



INVICTA HOUSE

2-4 ATKINSON STREET
MANCHESTER
M3 3HH

HENRY BOOT DEVELOPMENTS &
KE HOTELS

BREEAM PRE-ASSESSMENT/
SUSTAINABILITY STATEMENT

ELEMENT SUSTAINABILITY
2017.034
APRIL 2017



ELEMENT SUSTAINABILITY

KE HOTEL, ATKINSON STREET MANCHESTER

BREEAM NEW CONSTRUCTION 2014 PRE-ASSESSMENT REPORT

Ref: 2017.034

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ELEMENT SUSTAINABILITY – ISSUE NOTES

Project No: 2017.034

Title: BREEAM New Construction 2014 Pre-Assessment Report
KE Hotel, Atkinson Street, Manchester

Client: KE Hotels

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Authorised by:



Laurie Wills
Director

22nd March 2017

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Appendix A – BREEAM New Construction 2014 Other Building ‘Residential Institution’ Pre-Assessment Report

1. INTRODUCTION

The purpose of this report is to evaluate the potential rating achievable under a formal BREEAM New Construction 2014 assessment and demonstrate a commitment to the principles of quality construction, design and sustainability. Manchester City Councils' Core Strategy requires that all new developments should accord with the design guidance set out in the Supplementary Planning Documents (SPD). The SPD states that non-domestic developments should achieve a BREEAM rating of at least Very Good.

BREEAM (Building Research Establishment's Environmental Assessment Method) is the world's leading and most widely used environmental assessment method for buildings. BREEAM New Construction 2014 is an environmental assessment method and certification scheme specifically for new build non-domestic buildings.

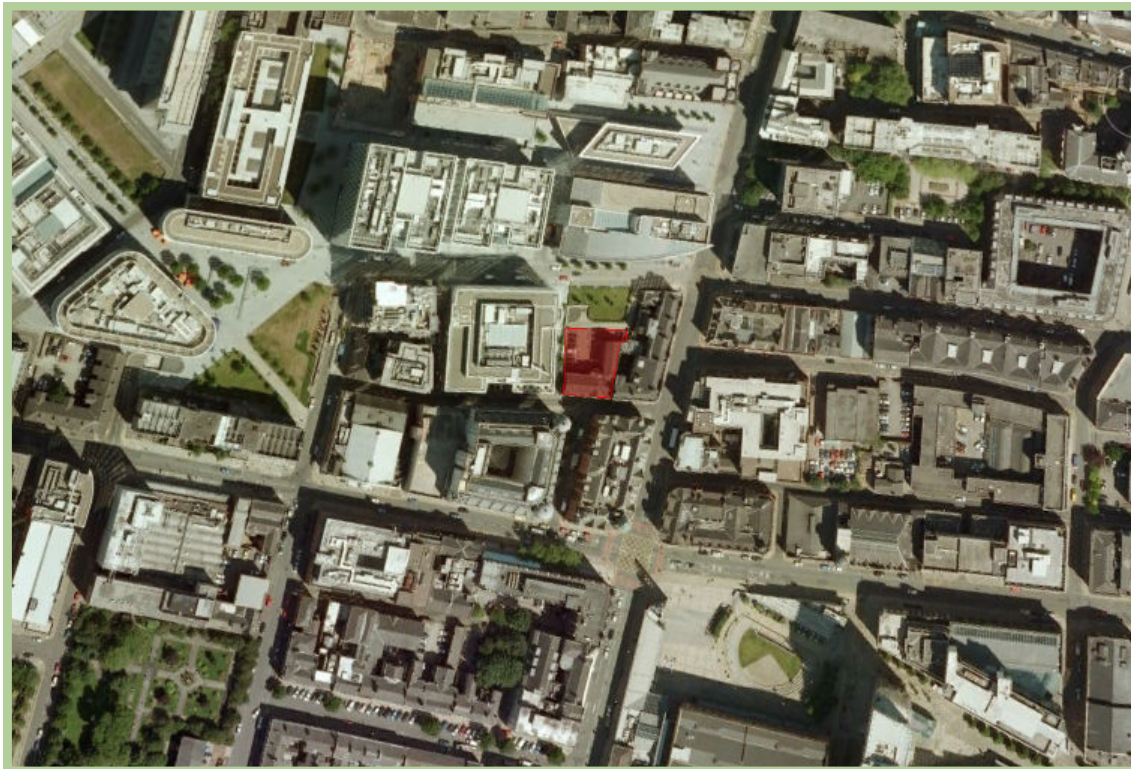
The BREEAM UK New Construction 2014 scheme may be used to assess the environmental life cycle impacts of new non-domestic buildings at the design and construction stages. 'New Construction' is defined as development that results in a new standalone structure, or new extension to an existing structure, which will come into operation or use for the first time upon completion of the works.



2. DEVELOPMENT PROPOSALS

The site currently comprises of a large office building at Invicta House, Atkinson Street in the city centre of Manchester just off Deansgate (see Figure 2.1).

Figure 2.1 – Development Site Location



The proposals include the demolition of the existing building with the retention of the Atkinson Street façade only and secondary return only and the construction of a new nine storey hotel building behind the retained structure. Figures 2.2 to 2.8 present the proposed layouts and elevations. The proposed accommodation schedule is as follows:

Table 2.1 – Accommodation Schedule

Accommodation Schedule	
Hotel Guest Rooms	
First Floor	20 bedrooms
Second Floor	20 bedrooms
Third Floor	19 bedrooms
Fourth Floor	19 bedrooms
Fifth Floor	19 bedrooms
Sixth Floor	18 bedrooms
Seventh Floor	18 bedrooms
Eight Floor	12 bedrooms
Front and Back of House Areas	Total = 145no. Guestrooms
Mezzanine Floor	Front of House/Back of House
Ground Floor	Front of House
Basement	Front of House/Back of House



Figure 2.2 - Development Proposals (Ground Floor Layout)

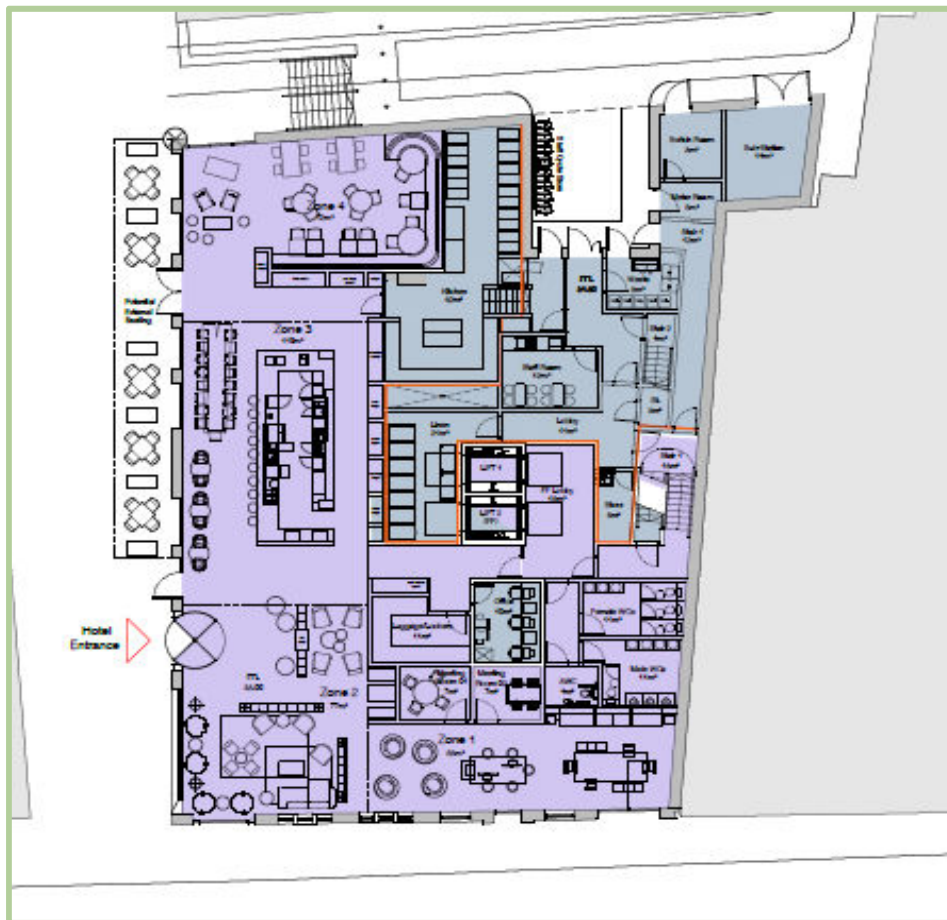


Figure 2.3 - Development Proposals (Typical First and Second Floor Layouts)



