WYG Environment

part of the **WYG** group

Barnsley College

Barnsley College, Honeywell Campus:

Submission of Reserved Matters

Sustainability Statement

May 2009

Arndale Court, Otley Road, Headingley, Leeds, LS6 2UJ

Tel: 0113 219 2217

Email: mark.burrows@wyg.com

Document Control

Project:	Barnsley College Honeywell Campus: Submission of Reserved Matters Sustainability Statement
Client:	Barnsley College
Job Number:	A056021
File Origin:	N:\Projects\A056001-A057000\A056021\reports\Sustainability Statement

Document Checking:

Prepared by:	Susannah Parkin Mark Burrows	Signed:
Checked by:	Sarah Walmsley	Signed:
Verified by:	Paul Burgess	Signed:

Issue	Date	Status
1	01/05/09	Draft
2	06/05/09	Final
3		
4		

Contents Page

1.0 Introduction 1

2.0 Policy Considerations 1

3.0 Sustainability Statement 3

3.1 Overview 3

3.2 Energy 3

3.2.1 Residential 3

3.2.2 Commercial 4

3.3 Transport 6

3.4 Water 6

3.5 Materials 6

3.6 Waste 7

3.7 Pollution 7

3.8 Socio-economic aspects 7

3.9 Ecology and land use 8

Appendix Contents

Appendix A – Report Conditions

This page is intentionally blank.

1.0 Introduction

WYG has been commissioned by Barnsley College to prepare a Sustainability Statement in support of the reserved matters planning application for the proposed redevelopment of the Barnsley College Honeywell Campus. The proposals are for a mixed development comprising 63 residential units, 2,600m^2 of office floorspace, parking, new areas of public open space, including a play area, and relocation of the existing sports hall and tennis courts.

The application site extends to approximately 7.6 ha. The majority of the site is currently used by Barnsley College and contains a cluster of college buildings, including a sports hall and music centre. The site also contains a large amount of recreational space, including a rugby pitch and some poorly maintained tennis courts.

2.0 Policy Considerations

This statement responds to Planning Policy Statement 1: Planning and Climate Change – Supplement which at paragraph 42 states:

"In their consideration of the environmental performance of proposed development, taking particular account of the climate the development is likely to experience over its expected lifetime, planning authorities should expect new development to:

- comply with adopted DPD policies on local requirements for decentralised energy supply and for sustainable buildings, 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;
- take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption, including maximising cooling and avoiding solar gain in the summer; and, overall, be planned so as to minimise carbon dioxide emissions through giving careful consideration to how all aspects of development form, together with the proposed density and mix of development, support opportunities for decentralised and renewable or low-carbon energy supply;
- deliver a high quality local environment;
- provide public and private open space as appropriate so that it offers accessible choice of shade and shelter, recognising the opportunities for flood storage, wildlife and people provided by multifunctional greenspaces;

- give priority to the use of sustainable drainage system, paying attention to the potential contribution to be gained to water harvesting from impermeable surfaces and encourage layouts that accommodate waste water recycling;
- provide for sustainable waste management;
- create and secure opportunities for sustainable transport in line with PPG13 including through;
- the preparation and submission of travel plans;
- providing for safe and attractive walking and cycling opportunities including, where appropriate, secure cycle parking and changing facilities; and
- an appropriate approach to the provision and management of car parking".

Through discussions with the local planning authority it is apparent that they subscribe to the Commission for Architecture in the Built Environment's (CABE) Building for Life standard, which is a national standard helping to improve the level of design of residential properties during the new build process. This standard can be completed internally by the developer or externally by a qualified person; this allows actual accreditation to the Building for Life standard if all requirements are met.

3.0 Sustainability Statement

3.1 Overview

A number of different aspects have been considered to illustrate the sustainability of the redevelopment, as presented below. The design of the houses provided within the development will aim to achieve Code for Sustainable Homes level 3 and will adopt CABE's Building for Life principles.

3.2 Energy

3.2.1 Residential

This section describes the development proposals in the context of the overarching expectations with regards to the policy considerations summarised above.

The development proposals are at the final design stage and are therefore not subject to large scale changes and alterations. The residential element of the scheme proposes that 63 properties will be built in accordance with no less then Code for Sustainable Homes Level 3. This includes:

Honeywell Site

- 6x 2-bed dwellings
- 2x 3-bed dwellings

Central site

- 8x 2-bed dwellings
- 26x 3-bed dwellings
- 15x 4-bed dwellings
- 5x 5-bed dwellings

Through analysis of the proposals and discussion with project partners it is viewed that the development has adopted an urban design approach which is informed by a wider sustainable building approach.

