Sustainability Statement & BREEAM Pre-Assessment

Britannia Street, London

Iceni Projects Limited on behalf of
Watkin Jones Group
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Prepared for
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Britannia Street, London

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1. INTRODUCTION

1.1 Iceni Projects Ltd was commissioned by Watkin Jones Group to assist with the development of a Sustainability Statement and BREEAM Pre-Assessment for a proposed scheme at Britannia Street, London.

1.2 Planning permission and conservation area consent are sought for works associated with the partial demolition, rebuilding and extension of 15-27 Britannia Street in connection with the re-use of the site as student accommodation (226 bedspaces) with the provision of communal areas and an external courtyard, the creation of offices, the change of use of unnumbered properties on Wicklow Street to residential accommodation (two studio apartments) and a performance space/ gallery area.

Report Objective

1.3 The objective of the Sustainability Statement & BREEAM Pre-Assessment is to outline how sustainability has been considered and incorporated into the preferred design of the proposed scheme and provide an indication of the anticipated BREEAM score.

Methodology

1.4 The report commences with a review of the planning policies relevant to BREEAM; this is detailed in Section 2. Section 3 outlines issues relevant to the scope and version of the BREEAM assessments.

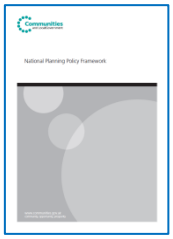
1.5 Sections 4 through to 13 address aspects of the design that relate to sustainable development. These sections have been broadly aligned to the requirements of BREEAM and respectively comprise a review of; management, health & wellbeing, energy, transport, water, materials, waste, land use & ecology, pollution and innovation.

1.6 A summary of the key findings and an overview of the predicted BREEAM assessment score are presented in Section 14.

2. PLANNING CONTEXT

2.1 National, regional and local planning policy relevant to sustainable development is considered in detail below:

National Planning Policy Framework



2.2 The Department for Communities and Local Government determines national policies on different aspects of planning and the rules that govern the operation of the system. The planning system is currently being reformed and the National Planning Policy Framework (NPPF) was published on 27 March 2012; setting out the Government's planning policies for England and replacing the previous series of Planning Policy Statements (PPS).

2.3 The NPPF states that the purpose of the planning system is to contribute to the achievement of 'sustainable development'. This term is defined under paragraph 6 of the NPPF as follows:

> *6. The purpose of the planning system is to contribute to the achievement of sustainable development. The policies in paragraphs 18 to 219, taken as a whole, constitute the Government's view of what sustainable development in England means in practice for the planning system.*

2.4 Furthermore, the NPPF introduces a 'presumption in favour of sustainable development' in relation to plan-making and decision-taking as follows:

> *14. At the heart of the National Planning Policy Framework is a **presumption in favour of sustainable development**, which should be seen as a golden thread running through both plan-making and decision-taking.*
>
> *For **plan-making** this means that:*
>
> - *Local planning authorities should positively seek opportunities to meet the development needs of their area;*
> - *Local Plans should meet objectively assessed needs, with sufficient flexibility to adapt to rapid change, unless:*
>   - *Any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole; or*
>   - *Specific policies in this Framework indicate development should be restricted.*
>
> *For **decision-taking** this means:*
>
> - *Approving development proposals that accord with the development plan without delay; and*
> - *Where the development plan is absent, silent or relevant policies are out-of-date, granting permission unless:*
>   - *Any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole; or*
>   - *Specific policies in this Framework indicate development should be restricted.*

Greater London Policy Framework

The London Plan - Spatial Development Strategy for Greater London (July 2011)

2.6 The replacement London Plan ('the Plan') was published on 2 July 2011 and replaces the *London Plan (consolidated with alterations since 2004)*. The London Plan is the overall strategic plan for London. Chapter five of the Plan details *London's Response to Climate Change* and *Policy 5.3* concerns *Sustainable Design and Construction*.

2.7 The following is stated:

Strategic

A) The highest standards of sustainable design and construction should be achieved in London to improve the environmental performance of new developments and to adapt to the effects of climate change over their lifetime.

Planning Decisions

B) Development proposals should demonstrate that sustainable design standards are integral to the proposal, including its construction and operation, and ensure that they are considered at the beginning of the design process.

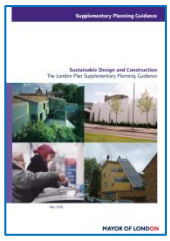
C) Major development proposals should meet the minimum standards outlined in the Mayor's supplementary planning guidance and this should be clearly demonstrated within a design and access statement. The standards include measures to achieve other policies in this Plan and the following sustainable design principles apply:

- *a. Minimising carbon dioxide emissions across the site, including the building and services (such as heating and cooling systems);*
- *b. Avoiding internal overheating and contributing to the urban heat island effect;*
- *c. Efficient use of natural resources (including water), including making the most of natural systems both within and around buildings;*
- *d. Minimising pollution (including noise, air and urban run-off);*
- *e. Minimising the generation of waste and maximising reuse or recycling;*
- *f. Avoiding impacts from natural hazards (including flooding);*
- *g. Ensuring developments are comfortable and secure for users, including avoiding the creation of adverse local climatic conditions;*
- *h. Securing sustainable procurement of materials, using local supplies where feasible; and*
- *i. Promoting and protecting biodiversity and green infrastructure.*

LDF Preparation

D) Within LDFs boroughs should consider the need to develop more detailed policies and proposals based on the sustainable design principles outlined above and those which are outlined in the Mayor's supplementary planning guidance that are specific to their local circumstances.