Figure 2.5 - Development Proposals (Third to Fifth Floor Layout)

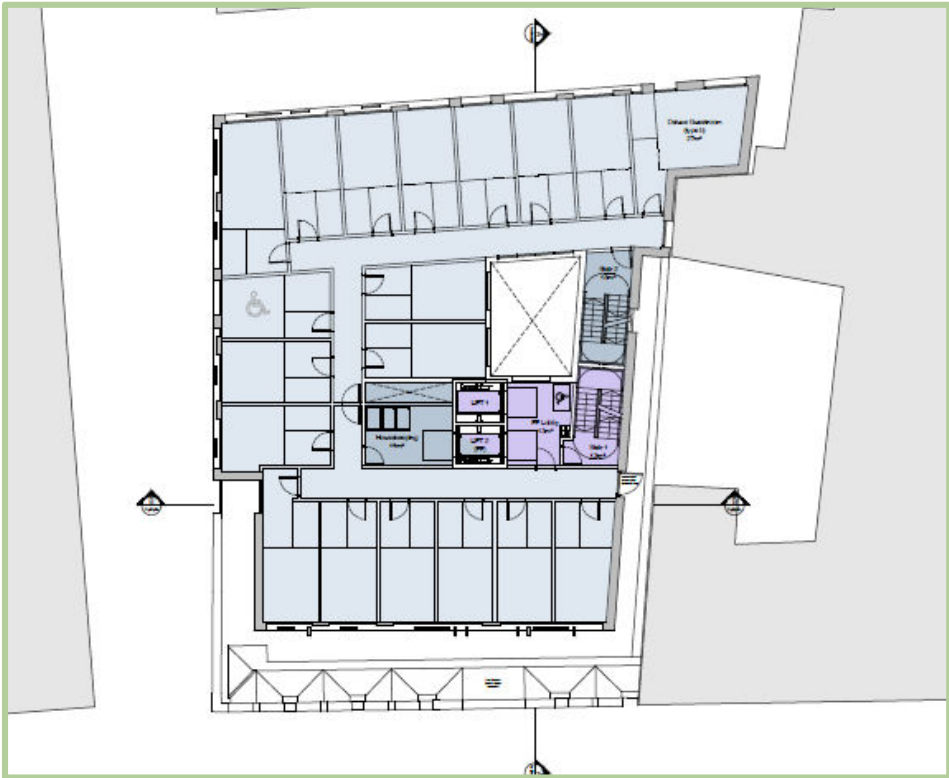


Figure 2.6 - Development Proposals (Sixth and Seventh Floor Layout)



Figure 2.7 - Development Elevations (Eight Floor Layout)

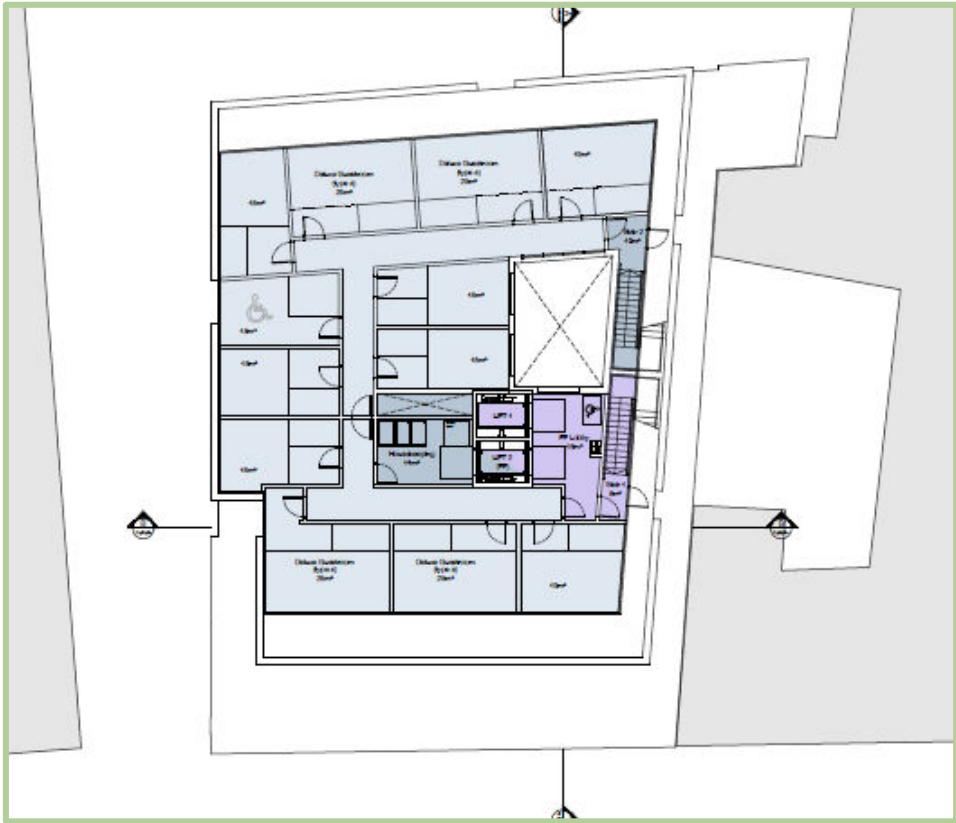


Figure 2.8 - Development Elevations (Atkinson Street Elevation)



3. METHOD

The proposals, along with site details have been reviewed and the details entered within the BREEAM New Construction 2014 Other Building Residential Institution: Hotel Pre-Assessment calculator tool. This tool provides an initial estimation of the scheme's potential performance under the BREEAM assessment methodology.

The BREEAM rating benchmarks (see Table 3.1) for non-domestic projects assessed using the 2014 version of BREEAM New Construction are as follows:

Table 3.1 – BREEAM Rating Benchmarks

BREEAM Rating	Minimum Score Level (%)
Outstanding	≥85
Excellent	≥70
Very Good	≥55
Good	≥45
Pass	≥30

The building's environmental performance is assessed under a number of categories, including:

- Energy;
- Water;
- Transport;
- Materials;
- Land use and ecology;
- Pollution;
- Health and wellbeing; and
- Management.

To ensure that performance against fundamental environmental issues are not over-looked in pursuit of a particular rating, BREEAM sets minimum standards of performance in key areas e.g. energy, water, materials etc. A BREEAM 'Very Good' rating (as targeted for Atkinson Street) requires the following minimum performance standards, see Table 3.2.

Table 3.2 – Minimum 'Very Good' Standards

Minimum Standards for BREEAM for 'Very Good' rating	Credits
ENE 02: Energy Monitoring	One credit (First submetering credit)
WAT 01: Water Consumption	One credit
WAT 02: Water Monitoring	Criterion 1 only
LE 03: Minimising impact on existing site ecology	One credit
MAT 02: Responsible Sourcing of Materials	Criterion 1 only

The target BREEAM rating for this scheme is BREEAM 'Very Good'. This broadly represents the top 25% of UK new non-domestic buildings (advanced good practice).

A full fitted Pre-assessment has been completed by an independent, qualified BREEAM Assessor in order to demonstrate how the requisite BREEAM target may be achieved.



4. SUSTAINABILITY PERFORMANCE

The BREEAM New Construction 2014 Assessment criteria appraise fifty assessment issues, categorised into nine environmental sections of sustainability. An overview of the proposed specification and design features that will contribute to the environmental performance in each of these categories is provided below.

BREEAM Credit Award Review

The BREEAM 2014 Pre-Assessment report is presented in the appendix of this document and contains a full commentary on the individual credit award and specification requirements.

Management

Project Brief and Design -

- Stakeholder consultation will be undertaken covering project delivery and relevant third parties.

