes scheme, developed by the Building Research Establishment (BRE).

A pre-assessment estimate has been undertaken to ensure that the proposals are on target to achieve a Code Level 3. Please refer to Appendix A.

Sustainable Materials and Construction

The design consists of a simple economic form. A concrete transfer deck will afford to use energy efficient Modern Methods of Construction to the upper floors. This will allow for a component of offsite construction to be employed, allowing for more efficient and higher standards of insulation and constructed quality to be achieved in a controlled manufacturing environment. This approach will also reduce the amount of construction waste created on site and requiring disposal in landfill. This overall lightweight construction will also help to minimise the volume of concrete foundations.

Material specifications will be determined by the need for sustainable and renewable sources.

Building materials for the development will be sourced locally where possible from sustainable and renewable sources. The project will make use of recycled and low embodied energy options where feasible by means of engaging with organisations such as WRAP (Waste & Resources Action Programme) and by referencing information such as the 'Greenspec' website (www.greenspec.co.uk). The use of the 'Green Guide to Housing Specification' will be consulted throughout the development of the design and materials with low embodied energy and including natural materials have been considered.

Energy Conservation

The development has been designed to reduce energy consumption and its associated CO2 emissions by first reducing the demand. Opportunities for obtaining the remaining energy requirement from clean and renewable sources become more effective.

To reduce the demand for energy;

- The Apartments make use of natural ventilation, dependant on acoustic and air quality requirements across the development, through the use of openable windows and passive ventilation.

- Optimising the ratio of building surface area to floor area thus minimising heat loss from both the residential buildings and retail units.

- The building fabric will be designed to meet the requirements under current building regulations Part L for building insulation and air leakage.

- The buildings will be designed to contain a sufficient level of thermal mass in order to moderate internal temperatures. This will assist in the absorbance of passive solar energy and maintain levels of thermal comfort. In summer the use of thermal mass inside the buildings will be to provide cooling, with the possibility that dwellings can be ventilated at night to cool down the structure.

- The installation of energy efficient lighting

- The installation of energy efficient space heating systems incorporating heat exchangers and / or air source heat pumps

Lighting Efficiency

Lighting is often the single largest item of electrical consumption and cost in buildings and can typically account for up to 60% of electricity costs. Good lighting design can however reduce these running costs and also reduce internal heat gains, minimising the need for ventilation and/or comfort cooling.
Energy efficient lighting design should:

- Maximise natural daylight.
- Avoid unnecessarily high illuminance.
- Incorporate the most efficient luminaries, controls and lamps.
- Include effective lighting controls.

Lighting Efficiency continued

The installation of energy efficient luminaries will significantly reduce the long-term energy consumption and maintenance requirements of the new lighting services throughout the building(s).

Therefore, the new lighting design shall incorporate well designed energy efficient fittings and controls wherever possible, and shall utilise modern technologies such as LED lighting and high frequency ballasts to minimise electrical loads and running costs.

As the building incorporates a variety of spaces, then it is important to ensure that a sufficient number of light switches, and hence lighting circuits, are provided to allow flexible operation of the new services.

Occupancy Sensors and Photocell Controls

Effective control of lighting is the key to realising the potential energy saving from daylight. The control system for the lighting should reduce light output when daylight levels are adequate and, when the space is unoccupied, switch the lighting off.

There are five basic methods or lighting control that can be used separately or in combination, as shown below:

- Localised manual switching
- Time control
- Reset control
- Occupancy control
- Photoelectric dimming

Where practicable, lighting controls should encourage the maximum use of daylight and avoid unnecessary lighting when spaces are not occupied.

In areas that have a good level of natural daylight the new system will incorporate photo electric light sensors and high frequency regulated control gear, allowing fittings to be automatically dimmed and switched off on bright days.

Water Efficiency

In order to minimise the water consumption within each apartment it is proposed to utilise the various measures/technologies listed and detailed below:

- Taps fitted with flow restrictors – at this stage it is proposed that this be in the form of push taps set at an appropriate 'flow time'.
- Dual flush WC cisterns – whereby each WC has two flushing facilities (half and full flush).
- The use of showers – The average shower uses approximately 30 litres of water, when compared to the average bath using approximately 80 litres of water, this represents a saving of over 250%.
- The installation of low-flow shower heads – by reducing the flow rate by approximately 0.2 litres/second from each showerhead, it is possible to reduce water consumption of each apartment by a further 27 litres.
- The installation of water (sub) meters to each apartment – effectively meaning the occupier will be directly paying for their consumption, thus promoting awareness/reduction.

Water Recycling

Consideration has been given to the installation of some form of water recycling (eg. Grey water), however the scale and constraints of the project suggest that this would not be a cost effective to install any measures other than external water butts at this stage.

Sustainable Drainage

The site is not situated in a Flood Zone.

Surface water drainage will be approached by applying the following hierarchy of measures to the site subject to ground investigation and permeability tests.

- Consideration shall be given to the selection of hard and soft landscaping to promote permeability where possible.

- Surface water shall discharge to soakaways subject to the results of permeability tests, favourable ground conditions and the consulting engineers detailed design.

- In the event that ground conditions preclude the use of soakaways as a means of disposing of surface water. The surface water drainage system shall discharge into the main surface water sewer via an appropriately designed attenuation system, which shall restrict the flow-rate into the main sewer in accordance with Staffordshire Moorland District Council and the Water Authority requirements.

A Desktop Study has been undertaken to assess likely ground conditions. Please refer to Appendix B.

Waste Management and Recycling

Minimising the generation of waste for this development has been considered for the construction and operational phases. Measures shall be taken to ensure that materials arising out of the demolition of the existing buildings can be reclaimed where possible.

A large component of waste minimisation development will occur during the construction phase. Modern methods of construction will reduce the amount of waste generated on site and the amount of materials to be transported to the site. Recycled aggregate will be specified where possible, and may potentially include the re-use of onsite demolition aggregate, if suitable.

The project team shall develop and implement a Site Waste Management Plan (SWMP) in accordance with the Department of Trade and Industry's (DTI) methodology.

Recycling of wastes during the developments occupation is an essential step in reducing the amount of landfill bound waste. Staffordshire Moorlands District Council currently operates a doorstep collection scheme of recyclable material, which shall be promoted in dwellings through the provision of in-flat recycling and waste storage along with on-site recycling and waste facilities.

5.0 Utility Statement:

The new services shall be designed as energy efficiently as possible in order to minimise both the capital cost of the new equipment (and electricity and gas supply upgrade cost), whilst also minimising long term running costs, energy consumption and carbon emissions.

A detailed investigation and formal applications to utility companies will be processed in due course.

Due to the location of the proposed development (Leek town centre), one would assume there to be no immediate concern with respect to a) the demand capacity of the incoming services and b) the environmental impact, as any excavation work will only be made to already concreted areas.

6.0 Noise Impact Assessment:

The site is some distance from the main town centre of Leek and is therefore not affected by significant levels of noise from pubs, clubs etc. which are specifically referenced in Planning Policy PPG 24 “Planning and Noise” as a concern where the development proposals are for residential use.

Most noise was coming from Mill Street, where traffic was close and quite fast. Bellevue Road was also quite busy. There was faint fan noise audible from the nearby Chinese takeaway during the lulls in traffic.

British Standard BS 8233:1999 “Sound insulation and noise reduction for buildings” advises, at para 7.6.1.2, that occupants will usually tolerate higher levels of anonymous noise such as that from road traffic than, for example, noise from neighbours which may trigger complex emotional reactions that are disproportionate to the actual noise level. This we believe is the situation in this case. Assessment under BS8233 criteria suggest that reasonable conditions will be achieved with normal thermal double glazing as long as windows are shut.

A Noise assessment has been undertaken by ADC Consultants, report referenced ARR/PPN/C/1903.01 refer to Appendix C.

The report concluded that windows would need to remain shut if reasonable to good conditions are to be achieved. So the biggest impact on sound insulation, over and above a normal situation, is to provide ventilation such that occupants have the realistic option of keeping windows shut. This will be achieved using off-the-shelf acoustic vents such as Passivent Fresh 90dB Wall Vents.

7.0 Drawings:

This statement should be read in conjunction with the following drawings:

Location Plan	1016-01
Site Plan	1016-02
Proposed Lower Ground Floor Plan	1016-20
Proposed Ground Floor Plan	1016-21
Proposed First Floor Plan	1016-22
Proposed Second Floor Plan	1016-23
Proposed Third Floor Plan	1016-24
Proposed Fourth Floor Plan	1016-25
Proposed Elevations Sheet 1 of 4	1016-26
Proposed Elevations Sheet 2 of 4	1016-27
Proposed Elevations Sheet 3 of 4	1016-28
Proposed Elevations Sheet 4 of 4	1016-29
Topographical survey	2564-2564OGL

8.0 Appendices

- Appendix A Code for Sustainable Homes Pre-assessment Estimate
- Appendix B Desktop Study
- Appendix C Noise Assessment