The London Plan SPG - Sustainable Design & Construction (May 2006)



2.8 The Supplementary Planning Guidance – Sustainable Design & Construction was originally written to support the previous version of the London Plan and guidance is provided with regards to the way that the seven measures of [the now retracted] Policy 4B.6 can be implemented. Whilst structured around a former policy framework, it has not been superseded and the guidance is still a material consideration for planning applications.

2.9 The following issues are covered:

- Re-use of land and buildings;
- Conserve energy, materials, water and other resources;
- Ensure designs make the most of natural systems both within, in and around the building;
- Reduce the impact of noise, pollution, flooding and micro-climatic effects;
- Ensure developments are comfortable and secure for users;
- Conserve and enhance the natural environment, particularly in relation to biodiversity;
- Promote sustainable waste behaviour in new and existing developments, including support for local integrated recycling schemes, CHP schemes and other treatment options.

Local Policy Framework

Camden Core Strategy 2010-2025 (Local Development Framework; November 2010)

2.10 The Core Strategy sets out the key elements of Camden Council's vision for the borough. It is a central part of the Local Development Framework (LDF) and covers the physical aspects of location and land use; but also addresses other factors that make places attractive, sustainable and successful. Policy CS13 concerns a number of key issues relevant to sustainable development. This policy is presented below:

CS13 - Tackling Climate Change through Promoting Higher Environmental Standards

Reducing the effects of and adapting to climate change

The Council will require all development to take measures to minimise the effects of, and adapt to, climate change and encourage all development to meet the highest feasible environmental standards that are financially viable during construction and operation by:

a) Ensuring patterns of land use that minimise the need to travel by car and help support local energy networks;

[Continued over …]

[CS13 continuation ...]

b) Promoting the efficient use of land and buildings;
c) Minimising carbon emissions from the redevelopment, construction and occupation of buildings by implementing, in order, all of the elements of the energy hierarchy:
1. Ensuring development uses less energy;
2. Making use of energy from efficient sources, such as King's Cross, Gower Street, Bloomsbury and proposed Euston Road decentralised energy networks;
3. Generating renewable energy on-site;
d) Ensuring buildings and spaces are designed to cope with, and minimise the effects of climate change.

The Council will have regard to the cost of installing measures to tackle climate change as well as the cumulative future costs of delaying reductions in carbon dioxide emissions.

Local energy generation

The Council will promote local energy generation and networks by:

e) Working with our partners and developers to implement local energy networks in the parts of Camden most likely to support them i.e. in the vicinity of:
- *Housing estates with community heating or potential for community heating and other uses with large heating loads;*
- *The growth areas of King's Cross;*
- *Euston, Tottenham Court Road, West Hampstead Interchange and Holborn;*
- *Schools to be redeveloped as part of Building Schools for the Future programme;*
- *Existing or approved combined heat and power / local energy networks (See Map 4);*
- *And other locations where land ownership would facilitate their implementation.*

f) Protecting existing local energy networks where possible (e.g. at Gower Street and Bloomsbury) and safeguarding potential network routes (e.g. Euston Road).

Water and surface water flooding

We will make Camden a water efficient borough and minimise the potential for surface water flooding by:

g) Protecting our existing drinking water and foul water infrastructure, including Barrow Hill Reservoir, Hampstead Heath Reservoir and Kidderpore Reservoir;
h) Making sure development incorporates efficient water and foul water infrastructure;
i) Requiring development to avoid harm to the water environment, water quality or drainage systems and prevents or mitigates local surface water and down-stream flooding, especially in areas up-hill from , and in, areas known to be at risk from surface water flooding such as South and West Hampstead, Gospel Oak and King's Cross (see Map 5)

Camden's carbon reduction measures

The Council will take a lead in tackling climate change by:

j) Taking measures to reduce its own carbon emissions;
k) Trialling new energy efficient technologies, where feasible; and
l) Raising awareness on mitigation and adoption measures.

Camden Development Policies 2010 - 2025 (Local Development Framework; November 2010)

2.11 The Development Policies form part of the Council's LDF and supplement the Core Strategy (discussed above). The document contributes towards delivering the Core Strategy by setting out detailed planning policies that the Council will use when determining applications for planning permission. Development Policies DP22 and DP23 supplement Core Strategy Policy CS13.

DP22 - Promoting Sustainable Design and Construction

The Council will require development to incorporate sustainable design and construction measures. Schemes must:

a) Demonstrate how sustainable development principles, including the relevant measures set out in paragraph 22.5 below, have been incorporated into the design and proposed implementation; and
b) Incorporate green or brown roofs and green walls wherever suitable.

The Council will promote and measure sustainable design and construction by:

c) Expecting new building housing to meet Code for Sustainable Homes Level 3 by 2010 and Code Level 4 by 2013 and encouraging Code Level 6 (zero carbon) by 2016;
d) Expecting developments (except new build) of 500m^2 of residential floorspace or above or 5 or more dwellings to achieve "very good" in EcoHomes assessments prior to 2013 and encouraging "excellent" from 2013;
e) Expecting non-domestic developments of 500m^2 of floorspace or above to achieve "very good" in BREEAM assessments and "excellent" from 2016 and encouraging zero carbon from 2019.

The Council will require development to be resilient to climate change by ensuring schemes include appropriate climate change adaptation measures, such as:

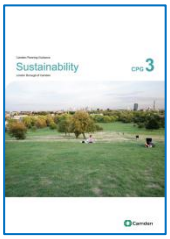
f) Summer shading and planting;
g) Limiting run-off;
h) Reducing water consumption;
i) Reducing air pollution; and
j) Not locating vulnerable uses in basements in flood-prone areas.