Construction Site Impacts -

- All timber and timber-based products used on the project will be 'Legally harvested and traded timber';
- The principal contractor will operate an Environmental Management System;
- Beyond compliance for Considerate Contractors Scheme will be targeted; and
- Site related energy, transport and water impacts are monitored and reported to ensure ongoing compliance during the Construction, Handover and Close Out stages to improve awareness and understanding for future projects.

Life cycle cost and service life planning –

- Recognising and encouraging the use of life cycle costing and service life planning and the sharing of data to raise awareness and understanding; and,
- Report the capital cost for the building in pounds per square metre (£k/m²).

Commissioning and Handover -

- A schedule of commissioning including optimal timescales, appropriate testing and commissioning of all building services systems and building fabric in line with best practice will be undertaken;
- Inspecting, testing, identifying and rectifying defects via an appropriate method will be carried out; and,
- Provision of a non-technical Building User Guide and user/operator training timed appropriately around handover and proposed occupation will enable building users to use and manage the building operations efficiently.



Aftercare –

- Provision of the necessary infrastructure and resources to provide aftercare support to the building occupier(s);
- Seasonal commissioning activities will be completed over a minimum twelve month period, once the building becomes substantially occupied; and,
- The client or building occupier commit to carrying out a post occupancy evaluation (POE) exercise one year after initial building occupation and to disseminate the findings in terms of the building's post occupancy performance.

Health and Wellbeing*Visual Comfort -*

- Potential for disabling glare will be designed out of all relevant building areas;
- Internal and external lighting systems will be designed to avoid flicker and provide appropriate illuminance (lux) levels. This will ensure best practice in visual performance and comfort for building occupants; and,
- Internal lighting will be zoned to allow for occupant control.

Indoor Air Quality –

- An indoor air quality plan will be produced, with the objective of facilitating a process that leads to design, specification and installation decisions and actions that minimise indoor air pollution during occupation of the building.

Thermal Comfort -

- Thermal modelling will be carried out to appropriate standards;
- Projected climate change scenario(s) will be considered as part of the thermal model; and
- The thermal modelling analysis will inform the temperature control strategy for the building and its users.

Acoustic Performance –

- The building will meet the appropriate acoustic performance standards and testing requirements in terms of:
 - Sound insulation
 - Indoor ambient noise level
 - Reverberation times.

Safety and Security -

- Secure By Design - Security needs will be understood and taken into account in the design and specification.



Energy*Reduction of CO₂ Emissions –*

- The proposed energy strategy will provide improvements in the energy performance of the building above national building regulations in relation to heating and cooling energy demand, primary energy consumption and carbon dioxide.

Energy Monitoring -

- Energy metering systems will be installed to enable energy consumption to be assigned to end users;

External Lighting –

- All new external light fittings, where provided, within the construction zone will be dedicated low energy; and,
- External light fittings will be controlled through a time switch, or daylight sensor, to prevent operation during daylight hours.

Energy Efficient Transportation Systems -

- An analysis of the transport demand and usage patterns will be undertaken to determine the optimum number and size of lifts, and
- Energy efficient installations will be specified.

Energy Efficient Equipment –

- The identification of the building's unregulated energy consuming loads which have a major impact on the total unregulated energy demand; and,
- A meaningful reduction in the total unregulated energy demand of the building will be demonstrated.

Transport

- A site specific travel plan based on the needs of the site has been undertaken to promote sustainable reductions in transport burdens;
- Excellent public transport provision links the development to the city centre and the wider region, thus enabling building users to rely entirely upon modes of transport other than the car;
- Due to the excellent public transport provision there will be no onsite car parking facilities;
- The site is well located in close proximity to a range of local amenities, be it in the immediate vicinity, walking distance or via established public transport links; and,
- Secure cycle storage and facilities will be provided for the development.



Water*Water Consumption and Monitoring –*

- The buildings will be specified with efficient water fixtures and controls. This will result in a 25% improvement over the BRE's baseline performance of water consumption for the internal water sanitary fittings is targeted;
- The provision of a leak detection systems capable of detecting a major water leaks on the mains water supply; and,
- A water meter on the mains water supply to the building will be specified to monitor and manage consumption and sub- metered to tenant areas.

Materials -*Materials Life Cycle Impacts –*

- Materials will be selected which have a low environmental impact throughout their life cycle for the main building elements, boundary protection and hard landscaping.

Responsible Sourcing of Materials -

- Materials will be sourced in accordance with a sustainable procurement plan;
- Suppliers and manufacturers who operate Environmental Management Systems will be prioritised;
- Responsible sourcing of materials will be managed by the contractor. All timber used within the development will be responsibly sourced, verified by the FSC or PEFC standard; and,
- Consideration will be given to local sourcing of construction materials where feasible.

Insulation -

- The use of thermal insulation which has a low embodied environmental impact relative to its thermal properties will be utilised.

Designing for Robustness and Resilience -

- Adequate protection will be provided for exposed elements of the building and landscaped areas, therefore minimising the frequency of replacement materials; and,
- Relevant building elements will incorporate appropriate design and specification measures to limit material degradation due to environmental factors.

Waste*Construction Waste -*

Prior to commencement of the construction phase, a construction resource management plan will be produced by the developer to limit the on and off site environmental impacts of construction. The waste management strategy will also include the following:



- Procedures to reduce construction waste related to on-site construction and off site manufacture/fabrication; and
- Diverting non-hazardous construction (on-site and dedicated off-site manufacture/fabrication), demolition and excavation waste (where applicable) generated by the project from landfill.

Operational Waste -

- Provision of suitable space and facilities to allow for segregation and storage of operational recyclable waste volumes generated by the building occupant(s) and activities will optimise recycling rates.

Biodiversity

Selection and Ecological Value of the Site –

- The scheme is on a previously developed site, this represents an efficient use of land;
- The land within the construction zone has been confirmed to be of low ecological value;
- Features of ecological value surrounding the construction zone and site will be adequately protected; and
- It is proposed that there will be no negative change in the ecological value of the site resulting in a neutral impact from pre-development to post-development.

Pollution

Surface Water Management -

- The development site is located in Flood Zone 1 (low or no flood risk); and,
- The volume of surface water run-off will be limited such that the development will not result in an increased discharge from the site and the peak rate of discharge will be reduced through the provision of flow control techniques and surface water attenuation.

Reduction of night time light pollution -

- External light pollution is eliminated through effective design or the removal of the need for unnecessary external lighting.

Reduction of noise pollution -

- Measures to reduce the likelihood of disturbance arising as a result of noise from fixed installations on the development.



5. RESULTS

Following an initial review of the proposed development site the BREEAM New Construction Other building (residential institution: Hotel) Pre-Assessment report demonstrates that the new hotel building is able, in principle, to meet all mandatory credit requirements (see Table 4.1) and achieve an overall BREEAM Very Good rating.

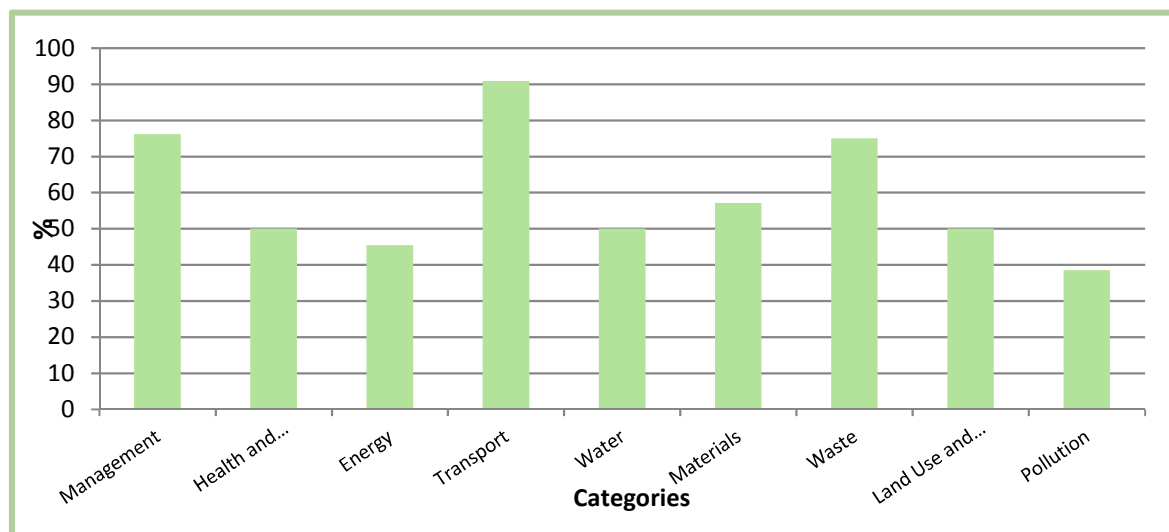
Table 4.1 – Minimum Standards Achieved

Minimum Standards for BREEAM for 'Very Good' rating	Credits	Achieved
ENE 02: Energy Monitoring	One credit (First submetering credit)	✓
WAT 01: Water Consumption	1 credit	✓
WAT 02: Water Monitoring	Criterion 1 only	✓
LE 03: Minimising impact on existing site ecology	1 credit	✓
MAT 02: Responsible Sourcing of Materials	Criterion 1 only	✓

Note that a number of assumptions have been made within this initial appraisal process which will require confirmation by means of further technical input during the formal assessment, once the design and specifications are finalised. The approach to achieving the target BREEAM rating may therefore, be subject to change further into the development cycle.