As the residential units will be built in accordance with the 'Code for Sustainable Homes Level 3,' efforts have been made, through the detailed design process, to ensure that the development scores highly in energy performance. The following measures will look to be employed:

1. The properties will be positioned, where practicable, to maximise natural daylight and passive solar heating
2. The build will be of based on high efficiency timber frame based on the Kingspan Tek system or similar maintaining a thermally sealed envelope and reducing the potential for heat loss. Low u-value glazing will also be included.
3. The ventilation will be of the mechanical variety but with a heat recovery system included.
4. 75% of internal lighting will be low energy fittings
5. The external lighting will be below 150W and have a relevant sensor.
6. Drying space for clothing will be provided.
7. EU Energy Label A or A* rated white goods will be utilised where provided
8. Home office space will be provided
9. The heating system will be based on a SEDBUK A rated gas boiler with attached solar thermal panels with a thermal store to generate on-site hot water. This will be linked to an under floor distribution system. The residential design does not currently show the panels as unit positioning has not yet been solidified.

As documented in relevant national and local planning policy guidance and the Code, specifically section Ene 7, there is the need to reduce projected development carbon emissions by at least 10%. The inclusion of suitably sized solar panels should achieve this.

With reference to the Commission for Architecture in the Built Environment's (CABE) Building for Life standard - through examination of the standard requirements it is concluded that the proposed development has utilised the Building for Life standard as a template as it does meet a number of the criteria; however a comprehensive assessment would be required to determine this fully.

3.2.2 Commercial

The commercial element of the proposal states that 2,600m^2 of floor space will be developed as 4 No. commercial offices.

- 1No. 1 storey 600m^2
- 3No. 2 storey 800m^2

WYGs interpretation of relevant planning requirement, relating to energy, that has a direct impact on the commercial development is the need to reduce projected development carbon emissions by 10%.

However, the Yorkshire and Humber Assembly's Regional Spatial Strategy for Yorkshire does specifically promote the use of combined heat and power (CHP) technology.

Whilst not specifically requested, but in line with current thinking, the developers are keen to maximise the attractiveness and practicality of the developments to both the local community and potential tenants/purchasers and as such will look to include sustainable building techniques, as far as reasonably practicable. As such this sustainability report will look to highlight the energy efficient design principles based on the BREEAM Offices 2008 'Excellent' standard. As a benchmark this standard demands a CO_2 Index (EPC rating) of 40 or better.

To improve building performance levels design includes a number of energy efficient design parameters including:

1. The properties will be positioned, where practicable, to maximise natural daylight and passive solar heating
2. The build will be of a high efficiency timber frame construction based on the Kingspan Tek system or similar, maintaining a thermally sealed envelope and reducing the potential for heat loss. Low u-value glazing will also be included.
3. The ventilation will be of the mechanical variety but with a heat recovery system included.
4. 75% of internal lighting will be low energy fittings
5. The external lighting will be below 150W and have a relevant sensor.
6. EU Energy Label A or A* rated white goods will be utilised where provided
7. Each unity will be individually metered.
8. The finished units may have building management systems installed how this will be dependant on the intended tenants, which has not yet been decided.
9. It is intended that the heating/hot water will be supplied by a central communal CHP system which will be powered by either biomass (preferred option) or gas. The commercial design does not currently show the renewable energy system as the final scale and overall specification has not yet been solidified.

As documented in relevant national and local planning policy guidance, there is the need to reduce projected development carbon emissions by 10%. The inclusion of suitably sized biomass communal heating system would achieve this.

When addressing the full feasibility of energy efficient design principles and renewable energy applications for both the residential and commercial developments, it is recommended that these be undertaken simultaneously as one may have direct impact on the other, positively or negatively.

With reference to the Commission for Architecture in the Built Environment's (CABE) Building for Life standard - through examination of the standard requirements it is concluded that the proposed development has utilised the Building for Life standard as a template as it does meet a number of the criteria; however a comprehensive assessment would be required to determine this fully.

3.3 Transport

The development is highly accessible via public transport, being within close proximity of existing public transport services, with a range of frequent services available. The development is also within walking distance of a range of local amenities within Barnsley town centre and the surrounding area, which will help to reduce the need for car travel and contribute towards minimising greenhouse gas emissions. The proposals include provision of a pedestrian / cycle link to Barnsley town centre as well as improvements to an existing footpath / cycleway. These measures will further encourage people to walk and cycle, instead of using their cars.

A framework travel plan has been developed detailing the measures that will be taken to minimise the impact of traffic resulting from the new development. Wherever possible, cycling will be encouraged through the provision of covered and secure cycle stores, and shower and changing facilities within the office accommodation. Please refer to the WYG discipline specific report for more detail.

3.4 Water

Both new residential and commercial buildings will be designed taking into consideration water conservation. Water efficient devices including water butts will be installed wherever possible. A sustainable drainage system to access roads for surface water will also be employed. The residential units within the development will aim to achieve a target water consumption of no more than 105 litres per person per day in line with the requirement to achieve Code level 3.

3.5 Materials

Consideration has been given to the specification, sourcing and utilisation of materials which have a low environmental impact, taking into account their rating within the Green Guide to Specification. The

residential construction is to be based on a highly efficient timber frame design utilising the Kingspan Tek system or similar. In addition to this, wherever possible, building materials will be responsibly sourced, for example through the use of third party certified sustainable timber (e.g. Forest Stewardship Council) and suppliers with Environmental Management Systems (EMS) covering both processing and extraction of products. Consideration will be given to the use of recycled aggregates both within the site fill and within the building products themselves.