DP23 - Water

The Council will require developments to reduce their water consumption, the pressure on the combined sewer network and the risk of flooding by:

a) Incorporating water efficient features and equipment and capturing, retaining and re-using surface water and grey water on-site;
b) Limiting the amount and rate of run-off and waste water entering the combined storm water and sewer network through the methods outlined in part (a) and other sustainable urban drainage methods to reduce the risk of flooding;
c) Reducing the pressure placed on the combined storm water and sewer network from foul water and surface water run-off and ensuring developments in the areas identified by the North London Strategic Flood Risk Assessment and shown on Map 2 as being at risk of surface water flooding are designed to cope with the potential flooding;
d) Ensuring that developments are assessed for upstream and downstream groundwater flood risks in areas where historic underground streams are known to have been present; and
e) Encouraging the provision of attractive and efficient water features.

Camden Planning Guidance - Sustainability CPG3



2.12 The Camden Planning Guidance has been prepared to support policies in the Local Development Framework (LDF). Guidance CPG3 provides information on ways to achieve carbon reductions and more sustainable developments. It also highlights the Council's requirements and guidelines which support the relevant Local Development Framework (LDF) policies:

- CS13 - Tackling climate change through promoting higher environmental standards;
- DP22 - Promoting sustainable design and construction;
- DP23 - Water

2.13 Guidance is provided with regards to a number of sustainability themes and a number of 'key messages' are stated beneath each of these themes.

The Energy Hierarchy
- *All developments are to be designed to reduce carbon dioxide emissions;*
- *Energy strategies are to be designed following the steps set out by the energy hierarchy.*

Energy Efficiency: New Buildings
- *All new developments are to be designed to minimise carbon dioxide emissions;*
- *The most cost-effective ways to minimise energy demand are through good design and high levels of insulation and air tightness.*

Energy Efficiency: Existing Buildings
- *As a guide, at least 10% of the project cost should be spent on environmental improvements;*
- *Potential measures are bespoke to each property;*
- *Sensitive improvements can be made to historic buildings to reduce carbon dioxide emission.*

Decentralised Energy Networks and Combined Heat & Power
- *Decentralised energy could provide 20% of Camden's heating demand by 2020;*
- *Combined heat & power plants can reduce carbon dioxide emissions by 30-40% compared to a conventional gas boiler;*
- *Where feasible and viable your development will be required to connect to a decentralised energy network or include CHP.*

Renewable Energy
- *There are a variety of renewable energy technologies that can be installed to supplement a development's energy needs;*
- *Developments are to target a 20% reduction in carbon dioxide emissions from on-site renewable technologies.*

Water Efficiency
- *At least 50% of water consumed in homes and workplaces does not need to be of drinkable quality re-using water;*
- *All developments are to be water efficient;'*
- *Developments over 10 units or 1,000m^2 should include grey water recycling*

Sustainable Use of Materials
- *Reduce waste by firstly re-using your building, where this is not possible you should implement the waste hierarchy;*
- *The waste hierarchy prioritises the reduction, re-use and recycling of materials;*
- *Source your materials responsibly and ensure they are safe to health.*

Sustainability Assessment Tools
- *A new build dwelling will have to be designed in line with the Code for Sustainable Homes;*
- *The creation of 5 or more dwellings from an existing building will need to be designed in line with EcoHomes;*
- *500m^2 or more of non-residential floorspace will need to be designed in line with BREEAM*

Brown Roofs, Green Roofs and Green Walls
- *All development should incorporate green and brown roofs;*
- *The appropriate roof or wall will depend on the development, the location and other specific factors;*
- *Specific information needs to be submitted with applications for green / brown roofs and walls.*

Flooding
- *All developments are required to prevent or mitigate against flooding;*
- *All developments are expected to manage drainage and surface water;*
- *There is a hierarchy you should following when designing a sustainable drainage system.*

Adapting to Climate Change
- *All development should consider how it can be occupied in the future when the weather will be different;*
- *The early design stage is the most effective time to incorporate relevant design and technological measures.*

Biodiversity
- *Proposals should demonstrate:*
  - *How biodiversity considerations have been incorporated into the development;*
  - *If any mitigation measures will be included;*
  - *What positive measures for enhancing biodiversity are planned.*

Local food Growing

- *We encourage food to be grown wherever possible and suitable;*
- *Rooftops and shared spaces such as gardens and parts provided opportunities for food growing.*

2.14 BREEAM is discussed within Section 9 of the Guidance and minimum standards are provided for performance within certain categories. These include a target of 60% of the available credits under the Energy and Water Sections of BREEAM; and 40% under Materials.

3. BREEAM OVERVIEW

Introduction to BREEAM Multi-Residential

3.1 The Building Research Establishment's Environmental Assessment Method (BREEAM) is an environmental assessment for buildings and is designed to:

- Mitigate the life cycle impacts of buildings on the environment;
- Enable buildings to be recognised according to their environmental benefits;
- Provide credible, environmental label for buildings; and
- Stimulate demand for sustainable buildings.

3.2 The proposed scheme includes the retention of the façade and an area of basement and other floorspace. The scheme has been registered against BREEAM Multi-residential 2008.

3.3 BREEAM measures sustainability by awarding 'credits' against 'issues' relevant to nine design categories. An additional "Innovation" category exists for the purpose of rewarding exemplar performance.

3.4 BREEAM uses a rating system to communicate the extent to which performance has been achieved. There are six levels as follows:

Table 1: BREEAM Ratings Benchmarks

BREEAM Rating	% Score
Outstanding	85
Excellent	70
Very Good	55
Good	45
Pass	30
Unclassified	<30

3.5 Certain issues require a mandatory level of performance depending upon the sought BREEAM rating.

3.6 Given the planning policy requirements set out in Section 2 above, it is anticipated that all of the above building types will be required to achieve a BREEAM Rating of at least 'Very Good'; and be considerate of the credit performance targets for energy, water and materials.