Figure 4.1 shows the estimated relative performance in each of the BREEAM New Construction environmental sections of sustainability.

Figure 4.1 - Sustainability Performance Overview



The BREEAM Pre-Assessment shows that the hotel scheme are expected to performs as follows:

- **Indicative BREEAM Other Building: Residential Institution Hotel score = 58.00%**
- Indicative BREEAM rating = Potential for **BREEAM Very Good rating**.

Indicative minimum standards level achieved = Minimum standards for **BREEAM Very Good**



Appendix A

BREEAM New Construction Other Building (residential institution: Hotel) Pre-Assessment Report





Building name	Invicta House - KE Hotel
Building score (%)	58.00%
Building rating	Very Good
Minimum standards level achieved	Very Good level

MANAGEMENT

Man 01 Project brief and design

No. of BREEAM credits available	4	Available contribution to overall score	2.29%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will stakeholder consultation (project delivery) take place?	Yes	1	1
Will stakeholder consultation (third party) take place?	Yes	1	1
Will a sustainability champion (design) be assigned?	No	1	0
Will a sustainability champion (monitoring progress) be assigned?	No	1	0

Total BREEAM credits achieved	2
Total contribution to overall building score	1.14%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

Prior to completion of the Concept Design (RIBA Stage 2 or equivalent), the project delivery stakeholders (see Relevant definitions) have met to identify and define their roles, responsibilities and contributions for each of the key phases of project delivery.

Prior to completion of the Concept Design stage, all relevant third party stakeholders have been consulted by the design team and this covers the minimum consultation content (see compliance note CN3).

Man 02 Life cycle cost and service life planning

No. of BREEAM credits available	4	Available contribution to overall score	2.29%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will an elemental life cycle cost (LCC) analyses be carried out?	No	2	0
Will a component level LCC plan be developed?	Yes	1	1
Will the predicted capital cost be reported?	Yes	1	1
Expected capital cost of the project (if available)	TBC	£/m ²	

Total BREEAM credits achieved	2
Total contribution to overall building score	1.14%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

A component level LCC option appraisal has been developed by the end of Process Stage 4 (equivalent to Technical Design – RIBA Stage 4) in line with PD 156865:2008 and includes the following component types (where present): a. Envelope, e.g. cladding, windows, and/or roofing b. Services, e.g. heat source cooling source, and/or controls c. Finishes, e.g. walls, floors and/or ceilings d. External spaces, e.g. alternative hard landscaping, boundary protection.

AND

Report the capital cost for the building in pounds per square metre (£/m²), via the BREEAM Assessment Scoring and Reporting tool, Assessment Issue Scoring tab, Management section.

Man 03 Responsible construction practices

No. of BREEAM credits available	6	Available contribution to overall score	3.43%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Is all site timber used in the project 'legally harvested and traded timber'?	Yes		
Will/does the principal contractor operate a compliant Environmental Management System?	Yes	1	1
Will a construction stage sustainability champion be assigned?	No	1	0
Will a considerate construction scheme be used by the principal contractor? (One credit where 'compliance' has been achieved. Two credits where 'compliance' is significantly exceeded.)	2	2	2
Will construction site impacts be metered/monitored?	Yes		
Will site utility consumption be metered/monitored?	Yes	1	1
Will transport of construction materials and waste be metered/monitored?	Yes	1	1
Will exemplary level criteria be met?	No	1	0

Key Performance Indicators: Construction site energy use

Energy consumption (total) - site processes		Information not available at design stage
Energy consumption (intensity) - site processes		Information not available at design stage
Distance (total) - materials transport to site		Information not available at design stage
Distance (total) - waste transport from site		Information not available at design stage
Energy consumption (total) - materials transport to site		Information not available at design stage
Energy consumption (total) - waste transport from site		Information not available at design stage
Energy consumption (intensity) - materials transport to site		Information not available at design stage
Energy consumption (intensity) - waste transport from site		Information not available at design stage

Key Performance Indicators: Construction site greenhouse gas emissions

Process greenhouse gas emissions (total) - site processes		Information not available at design stage
Greenhouse gas emissions (intensity) - site processes		Information not available at design stage
Greenhouse gas emissions (total) - materials transport to site		Information not available at design stage
Greenhouse gas emissions (total) - waste transport from site		Information not available at design stage
Greenhouse gas emissions (intensity) - materials transport to site		Information not available at design stage
Greenhouse gas emissions (intensity) - waste transport from site		Information not available at design stage

Key Performance Indicators: Construction site use of freshwater resources

Use of freshwater resource (total) - site processes		Information not available at design stage
Use of freshwater resource (intensity) - site processes		Information not available at design stage

Total BREEAM credits achieved	5
Total contribution to overall building score	2.86%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Building Performance by Assessment Issue

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Comments/notes:

- Pre-requisite - All timber and timber-based products used on the project is 'legally harvested and traded timber'.
- The principal contractor demonstrates sound environmental management practices (ISO 14001) and consideration for neighbours across their activities on-site. This is a Healthcare requirement of the principal contractor.
- Site related energy, water and transport impacts are monitored and reported to ensure ongoing compliance during the Construction, Handover and Close Out stages and to improve awareness and understanding for future projects.

Man 04 Commissioning and handover

No. of BREEAM credits available	4	Available contribution to overall score	2.29%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will commissioning schedule and responsibilities be developed & accounted for?	Yes	1	1
Will a commissioning manager be appointed?	Yes	1	1
Will the building fabric be commissioned?	Yes	1	1
Will a building user guide be developed prior to handover?	Yes	1	1
Will a training schedule be prepared for building occupiers/managers?	Yes	1	1

Total BREEAM credits achieved	4
Total contribution to overall building score	2.29%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Comments/notes:

- Schedule of commissioning including optimal timescales and appropriate testing and commissioning of all building services systems and building fabric in line with best practice.
- Inspecting, testing, identifying and rectifying defects via an appropriate method.
- Provision of a non-technical Building User Guide and user/operator training timed appropriately around handover and proposed occupation.

Building Performance by Assessment Issue

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Man 05 Aftercare

No. of BREEAM credits available	3	Available contribution to overall score	1.71%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Will aftercare support be provided to building occupiers?	Yes	1	1
Will seasonal commissioning occur over 12 months once substantially occupied?	Yes	1	1
Will a post occupancy evaluation be carried out 1 year after occupation?	Yes	1	1
Will exemplary level criteria be met?	No	1	0

Total BREEAM credits achieved	3
Total contribution to overall building score	1.71%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Comments/notes:

- Provision of the necessary infrastructure and resources to provide aftercare support to the building occupier(s).
- Seasonal commissioning activities will be completed over a minimum 12 month period, once the building becomes substantially occupied.
- The client or building occupier commit to carrying out a post occupancy evaluation (POE) exercise one year after initial building occupation and to disseminate the findings in terms of the building's post occupancy performance

HEALTH & WELLBEING

Hea 01 Visual Comfort

No. of BREEAM credits available	4	Available contribution to overall score	3.33%
No. of BREEAM innovation credits available	1	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Will the design provide adequate glare control for building users?	Yes	1	1
How many credits will be targeted for the daylighting criteria?	0	1	0
Will the design provide adequate view out for building users?	No	1	0
Will internal/external lighting levels, zoning and controls be specified in accordance with the relevant CIBSE Guides/British Standards?	Yes	1	1
Will exemplary level criteria be met?	No	1	0

Total BREEAM credits achieved	2
Total contribution to overall building score	1.67%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

- Credits awarded for the following:
- Potential for disabling glare has been designed out of all relevant building areas.
 - Internal and external lighting systems are designed to avoid flicker and provide appropriate illuminance (lux) levels.
 - Internal lighting is zoned to allow for occupant control (see BREEAM Guidance for room specific guidance).