3.6 Waste

Sufficient space will be allocated for waste storage and appropriate bins will be provided to allow material segregation and recycling / reusing / composting on site. A Site Waste Management Plan will be prepared for the site which will include target benchmarks for resource efficiency, procedures for monitoring and reporting site waste as well as for minimising and sorting waste for recycling. Targets will also be set to maximise waste diverted from landfill and either reused on site, re-used on other sites or recovered and recycled.

3.7 Pollution

Consideration will be given to installing low NO_x heating and hot water systems. During construction, best practice measures will be implemented to minimise air and water pollution. Sustainable Drainage Systems will be provided to attenuate water run-off and minimise flood risk in the form of two ponds, which will also provide ecological habitat, permeable paving and a storage tank.

Where possible, consideration will be given to specifying insulating materials with a Global Warming Potential (GWP) of less than 5, including insulation for building fabric, building services, internal sound proofing. Full consideration will be given to reducing the risk of noise and light pollution through the use of sound insulation and external lighting designed in accordance with the Institute of Lighting Engineers Guidance.

3.8 Socio-economic aspects

Full consideration has been given to health and well-being criteria, such as daylighting and lighting levels, availability of fresh air, temperature adjustment and noise levels, in order to create buildings which are comfortable and pleasant to live and work in.

The residential units will incorporate principles from the Lifetime Homes standard to ensure the new homes are accessible to a wide range of occupants and adaptable to the changing needs of a household.

The development will also incorporate high quality public open space, including play space and a wildflower meadow walk, which will contribute towards improved health and well-being. Where possible the site will be designed to reduce crime and consideration will be given to adopting Secured by Design principles.

A comprehensive consultation process has been carried out in order to provide the local community with the opportunity to submit comments and express their vision on the impacts the development may have on social, economical and environmental aspects. This included a public exhibition; a presentation with question and answer session; and leaflet distribution to homes in the surrounding area. Feedback from the consultation process has resulted in changes made to the application proposals.

Potential acoustic impacts attributable to users of the sports pitch will be mitigated against through the specification of an acoustic fence / barrier along the western and northern boundary of the pitch. In addition, the acoustic impacts on the residential units from external sources will be further mitigated against through the use of acoustic trickle vents and standard double glazing units. These measures will further enhance the sustainability of the development and the wellbeing of occupants and users.

3.9 Ecology and land use

The development will make significant use of previously developed land, with a large portion of proposed development falling within the footprint of the old college buildings. Where appropriate, opportunities to enhance the ecological value of the site is being considered, specifically relating to the retention of trees within the land area, but also the creation of biodiverse areas. Further specific survey and mitigation will be required when considering bats on-site due to their current/potential habitation in existing on-site buildings and trees. Please refer to the WYG discipline specific report for more detail.

Appendix A – Report Conditions

SUSTAINABILITY STATEMENT: BARNSLEY COLLEGE REDEVELOPMENT

This report is produced solely for the benefit of **Barnsley College** and no liability is accepted for any reliance placed on it by any other party unless specifically agreed in writing otherwise.

This report is prepared for the proposed uses stated in the report and should not be used in a different context without reference to WYG. In time improved practices, fresh information or amended legislation may necessitate a re-assessment. Opinions and information provided in this report are on the basis of WYG using due skill and care in the preparation of the report.

This report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times.

This report is limited to those aspects reported on, within the scope and limits agreed with the client under our appointment. It is necessarily restricted and no liability is accepted for any other aspect. It is based on the information sources indicated in the report. Some of the opinions are based on unconfirmed data and information and are presented as the best obtained within the scope for this report.

Reliance has been placed on the documents and information supplied to WYG by others but no independent verification of these has been made and no warranty is given on them. No liability is accepted or warranty given in relation to the performance, reliability, standing etc of any products, services, organisations or companies referred to in this report.

Whilst skill and care have been used, no investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather related conditions.

Although care is taken to select monitoring and survey periods that are typical of the environmental conditions being measured, within the overall reporting programme constraints, measured conditions may not be fully representative of the actual conditions. Any predictive or modelling work, undertaken as part of the commission will be subject to limitations including the representativeness of data used by the model and the assumptions inherent within the approach used. Actual environmental conditions are typically

more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions.

The potential influence of our assessment and report on other aspects of any development or future planning requires evaluation by other involved parties.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. WYG accept no liability for issues with performance arising from such factors

Sustainability performance is influenced by many factors over prolonged periods, including the degree to which advice on assessed sustainability measures is incorporated into detailed designs and specifications, then implemented and operated. WYG accept no liability for issues with performance arising from such factors. In particular, WYG accept no liability for the outcome of BREEAM, EcoHomes, CEEQUAL and other assessments. It is noted these assessments typically depend on the degree to which measures are implemented and on good evidence being supplied to demonstrate compliance. It is assumed that proposed sustainability measures will be assessed by others within the project team (e.g. in terms of likely energy consumption).