BREEAM Assessor / Accredited Professional

3.7 This BREEAM Pre-Assessment has been undertaken by a qualified BREEAM Multi-residential Assessor and BREEAM Accredited Professional (AP). The anticipated BREEAM scoring can be found at Appendix A2 and a summary of the scoring is detailed in Section 13.

4. MANAGEMENT

Man01 Commissioning

4.1 The developer has indicated that an appropriate project team member will be appointed to monitor and programme pre-commissioning, commissioning and re-commissioning. This is a standard undertaking by the developer and will form a part of their normal scope of works.

4.2 Commissioning activities will be carried out in line with current Building Regulations and BSRIA and CIBSE guidelines where applicable. Furthermore, a specialist commissioning manager will be appointed for complex systems and will include seasonal commissioning responsibilities over a 12 month period, once the building becomes occupied.

4.3 On the basis of the above, *two credits* are anticipated.

Man02 Considerate Constructors

4.4 It is intended that the construction phase of the scheme will be assessed under the Considerate Constructors Scheme (CSS) with a target of achieving a score of at least 32 and with a minimum score of three under each of the eight sections. *Two credits* are anticipated.

Man03 Construction Site Impacts

4.5 It is intended that development will be managed in an environmentally sound manner in terms of resource use, energy consumption and pollution. The following would be monitored:

- Energy consumption;
- Water Consumption;
- Transport of construction materials & waste;
- Timber procurement.

4.6 All *four credits* will be targeted in relation to construction site impacts.

Man04 Building User Guide

4.7 A non-technical Building User Guide would be produced for the future building occupants detailing relevant information and including:

- Building services information;
- Emergency information;
- Energy & environmental strategy;
- Water use;
- Transport facilities;

- Materials & waste policy;
- Re-fit / re-arrangement considerations;
- Reporting provision;
- Training details; and
- Links & references.

4.8 *One credit* is anticipated on the basis of the above.

Man05 Site Investigation

4.9 Issue not assessed under BREEAM Multi-Residential.

Man06 Consultation

4.10 Consultation has been undertaken as part of the design process to ensure that the design reflects stakeholders' sustainability requirements. This process has included public exhibitions and extensive discussions with parties including English Heritage, Kings Cross Conservation Area Advisory, Ward Councillors, other individuals at the Council, local businesses and residents. *Two credits* are anticipated.

Man07 Shared Facilities

4.11 Issue not assessed under BREEAM Multi-Residential.

Man08 Security

4.12 The design team contacted and met Adam Lindsey of the Metropolitan Police on 9 April 2011 and on 1 May 2012 to identify areas where the building can incorporate preventative measures against potential crime as well as achieving the Secured by Design accreditation.

4.13 The scheme design has incorporated these recommendations and includes the placement of access points in highly visible locations, inclusion of CCTV, uniform lighting, access control and robust doors, locks and windows. *One credit* is anticipated.

5. HEALTH & WELLBEING

Hea01 Daylighting

5.1 A Daylight and Sunlight assessment has been undertaken for the property by Watts Group Plc (ref: 113015; 24 May 2012), which indicated that the calculated Average Daylight Factors (ADF) throughout the building were mixed with improved values for rooms in the upper floors.

5.2 On the basis that BREEAM sets relatively stringent requirements for daylighting, the *credit has not been assumed*.

Hea02 View Out

5.3 The layout of the building, with glazed areas looking onto the street or central court yard, appears to be in accordance with the BREEAM criteria. *One credit* has been assumed.

Hea03 Glare Control

5.4 It is proposed to include an occupant-controlled shading system on all windows, glazed doors and rooflights in areas of the building which are likely to be occupied for more than 30 minutes; and where it would be desirable to limit the potential for glare (e.g. communal lounge areas). *One credit* is therefore expected under BREEAM.

Hea04 High Frequency Lighting

5.5 All fluorescent and compact fluorescent lamps will be fitted with higher frequency ballast for improved energy efficiency. *One credit* is therefore assumed.

Hea05 Internal & External Lighting Levels

5.6 It is intended that internal illuminance (lux) levels will be specified in accordance with the CIBSE Code for Lighting 2009 and in parts of the buildings where computer screens are regularly used (e.g. office areas), lighting will comply with CIBSE Lighting Guide 7.

5.7 *One credit* is therefore anticipated under issue Hea05.

Hea06 Lighting Zones & Controls

5.8 Issue not assessed under BREEAM Multi-Residential.

Hea07 Potential for Natural Ventilation

5.9 Credit not sought.

Hea08 Indoor Air Quality

5.10 The building's air intakes and exhaust are over 10m apart to minimise recirculation and intakes will be located over 20m from source of external pollution.

5.11 Fresh air will be provided in accordance with the top of the range recommendations in the British Council for Offices *Guide to Best Practice in the Specification of Offices* (i.e. 12 litres per second per person). (Note: it is acknowledged that the proposed development at Britannia Street is Multi-Residential; however, BREEAM references this Offices standard).

5.12 *One credit* is anticipated.

Hea09 Volatile Organic Compounds

5.13 Whilst the developer intends to specify internal finishes and fittings with low emissions of VOCs, BREEAM covers a wide range of products and it is considered prudent at this stage of the design to avoid such assumptions

Hea10 Thermal Comfort

5.14 Dynamic thermal modelling (SBEM) has been carried out using IES Virtual Environment software and JPA Designer (SAP) software. Consideration has been given to thermal comfort levels and it is expected that spaces will be in accordance with the criteria set out in CIBSE Guide A *Environmental Design*.