Note: For Daylighting, 1 cr
available for: Retail, Educa
Note: For Shell and Core a

Hea 02 Indoor Air Quality

No. of BREEAM credits available	5	Available contribution to overall score	4.17%
No. of BREEAM innovation credits available	2	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will an indoor air quality (IAQ) plan be produced and building designed to minimise air pollution?	Yes	1	1
Will the building be designed to minimise the concentration and recirculation of pollutants in the building?	No	1	0
Will the relevant products be specified to meet the VOC testing and emission levels required?	No	1	0
Will formaldehyde and total VOC levels be measured post construction?	No	1	0
Will the building be designed to, or have the potential to provide, natural ventilation?	No	1	0
Will exemplary level criteria be met?			

Key Performance Indicators: Indoor air quality

Concentration levels of formaldehyde	INA	Information not available at design stage
Total volatile organic compound (TVOC) concentration	INA	Information not available at design stage

Total BREEAM credits achieved	1
Total contribution to overall building score	0.83%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

Pre-requisite - An indoor air quality plan has been produced, with the objective of facilitating a process that leads to design, specification and installation decisions and actions that minimise indoor air pollution during occupation of the building.

Hea 03 Safe containment in laboratories

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will an objective risk assessment of proposed laboratory facilities' design be completed?			
Will the manufacture & installation of fume cupboards and containment devices meet best practice standards?			
Will containment level 2 & 3 labs meet best practice safety & performance criteria?			
Total BREEAM credits achieved	N/A		
Total contribution to overall building score	N/A		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Comments/notes:

Hea 04 Thermal comfort

No. of BREEAM credits available	3	Available contribution to overall score	2.50%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Will thermal modelling of the design be carried out?	Yes	1	1
Will the building services system be adapted for a projected climate change scenario?	Yes	1	1
Will the modelling inform the development of a thermal zoning and control strategy?	Yes	1	1

Key Performance Indicators: Thermal comfort

Predicted Mean Vote (PMV)	INA
Predicted Percentage Dissatisfied (PPD)	INA
Total BREEAM credits achieved	3
Total contribution to overall building score	2.50%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Instruction: If thermal mo
"INA" (Indicator Not Asses

Comments/notes:

- Thermal modelling carried out to appropriate standards.
- Projected climate change scenario(s) considered as part of the thermal model.
- The thermal modelling analysis has informed the temperature control strategy for the building and its users

Hea 05 Acoustic Performance

No. of BREEAM credits available	4	Available contribution to overall score	3.33%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

	Credits	Credits available	Credits achieved
Will the building meet the appropriate acoustic performance standards and testing requirements for: a. Sound insulation b. Indoor ambient noise level c. Reverberation times?	1	4	1

Note: 4 credits available fr
projects). 3 credits availab

Total BREEAM credits achieved	1
Total contribution to overall building score	0.83%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

One credit (awarded at this stage)
Airborne sound insulation values are at least 3dB higher and impact sound insulation values are at least 3dB lower than the performance standards in the relevant Building Regulations or Standards.
Three credits
Airborne sound insulation values are at least 5dB higher and impact sound insulation values are at least 5dB lower than the performance standards in the relevant Building Regulations or Standards.
Four credits
Airborne sound insulation values are at least 8dB higher and impact sound insulation values are at least 8dB lower than the performance standards in the relevant Building Regulations or Standards.

Hea 06 Safety and Security

No. of BREEAM credits available	2	Available contribution to overall score	1.67%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Where external site areas are present, will safe access be designed for pedestrians and cyclists?	N/A	0	0
Will a suitably qualified security consultant be appointed and security considerations accounted for?	Yes	2	2

Note: where the assessed de
awarded for compliance with

Total BREEAM credits achieved	2
Total contribution to overall building score	1.67%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Secure by Design - Security needs are understood and taken into account in the design and specification.

ENERGY

Ene 01 Reduction of energy use and carbon emissions

No. of BREEAM credits available	12	Available contribution to overall score	8.18%
No. of BREEAM innovation credits available	5	Minimum standards applicable	Yes
How do you wish to assess the number of BREEAM credits achieved for this issue?	Define a target number of BREEAM credits achieved		
Select the target number of BREEAM credits for the Ene01 issue:	3		

Note: Data for the Ene 01
software (in the technical
uses the term 'Indicative T

Ene 01 Calculator

Country of the UK where the building is located		Confirm building regulation and version to be used:	
---	--	---	--

New Construction (Fully fitted)

Building floor area		m2
Notional building heating and cooling energy demand		MJ/m2yr
Actual building heating and cooling energy demand		MJ/m2yr
Notional building primary energy consumption		kWh/m2yr
Actual building primary energy consumption		kWh/m2yr
Target emission rate (TER)		kgCO2/m2yr
Building emission rate (BER)		kgCO2/m2yr
Building emission rate improvement over TER		
Heating & cooling demand energy performance ratio (EPR _{ED})		
Primary consumption energy performance ratio (EPR _{PC})		
CO ₂ Energy performance ratio (EPR _{CO2})		
Overall building energy performance ratio (EPR _{NEC})		

Where specified, please confirm the energy production from onsite or near site energy generation technologies		kWh/m ² yr
Equivalent % of the building's 'regulated' energy consumption generated by carbon neutral sources and used to meet energy demand from 'unregulated' building systems or processes?		
Is the building designed to be 'carbon negative'?		
If the building is defined as 'carbon negative' what is the total (modelled) renewable/carbon neutral energy generated and exported?		

Total BREEAM credits achieved	3
Total contribution to overall building score	2.05%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Very Good level

Comments/notes:

Three credit awarded for this issue - Discussions with the M&E indicate that this is achievable.

- Recognise improvements in the energy performance of the building above national building regulations in relation to heating and cooling energy demand, primary energy consumption and carbon dioxide emissions

Ene 02 Energy monitoring

No. of BREEAM credits available	1	Available contribution to overall score	0.68%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment criteria

	Compliant?	Credits available	Credits achieved
Will a BMS or sub-meters be specified to monitor energy use from major building services systems?	Yes	1	1
Will a BMS or sub-meters be specified to monitor energy use by tenant/building function areas?			

Total BREEAM credits achieved	1
Total contribution to overall building score	0.68%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Comments/notes:

Credit awarded for the following:

Sub-metering of major energy consuming systems

- Energy metering systems are installed that enable at least 90% of the estimated annual energy consumption of each fuel to be assigned to the various end-use categories of energy consuming systems (see Methodology).
- The energy consuming systems in buildings with a total useful floor area greater than 1,000m² are metered using an appropriate energy monitoring and management system.
- The systems in smaller buildings are metered either with an energy monitoring and management system or with separate accessible energy sub-meters with pulsed or other open protocol communication outputs, to enable future connection to an energy monitoring and management system (see Relevant definitions).
- The energy consuming end uses are identifiable to the building users, for example through labelling or data outputs.

Ene 03 External lighting

No. of BREEAM credits available	1	Available contribution to overall score	0.68%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment criteria

	Compliant?	Credits available	Credits achieved
Will external light fittings and controls be specified in accordance with the BREEAM criteria?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.68%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Credits awarded for the following:

The average initial luminous efficacy of the external light fittings within the construction zone is not less than 60 luminaire lumens per circuit Watt.

All external light fittings are automatically controlled for prevention of operation during daylight hours and presence detection in areas of intermittent pedestrian traffic.