5.15 *One credit* is anticipated.

Hea11 Thermal Zoning

5.16 The heating / cooling system has been designed to allow occupant control of zoned areas within all occupied spaces in the building. *One credit* has been assumed.

Hea12 Microbial Contamination

5.17 All water systems in the building will be designed in compliance with the measures outlined in the Health & Safety Executive's *Legionnaires' disease - The control of legionella bacteria in water systems* Approved Code of Practice and Guidance, 2000. *One credit* is anticipated.

Hea13 Acoustic Performance

5.18 Issue not assessed under BREEAM Multi-Residential.

Hea14 Office Space

5.19 Issue not assessed under BREEAM Multi-Residential.

Hea15 Outdoor Space

5.20 A courtyard area is located in the centre of the site that is accessible via safe pedestrian routes to all potential users of the building, regardless of age, disability or gender.

5.21 *One credit* has been assumed.

Hea16 Drinking Water

5.22 Issue not assessed under BREEAM Multi-Residential.

Hea17 Specification of Laboratory Fume Cupboards

5.23 Issue not assessed under BREEAM Multi-Residential.

Hea18 Containment Level 2 & 3 Laboratory Areas

5.24 Issue not assessed under BREEAM Multi-Residential

Hea19 Arts in Health

5.25 Issue not assessed under BREEAM Multi-Residential

Hea20 Home Office

5.26 Individual study bedrooms will be provided with sufficient space and services in a suitable location to allow residents to access IT services and facilitate a working environment. *One credit* is assumed.

Hea21 Sound Insulation

5.27 A Noise and Vibration Impact Assessment has been undertaken by PDA Acoustic Consultants (ref: ECE/NC/744; 23 May 2012). This assessment concluded that a floor design to the requirements of Building Regulations Approved Document E would be appropriate. *No credits* have been assumed for this BREEAM issue.

6. ENERGY

Ene01 Reduction of CO_2 Emissions

6.1 An assessment of the anticipated carbon dioxide emissions associated with the proposed scheme has been undertaken and is presented in the Energy Statement, undertaken by GDM (May 2012).

6.2 Part of this assessment including the production of indicative SAP and SBEM assessments, which identified the following emission rates / carbon indices for the preferred option:

- Residential area (~4,315m^2) - Average Dwelling Emission Rate (DER) of 29.08
- Non-residential area (~4,523m^2) - CO_2 Index of 29

6.3 The residential building part represents 48.8% of the overall floor area and a DER equates to a credit score of 4 for this proportion of the development.

6.4 The non-residential building part represents the remaining 51.2% of the overall floor area and the CO_2 Index of 29 equates to a BREEAM credit score of 8 for this building part.

6.5 BREEAM Multi-residential requires the credits to be area-weighted, added together and rounded down. The residential part therefore scores 1.95 credits; the non-residential part scores 4.09 credits. Taken together and rounded down, this equates to a *credit score of six*.

Ene02 Sub-metering of Substantial Energy Uses

6.6 It is proposed to include separate and accessible energy sub-meters, labelled with the end energy consuming use for the major energy uses in the building. *One credit* is assumed.

Ene03 Sub-metering of High Energy Load and Tenancy Areas

6.7 Issue not assessed under BREEAM Multi-Residential.

Ene04 External Lighting

6.8 Highly efficient light fittings will be included for the building, access ways and pathways. *One credit* is assumed.

Ene05 Low or Zero Carbon Technologies

6.9 The Energy Statement, undertaken by GDM, has reviewed the potential for the use of low and zero carbon technologies for the proposed scheme. Air Source Heat Pumps have been identified as the preferred option and are assessed to reduce CO_2 emissions by 22%.

6.10 On the basis of the extent of the use of LZC technology, *three credits* are expected under Ene05; with a further credit score expected under Inn01 (Innovation); discussed below under Section 13.

Ene06 Building Fabric Performance & Avoidance of Air Infiltration

6.11 Issue not assessed under BREEAM Multi-Residential.

Ene07 Cold Storage

6.12 Issue not assessed under BREEAM Multi-Residential.

Ene08 Lifts

6.13 Issue not assessed under BREEAM Multi-Residential.

Ene09 Escalators & Travelling Walkways

6.14 Issue not assessed under BREEAM Multi-Residential.

Ene10 Free Cooling

6.15 Issue not assessed under BREEAM Multi-Residential.

Ene11 Energy Efficient Fume Cupboards

6.16 Issue not assessed under BREEAM Multi-Residential.

Ene12 Swimming Pool Ventilation & Heat Loss

6.17 Issue not assessed under BREEAM Multi-Residential.

Ene13 Labelled Lighting Controls

6.18 Issue not assessed under BREEAM Multi-Residential.

Ene14 BMS

6.19 Issue not assessed under BREEAM Multi-Residential.

Ene15 Provision of Energy Efficient White Goods

6.20 Where specified, all new fridges and freezers or fridge-freezers will have an 'A+' rating under the EU Energy Efficiency Labelling Scheme. *One credit* is therefore expected.

Ene16 CHP Community Energy

6.21 Issue not assessed under BREEAM Multi-Residential.

Ene17 Residential Areas: Energy Consumption

6.22 Issue not assessed under BREEAM Multi-Residential.

Ene18 Drying Space

6.23 Individual bedrooms will be provided with an adequate internal / external space capable of holding 2m+ per bedroom. On the basis of the above, *one credit* is assumed.

7. TRANSPORT

Tra01 Public Transport Accessibility

7.1 A Transport Statement has been undertaken by ADL Traffic Engineering Ltd (ref: ADL/ME/2252/18A; May 2012), which identified the site as having a Public Transport Accessibility Level (PTAL) of 6B. This is the highest potential score under PTAL and indicates the site to be highly accessible.

7.2 *Three credits* are therefore anticipated for Tra01.

Tra02 Proximity to Amenities

7.3 Given that the site is located in central London, a full range of amenities found in close proximity and *two credits* are expected.

Tra03 Cyclist Facilities

7.4 According to the Transport Statement, 126 cycle storage spaces are proposed for the student accommodation. On the basis of the proposed number of building occupants, *one credit* is anticipated.

Tra04 Pedestrian & Cyclist Safety

7.5 Access to the building is directly from the public highway / footpath. *One credit* is therefore awarded by default.

Tra05 Travel Plan

7.6 Issue not assessed under BREEAM Multi-Residential.

Tra06 Maximum Car Parking Capacity

7.7 No parking space will be provided due to the site's excellent public transport links. *Two credits* are therefore expected.

8. WATER

Wat01 Water Consumption

8.1 All WCs will be dual flush and have an effective flush volume of 3 litres of less. The WCs will be provided with appropriate symbols instructing the user on appropriate operation.

8.2 All taps and showers will have a reduced maximum rate of flow through the use of flow restrictors and aerated disbursement. Other water saving features, such as low water use washing machines, will also be specified.

8.3 *Four credits* are expected.

Wat02 Water Meter

8.4 A water meter will be specified on the mains water supply for the building which will have a pulsed output to allow for connection to a Building Management System (BMS).

Wat03 Major Leak Detection

8.5 Credit not sought.

Wat04 Sanitary Supply Shut Off

8.6 Issue not assessed under BREEAM Multi-Residential.

Wat05 Water Recycling

8.7 Credit not sought.

Wat06 Irrigation Systems

8.8 The irrigation strategy will be designed so that water consumption remains low. One credit is assumed.

9. MATERIALS

Mat01 Materials Specification (Major Building Elements)

9.1 Materials will be selected in consideration of the Green Guide to Specification. The Green Guide presents a review of an extensive list of building materials according to their environmental impact. Environmental performance is rated on a scale of "A+" to "E", where "A+" represents the best performance. For the proposed scheme, it is intended to use predominantly materials with either an "A+" or "A" rating.

9.2 *Two credits* have been assumed for the scheme.

Mat02 Hard Landscaping & Boundary Protection

9.3 It is intended that at least 80% of all external hard landscaping and boundary protection (by area) will achieve an "A" or "A+" rating, as defined by the Green Guide to Specification. *One credit* is anticipated.

Mat03 Re-Use of Façade

9.4 On the basis that it is proposed to reuse the building façade, *one credit* is anticipated.

Mat04 Re-Use of Structure

9.5 Credit not sought.

Mat05 Responsible Sourcing of Materials - Basic Building Elements

9.6 Given that the project is at the pre-planning design stage, materials suppliers have not yet been identified. However, it is acknowledged that specification of responsibly sourced material (e.g. timber certification, suppliers that operate environmental management systems) should be given appropriate consideration as the scheme progresses.

9.7 For the purposes of the BREEAM predictive assessment, *one of the three credits* has been assumed.

Mat06 Insulation

9.8 External wall, ground floor, roof and building services insulation will be assessed in the context of the Green Guide and thermal performance. An Insulation Index of ≥2 will be targeted.

9.9 Furthermore, at least 80% of the insulation will be responsibly sourced. On the basis of the above, *two credits* are expected.

Mat07 Designing for Robustness

9.10 In order that adequate protection is given to exposed elements of the building and landscape, areas will be identified where frequent vehicular and pedestrian movements occur.

9.11 These will be given suitable durability and protection measures or design features to prevent damage and therefore minimise the frequency of replacement. These measures are likely to include:

- Protection from the effects of high pedestrian traffic in main entrances and thoroughfares;
- Protection against, or prevention from, any potential vehicular collision where vehicle parking and manoeuvring occurs.

9.12 *One credit* is assumed.

Mat08 Responsible Sourcing of Materials - Finishing Elements

9.13 As with Mat05 above, materials suppliers have not yet been identified. Nevertheless, efforts will be made to source materials responsibly. For the purposes of the Pre-Assessment, *no credits* have been assumed.

10. WASTE

Wst01 Construction Waste Management

10.1 To encourage resource efficiency via the effective management and reduction of construction waste, it is proposed that a Site Waste Management Plan (SWMP) will be produced that commits to reducing waste below 9.2m^3 or 4.7 tonnes per 100m^2 (gross internal floor area).

10.2 *Three credits* are expected.

Wst02 Recycled Aggregates

10.3 Credit not sought.

Wst03 Recyclable Waste Storage

10.4 Dedicated space will be provided to cater for the segregation and storage of operational recyclable waste volumes generated by the operation of the buildings.

Wst04 Compactor / Baler

10.5 Issue not assessed under BREEAM Multi-Residential.

Wst05 Composting

10.6 Credit not sought.

11. LAND USE & ECOLOGY

LE01 Site Selection

11.1 The proposed development footprint is on formerly developed land. *One credit* is expected.

LE02 Contaminated Land

11.2 A Contaminated Land Phase 1 Preliminary Risk Assessment was undertaken by Tier Consult (ref: T/10/850/PRA; November 2010). The assessment is based on a desktop data review and included a preliminary conceptual model.

11.3 On the basis of the results of this report, *one credit* is considered likely.

LE03 Ecological Value of Site & Protection of Ecological Features

11.4 An Ecology assessment was undertaken by Greengage (May2012) to evaluate how the scheme will compare against the BREEAM criteria.

11.5 On the basis that the application site is currently covered with hardstanding and buildings, the potential for protected species to be present was considered to be negligible.

11.6 The report recommended the award of *one credit*.

LE04 Mitigating Ecological Impact

11.7 Floral species have been recommended by Greengage for inclusion. On this basis that these recommendations are adopted, *two credits* are considered probable.

LE05 Enhancing Site Ecology

11.8 On the basis that a suitably qualified ecologist has been appointed and that the recommended measures for protection and enhancement of the ecological value of the site will be undertaken, *two credits* are expected.

LE06 Long Term Impact on Biodiversity

11.9 A landscape and habitat management plan has been produced and, if adopted, will allow for the award of *two credits*.

12. POLLUTION

Pol01 Refrigerant GWP - Building Services

12.1 Credit not sought.

Pol02 Preventing Refrigerant Leaks

12.2 Credit not sought.

Pol03 Refrigerant GWP - Cold Storage

12.3 Issue not assessed under BREEAM Multi-Residential

Pol04 NO_x Emissions from Heating Source

12.4 Credit not sought.

Pol05 Flood Risk

12.5 A Flood Risk Assessment has been undertaken by Westwood Environmental Engineering (ref: 1624; May 2012). This assessment identified the site as being located in an area at low risk of flooding. Surface water run-off will be no greater than for the pre-development site.

12.6 *Two credits* are considered probable, with potential for the third credit.

Pol06 Minimising Watercourse Pollution

12.7 Credit not sought.

Pol07 Reduction of Night Time Light Pollution

12.8 It is intended that the external lighting will be designed in compliance with Table 1 of the ILE Guidance notes for the reduction of obtrusive light, 2005. *One credit* is anticipated.

13. INNOVATION

Inn01 Innovation

13.1 *Three exemplary credits* are expected in relation to the proposed scheme at Britannia Street. Two credits are expected in relation to the employment of a BREEAM Accredited Professional (AP) on the project team at RIBA Stage B. The continued involvement of the BREEAM AP is anticipated.

13.2 Furthermore, exemplary performance is expected in relation to the extent of the application of the proposed renewable energy system.

14. SUMMARY

14.1 Sustainability is a broad concept and covers a range of environmental, social and economic considerations. This BREEAM Pre-Assessment provides an overview as to how sustainable design and construction principles have been considered and incorporated into the proposed scheme.

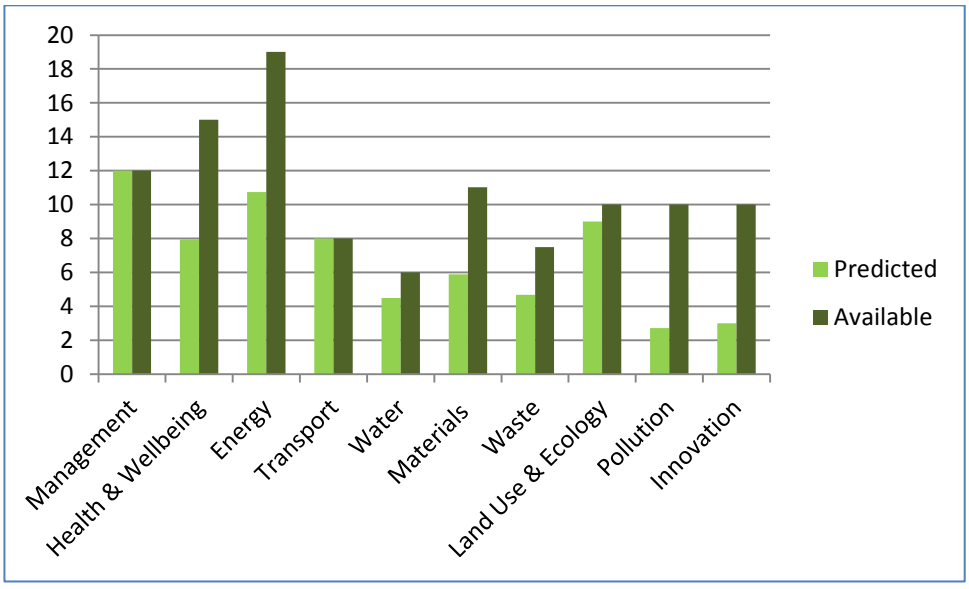
14.2 Planning policy is discussed in Section 2 and a requirement to achieve a BREEAM rating of 'Very Good' has been identified. Furthermore, Camden Planning Guidance CPG3 encourages performance targets under BREEAM of 60% of the available credits under the Energy and Water sections; and 40% under Materials.

14.3 Consideration has been given to these policies and guidance documents as part of this Sustainability Statement and BREEAM Pre-Assessment.

14.4 On the basis of the reviewed information, it is anticipated that the scheme will achieve a BREEAM score of **68.48%**; and comfortably attain a **'Very Good'** rating.

14.5 Fourteen of the energy credits are expected; including the innovation credit associated with the application of the proposed renewable technology option. This represents 60.87% of the potential energy credits. Six of the eight water credits are expected; representing 75.00% of those that are available. Eight of the seventeen materials credits are expected; suggesting that 47.05% of the credits will be gained in this section. These are all in line with the target aspirations of CPG3.

14.6 A graphical illustration of the scores is shown below:



14.7 A full breakdown of the scores can be found at Appendix A2.

14.8 Overall, the proposals for the scheme are considered to be in line with the principles of sustainable development and are consistent with the policy requirements of the planning authority.