Ene 04 Low carbon design

No. of BREEAM credits available	3	Available contribution to overall score	2.05%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment criteria

	Compliant?	Credits available	Credits achieved
Will passive design measures be used in line with an analysis carried out during concept design stage (RIBA stage 2 or equivalent)?	No	1	0
Will free cooling measures be implemented in the whole building in line with the passive design analysis?	No	1	0
Will a LZC technology be specified in line with a feasibility study carried out by the completion of the Concept Design stage (RIBA Stage 2 or equivalent)?	No	1	0

KPI - Low and/or zero carbon energy generation

Total on-site and/or near-site LZC energy generation	INA	kWh/yr
--	-----	--------

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Credit Not Sought at this Stage

Ene 05 Energy efficient cold storage

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A	Note: You have stated in t commercial/industrial refr
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A	

Assessment criteria

	Compliant?	Credits available	Credits achieved
Will the refrigeration system be designed, installed & commissioned in accordance with BREEAM criteria?	No	N/A	N/A
Will the refrigeration system demonstrate a saving in indirect greenhouse gas emissions?	No	N/A	N/A

Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Ene 06 Energy efficient transportation systems

No. of BREEAM credits available	3	Available contribution to overall score	2.05%
No. of BREEAM innovation credits available	0	Minimum standards applicable	N/A

Assessment criteria

	Compliant?	Credits available	Credits achieved
Will a transportation system analysis be carried out to determine and specify the optimum number, size and type of lifts that is most energy efficient?	Yes	1	1
Will the relevant energy-efficient features criteria be met?	Yes	2	2

Total BREEAM credits achieved	3
Total contribution to overall building score	2.05%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

One Credit - An analysis of the transport demand and usage patterns is undertaken to determine the optimum number and size of lifts, escalators and/or moving walks.
Two Credits - Energy efficient installations are specified.

Ene 07 Energy efficient laboratory systems

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment criteria

	Compliant?	Credits available	Credits achieved
Pre-requisite: Criterion 1 of Hea 03 - risk assessment of laboratory facilities			
Have the occupants' laboratory requirements & performance criteria been confirmed during the preparation of the initial project brief to minimise energy demand?			

Best Practice Energy Practices in Laboratories (table 27)			
Will the laboratory meet criteria item b) Fan power?			
Will the laboratory criteria item c) Fume cupboard volume flow rates?			
Will the lab meet item d) Grouping / isolation of high filtration/ventilation activities?			
Will the laboratory meet criteria item e) Energy recovery - heat?			
Will the laboratory meet criteria item f) Energy recovery - cooling?			
Will the laboratory meet criteria item g) Grouping of cooling loads?			

Building Performance by Assessment Issue

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Will the laboratory meet criteria item h) Free cooling?	
Will the laboratory meet criteria item i) Load responsiveness?	
Will the laboratory meet criteria item j) Cleanrooms?	
Will the laboratory meet criteria item k) Diversity?	
Will the laboratory meet criteria item l) Room air-change rates?	

Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Ene 08 Energy efficient equipment

No. of BREEAM credits available	2	Available contribution to overall score	1.36%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment criteria

Instruction: Please confirm 'significant majority' of the

Which of the following will be present and likely to be a/the major contributor to 'unregulated' energy use?	Present	Major impact
Ref A Small power and plug in equipment?	Yes	Yes
Ref B Swimming pool?	No	
Ref C Communal laundry?	Yes	Yes
Ref D Data centre?	No	
Ref E IT-intensive operation areas?	No	
Ref F Residential areas?	Yes	Yes
Ref G Healthcare?	No	
Ref H Kitchen and catering facilities?	Yes	Yes

Will the significant majority contributor(s) to 'unregulated' energy use above meet the BREEAM criteria?	Compliant	Credits available	Credits achieved
Yes	Yes	2	2

Total BREEAM credits achieved	2
Total contribution to overall building score	1.36%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Identification of the building's unregulated energy consuming loads which have a major impact on the total unregulated energy demand.
Demonstrate a meaningful reduction in the total unregulated energy demand of the building.

Ene 09 Drying space

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Note: This issue is not applicable

Assessment criteria

Will internal/external drying space and fixings be provided?	Compliant?	Credits available	Credits achieved
Total BREEAM credits achieved	N/A		
Total contribution to overall building score	N/A		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Comments/notes:

N/A

TRANSPORT

Tra 01 Public Transport Accessibility

No. of BREEAM credits available	5	Available contribution to overall score	4.09%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Building type category (for purpose of Tra01 issue assessment)	Other Building Type 2
--	-----------------------

Assessment Criteria

	Compliant	Credits available	Credits achieved
Indicative public transport accessibility index (AI):	12.00	5	4
Will the building have a dedicated bus service?			N/A

Note: The Accessibility Ind
Note: A credit for a dedica
index (refer to the technic

AI	Indicative Accessibility Index for pre-assessment
0	Poor or no public transport provision
1	A single BREEAM compliant public transport node available
2	Some BREEAM compliant public transport nodes/services available
4	A selection of BREEAM compliant public transport nodes/services available
8	Good provision of public transport i.e. small urban centre / suburban area
10	Very Good provision of public transport i.e. small/medium urban centre
12	Excellent provision of public transport, i.e. medium urban centre
18	Excellent provision of public transport, i.e. large urban/metropolitan city centre

Total BREEAM credits achieved	4
Total contribution to overall building score	3.27%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Four credits awarded - Recognition for developments in proximity to good public transport networks, thereby helping to reduce transport-related pollution and congestion.

Tra 02 Proximity to Amenities

No. of BREEAM credits available	1	Available contribution to overall score	0.82%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Will the building be in close proximity of and accessible to applicable amenities?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.82%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Credit awarded - Recognition of developments in close proximity of, and accessible to, local amenities which are likely to be frequently required and used by building occupants.

Tra 03 Cyclist facilities

No. of BREEAM credits available	2	Available contribution to overall score	1.64%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Building type category (for purpose of Tra03 issue assessment)	Other Building - transport type 2
How many compliant cycle storage spaces will be provided?	TBC
What cyclist facilities will be provided?	Showers and changing facilities

Assessment Criteria

		Compliant?	Credits available	Credits achieved
Cycle storage spaces		Yes	2	2
Cyclist facilities		Yes		

Total BREEAM credits achieved	2
Total contribution to overall building score	1.64%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Both credits awarded for compliant cycle storage spaces and facilities.

Number of spaces:

Other type 2- 1 cycle space per 10 staff

(See guidance for compliant space and facility criteria)

Tra 04 Maximum Car Parking Capacity

No. of BREEAM credits available	2	Available contribution to overall score	1.64%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Building type category (for purpose of Tra04 issue)	Other Building - transport type 2
Building's indicative Accessibility Index (sourced from issue Tra01)	12

Assessment Criteria

		Compliant?	Credits available	Credits achieved
Will BREEAM's maximum parking capacity criteria for the building type/Accessibility Index be met?		Yes	2	2

Total BREEAM credits achieved	2
Total contribution to overall building score	1.64%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

No car parking proposed.

Tra 05 Travel Plan

No. of BREEAM credits available	1	Available contribution to overall score	0.82%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Will a transport plan based on site specific travel survey/assessment be developed?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.82%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

BREEAM compliant Travel Plan to be completed as part of the feasibility and design stages.

- To promote sustainable reductions in transport burdens by undertaking a site specific travel assessment/statement and developing a travel plan based on the needs of the particular site.

WATER

Wat 01 Water Consumption

No. of BREEAM credits available	5	Available contribution to overall score	4.38%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

How do you wish to assess the BREEAM credits to be achieved for this issue?	Define a target % improvement over baseline sanitary fittings
What is the target for % reduction in potable water consumption for sanitary use in the building?	25% - two credits

Please select the calculation procedure used	
--	--

Standard approach data

Water Consumption from building micro-components	
Water demand met via greywater/rainwater sources	
Total net water consumption	
Improvement on baseline performance	

Key Performance Indicator - use of freshwater resource

Total net Water Consumption	
Default building occupancy	

Alternative approach data

Overall microcomponent performance level achieved	

Total BREEAM credits achieved	2
Total contribution to overall building score	1.75%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Comments/notes:

Two credits awarded - Minimum performance levels for components can be provided as a guide to meet required specification.
Reducing the demand for potable water through the provision of efficient sanitary fitting, rainwater collection and water recycling systems

Wat 02 Water Monitoring

No. of BREEAM credits available	1	Available contribution to overall score	0.88%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Will there be a water meter on the mains water supply to the building(s)?	Yes	1	1
Will metering/monitoring equipment be specified on the water supply to any relevant plant/building areas?	Yes		
Will all specified water meters have a pulsed output?	Yes		
If the site/building has an existing BMS connection, will all pulsed meters be connected to the BMS?	N/A		

Total BREEAM credits achieved	1
Total contribution to overall building score	0.88%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Comments/notes:

Specification of a water meter/s on the mains water supply to encourage water consumption management and monitoring to reduce the impacts of inefficiencies and leakage.

Wat 03 Water Leak Detection and Prevention

No. of BREEAM credits available	2	Available contribution to overall score	1.75%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Will a mains water leak detection system be installed on the building's mains water supply?	Yes	1	1
Will flow control devices be installed in each sanitary area/facility?	No	1	0

Total BREEAM credits achieved	1
Total contribution to overall building score	0.88%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

- Recognition of leak detection systems capable of detecting a major water leak on the mains water supply

Wat 04 Water Efficient Equipment

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Note: You have stated in t
unregulated water uses (e
therefore this issue is not

Assessment Criteria Compliant? Credits available Credits achieved

Has a meaningful reduction in unregulated water demand been achieved?			
Total BREEAM credits achieved	N/A		
Total contribution to overall building score	N/A		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Comments/notes:

MATERIALS

Mat 01 Life Cycle Impacts

No. of BREEAM credits available	6	Available contribution to overall score	5.79%
No. of BREEAM innovation credits available	3	Minimum standards applicable	No

Note: The Mat01 data req

How do you wish to assess the number of BREEAM credits to be achieved for this issue? Define the number of Mat 01 credits achieved

Assessment Criteria

Predicted total Mat01 credits achieved	3
Green Guide exemplary level compliant?	
Has IMPACT compliant software been used?	

Key Performance Indicator - embodied green house gas emissions by element	Total area of element m ²	Total impact kgCO ₂ eq.	Area of element impact data relevant to m ²
External walls			
Windows			
Roof			
Upper floor construction			
Internal wall			
Floor finishes/coverings			

Note: where the element
each of the relevant cells.
insert "INA", i.e. Indicator
cases please continue to s
the reported impact data

Key Performance Indicator - embodied green house gas emissions for building (assessed elements only)

Total embodied green house gas emissions for building (by assessed elements)	Missing data	kgCO ₂ eq.		kgCO ₂ eq./m ²
Proportion of applicable building elements that data reported covers				

Total BREEAM credits achieved	3
Total contribution to overall building score	2.89%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

Reductions in the building's environmental life cycle impacts through assessment of the main building elements. As follows:

- External Walls
- Windows
- Roof
- Upper floor slab
- Floor finishes/covering

Credits are awarded on the basis of the total number of points achieved, as set out in Table (BREEAM guidance), and calculated using the BREEAM Mat 01 calculator. This point's score is based on the Green Guide rating(s) achieved for the specifications that make-up the main building elements.

Mat 02 Hard Landscaping and Boundary Protection

No. of BREEAM credits available	1	Available contribution to overall score	0.96%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will ≥80% of all external hard landscaping and boundary protection achieve a Green Guide A or A+ rating?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.96%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Reductions in the environmental life cycle impacts through assessment of the hard landscaping elements and boundary protection where present.

Mat 03 Responsible Sourcing

No. of BREEAM credits available	4	Available contribution to overall score	3.86%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Note: The Mat03 data req

Assessment Criteria

Assessment Criteria	Compliant	Credits available	Credits achieved
All timber and timber based products are 'legally harvested and trader timber'	Yes		
Is there a documented sustainable procurement plan?	Yes	1	1
Percentage of available responsible sourcing of materials points achieved	18.00%	3	1

% RSM points achieved
≥ 18
≥ 36
≥ 54

Please confirm the route used to assess Mat03	Route 1: Lowest RSCS point score
Total BREEAM credits achieved	2
Total contribution to overall building score	1.93%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Comments/notes:

Credits have been awarded as follows:

First credit -Materials sourced in accordance with a sustainable procurement plan.

Second credit - Key building materials are responsibly sourced to reduce environmental and socio-economic impacts (conservative award of credits).

Mat 04 Insulation

No. of BREEAM credits available	1	Available contribution to overall score	0.96%	Note: The Mat04 data req
No. of BREEAM innovation credits available	0	Minimum standards applicable	No	

Assessment Criteria

		Credits available	Credits achieved	
What is the building's targeted insulating index?	2.50	1	1	Note: An insulation index the same as or gre

Total BREEAM credits achieved	1
Total contribution to overall building score	0.96%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Credit awarded - Recognition of the use of thermal insulation which has a low embodied environmental impact relative to its thermal properties

Mat 05 Designing for durability and resilience

No. of BREEAM credits available	1	Available contribution to overall score	0.96%
No. of BREEAM innovation credits available	0	Minimum standards applicable	N/A

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Will suitable durability/protection measures be specified and installed to vulnerable areas of the building?	Yes	1	1
Will suitable durability/protection measures be specified and installed to exposed parts of the building?	Yes		

Total BREEAM credits achieved	1
Total contribution to overall building score	0.96%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Credits awarded for the following:

- The building incorporates measures to reduce impacts associated with damage and wear-and-tear.
- Relevant building elements incorporate appropriate design and specification measures to limit material degradation due to environmental factors.

Mat 06 Material efficiency

No. of BREEAM credits available	1	Available contribution to overall score	0.96%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Will material efficiency measures be identified & implemented during all RIBA stages?	No	1	0

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Credit Not Sought at this stage.

WASTE

Wst 01 Construction Waste Management

No. of BREEAM credits available	4	Available contribution to overall score	4.25%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

How do you wish to assess the number of BREEAM credits to be achieved for this issue?	Define a target number of BREEAM credits
---	--

Select the number of BREEAM credits being targeted for issue Wst 01:	4	BREEAM Wst01 Innovation credits:	0
--	---	----------------------------------	---

Assessment Criteria

	Compliant?
Construction resource management plan	
Compliant Pre-demolition audit	
Does the excavation waste meet the exemplary level requirements?	

Key Performance Indicators - Construction Waste

Measure/units for the data being reported	
Non-hazardous construction waste (excluding demolition/excavation)	
Total non-hazardous construction waste generated	
Non-hazardous non-demolition const. waste diverted from landfill	
Total non-hazardous non-demolition const. waste diverted from landfill	
Total non-hazardous demolition waste generated	
Non-hazardous demolition waste diverted from landfill	
Total non-hazardous demolition waste to disposal	
Material for reuse	
Material for energy recovery	
Hazardous waste to disposal	

Total BREEAM credits achieved	4
Total contribution to overall building score	4.25%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Comments/notes:

Credits awarded for the following:

- Development of a construction resource management plan.
- Reducing construction waste related to on-site construction and off-site manufacture/fabrication.
- Diverting non-hazardous construction (on-site and dedicated off-site manufacture/fabrication), demolition and excavation waste (where applicable) generated by the project from landfill.

Note: At the pre-assessment stage this figure is estimated based on
 Note: At this stage this will be a target benchmark or estimation, if
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Wst 02 Recycled Aggregates

No. of BREEAM credits available	1	Available contribution to overall score	1.06%
No. of BREEAM innovation credits available	1	Minimum standards applicable	No

Assessment Criteria

Total

What is the target total % of high-grade aggregate that will be recycled/secondary aggregate?	0%
---	----

Note: At the pre-assessment using documentation that required amount (to achieve)

% of high-grade aggregate that is recycled/secondary aggregate - by application

Structural frame	
Bitumen/hydraulically bound base, binder and surface courses	
Building foundations	
Concrete road surfaces	
Pipe bedding	
Granular fill and capping	

Note: Please refer to the / recycled/secondary aggregate

Note: If the application is present and contains no recycled/secondary aggregate

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

Credit Not Sought at this stage.

Wst 03 Operational Waste

No. of BREEAM credits available	1	Available contribution to overall score	1.06%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria

Compliant?

Credits available

Credits achieved

Will operational recyclable waste volumes be segregated and stored?	Yes	1	1
Will static waste compactor(s) or baler(s) be specified where appropriate?	N/A		
Will vessel(s) for composting suitable organic waste where appropriate?	N/A		

Instruction: if the specific volume of the appropriate

Total BREEAM credits achieved	1
Total contribution to overall building score	1.06%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Comments/notes:

Provision of suitable space and facilities to allow for segregation and storage of operational recyclable waste volumes generated by the assessed building/unit, its occupant(s) and activities.