APPENDIX A1

06 Scheme Proposals
Ground Floor Plan

Ground Floor Plan

APPENDIX A2

BREEAM Multi Residential (Version: 2008)

Issue ID	Description	Available Credits	Predicted Credits	Weighted Potential	Weighted Score (%)
Management				**12.00%**	
Man 1	Commissioning	2	2	2.00	2.00
Man 2	Considerate Constructors	2	2	2.00	2.00
Man 3	Construction Site Impacts	4	4	4.00	4.00
Man 4	Building User Guide	1	1	1.00	1.00
Man 6	Consultation	2	2	2.00	2.00
Man 8	Security	1	1	1.00	1.00
		12		12.00	12.00
Health & Wellbeing				**15.00%**	
Hea 1	Daylight	1	0	0.88	0.00
Hea 2	View Out	1	1	0.88	0.88
Hea 3	Glare Control	1	1	0.88	0.88
Hea 4	High Frequency Lighting	1	1	0.88	0.88
Hea 5	Internal & External Lighting Levels	1	1	0.88	0.88
Hea 7	Potential for Natural Ventilation	1	0	0.88	0.00
Hea 8	Indoor Air Quality	1	0	0.88	0.00
Hea 9	Volatile Organic Compounds	1	0	0.88	0.00
Hea 10	Thermal Comfort	1	1	0.88	0.88
Hea 11	Thermal Zoning	1	1	0.88	0.88
Hea 12	Microbial Contamination	1	1	0.88	0.88
Hea 15	Outdoor Space	1	1	0.88	0.88
Hea 20	Home Office	1	1	0.88	0.88
Hea 21	Sound Insulation	4	0	3.53	0.00
		17		15.00	7.94
Energy				**19.00%**	
Ene 1	Reduction of CO2 Emissions	15	6	12.39	4.96
Ene 2	Sub-Metering of Substantial Energy Uses	1	1	0.83	0.83
Ene 4	External Lighting	1	1	0.83	0.83
Ene 5	Low or Zero Carbon Technologies	3	3	2.48	2.48
Ene 15	Provision of Energy Efficiency White Goods	2	1	1.65	0.83
Ene 18	Drying Space	1	1	0.83	0.83
		23		19.00	10.74
Transport				**8.00%**	
Tra 1	Provision of Public Transport	3	3	2.67	2.67
Tra 2	Proximity to Amenities	1	1	0.89	0.89
Tra 3	Cyclist Facilities	2	2	1.78	1.78
Tra 4	Pedestrian & Cyclist Facilities	1	1	0.89	0.89
Tra 6	Maximum Car Parking Capacity	2	2	1.78	1.78
		9		8.00	8.00
Water				**6.00%**	
Wat 1	Water Consumption	4	4	3.00	3.00
Wat 2	Water Meter	1	1	0.75	0.75
Wat 3	Major Leak Detection	1	0	0.75	0.00
Wat 5	Water Recycling	1	0	0.75	0.00
Wat 6	Irrigation System	1	1	0.75	0.75
		8		6.00	4.50

Issue ID	Description	Available Credits	Predicted Credits	Weighted Potential	Weighted Score (%)
Materials				**12.50%**	
Mat 1	Materials Specification (Major Building Elements)	6	2	4.41	1.47
Mat 2	Hard Landscaping & Boundary Protection	1	1	0.74	0.74
Mat 3	Re-use of Façade	1	1	0.74	0.74
Mat 4	Re-use of Structure	1	0	0.74	0.00
Mat 5	Responsible Sourcing of Materials	3	1	2.21	0.74
Mat 6	Insulation	2	2	1.47	1.47
Mat 7	Designing for Robustness	1	1	0.74	0.74
Mat 8	Responsible Sourcing of Materials (Finishing Eleme	2	0	12.50	0.00
		17		11.03	5.88
Waste				**7.50%**	
Wst 1	Construction Site Waste Management	4	3	3.75	2.81
Wst 2	Recycling Aggregates	1	0	0.94	0.00
Wst 3	Recyclable Waste Storage	2	2	1.88	1.88
Wst 5	Composting	1	0	0.94	0.00
		8		7.50	4.69
Land Use & Ecology				**10.00%**	
LE1	Re-use of Land	1	1	1.00	1.00
LE2	Contaminated Land	1	1	1.00	1.00
LE3	Ecological Value of the Site	1	1	1.00	1.00
LE4	Mitigating Ecological Impact	2	2	2.00	2.00
LE5	Enhancing Site Ecology	3	2	3.00	2.00
LE6	Long Term Impact on Biodiversity	2	2	2.00	2.00
		10		10.00	9.00
Pollution				**10.00%**	
Pol 1	Refrigerant GWP - Building Services	1	0	0.91	0.00
Pol 2	Preventing Refrigerant Leaks	2	0	1.82	0.00
Pol 4	NOx Emissions from Heating Source	3	0	2.73	0.00
Pol 5	Flood Risk	3	2	2.73	1.82
Pol 6	Minimising Watercourse Polution	1	0	0.91	0.00
Pol 7	Reduction of Night Time Pollution	1	1	0.91	0.91
		11		10.00	2.73
Innovation				**10.00%**	
Inn 1	Innovation	10	3	10.00	3.00
		10		10.00	3.00

Indicative Rating: 68.48

V Good'

APPENDIX A3

General Notes

1. The report is based on information available at the time of the writing and discussions with the client during any project meetings. Where any data supplied by the client or from other sources have been used it has been assumed that the information is correct. No responsibility can be accepted by Iceni Projects Ltd for inaccuracies in the data supplied by any other party.
2. The review of planning policy and other requirements does not constitute a detailed review. Its purpose is as a guide to provide the context for the development and to determine the likely requirements of the Local Authority.
3. No site visits have been carried out, unless otherwise specified.
4. This report is prepared and written in the context of an agreed scope of work and should not be used in a different context. Furthermore, new information, improved practices and changes in guidance may necessitate a re-interpretation of the report in whole or in part after its original submission.
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