Wst 04 Speculative Floor and Ceiling Finishes

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A	Note: This issue is applicable
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A	

Assessment Criteria	Compliant?	Credits available	Credits achieved
Total BREEAM credits achieved	N/A		
Total contribution to overall building score	N/A		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Comments/notes:

Wst 05 Adaption to climate change

No. of BREEAM credits available	1	Available contribution to overall score	1.06%
No. of BREEAM innovation credits available	1	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a climate change adaptation strategy appraisal for structural and fabric resilience be conducted by the end of Concept Design (RIBA Stage 2 or equivalent)?	No	1	0
Will exemplary level criteria – Responding to adaptation to climate change be met?	No	1	0
Total BREEAM credits achieved	0		
Total contribution to overall building score	0.00%		
Total BREEAM innovation credits achieved	0		
Minimum standard(s) level	N/A		

Comments/notes:

Credit Not Sought at this stage - Encourage consideration and implementation of measures to mitigate the impact of more extreme weather conditions arising from climate change over the lifespan of the building.

Wst 06 Functional adaptability

No. of BREEAM credits available	1	Available contribution to overall score	1.06%
No. of BREEAM innovation credits available	0	Minimum standards applicable	N/A

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Will a building specific functional adaptation strategy appraisal be conducted by Concept Design (RIBA Stage 2 or equivalent) and will functional adaptation measures be implemented?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	1.06%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Credit Not Sought at this stage - Encourage consideration and implementation of measures to accommodate future changes to the use of the building and its systems over its lifespan.

LAND USE & ECOLOGY

LE 01 Site Selection

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Will at least 75% of the proposed development's footprint be located on previously occupied land?	Yes	1	1
Is the site deemed to be significantly contaminated?	No	1	0

Total BREEAM credits achieved	1
Total contribution to overall building score	1.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Pre-developed site. Credit awarded for recognition of the reuse of previously developed

LE 02 Ecological Value of Site and Protection of Ecological Features

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No
Ecological value of the land defined using		The BREEAM checklist	

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Can the land within the construction zone be defined as 'land of low ecological value'?	Yes	1	1
Will all features of ecological value surrounding the construction zone/site boundary be protected?	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	2.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Land defined as 'land of ecological value' and existing ecological features will be adequately protected.
Where there are no ecological features present the second credit can be awarded by default.

LE 03 Mitigating Ecological Impact

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Data sourced for calculating the change in ecological value from	Assessor's classification of broad habitat type(s) using BREEAM LE03/LE04 Calculator
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Assessment Criteria

What is the likely change in ecological value as a result of the sites development?	≥0 species (i.e. no negative change)	Plant species richness
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Note: the chan

Total BREEAM credits achieved	2
Total contribution to overall building score	2.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Comments/notes:

There will be no negative change in the ecological value of the site as a result of the proposed development.

LE 04 Enhancing Site Ecology

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Will a suitably qualified ecologist be appointed to report on enhancing and protecting site ecology?	No	2	0
Will the suitably qualified ecologist's general recommendations be implemented?			
What is the targeted/intended improvement in ecological value as a result of enhancement actions?			

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Credits not sought as an Ecologist is thought to not be appointed for this project.

LE 05 Long Term Impact on Biodiversity

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Will a Suitably Qualified Ecologist be appointed to monitor/minimise impacts of site activities on biodiversity?	No	2	0
Will a landscape and habitat management plan be produced covering at least the first five years after project completion in accordance with British Standards?			
Number of applicable measures to improve biodiversity confirmed by SQE:			
Number of applicable measures implemented:			

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Credits not sought as an Ecologist is thought to not be appointed for this project.

POLLUTION

Pol 01 Impact of Refrigerants

No. of BREEAM credits available	3	Available contribution to overall score	2.31%	Note: The data required for this indicator is not applicable to this building type.
No. of BREEAM innovation credits available	0	Minimum standards applicable	No	

Assessment Criteria

Refrigerant containing systems installed in the assessed building?		Credits available	Credits achieved
Do all systems (with electric compressors) comply with the requirements of BS EN 378:2008 (parts 2 & 3) & where refrigeration systems containing ammonia are installed, the LoR Ammonia Refrigeration Systems Code of Practice?		2	FALSE
Global Warming Potential of the specified refrigerant(s) 10 or less?			
What is the target range Direct Effect Life Cycle CO ₂ eq. emissions for the system?		kgCO ₂ eq/kW cooling capacity	
Cooling/Heating capacity of the system		kW	
Will a refrigerant leak detection and containment system be specified/installed?		1	0

Instruction: If the total Dir
"INA", i.e. Indicator Not Applicable

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Credits Not Sought at this stage - discussions with M&E

Pol 02 NO_x Emissions

Note: Credits for this issue are awarded for water heating systems. Heating and benchmarking

No. of BREEAM credits available	3	Available contribution to overall score	2.31%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Instruction: If the building specified then enter the NO_x emissions according to the

Assessment Criteria

NO _x emission level - space heating		mg/kWh
NO _x emission level - cooling		mg/kWh
NO _x emission level - water heating		mg/kWh
Does this building meet BREEAM's definition of a highly insulated building?		
Energy consumption: heating and hot water		kWh/m ² yr

Instruction: If the building BREEAM credit, select 'N/A' on the NO_x emission level accordance with the comp

Note: The energy consumption Regulations Output Document award the available BREEAM credit.
Instruction: If the NO_x level the relevant compliance in letters "N/A" in the cell, or

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Credits not sought at this stage - M&E to determine feasibility with the heating strategy to be determined.

Pol 03 Surface Water Run off

No. of BREEAM credits available	5	Available contribution to overall score	3.85%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
What is the actual/likely annual probability of flooding for the assessed site?	Low	2	2
Will a Flood Risk Assessment be undertaken?	Yes	1	1
Will the site meet the BREEAM criteria for peak rate surface water run off?	Yes	1	1
Will the site meet the criteria for surface water run off volume, attenuation and/or limiting discharge?	No	1	0
Will the site be designed to minimise watercourse pollution in accordance with the BREEAM criteria?	No	1	0

Total BREEAM credits achieved	3
Total contribution to overall building score	2.31%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

- The development site is situated within flood risk zone one and has a low annual probability of flooding. A Flood Risk Assessment will be undertaken.
 - One credit has been awarded where the site will meet the BREEAM criteria for peak rate surface water runoff.
- A drainage consultant should be instructed ASAP to determine the credits awarded for this issue.

Pol 04 Reduction of Night Time Light Pollution

No. of BREEAM credits available	1	Available contribution to overall score	0.77%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Will the external lighting specification be designed to reduce light pollution?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.77%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

External light pollution is eliminated through effective design or the removal of the need for unnecessary external lighting.

Pol 05 Noise Attenuation

No. of BREEAM credits available	1	Available contribution to overall score	0.77%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant	Credits available	Credits achieved
Will there be noise-sensitive areas/buildings within 800m radius of the development?	Yes	1	1
Will a noise impact assessment be carried out and, if applicable, noise attenuation measures specified?	Yes		

Total BREEAM credits achieved	1
Total contribution to overall building score	0.77%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Measures to reduce the likelihood of disturbance arising as a result of noise from fixed installations on the development.

INNOVATION

Inn 01 Innovation

No. of BREEAM innovation credits available	10	Available contribution to overall score	10.00%
		Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Man 03 Responsible construction practices	No	1	0
Man 05 Aftercare	No	1	0
Hea 01 Visual Comfort	No	1	0
Hea 02 Indoor Air Quality	No	2	0
Ene 01 Reduction of energy use and carbon emissions	No	5	0
Wat 01 Water Consumption	No	1	0
Mat01 Life Cycle Impacts	No	3	0
Mat03 Responsible Sourcing of Materials	No	1	0
Wst01 Construction Waste Management	No	1	0
Wst02 Recycled Aggregates	No	1	0
Wst 05 Adaption to climate change	No	1	0

Number of 'approved' innovation credits achieved?	
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Total BREEAM innovation credits achieved	0
Total contribution to overall building score	0.00%
Minimum standard(s) level	N/A

Comments/notes: