Energy & Sustainability Statement 16a-18 West Central Street 10-12 Museum Street & 39-41 New Oxford Street

1112322/AJM/130530 Revision 1



| Issue | Date | Reason for Issue |
|-------|----------|---------------------|
| 01 | 30/05/13 | Planning Submission |
| | | |
| | | |
| | | |

Energy & Sustainability Statement 112322/AJM/130530 Revision 1

Grontmij 1 Bath Road Maidenhead Berkshire SL6 4AQ

+44 (0)1628 623 423 building.services@grontmij.co.uk grontmij.co.uk/buildingservices

© Grontmij 2013 This document is a Grontmij confidential document; it may not be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, photocopying, recording or otherwise disclosed in whole or in part to any third party without our express prior written consent. It should be used by you and the permitted discloses for the purpose for which it has been submitted and for no other. Registered Office: Grontmij Limited, Grove House, Mansion Gate Drive, Leeds, LS7 4DN. Company Registration No 2888385

value beyond engineering



| Prepar | ed | Checke | ed | Approv | /ed |
|--------|----|--------|----|--------|-----|
| AJM | | AJD | | AJD | |
| | | | | | |
| | | | | | |
| | | | | | |

Contents

| 1. | Background | 4 |
|-----|---|-----------|
| 2. | Executive Summary | 5 |
| 2.1 | Policy Compliance Guidance | 5 |
| 3. | Baseline Energy Demand & CO2 Emissions | 7 |
| 4. | The Energy Hierarchy | 8 |
| 4.1 | Stage 1: Energy Efficiency in New Buildings. (Be Lean) | 8 |
| 4.2 | Stage 1: Energy Efficiency in Existing Buildings (Be Lean) | 10 |
| 4.3 | Environmental Improvements to Existing Buildings | 11 |
| 4.4 | 'Be Lean' Building CO2 Emissions Results | 12 |
| 4.5 | Stage 2: Decentralised Energy Networks and Combined Heat & Power (CHP) (I 13 | Be Clean) |
| 4.6 | Stage 3: Renewable Energy (Be Green) | 14 |
| 4.7 | 'Be Green' Building CO2 Emissions Results | 16 |
| 5. | Water Efficiency | 17 |
| 5.1 | Minimising Water Use | 17 |
| 5.2 | Water Recycling | 17 |
| 6. | Sustainable Use of Materials | 18 |
| 7. | Sustainability Assessments | 19 |
| 7.1 | BREEAM: Domestic Refurbishment | 19 |
| 7.2 | BREEAM: New Construction 2011 | 20 |
| 7.3 | Code for Sustainable Homes | 21 |
| 8. | Brown Roofs, Green Roofs and Green Walls | 22 |
| 9. | Flooding | 23 |
| 10. | Adapting to Climate Change | 24 |
| 11. | Biodiversity | 25 |
| 12. | Appendix A | 26 |
| 13. | Appendix B | 27 |
| 14. | Appendix C | 28 |



01 Background

1. Background

This planning statement is part of the a full planning application for the 16a-18 West Central Street, 10-12 Museum Street and 39-41 New Oxford Street redevelopment. The energy statement should be read in conjunction with all other relevant planning submission documents and drawings, including:

- Planning Statement
- Design & Access Statement
- Planning Drawings
- BREEAM and Code for Sustainable Homes (Appended to this report)

This scheme proposes to redevelop the site to provide a mixed-use development comprising residential apartments, office accommodation, and mixed use retails at ground and basement level.

The West Central Street portion of the development is New Build whilst the Museum Street section is a proposed refurbishment of an existing building.

As required by the most recent guidance from the London Borough of Camden's 'Sustainability – CPG3' document a benchmark based on a 2010 Part L compliant building has been established through modelling with approved software.

Energy efficiency measures have been applied to establish the 'Lean' building energy demands and carbon emissions. It is shown that the 'Lean' building emissions are less than those of the Part L 2010 compliant baseline.

In-line with the requirements of the planning documentation the site is complying with the relevant sustainability assessment criteria.





Executive Summary

Executive Summary 2.

Policy Compliance Guidance 2.1

The Energy Hierarchy

An enhanced building envelope thermal performance through the specification of 'better-than' Part-L minimum limiting parameters for fabric U-values and air permeability.

The adoption of effective passive design techniques such as optimising façade solar performance to respond to orientation and any benefits from natural sources of shading (for example, surrounding buildings) to minimise direct solar gain whilst ensuring good levels of daylight within the occupied areas.

An emphasis on building services system operational efficiencies and a comprehensive metering strategy enabling interrogation of electric and water usage.

The installation of a combination of high efficiency air source heat pumps to satisfy the building's cooling load, the heat load and the hot water load.

The installation of energy efficient lighting with a high efficacy and intelligent controls, including presence detection and daylight dimming to greatly reduce the electrical consumption of the artificial lighting installation.

Including the contribution of the low-carbon/renewable technology, the achievement of carbon emissions 21.4% lower than the calculated baseline emissions through the use of good passive building design, energy efficient system selection, intelligent control methodologies and low carbon / renewable technology.

Water Efficiency

In order to help with the maintenance of the green roofs it is proposed for a water butt to be made available and take advantage of rainwater run-off from the roof terrace.

This site will comply with all the mandatory credits for water efficiency in the BREEAM and Code for Sustainable homes assessments.

This includes the provision for the following water saving measures;

- Dual flush toilets
- Low flow taps and shower heads
- Low water consuming washing machines and dishwashers

Sustainable Use of Materials

This development commits to:

- Use the BRE Green Guide to target an "A" Rating for all building elements
- Incorporate the waste hierarchy as below:
 - 1
 - 2. The use of materials with higher levels of recycled content
 - 3. The use of new materials
- Responsible sourcing of materials generally in line with the Green Guide
- Provide a Design & Access Statement for the project
- Produce a Construction Management Plan (CMP)
- Submission of a Site Waste Management Plan (SWMP)

materials used are to be derived from recycled and reused sources.

recycled and reused materials.

Sustainability Assessment

standards

| Element Assessment | | Minimum Rating |
|---------------------------|------------------------------------|-------------------|
| Residential Refurbishment | BREEAM Domestic Refurbishment 2012 | "Excellent" |
| New Build Office | BREEAM New Construction 2011 | "Excellent" |
| New Build Residential | Code for Sustainable Homes | Level 4 |

The shell of the retail elements will achieve all the applicable minimum requirements of an "excellent" rating with the remaining credits required needing to be satisfied by the incoming retail tenant(s) fit out proposals. This project team will write a "Green Guide" to highlight our recommendations for energy efficient equipment selection to satisfy the BREEAM criteria requirements.

Energy & Sustainability Statement West Central Street 112322/AJM/130530 Revision 1



- The use of reclaimed material,
- This development is committed to ensure that at least 10% of the total values of
- An early assessment suggests between 12% & 20% of this development's spend is on

Pre-Assessments show the developments will adhere to the following minimum



Roofs, Brown Roofs and Green Walls

Consideration has been given to the provision of Green Roofs and Green Walls on the project:

- Total Green Roof Area Approx. 102m²
- Total Brown Roof Area Approx. 18m²
- Total Green Wall Area Approx. 40m²

The brown, green roofs and green walls will contribute to the biodiversity of the site.

Flooding

Due to the brownfield nature of the development, the risk of flooding is considered to be no worse than that of the existing site

The impact of the new development during a storm is considered to have less impact on potential flooding issues due to the specification of green and brown roofs.

The green and brown roofs will reduce and attenuate the surface water run-off. This proves advantageous compared with the existing building and with respect to higher predicted rainfall in the future due to climate change.

Climate Change Adaption

This report has concentrated on how this development will mitigate climate change wherever possible by minimising the impact of human activity on the climate.

However, it is important to consider how the building will cope and adapt to a changing climate in the future, consideration has been given to the following measures;

- Do not increase the flood risk and where possible reduce risk
- Minimise Solar Gain in Summer
- Maximise Natural Ventilation
- Maximise Natural Vegetation
- Provide homes with private outdoor space wherever possible.

Biodiversity

Planting of additional ecological species within the public realm areas of the development will positively enhance the ecological impact.

It is intended that a 'biodiversity action plan' will be written by a suitably qualified 'Ecologist', adopted and maintained by the client/incoming tenant.







Grontmij

Baseline Energy Demand & CO2 Emissions 3.

The 'Baseline' building represents a development which just meets the minimum standards of CO2 emissions reduction (i.e. the Building Emission Rate (BER) is equal to the Target Emissions Rate (TER) as defined by Part L of the Building Regulations 2010)

The following sections will go on to describe how this development will seek to better this target.

| | Carbon Dioxide Emissions (Tonnes CO2/m ² per Annum) | | | | | | |
|--|--|---------------------|--------------------------|-------|--|--|--|
| | Office | Refurb. Residential | New Build Residential | Total | | | |
| Building Regulations 2010 Part L Compliant Development | 11.5 | 4.2 | 11.3 | 27 | | | |

Table 1: 'Baseline' annual CO₂ Emissions (Tonnes CO₂)



Energy & Sustainability Statement West Central Street 112322/AJM/130530 Revision 1

Grontmij

Fig 1: Annual CO₂ Emissions – Part L TER (Tonnes CO²)

The Energy Hierarchy

4.

4.1

4.1.1

| The Energy Hierarchy |
|---|
| Stage 1: Energy Efficiency in New Buildings. (Be Lean) |
| Building Envelope |
| Facade Optimisation- Residential |
| The external envelope of a building can act as an important climatic modifier, with a well-designed facade significantly reducing the buildings energy demand. The façade design will incorporate passive design principles appropriate to residential accommodation where heating and daylight demands need to be balanced. The facades will be developed to limit heat loss and solar gain whilst maximising daylight through optimising use of glazing with solid panels /solar shading. |
| Thermal Properties & Air Tightness |
| High performance building fabrics with low U-values and low air permeability rates, which exceed the Part-L Building Regulation requirements, will minimise uncontrolled heat losses. The targeted building fabric standards are set out in the following table. |
| |

| Element | Minimum Standard U-Value Part L: 2010 | Targeted U-Value for Offices | Minimum Standard U-Value Part L1A: 2010 | Targeted U- Value for Residential |
|-------------------------|--|---------------------------------|--|---|
| Exposed Wall | 0.35 W/m ² .K | 0.17 W/m².K | 0.3 W/m ² .K | 0.17 W/m².K |
| Window | 2.2 W/m ² .K | 1.5 W/m².K | 2.0 W/m ² .K | 1.5 W/m².K |
| Exposed Ground Floor | 0.25 W/m².K | 0.22 W/m².K | 0.2 W/m².K | 0.12 W/m².K |
| Exposed Roof | 0.25 W/m².K | 0.12 W/m ² .K | 0.2 W/m².K | 0.12 W/m².K |
| Air Permeability | $10 \text{ m}^3/\text{ m}^2/\text{ hr}$ | 5 m3/ m2 / hr | $10 \text{ m}^3/\text{ m}^2/\text{ hr}$ | 5 m ³ / m ² / hr |
| j | | | | |

4.1.2 Green/Brown Roofs & Green Walls

Green and brown roofs will be incorporated within the building of the West Central Street development. In addition to providing an ecological benefit, the use of these roofs and walls will improve the thermal insulation. This will reduce heat loss in winter and reduce heat gain in summer.

4.1.3

Building Energy Management System and Metering

The central energy generating and distribution systems will include continuous monitoring and reporting of the operating parameters to ensure that the systems are running to their peak 'as designed' efficiencies.

The office systems will include metering of energy usage which will allow building owners / occupiers to view and interrogate where potential energy savings can be made throughout their buildings.

All residential units will be provided with independent apartment energy management systems that will provide intelligent control of the apartment services systems. This will include the provision of smart real time metering of energy usage that will heighten user awareness of energy use and assist in making choices that effect energy usage

4.1.4

4.1.5

The current Part L Building Regulations set stringent efficiencies for the fans used in all air conditioning systems. Recent advances in fan motor technology have resulted in substantial reductions in energy consumption, an otherwise significant proportion of building energy use.

Where fan coil systems are proposed EC/DC (electronically commutated direct current) motors will be used in place of conventional AC motors. These will be also enable the use of variable air flow rate devices to reduce air flow when required and therefore reduce energy consumption.

Air Handling Energy Recovery

The energy required to heat or cool the incoming fresh air supply to the building will be significantly reduced by using efficient energy recovery systems controlled so as to minimise the demand for any heating and cooling of the fresh air supply.

The office ventilation systems will incorporate heat recovery via cross plate heat exchangers. Cross Plate heat exchangers within the AHUs allow the storage of heat from the return air path to transfer to the incoming air stream. In winter, the warmer return air will transfer heats to the cooler outdoor air raising the supply air temperature, thus reducing the amount of energy required to heat the incoming air to the required design conditions. In summer, the opposite occurs, with the incoming air stream likely to be of a higher temperature than the return air. In this case the exchanger will pre cool the incoming air which results in a reduction of energy required to cool the air to design conditions. These systems provide high heat recovery efficiently and will significantly reduce the building's overall heating and cooling demand.

The residential ventilation systems will be provided by local whole house ventilation units that provide filtered fresh air to each of the habitable rooms and extract air from wet areas. The units will incorporate integral heat recovery which will recover thermal energy form the air streams via high efficiency heat exchangers.

Energy & Sustainability Statement West Central Street 112322/AJM/130530 Revision 1



EC/DC Motors for Fan Coil Units

4.1.6

Low Energy Lighting (Office Accommodation)

Lighting is typically responsible for about one quarter of the carbon emissions from commercial buildings.

Lighting throughout the occupied areas of the building will be controlled by PIR movement detectors which will monitor occupancy and switch off the lights when the area is vacant for a sustained length of time. In addition, lighting in perimeter office areas will include intelligent dimming that monitors the daylight factor and adjusts the lighting intensity accordingly. Daylight sensors will likely be combined with the PIR sensors to minimise the number of devices installed. Lighting in communal/lobby areas, stairwells and the basement will include timed control to ensure switching off to reduce energy consumption.

In addition the project team will investigate the option for the lighting types and spacing of the fittings in the office areas to be specified to provide a minimum intensity of background lighting CIBSE guidelines recommend 300-500lux on the working plane within occupied office environments where tasks are typically screen based. This will be investigated to establish high efficacy lighting solutions and consideration of surface reflectances.

Low Energy Lighting (Residential Buildings) 4.1.7

In dwellings, the Part L regulations require that 75% of all fixed light fittings must be capable of accepting only low energy lamps. "Low energy lamps", (compact fluorescent or linear fluorescent) use about 80% less energy than conventional tungsten lamps for the same light output.

Conventional lighting accounts for about 16% of electrical energy consumption in dwellings, (CfSH). If all fixed lighting, rather than the minimum, used only low energy lamps, this would yield a further saving of 44.5tonnes p.a. in total electrical energy in each dwelling. Throughout the residential units low energy fitting will be specified as first choice with the intention of utilising high efficiency LED lighting products within the interior lighting design philosophy.

High Efficiency Variable Speed Drives 4.1.8

By varying the fan and pump speeds for the water and air distribution systems to match the building load profiles, fan and pump energy consumption will be considerably reduced.

| 4.1.9 | Active Design | Features: | Unred |
|-------|---------------|-----------|-------|

4.1.9.1

4.1.9.2

Low Energy White Goods (Residential Buildings)

White goods include washing machines, dryers, dishwashers and fridge/freezers.

dwellina.

White goods are now provided with a certified energy label. These are rated A++, A, B and C with C being the least efficient. Data supplied by the Energy Advice Centre suggests that using A++ rather than C rated white goods would reduce electrical energy consumption in each dwelling by 800 kWh/year.

The new build residential elements of this development will be provided with white goods to the highest certified energy rating of A++

Low Energy Culture

Providing building users, owners and operators with practical guidance on the importance and methods of energy efficiency can lead to effective, cost-free reductions in energy usage and carbon emissions. Savings can be expected in, for example:

- Operating comfort cooling & Heating systems efficiently
- Lighting Energy: a culture of 'Turn-It-Off'
- Small Power: avoiding monitors and PCs etc in stand-by mode

Training of operators and facility managers is particularly important to provide them with the skills and knowledge to implement and continue to improve an energy management programme.

For the residential units it is important that occupiers are given clear unambiguous information on the use and operation of their systems with an emphasis on how to maximise the potential for reducing energy through behaviour

The amount of energy that can be saved will be dependent upon the motivation of the occupants and the effectiveness of the awareness programmes. This development will actively encourage a low energy culture as part of its commercial and residential leasing/sales strategy.

Energy & Sustainability Statement West Central Street 112322/AJM/130530 Revision 1



egulated Energy Use

These items are responsible for about two thirds of electrical consumption in dwellings. Electrical consumption is responsible for roughly half the carbon emissions from a

• Cooling / Heating Energy: widening 'acceptable' temperature range.

The Energy Hierarchy

4.2

Stage 1: Energy Efficiency in Existing Buildings (Be Lean)

Facade Optimisation-Residential

The external envelope of a building can act as an important climatic modifier, with a well-designed facade significantly reducing the buildings energy demand. The facade design will incorporate passive design principles appropriate to residential accommodation where heating and daylight demands need to be balanced. The facades will be developed to limit heat loss and solar gain whilst maximising daylight through optimising use of glazing with solid panels /solar shading.

Thermal Properties & Air Tightness

High performance building fabrics with low U-values and low air permeability rates, which exceed the Part-L Building Regulation requirements, will minimise uncontrolled heat losses. The targeted building fabric standards are set out in the following table.

| Element | Minimum Standard U-Value Part L1A: 2010 | Targeted U-Value for Residential |
|----------------------|--|--|
| Exposed Wall | 0.3 W/m².K | 0.22 W/m².K |
| Window | 2.0 W/m².K | 1.5 W/m².K |
| Exposed Ground Floor | 0.2 W/m².K | 0.2 W/m².K |
| Exposed Roof | 0.2 W/m².K | 0.12 W/m ² .K |
| Air Permeability | 10 m ³ / m ² / hr | 5 m ³ / m ² / hr |

4.2.1 Building Energy Management System and Metering

The central energy generating and distribution systems will include continuous monitoring and reporting of the operating parameters to ensure that the systems are running to their peak 'as designed' efficiencies.

The office systems will include metering of energy usage which will allow building owners / occupiers to view and interrogate where potential energy savings can be made throughout their buildings.

All residential units will be provided with independent apartment energy management systems that will provide intelligent control of the apartment services systems. This will include the provision of smart real time metering of energy usage that will heighten user awareness of energy use and assist in making choices that effect energy usage

Energy & Sustainability Statement West Central Street 112322/AJM/130530 Revision 1

Grontmij

EC/DC Motors for Fan Coil Units

4.2.2

4.2.3

4.2.4

The current Part L Building Regulations set stringent efficiencies for the fans used in all air conditioning systems. Recent advances in fan motor technology have resulted in substantial reductions in energy consumption, an otherwise significant proportion of building energy use.

Where fan coil systems are proposed EC/DC (electronically commutated direct current) motors will be used in place of conventional AC motors. These will be also enable the use of variable air flow rate devices to reduce air flow when required and therefore reduce energy consumption.

Air Handling Energy Recovery

The energy required to heat or cool the incoming fresh air supply to the building will be significantly reduced by using efficient energy recovery systems controlled so as to minimise the demand for any heating and cooling of the fresh air supply.

The residential ventilation systems will be provided by local whole house ventilation units that provide filtered fresh air to each of the habitable rooms and extract air from wet areas. The units will incorporate integral heat recovery which will recover thermal energy form the air streams via high efficiency heat exchangers.

Low Energy Lighting (Residential Buildings)

In dwellings, the Part L regulations require that 75% of all fixed light fittings must be capable of accepting only low energy lamps. "Low energy lamps", (compact fluorescent or linear fluorescent) use about 80% less energy than conventional tungsten lamps for the same light output.

Conventional lighting accounts for about 16% of electrical energy consumption in dwellings, (CfSH). If all fixed lighting, rather than the minimum, used only low energy lamps, this would yield a further saving of 44.5tonnes p.a. in total electrical energy in each dwelling. Throughout the residential units low energy fitting will be specified as first choice with the intention of utilising high efficiency LED lighting products within the interior lighting design philosophy.

High Efficiency Variable Speed Drives 4.2.5

By varying the fan and pump speeds for the water and air distribution systems to match the building load profiles, fan and pump energy consumption will be considerably reduced.

Active Design Features: Unregulated Energy Use 4.2.6

4.2.6.1 Low Energy White Goods

White goods include washing machines, dryers, dishwashers and fridge/freezers.

These items are responsible for about two thirds of electrical consumption in dwellings. Electrical consumption is responsible for roughly half the carbon emissions from a dwelling.

White goods are now provided with a certified energy label. These are rated A++, A, B and C with C being the least efficient. Data supplied by the Energy Advice Centre suggests that using A++ rather than C rated white goods would reduce electrical energy consumption in each dwelling by 800 kWh/year.

The refurbished residential elements of this development will be provided with white goods to the highest certified energy rating of A++

Low Energy Culture 4.2.6.2

Providing building users, owners and operators with practical guidance on the importance and methods of energy efficiency can lead to effective, cost-free reductions in energy usage and carbon emissions. Savings can be expected in, for example:

- Operating comfort cooling & Heating systems efficiently
- Lighting Energy: a culture of 'Turn-It-Off'
- Small Power: avoiding monitors and PCs etc in stand-by mode
- Cooling / Heating Energy: widening 'acceptable' temperature range.

Training of operators and facility managers is particularly important to provide them with the skills and knowledge to implement and continue to improve an energy management programme.

For the residential units it is important that occupiers are given clear unambiguous information on the use and operation of their systems with an emphasis on how to maximise the potential for reducing energy through behaviour

The amount of energy that can be saved will be dependent upon the motivation of the occupants and the effectiveness of the awareness programmes. This development will actively encourage a low energy culture as part of its commercial and residential leasing/sales strategy.

4.3

Environmental Improvements to Existing Buildings

There is guidance from the Council which suggests at least 10% of the project cost for existing elements should be spent on environmental improvements.

development.

The figure of £970,166 is the total cost of the Museum Street portion of the development. (Including contingency)

The Figure of £174,989 is the cost of materials and systems which will contribute to the improvement of the site's efficiency compared with the existing building.

This shows a 18% spend on elements which will contribute to the thermal and energy efficiency of the site.

| Sub Total | | | £ | 784 166 | 22% | 174 989 |
|--|--------|---------|---|---------|-----|---------|
| Project On-Costs | | | | 186 000 | 0% | |
| Preliminaries and General Conditions | 15.00% | 118,000 | | 118,000 | 0% | - |
| Design and Construction Contingency | 7.50% | 68,000 | | 68,000 | 0% | - |
| Total Projected Cost | | | £ | 970 166 | 18% | 174 989 |
| Total Projected Cost excluding contingency | | | £ | 902 166 | 19% | 174 989 |

Summary

Total value of energy efficiency improvements

Energy & Sustainability Statement West Central Street 112322/AJM/130530 Revision 1



The table below is a summary of the costs attributed to the provision of environmental improvements as a percentage of the total cost of the Museum Street portion of the

£ Comments

174,989 18% of total project cost or 19% excluding contingency

4.4 'Be Lean' Building CO2 Emissions Results

The table and graph below summarize the anticipated CO₂ emission reductions of the combined building systems with the 'Lean' building energy savings measures through good 'passive' and 'active' designs:

| | Carbon Dioxide Emissions (Tonnes CO2/m ² per Annum) | | | | | | |
|--|--|------------------------|--------------------------|-------|------------------|--|--|
| | Office | Refurb. Residential | New Build Residential | Total | % Improvement | | |
| Building Regulations 2010 Part L Compliant Development | 11.5 | 4.2 | 11.3 | 27 | - | | |
| 'Be Lean' improvements against Building Regulations 2010 Part L Compliant Development | 9.1 | 4.2 | 8.6 | 21.9 | 18.8% | | |

Table 2: 'Lean' annual CO₂ Emissions (Tonnes CO₂)

Fig.2: % reduction in annual CO₂ err development (Tonnes CO₂)

Part L TER

30

25

20

15

10

5

0

Energy & Sustainability Statement West Central Street 112322/AJM/130530 Revision 1





Fig.2: % reduction in annual CO_2 emissions relative to Part L TER for the 'Lean'

4.5

Stage 2: Decentralised Energy Networks and Combined Heat & Power (CHP) (Be Clean)

The proposed site is a mixed use site but none of the proposed uses have a particularly high heat load requirement due to the maximised efficiency of the building envelopes.

The residential aspects of the building, due to their highly insulated facades in line with and exceeding current building regulations have fairly minimal heat losses. Also during the winter heating season it is likely the heating will be on intermittently during the day to mirror occupation levels.

The office content of the proposed site it also likely to have a small heat load and actually overheating is typically more of an issue in office accommodation, even through a majority of the winter months due to high occupancy and internal gains.

The retail environments, at this stage, are shell and core provision only and as such it is difficult to predict or evaluate a particular load profile.

Due to the site's relatively small footprint space is at a premium and limited internal plant space is available.

These factors make a standalone CHP plant spatially & technically unfeasible and financially unviable.

Fig. 3 shows a 1km radius around the proposed site. It shows the nearest part of the district heating network to be more than 1km away from the site on Euston Road.

Fig. 4 shows proposed systems which will be connected to the network. Our proposed site sits within 500m of the British Museum.

We have decided to ensure the proposed scheme is spatially feasible whilst reducing the carbon emissions as far as possible as soon as the project is completed. To do this we have proposed a combined VRF system for heating, cooling and hot water generation. This system is described in section 4.5 of this report.

This type of system will make it unfeasible to connect a district heating system into it. The loads for such a small development would make little difference to the overall scheme within the Borough.

It should be noted that for the West Central Street portion of the development is served by a communal air source heat pump so the heating/hot water generation and cooling elements can be offset against one another. This offers additional CO₂ savings which are unable to be assessed by the energy modelling software.

This system would require the supply of electricity which could be derived from the CHP plant. The developer is willing to commit to sign up to an agreement to have the electricity supplied to the site by the district heating system operator or another Green Electricity Tariff.



Fig. 3



Fig. 4



4.6 Stage 3: Renewable Energy (Be Green)

4.6.1 Biomass heating

A common and sustainable form of biomass is wood in the form of small chips or pellets. These are produced as a waste product in the forestry industry. The fuel is burnt in specially designed boilers with high efficiency filters on the exhaust so that very low particulate emissions are achieved.

Air quality is seen to be an issue. Due to the high particulate matter (PM) and nitrogen oxide (NOx) emissions and the potential nitrous oxide (N2O) biomass installations may not meet the air quality requirements. Add to that the difficulties in delivering the fuel due to the busy roads for the large biomass fuel transport lorries. Therefore biomass / bio-gas heating is not appropriate for this development.

4.6.2 Renewable energy from waste

Generating energy from waste would not be appropriate for this development due to the relatively low levels of combustible waste produced on site.

4.6.3 Photovoltaic

Photovoltaic cells directly convert sunlight into electrical current using semiconductors. The output of a cell is directly proportional to the intensity of the light received by the active surface of the cell. The location and positioning of PV cells is therefore important in achieving acceptable performance.

This technology has not been proposed for this development as the roof space is limited, flat and will be allocated to the efficient Heat Pumps which have reduced the carbon footprint significantly.

4.6.4 Solar hot water heating

A solar thermal array converts sunlight into heat. The location and positioning of the array is therefore critical to achieving acceptable performance. The roof space is flat which would mean an inefficient system.

This technology has not been proposed for this development as the roof is flat and will be allocated to the Heat Pumps and green/brown roofs. The quick response required in the system is also not suited to this type of technology.

4.6.5 Wind turbines

Wind turbines produce electricity directly from the energy in wind. This is then fed into the buildings electrical system via control gear.

Due to restrictions on building heights and the low average wind speed for the site the installation of wind turbines are not appropriate for this development.

4.6.6

Ground Source Heat pumps

Ground Source Heat Pumps (GSHP) involves the recovery of low grade heat from the ground or the disposal of heat into the ground, utilising heat pumps.

The development is on a brown field site, therefore there is no available ground area for the horizontal trench and boreholes, and hence ground source heat pumps have not been proposed for this development.

4.6.7 Air Source Heat Pump

Heat pumps are part of the environmentally friendly technologies using renewable energy. They are quoted in the European Directives on the use of Renewable Energy (RES), on the Energy Performance of Buildings (EPBD) and on Energy related products (ErP). Heat pumps are also referenced in the Directive on the promotion of the use of energy from renewable sources. The Directive recognises the technology as using renewable energy sources from air, water and ground. Heat pumps are seen as a great source to reach the EU target for a reliable, affordable and sustainable energy supply.

As mentioned in section 4.4 of this report, the proposed development will benefit from a high efficiency, communal VRF system which will provide heating/hot water generation and cooling to the new build residential and the office accommodation.







Using a renewable heat source, external ambient air, the system is highly efficient compared to conventional fossil fuel boilers, capable of heating water up to 80°C, with COPs up to 3.5.

This system also offers cooling utilising heat recovery technology, the rejected heat in cooling mode is directed for generating hot water.

The system allows independent control and billing of heating and hot water systems within each demise. One outdoor unit can supply a number of individually occupied spaces

The proposed VRF system comprises of an external VRF condenser located at roof level and an internal integrated heat exchanger module and hot water storage vessel.

The process for the heat exchange can be seen below in Fig. 5:

Outdoor ····: :···· Indoor Step 2 Step 3 Step **R-410A** R-134a



In terms of spatial considerations this system offers the benefit of using either underfloor heating or fan coil units, at high level. These possibilities ensure the maximum usable floor area is retained within the apartments.

and Fig. 7.



The external plant is located on the limited roof space available.

Due to the relatively small footprint of the plant (See Fig. 8) to serve the entire building, the team has sought to use the remaining roof space to be turned over to green and brown roof provision.

Energy & Sustainability Statement West Central Street 112322/AJM/130530 Revision 1



The internal plant area is confined to the small washing machine cupboard which also houses the whole house ventilation plant and the washing machine as shown in Fig. 6









4.7

'Be Green' Building CO2 Emissions Results

The table and graph below summarize the anticipated CO₂ emissions of the combined building systems with the 'Lean' building energy savings measures through good 'passive' and 'active' designs as well as the use of 'Green' technology.

| | Carbon Dioxide Emissions (Tonnes CO2/m ² per Annum) | | | | | |
|---|--|------------------------|--------------------------|-------|---------------|--|
| | Office | Refurb. Residential | New Build Residential | Total | % Improvement | |
| Building Regulations 2010 Part L Compliant Development | 11.5 | 4.2 | 11.3 | 27 | - | |
| 'Be Lean' improvements against Building Regulations 2010 Part L Compliant Development | 9.1 | 4.2 | 8.6 | 21.9 | 18.8% | |
| 'Be Green' improvements against Building Regulations 2010 Part L Compliant Development | 9.1 | 4.2 | 7.9 | 21.2 | 21.4% | |



Table 3: 'Green' annual CO₂ Emissions (Tonnes CO₂)

Fig. 9: % reduction in annual CO_2 emissions redevelopment (Tonnes CO_2)

Energy & Sustainability Statement West Central Street 112322/AJM/130530 Revision 1

Grontmij

Fig. 9: % reduction in annual CO₂ emissions relative to Part L TER for the 'Lean' & 'Green'

Water Efficiency

Water Efficiency 5.

Minimising Water Use 5.1

This site will comply with all the mandatory credits for water efficiency in the BREEAM and Code for Sustainable homes assessments.

This includes the provision for the following water saving measures;

- Dual flush toilets
- Low flow taps and shower heads
- Low water consuming washing machines and dishwashers

These considerations will greatly reduce the water usage on the site.

5.2 Water Recycling

There are two options for the provision of water recycling, Grey water; which re-uses water within the building for toilet flushing and irrigation. Below is an evaluation of the plant space required for such a system;

Grey water option;

West Central Street.

- Plant area: 8-10m2
- Usage: Toilet flushing (100% demand)

Museum Street

- Plant area: 8-10m2
- Usage: Toilet flushing (100% demand)

The blue areas shown in Fig. 10 detail the floor areas required for the Grey Water option. As shown, the space taken in both cases is significant. The value of the floor area occupied on this already tight site equates to approx. £7000/annum. Incorporating the capital cost of the plant and the ongoing maintenance makes this unviable for a site of this size

The second option is rainwater harvesting; making use of rain water than falls within the site demise

Rainwater harvesting option;

West Central Street.

- Plant area: 10-15m2
- Usage: Toilet flushing (50% demand)
- Museum Street
- Plant area: 7-12m2
- Usage: Toilet flushing (50% demand)

Due to the small roof areas the storage volumes would need to be high. With a property of this type on such a small site footprint, the required floor area for the plant detailed above is even greater than the Grey Water option which is clearly unviable.

The green & brown roofs do not lend themselves to provide sufficient run-off to replenish storage tanks however, in order to help with the maintenance of the green roofs its is proposed for a water butt to be made available and take advantage of rainwater run-off from the terrace.



Energy & Sustainability Statement West Central Street 112322/AJM/130530 Revision 1

Grontmij

6.

Sustainable Use of Materials

Where it has been possible this development has reused the existing buildings.

In the case of the Museum Street section of the proposed development, this is to only be refurbished with the main structure and facade of the building being retained.

The Museum Street element is to ascertain BREEAM Excellent for Domestic Refurbishment 2012.

The Retail element of the New Oxford Street element is also part of the existing building.

The West Central Street element of the proposed development is new build and will adhere to all requirements and mandatory credits for Code for Sustainable Homes Level 4.

Included within the required BREEAM "Excellent" and Code for Sustainable homes Level 4 assessments are commitments to;

- Use the BRE Green Guide to target an "A" Rating for all building elements
- Incorporate the waste hierarchy as below and Fig. 11
 - 1. The use of reclaimed material,
 - 2. The use of materials with higher levels of recycled content
 - 3. The use of new materials
- Responsible sourcing of materials in line with the Green Guide
- Provide a Design & Access Statement for the project
- Produce a Construction Management Plan (CMP)
- Submission of a Site Waste Management Plan (SWMP)

This development is committed to ensure that at least 10% of the total values of materials used are to be derived from recycled and reused sources.

Table 4, shows the breakdown of this commitment. As shown, the current estimate is 12.8% of new build elements. However, this does not include the potential value of the existing structure/facade of Museum Street so the true value will be higher.

The estimate material cost of the Museum Street structure and facade is approx. £200,000 so the final figure could be as high as 20%.

| T | Reduce | Waste |
|------------|-----------------|--------------|
| | Re-use | |
| | Recycle | |
| | Energy Re | covery |
| | Disposal | |
| east prefe | erred Environme | ental Option |

Fig. 11

Element

Shell & Core

Retail

Residential

Commercial Fit Out

Sub Total

Museum Street Option 3 - High Spec

Grand Total

Total value of materials (based on 50% material:50% Percentage of recycled materials

Table 4

Energy & Sustainability Statement West Central Street 112322/AJM/130530 Revision 1

Grontmij



| | Element Total | Cost of recyclable material |
|---------|--------------------|-----------------------------|
| | 3 825 401 | 286 662 |
| | 56 960 | 4 213 |
| | 1 987 743 | 14 142 |
| | 304 193 | 0 |
| | 6 174 297 | 305 017 |
| | 970 166 | 0 |
| | 7 144 463 | 305 017 |
| labour) | 2 392 231 12.8% | |

7.

Sustainability Assessments

Due to the mixed use nature of this development a number of sustainability assessments are necessary.

| Element | Assessment | Minimum Rating |
|---------------------------|------------------------------------|-------------------|
| Residential Refurbishment | BREEAM Domestic Refurbishment 2012 | "Excellent" |
| New Build Office | BREEAM New Construction 2011 | "Excellent" |
| New Build Residential | Code for Sustainable Homes | Level 4 |
| Retail | BREEAM New Construction 2011 | "Excellent" |

Pre-assessments have been carried out for the new build residential, residential refurbishment and new build office as a majority of the proposed systems are known.

The retail developments will be delivered as shell only during the initial construction phase. This does not allow for many of the aspects which can achieve heavily weighted credits within the energy and water categories. For this reason it has not been possible to carry out a Pre-assessment which shows the "Excellent" rating required by Camden.

When considering this development as a single site, all the common factors which attribute to credits for the remaining categories will also apply to the retail element. This will give the eventual tenant/owner a realistic opportunity to achieve the required "Excellent" rating. The developer commits to ensure achieving "Excellent" will be a condition of any sale or tenancy within the retail units.

7.1 BREEAM: Domestic Refurbishment

The full Pre-Assessment for the Museum Street domestic refurbishment can be found in Appendix A of this report.

The assumptions made within this pre-assessment are deemed achievable based on the current scheme. However, it is accepted that there may be changes to the proposals and the credits gained but the ultimate aim of an "Excellent" rating will still be achieved.

Within the planning guidance there are minimum standards for Energy, Water and Materials categories. These minimum standards and the level they are exceeded by can be seen in the table below:

| | Minimum standard for categories (% of un-weighted credits) | Pre-assessment Credits Sought (% of un-weighted credits) |
|-----------|--|--|
| Energy | 60% | 76% |
| Water | 60% | 80% |
| Materials | 40% | 49% |

Energy & Sustainability Statement West Central Street 112322/AJM/130530 Revision 1

Grontmij

Any changes to the proposed schem account.

The pre-assessment shows a total weighted score of 73.02% which exceeds the minimum of 70% for an "excellent" rating. A summary of credits attained in all categories can be found in the graph below:





Any changes to the proposed scheme should take these minimum standards into

7.2 BREEAM: New Construction 2011

The full Pre-Assessment for the West Central Street Office element can be found in Appendix B of this report.

The assumptions made within this pre-assessment are deemed achievable based on the current scheme. However, it is accepted that there may be changes to the proposals and the credits gained but the ultimate aim of an "Excellent" rating will still be achieved.

Within the planning guidance there are minimum standards for Energy, Water and Materials categories. These minimum standards and the level they are exceeded by can be seen in the table below:

| | Minimum standard for categories (% of un-weighted credits) | Pre-assessment Credits Sought (% of un-weighted credits) |
|-----------|--|--|
| Energy | 60% | 63% |
| Water | 60% | 75% |
| Materials | 40% | 75% |

Any changes to the proposed scheme should take these minimum standards into account.

The pre-assessment shows a total weighted score of 74.93% which exceeds the minimum of 70% for an "excellent" rating. A summary of credits attained in all categories can be found in the graph opposite:

BREEAM New Construction





7.3 Code for Sustainable Homes

The full Pre-Assessment for the West Central Street Residential element can be found in Appendix C of this report.

The assumptions made within this pre-assessment are deemed achievable based on the current scheme. However, it is accepted that there may be changes to the proposals and the credits gained but the ultimate aim of Level 4 will still be achieved.

Within the planning guidance there are minimum standards for Energy, Water and Materials categories. These minimum standards and the level they are exceeded by can be seen in the table below:

| | Minimum standard for categories (% of un-weighted credits) | Pre-assessment Credits Sought (% of un-weighted credits) |
|-----------|--|--|
| Energy | 50% | 63.5% |
| Water | 50% | 67% |
| Materials | 50% | 66% |

Any changes to the proposed scheme should take these minimum standards into account.

The pre-assessment shows a total weighted score of 73.82% which exceeds the minimum of 70% for an "excellent" rating. A summary of credits attained in all categories can be found in the graph below:





Energy & Sustainability Statement West Central Street 112322/AJM/130530 Revision 1

Grontmij

8. Brown Roofs, Green Roofs and Green Walls

Consideration has been given to the provision of Green Roofs and Green Walls in the locations shown in Fig. 12;

- Total Green Roof Area Approx. 102m²
- Total Brown Roof Area Approx. 18m²
- Total Green Wall Area Approx. 40m²

The brown, green roofs and green walls will contribute to the biodiversity of the site.

The brown roofs will create habitats mimicking local brownfield sites. It is preferable to use materials of known quality and water holding capacity. This can be used as an opportunity to re-use site waste generated during the demolition phase. This will reduce and attenuate surface water run-off as well as enabling planting for an appropriate wild flower mix. It will also encourage bird visits will addition of perches.

The Green Roof will be of a semi extensive type giving opportunity for the introduction of a number of species of grasses, herbs and shrubs. As with the brown roof it will reduce and attenuate the surface water run-off.

The Green Wall will provide useful habitat for invertebrates which will provide a food source for birds and bats. The dense foliage which is typical of these types of walls provides nesting for a number of birds such as robin, wren and blackbirds

The green wall will also have an impact on the micro climate as in the winter it will provide insulation and reduce wind chill during winter months and have a cooling effect during the summer months.

In addition to these benefits, green walls can also be effective in trapping airborne pollutants.



Fig. 12





9. Flooding

Due to the brownfield nature of the development, the risk of flooding is considered to be no worse than that of the existing site.

The existing site (highlighted on Fig. 13) does not fall within the areas of risk as identified by Camden.

The impact of the new development during a storm is considered to have less impact on potential flooding issues due to the green and brown roofs as discussed in section 8 of this statement.

These green and brown roofs will reduce and attenuate the surface water run-off. This proves advantageous compared with the existing building and with respect to higher predicted rainfall in the future due to climate change.

Fig. 13 suggests the existing development can cope with the 100 year and 60 year storms referred to within Camden's planning guidance. The provision of green and brown roofs will further reduce and slow the amount of run-off leaving the site.



Fig. 13



10. Adapting to Climate Change

This report has concentrated on how this development will mitigate climate change wherever possible by minimising the impact of human activity on the climate.

However, it is important to consider how the building will cope and adapt to a changing climate in the future.

The document, "Adapting to Climate Change: A Checklist for Developers, as cited by Camden council, lists the measure developers should consider;

- Do not increase the flood risk and where possible reduce risk
- Minimise Solar Gain in Summer
- Maximise Natural Ventilation
- Maximise Natural Vegetation
- Provide homes with private outdoor space wherever possible.

As described in the earlier sections of this report, the development reduces flood risk, minimises solar gains and maximises natural vegetation with inclusion of green roofs and walls.



The private outdoor space has been maximised on the site with the provision of a private, shaded courtyard serving the residential properties. This courtyard incorporates the Green Wall which will have a naturally cooling effect. There is also provision for planting in this area.

Natural Ventilation has been maximised where possible on the site ensuring single sided natural ventilation is possible in the majority of occupied spaces. Double sided natural ventilation possible in the penthouse apartment.

Glazing with a low "g-value" will minimise solar heat gains within the occupied spaces.

Energy & Sustainability Statement West Central Street 112322/AJM/130530 Revision 1



There are also active aspects to this climate changes.

The ASHP system will ensure cooling is available in a majority of the occupied space during times of high temperature. The benefit of the selected system is that during these times the rejected heat will generate hot water. Therefore the increased energy used in cooling the spaces will be offset by "Free" hot water.

This high efficiency system is powered by electricity as opposed to gas or oil whose supply is finite. Electrical power will still be available via renewable sources after fossil fuel supplies have been exhausted.

There are also active aspects to this development which take consideration of the future



11. Biodiversity

The development is to adhere to the long term impact of biodiversity Credits in the Code for Sustainable homes and BREEAM assessments.

The criteria set out below include;

- An ecologist is appointed prior to commencement of activities on site
- The ecologist confirms that all the relevant UK and EU legislation relating to protection and enhancement of ecology has been complied with during the design and construction process
- A landscape and habitat management plan, appropriate to the site, is produced covering at least the first 5 years after project completion. This is to be handed over to the building occupants and includes:
- Management of any protected features on site
- Management of any new, existing or enhanced habitats
- A reference to the current or future site level or Biodiversity action plan.

The second credit sought will be achieved by adhering to four of the following five additional criteria;

- The contractor nominates a "Biodiversity Champion" with the authority to influence site activities and ensure the detrimental impacts on site biodiversity are minimised in line with the recommendations of the Ecologist.
- The contractor trains the site workforce on how to protect site ecology during the project. Specific training should be carried out for the entire workforce to ensure they are fully aware of how to avoid damaging site ecology. Training should be based on findings and recommendations for protection of ecology features highlighted within the report prepared by the ecologist.
- The contractor records actions taken to protect biodiversity and monitor their effectiveness throughout key stages of construction. The requirement commits the contractor to make such records available where publicly requested.
- Where a new ecologically valuable habitat, appropriate to the local area is created. This includes habitat that supports nationally, regionally or locally important biodiversity, and/or which is nationally. Regionally or locally important itself; including and habitat listed in the UK Biodiversity action plan (UK BAP), local Biodiversity action plan (LBAP), those protected within statutory sites (e.g. SSSIs), or those within non-statutory site identified in local plans.
- Where flora and/or fauna habitats exist on site, the contractor programmes site works to minimise disturbance to wildlife.. The additional requirement will be achieved where a clear plan has been produced detailing how activities will be timed to avoid any impact of site biodiversity in line with the recommendations of the ecologist.





12. Appendix A



13 Appendix B

13. Appendix B



14 Appendix C

14. Appendix C



BREEAM Domestic Refurbishment 2012 Pre-Assessment Estimator v0.4

BREEAM® This assessment and indicative BREEAM rating is not a formal certified BREEAM assessment or rating and must not be communicated as such. The score presented is indicative of a dwelling's potential performance and is based on a simplified pre-formal BREEAM assessment and unverified commitments given at an early stage in the design process.

| | | Building r | name | West Ce | entral Street | |
|-------------------------|------------------------------|---------------------------|----------------|------------------------|---------------------|------------|
| | | Indicative building score | e (%) | | 3.02% | |
| | Indicative Minim | INDICATIVE BREEAIVI F | ating | BREEAI | VI EXCEIIENT | |
| Management | Health & Wellbeing | Energy | Water | Materials | Waste | Pollution |
| | | tion Weighting, 10% | | Indicat | ive Section Score | 2 00% |
| | | tion weighting. 1076 | | maicat | | 2.0070 |
| Comments | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| MANA | GEMENT Sec | tion Weighting: 12% | | Indicat | ive Section Score | 10.91% |
| | | | | | | |
| Man 01 Home Use | ers Guide | | | | | |
| No. of BRE | EEAM credits available | 3 | Ava | ailable contributio | n to overall score | 3.27% |
| No. of BREE | AM innovation credits | 0 | | Minimum Star | ndards applicable | No |
| Assessment Criteria | | | | | Indicativ | ve Credits |
| Where a Home Users | Guide be provided to all d | wellings, covering all i | ssues set out | in the 'Users Guide | Ach | ieved |
| Contents list', three c | credits may be awarded | | | | | 3 |
| | | | | | | |
| Comments | | | | | | |
| A compliant Home Us | ser Guide will be provided | based on the contents | list in the Do | mestic refurbishme | ent technical guida | nce. A |
| commitment to provi | ide the guide in alternative | formats such as foreig | gn language, B | Braille, large print o | r audio cassette/0 | D will be |
| required. | | | | | | |
| | | | | | | |
| | | | | | | |
| Man 02 Responsil | ble Construction Practices | | | | | |
| No. of BRE | EAM credits available | 2 | Ava | ailable contributio | n to overall score | 2.18% |
| No. of BREE | AM innovation credits | 1 | | Minimum Star | ndards applicable | No |
| Assessment Criteria | | | | | Indicativ | ve Credits |
| Where a compliant co | onsiderate construction sci | neme will be used, cre | dits are award | aed depending the | score Ach | leved |
| achieved as outlined | Delow: | | | | | 2 |
| | | - F | | | | |
| Large Sca | lie - project with more that | n 5 UNITS | | Ture Orealite | | |
| Considers | ata Capatrijatara | One credit | | Two Credits | 1 | |
| Considera | ate constructors | Score of 24 - 31.5 | | Score of 32 - 35.5 | | |
| | | | | | | |
| Altornativ | ve Compliant Schomo | Compliance | D | evond Compliance | | |
| | | Compliance | D | | | |
| Small Sca | le - project with 5 units or | fewer | | | | |
| | | One Credit | | Two Credits | | |
| | | | | | | |

| Scheme | 24 - 31.5 | 32 - 35.5 | _ |
|------------------------------------|----------------------------------|----------------------------|---|
| Alternative Compliant Scheme | Compliance | Beyond Compliance | |
| Checklist A-4 | 50% of the optional items | 80% of the optional items | |
| Exemplary Credit | | | |
| Considerate Constructors Scheme | Score of >36 | | Indicative Innovation Credits Achieved |
| Alternative Compliant Scheme | Exemplary Level Compliance | | 0 |
| Checklist A-4* | All Items (Optional & Mandatory) | * Small Scale Project Only | |

Comments

The CCS scheme changed on 1 January 2013. New scheme: 5 categories. Score of 0-10. Min score of 5 in each category to meet the schemes requirements. Min score of 7 in each category to meet the schemes best practice requirements. A score of 40 with a minimum score of 7 in any category is equivalent to a score of 36 under the old scheme. Exemplary credit assumed will not be achieved, (bonus if we do). So take 2 credits.

| Man 03 Construction Site Impacts | | | | |
|--|--------------------------------------|--------------------------------------|--------------|-----------|
| No. of BREEAM credits available | 1 | Available contribution to ov | verall score | 1.09% |
| No. of BREEAM innovation credits | 0 | Minimum Standards | applicable | No |
| Assessment Criteria | ate will be monitored, as detai | lad balawi | | e Credits |
| where evidence demonstrate that site impa | Requirements | ied below: | | eved |
| | On | e Credit | I | |
| | Where there is evidence to d | emonstrate that 2 or more of the | | |
| Large Scale | sections in Check | list A-5 are completed | | |
| Small Saala | Where there is evidence to d | emonstrate that 2 or more of the | | |
| Small Scale | sections in Check | list A-6 are completed | | |
| | | | | |
| | Sections of Checkli | st | | |
| Large Scale - C | Checklist A-5 | Small Scale - Checklist A | -6 | |
| Monitor, report and set targets f | for CO2 production of energy | | | |
| Use ansing from site activities | for water concumption origina | from operatives for reducing CO2 pl | roduction | |
| from site activities | or water consumption ansing | Set objectives for reducing water | | |
| | | from site activities | use all sing | |
| A main contractor with an enviro | onmental materials policy | Main contractor environmental m | naterials | |
| A main contractor that operates | an Environmental | statement | | |
| Management System | | 200% of site timber is realisimed re | | |
| 80% of site timber is reclaimed, | re-used or responsibly | 80% of site timber is reciaimed, re | e-used of | |
| sourced | | | | |
| Same definition of small and lar | ge scale as in Man 02 | | | |
| | 1 | | | |
| Comments | appear of Charlelist A. F. will be a | abiound by the contractor | | |
| it is assumed that 2 of more of the requirem | Terris of Checklist A-5 will be a | chieved by the contractor. | | |
| | | | | |
| | | | | |
| | | | | |
| Man 04 Security | | | | |
| No. of BREEAM credits available | 2 | Available contribution to ov | erall score | 2.18% |
| No. of BREEAM innovation credits | 0 | Minimum Standards | applicable | No |
| Assessment Criteria | | | Indicative | e Credits |
| Where the following requirements will be m | net: | | Achie | eved |
| | | Deguiremente | 2 | <u>/</u> |
| | External doors and accessible | Requirements | is and | |
| One Credit | external doors and accessible | windows meet minimum standard | is and | |
| Secure windows and doors | appropriately certified | | | |
| | | | | |
| | | | | |
| | Principles and guidance of Sec | cured by Design Section 2 are comp | olied with | |
| Two Credits | A suitably qualified security co | onsultant is consulted at the design | n stage and | |
| Secured by design | their recommendations are in | corporated into the refurbishment | • | |
| | | | | |
| | | | | |
| Commonster | 1 | | | |
| Now External Dear sets contified to DAS 244 | 2007 or LDS 1175 loous 7 Secur | ity Dating 1 or aguivalant | | |
| INEW EXTERNAL DOOL SETS CELITIED TO LAS 24.7 | 2007 01 LP3 1173 18508 7 38601 | ny rating i of equivalent. | | |

New Windows certified to BS 7950:1997 & LPS 1175 Issue 7 Security Rating 1 or equivalent. Existing external doors to be of good quality woth working key locks. No sign of warping, splitting or rotting. If contains glazing then should be DG. Putty or beading to be on the unexposed side.

Accessible windows should be min DG with working key locks and in good condition like the doors.

| Man 05 Protection and Enhancement of | Ecological Features | | |
|---|---------------------------------|---|------------------------------|
| No. of BREEAM credits available | 1 | Available contribution to overall s | score 1.09% |
| No. of BREEAM innovation credits | 1 | Minimum Standards applic | cable No |
| Assessment Criteria Where the following requirements will be m | iet: | Inc | licative Credits Achieved |
| | | | 1 |
| | Requirements | | |
| | Site survey carried out to dete | ermine presence of ecological features | |
| One Credit Protecting Ecological Features | Statutory Nature Conservation | n Organisation notified of protected spec | cies |
| | Features of ecological value p | rotected during refurbishment works | |

| | | Requirements | |
|-------------------|---------------------------|---|-----------------------|
| | | A suitably qualified ecologist recommends features to enhance | Indicative Innovation |
| | Exemplary Credit | ecology of the site | Credits Achieved |
| Ec | cological enhancement | adopts all general ecological recommendations | 1 |
| | | adopts 30% of additional recommendations | |
| | | | |
| Comments | | | |
| Need to appoint a | an ecologist to determine | if the site is of low ecological value. All general recommendations | and 30% of his |
| additional recom | mendations and a positive | e enhancement to the site ecology is required to achieve the innov | ation credit. |
| | | | |
| | | | |
| | | | |

| Man 06 | Project Management | | | | |
|-----------|---|--|--|--------------------------|-----------|
| | No. of BREEAM credits available | 2 | Available contribution to ov | erall score | 2.18% |
| N | o. of BREEAM innovation credits | 2 | Minimum Standards | applicable | No |
| Assessmer | nt Criteria | L . | | | e Credits |
| Where the | Tollowing requirements will be m | 1et: | | Achie | eved |
| | | Requirements | l | <u> </u> | 1 |
| | | | | | |
| | | Where all of the project team a | are involved in the project decision | n making | |
| | One Credit | Small Scale - the project mana responsibilities amongst the pr | ger assigns individual and shared roject team including all trades on | site | |
| | Project Roles and | Large Scale - the project mana | ger assigns individual and shared | | |
| | Responsibilities | i. Planning and Building contro ii. Design iii. Refurbishment iv. Commissioning and handov | er | nt stages: | |
| | | | |] | |
| | Small Scale projects: five units c Large Scale projects: more than | or fewer or less than £100k five units or more than £100k Requirements Handover meeting arranged | | | |
| | One Credit Handover and Aftercare | 2 or more of the following com A site inspection within 3 mc Conduct post occupancy intervia phone or posted informatic Longer term after care e.g. a or other appropriate system the first 12 months of occupat | Imitted to: Inths of occupation rviews with building occupants or In within 3 months of occupati helpline, nominated individual to support building users for at ion | a survey ion least | |
| | Exemplary Credits | | | Indicativ | e Credits |
| | | Requirements | | Achi | eved |
| | One Exemplary Credit | Where A BREEAM Accredited to oversee key stac | Professional has been appointed ges within the project. OR | (|) |
| | Early Design Input | Where a BREEAM Domestic Re appointed at an early stag production of a refu | efurbishment Assessor has been je of the project, prior to the rbishment specification | | |
| | | Reauirements | | | |
| | | | | I | |
| | One Exemplary Credit | Where Thermographic survey been carried out at both pre | ing and Airtightness testing have and post refurbishment stages | I | |
| | Thermographic Surveying and Airtightness Testing | Where an improved air tightness stage and testing demonstra post refu | ess target has been set at design tes that this has been achieved urbishment | | |

Comments

1 credit assumed.

| HE | ALTH & WELLBEING | Section Weighting: 17% | Indicative Sec | tion Score | 11.33% |
|-------------|---|--|--|--------------------------|-------------------|
| Hea 01 | Daylighting | | | | |
| | No. of BREEAM credits available | 2 | Available contribution to ov | erall score | 2.83% |
| N | o. of BREEAM innovation credits | 0 | Minimum Standards | applicable | No |
| Assessmer | nt Criteria Whore the refurbichment result | s in a noutral impact on davligh | ting or whore minimum | | e Credits |
| | davlighting standards are met u | in to two credits may be award | ed as follows [.] | Achie 0 | eved |
| | | | | | |
| | For Existing Dwellings and Char | nge of Use Projects | | | |
| | First Credit | The refurbishment results in a | a neutral impact on the dwellings | | |
| | Maintaining Good Daylighting | daylighting levels in the kitch | en, living room, dining room and | | |
| | | 5 | luuy | | |
| | Where the property is being ex | tended | | | |
| | | New spaces achieve minimum | a daylighting levels | | |
| | First Credit | | | | |
| | Maintaining Good Daylighting | The extension does not reduc | e daylighting levels in the kitchen, | | |
| | | inving room, anning room or st | udy of heighbourning properties | | |
| | For All Properties | | | | |
| | Second Credit | The dwelling achieves minimu | m daylighting levels in the | | |
| | Minimum Daylighting | kitchen, living room, dining ro | om and study | | |
| | | | , | | |
| Comments | ò | | | | |
| One credit | may be available for all apartme | nts - it will depend on whether | the chosen glazing light transmitta | nce value is | less than |
| clear Low- | e double glazing. The second crea | dit for average daylight factor n | nay be available for some apartme | nts but would | d need to |
| be calculat | ed and is only available if the 1st | credit is achieved. No credits h | have been assumed as the light trar | nsmittance fa | actor for |
| the new w | Indows is 0.6. A value of 0.68 of 1 | higher is required. | | | |
| Hea 02 | Sound Insulation | | | | |
| 1104.02 | No. of BREEAM credits available | 4 | Available contribution to ov | erall score | 5.67% |
| Ν | o. of BREEAM innovation credits | 0 | Minimum Standards | applicable | No |
| | | | | | |
| Assessmer | nt Criteria | | | Indicative | e Credits |
| Assessmer | nt Criteria To ensure the provision of accept of poise complaints | otable sound insulation standar | ds and so minimise the likelihood | Indicative Achie | e Credits eved |
| Assessmer | nt Criteria To ensure the provision of accer of noise complaints. | otable sound insulation standar | ds and so minimise the likelihood | Indicative Achie 2 | e Credits eved |
| Assessmer | nt Criteria To ensure the provision of accept of noise complaints. Properties where sound testing | otable sound insulation standar has been carried out: | ds and so minimise the likelihood | Indicative Achie 2 | e Credits eved |
| Assessmer | nt Criteria To ensure the provision of accer of noise complaints. Properties where sound testing | otable sound insulation standar has been carried out: Four credits awarded accordir | ds and so minimise the likelihood | Indicative Achie 2 | e Credits eved |
| Assessmer | nt Criteria To ensure the provision of accep of noise complaints. Properties where sound testing Up to Four Credits | otable sound insulation standar has been carried out: Four credits awarded accordir building regulations. See table | rds and so minimise the likelihood ng to the improvement over e in additional information in | Indicative Achie 2 | e Credits eved |
| Assessmer | nt Criteria To ensure the provision of accep of noise complaints. Properties where sound testing Up to Four Credits | otable sound insulation standar has been carried out: Four credits awarded accordir building regulations. See table Technical Manual | rds and so minimise the likelihood ng to the improvement over e in additional information in | Indicative Achie 2 | e Credits eved |
| Assessmer | nt Criteria To ensure the provision of accep of noise complaints. Properties where sound testing Up to Four Credits | otable sound insulation standar has been carried out: Four credits awarded accordir building regulations. See table Technical Manual | rds and so minimise the likelihood ng to the improvement over e in additional information in | Indicative Achie 2 | e Credits eved |
| Assessmer | nt Criteria To ensure the provision of accept of noise complaints. Properties where sound testing Up to Four Credits Properties where sound testing | has been carried out: Four credits awarded accordir building regulations. See table Technical Manual | eds and so minimise the likelihood ng to the improvement over in additional information in ed by the appointed Building | Indicative Achie 2 | e Credits eved |
| Assessmer | nt Criteria To ensure the provision of accept of noise complaints. Properties where sound testing Up to Four Credits Properties where sound testing Control body | has been carried out: Four credits awarded accordir building regulations. See table Technical Manual | nds and so minimise the likelihood ng to the improvement over e in additional information in ed by the appointed Building | Indicative Achie 2 | e Credits eved |
| Assessmer | nt Criteria To ensure the provision of accept of noise complaints. Properties where sound testing Up to Four Credits Properties where sound testing Control body | has been carried out: Four credits awarded accordir building regulations. See table Technical Manual | ng to the improvement over e in additional information in ed by the appointed Building | Indicative Achie 2 | e Credits eved |
| Assessmer | nt Criteria To ensure the provision of accept of noise complaints. Properties where sound testing Up to Four Credits Properties where sound testing Control body | has been carried out: Four credits awarded accordir building regulations. See table Technical Manual is not feasible and not require Where existing separating wa | ng to the improvement over e in additional information in ed by the appointed Building | Indicative Achie 2 | e Credits eved |
| Assessmer | nt Criteria To ensure the provision of accept of noise complaints. Properties where sound testing Up to Four Credits Properties where sound testing Control body Two Credits | btable sound insulation standar has been carried out: Four credits awarded accordir building regulations. See table Technical Manual is not feasible and not require Where existing separating wa meet the requirements of Bui construction details | eds and so minimise the likelihood ng to the improvement over e in additional information in ed by the appointed Building lls and floors are designed to lding Regulations with compliant | Indicative Achie 2 | e Credits eved |
| Assessmer | nt Criteria To ensure the provision of accept of noise complaints. Properties where sound testing Up to Four Credits Properties where sound testing Control body Two Credits | btable sound insulation standar has been carried out: Four credits awarded accordir building regulations. See table Technical Manual is not feasible and not require Where existing separating wa meet the requirements of Bui construction details Where a Suitably Qualified Ac | eds and so minimise the likelihood ng to the improvement over e in additional information in ed by the appointed Building lls and floors are designed to Iding Regulations with compliant oustician (SQA) provides | Indicative Achie 2 | e Credits eved |
| Assessmer | nt Criteria To ensure the provision of accept of noise complaints. Properties where sound testing Up to Four Credits Properties where sound testing Control body Two Credits | btable sound insulation standar has been carried out: Four credits awarded accordir building regulations. See table Technical Manual is not feasible and not require Where existing separating wa meet the requirements of Buil construction details Where a Suitably Qualified Ac recommendations for the spe | rds and so minimise the likelihood ng to the improvement over e in additional information in ed by the appointed Building lls and floors are designed to Iding Regulations with compliant oustician (SQA) provides cification of all existing | Indicative Achie 2 | e Credits eved |
| Assessmer | nt Criteria To ensure the provision of accept of noise complaints. Properties where sound testing Up to Four Credits Properties where sound testing Control body Two Credits | bas been carried out: Four credits awarded accordin building regulations. See table Technical Manual is not feasible and not require Where existing separating wal meet the requirements of Buil construction details Where a Suitably Qualified Ac recommendations for the spe separating walls and floors | eds and so minimise the likelihood ng to the improvement over e in additional information in ed by the appointed Building lls and floors are designed to Iding Regulations with compliant oustician (SQA) provides cification of all existing | Indicative Achie 2 | e Credits eved |
| Assessmer | To ensure the provision of accept of noise complaints. Properties where sound testing Up to Four Credits Properties where sound testing Control body Two Credits | bas been carried out: Four credits awarded accordin building regulations. See table Technical Manual is not feasible and not require Where existing separating wal meet the requirements of Buil construction details Where a Suitably Qualified Ac recommendations for the spe separating walls and floors SQA confirms in their professi potential to meet or exceed the | eds and so minimise the likelihood Ing to the improvement over in additional information in ed by the appointed Building Ils and floors are designed to Iding Regulations with compliant oustician (SQA) provides cification of all existing onal opinion that they have the personne insulation credit | Indicative Achie 2 | e Credits eved |
| Assessmer | To ensure the provision of accept of noise complaints. Properties where sound testing Up to Four Credits Properties where sound testing Control body Two Credits Up to Four Credits | bas been carried out: Four credits awarded accordin building regulations. See table Technical Manual is not feasible and not require Where existing separating wal meet the requirements of Buil construction details Where a Suitably Qualified Ac recommendations for the spe separating walls and floors SQA confirms in their professi potential to meet or exceed th requirements | eds and so minimise the likelihood Ing to the improvement over in additional information in ed by the appointed Building Ils and floors are designed to Iding Regulations with compliant oustician (SQA) provides cification of all existing onal opinion that they have the he sound insulation credit | Indicative Achie 2 | e Credits eved |
| Assessmer | To ensure the provision of accept of noise complaints. Properties where sound testing Up to Four Credits Properties where sound testing Control body Two Credits Up to Four Credits | bas been carried out: Four credits awarded accordir building regulations. See table Technical Manual is not feasible and not require Where existing separating wa meet the requirements of Bui construction details Where a Suitably Qualified Ac recommendations for the spe separating walls and floors SQA confirms in their professi potential to meet or exceed th requirements Where these recommendation | eds and so minimise the likelihood Ing to the improvement over in additional information in ed by the appointed Building Ils and floors are designed to Iding Regulations with compliant oustician (SQA) provides cification of all existing onal opinion that they have the he sound insulation credit Ins are implemented | Indicative Achie 2 | e Credits eved |
| Assessmer | To ensure the provision of accept of noise complaints. Properties where sound testing Up to Four Credits Properties where sound testing Control body Two Credits Up to Four Credits | basis been carried out: Four credits awarded accordine building regulations. See tables Technical Manual is not feasible and not required Where existing separating wal meet the requirements of Buil construction details Where a Suitably Qualified Acconstruction details Where a Suitably Qualified Acconstructions for the spection separating walls and floors SQA confirms in their professi potential to meet or exceed the requirements Where these recommendation | rds and so minimise the likelihood Ing to the improvement over a in additional information in additional information in add by the appointed Building and floors are designed to Iding Regulations with compliant oustician (SQA) provides cification of all existing onal opinion that they have the he sound insulation credit ins are implemented | Indicative Achie 2 | e Credits eved |
| Assessmer | nt Criteria To ensure the provision of accept of noise complaints. Properties where sound testing Up to Four Credits Properties where sound testing Control body Two Credits Up to Four Credits | basis been carried out: Four credits awarded accordine building regulations. See table Technical Manual is not feasible and not required Where existing separating wal meet the requirements of Buil construction details Where a Suitably Qualified Accordine recommendations for the spectic separating walls and floors SQA confirms in their professi potential to meet or exceed the requirements Where these recommendations See table in additional informations | rds and so minimise the likelihood Ing to the improvement over a in additional information in additional information in additional information in additional information in a dditions are designed to Ils and floors a | Indicative Achie 2 | e Credits eved |
| Assessmer | At Criteria To ensure the provision of accept of noise complaints. Properties where sound testing Up to Four Credits Properties where sound testing Control body Two Credits Up to Four Credits Historic Buildings | basis been carried out: Four credits awarded accordines building regulations. See tables Technical Manual is not feasible and not required Where existing separating was meet the requirements of Buil construction details Where a Suitably Qualified Accordines separating walls and floors SQA confirms in their professis potential to meet or exceed the requirements Where these recommendations See table in additional informations See table in additional informations See table in additional informations Four credits awarded accordines See table in additional informations See table in additing informations See table in a | eds and so minimise the likelihood Ing to the improvement over a in additional information in ed by the appointed Building lls and floors are designed to Iding Regulations with compliant oustician (SQA) provides cification of all existing onal opinion that they have the he sound insulation credit ins are implemented ation in Technical Manual | Indicative Achie 2 | e Credits eved |
| Assessmer | nt Criteria To ensure the provision of accept of noise complaints. Properties where sound testing Up to Four Credits Properties where sound testing Control body Two Credits Up to Four Credits Historic Buildings | bas been carried out: Four credits awarded accordir building regulations. See table Technical Manual is not feasible and not require Where existing separating wal meet the requirements of Buil construction details Where a Suitably Qualified Ac recommendations for the spe separating walls and floors SQA confirms in their professi potential to meet or exceed the requirements Where these recommendations See table in additional informations | ds and so minimise the likelihood ng to the improvement over e in additional information in ed by the appointed Building lls and floors are designed to Iding Regulations with compliant oustician (SQA) provides cification of all existing onal opinion that they have the ne sound insulation credit ns are implemented ation in Technical Manual | Indicative Achie 2 | e Credits eved |
| Assessmer | nt Criteria To ensure the provision of accept of noise complaints. Properties where sound testing Up to Four Credits Properties where sound testing Control body Two Credits Up to Four Credits Historic Buildings | basis been carried out: Four credits awarded accordines building regulations. See tables Technical Manual is not feasible and not requires Where existing separating war meet the requirements of Buil construction details Where a Suitably Qualified Ac recommendations for the spe separating walls and floors SQA confirms in their professi potential to meet or exceed the requirements Where these recommendations See table in additional informations | ds and so minimise the likelihood ng to the improvement over e in additional information in ed by the appointed Building lls and floors are designed to Iding Regulations with compliant oustician (SQA) provides cification of all existing onal opinion that they have the ne sound insulation credit ns are implemented ation in Technical Manual | Indicative Achie 2 | e Credits eved |
| Assessmer | nt Criteria To ensure the provision of accept of noise complaints. Properties where sound testing Up to Four Credits Properties where sound testing Control body Two Credits Up to Four Credits Historic Buildings | basis been carried out: Four credits awarded accordine building regulations. See tables Technical Manual is not feasible and not required Where existing separating war meet the requirements of Buil construction details Where a Suitably Qualified Ac recommendations for the spe separating walls and floors SQA confirms in their professi potential to meet or exceed the requirements Where these recommendations See table in additional informations Where the dwelling is a Histor | ds and so minimise the likelihood ng to the improvement over in additional information in ed by the appointed Building Ils and floors are designed to Iding Regulations with compliant oustician (SQA) provides cification of all existing onal opinion that they have the ne sound insulation credit ins are implemented ation in Technical Manual fic Building and sound testing | Indicative Achie 2 | e Credits eved |
| Assessmer | nt Criteria To ensure the provision of accept of noise complaints. Properties where sound testing Up to Four Credits Properties where sound testing Control body Two Credits Up to Four Credits Historic Buildings | bable sound insulation standar has been carried out: Four credits awarded accordir building regulations. See table Technical Manual is not feasible and not require Where existing separating wal meet the requirements of Buil construction details Where a Suitably Qualified Ac recommendations for the spe separating walls and floors SQA confirms in their professi potential to meet or exceed the requirements Where these recommendation See table in additional information See table in additional information where the dwelling is a Histor results demonstrate existing states the Historie Building are different | ds and so minimise the likelihood ng to the improvement over in additional information in ed by the appointed Building lls and floors are designed to lding Regulations with compliant oustician (SQA) provides cification of all existing onal opinion that they have the ne sound insulation credit ns are implemented ation in Technical Manual fic Building and sound testing eparating walls and floor meet wiremented | Indicative Achie 2 | e Credits eved |
| Assessmer | nt Criteria To ensure the provision of accept of noise complaints. Properties where sound testing Up to Four Credits Properties where sound testing Control body Two Credits Up to Four Credits Historic Buildings | basis been carried out: Four credits awarded accordin building regulations. See table Technical Manual is not feasible and not required Where existing separating wal meet the requirements of Buil construction details Where a Suitably Qualified Ac recommendations for the spe separating walls and floors SQA confirms in their professi potential to meet or exceed the requirements Where these recommendations See table in additional informations Support the set of the s | ds and so minimise the likelihood ag to the improvement over e in additional information in ed by the appointed Building lls and floors are designed to Iding Regulations with compliant oustician (SQA) provides cification of all existing onal opinion that they have the he sound insulation credit ins are implemented ation in Technical Manual ric Building and sound testing eparating walls and floor meet quirements | Indicative Achie 2 | e Credits eved |

| | Four Credits | By Default | |
|----------------|---|--|---|
| Prope requi | erties with separating red by building contro | walls or floors only between non habitable rooms OR Testing not ol body | |
| | Four Credits | By Default |] |
| nents | | | |
| ne sound a | and Impact sound insu | lation will meet Part E. | |

| Hea 03 | Volatile Organic Compounds | | | | |
|----------------------------------|---|---|--|--|--------------------------------|
| | No. of BREEAM credits available | 1 | Available contribution to ov | verall score | 1.42% |
| Ν | lo. of BREEAM innovation credits | 0 | Minimum Standards | applicable | No |
| Assessme | nt Criteria | | | Indicative | Credits |
| | Where the refurbishment avoids | the use of VOCs with new pro- | ducts meeting the following | Achie | ved |
| | requirements: | | | 1 | |
| | | | | I | |
| | | Where all decorative paints ar | nd varnishes used in the | | |
| | | refurbishment have met the requirement listed in table 5.4 in the Technical Manual Where at least five of the eight remaining product categories | | | |
| | | | | | |
| | | listed in table 5.4 have mot the | a testing requirements and | | |
| | One Credit | amission levels for Volatile Or | anic Compound (VOC) emissions | | |
| | Avoiding the use of VOCs | analist the relevant standards | identified within table 5.4 in the | | |
| | | Technical Manual | | | |
| | | Where five or less products ar | e specified within the | | |
| | | refurbishment, all must meet | the requirements in order to | | |
| | | achieve this credit. | | | |
| | | | | | |
| Comment | S | | | | |
| The credit | should be achieved but the emiss | ion levels and testing standard | will have to be specified. | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Hea 04 | Inclusive Design | | | | |
| Hea 04 | Inclusive Design No. of BREEAM credits available | 2 | Available contribution to ov | verall score | 2.83% |
| Nea 04 | Inclusive Design No. of BREEAM credits available lo. of BREEAM innovation credits | 2 1 | Available contribution to ov Minimum Standards | verall score | 2.83% No |
| Assessme | Inclusive Design No. of BREEAM credits available Io. of BREEAM innovation credits nt Criteria | 2 1 | Available contribution to ov Minimum Standards | verall score applicable Indicative | 2.83% No Credits |
| Assessme | Inclusive Design No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where an access statement has | 2 1 been carried out using Checklis | Available contribution to ov Minimum Standards It A-8 of the Technical Manual to | verall score applicable Indicative Achie | 2.83% No Credits eved |
| Assessme | Inclusive Design No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where an access statement has optimise the accessibility of the | 2 1 been carried out using Checklis home as follows: | Available contribution to ov Minimum Standards It A-8 of the Technical Manual to | verall score applicable Indicative Achie 2 | 2.83% No Credits eved |
| Assessme | Inclusive Design No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where an access statement has optimise the accessibility of the | 2 1 been carried out using Checklis home as follows: | Available contribution to ov Minimum Standards at A-8 of the Technical Manual to | verall score applicable Indicative Achie 2 | 2.83% No Credits eved |
| Assessme | Inclusive Design No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where an access statement has optimise the accessibility of the | 2 1 been carried out using Checklis home as follows: Checklist A-8 of t | Available contribution to ov Minimum Standards at A-8 of the Technical Manual to he Technical Manual Section 2 | verall score applicable Indicative Achie 2 | 2.83% No Credits eved |
| Assessme | Inclusive Design No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where an access statement has optimise the accessibility of the | 2 1 been carried out using Checklis home as follows: Checklist A-8 of t Section 1 | Available contribution to ov Minimum Standards at A-8 of the Technical Manual to he Technical Manual Section 2 | verall score applicable Indicative Achie 2 | 2.83% No Credits eved |
| Assessme | Inclusive Design No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where an access statement has optimise the accessibility of the One Credit Minimum Accessibility | 2 1 been carried out using Checklis home as follows: <u>Checklist A-8 of t</u> Section 1 Completed with Evidence | Available contribution to ov Minimum Standards It A-8 of the Technical Manual to he Technical Manual Section 2 | verall score applicable Indicative Achie 2 | 2.83% No Credits eved |
| Assessme | Inclusive Design No. of BREEAM credits available Io. of BREEAM innovation credits nt Criteria Where an access statement has optimise the accessibility of the One Credit Minimum Accessibility Two Credits | 2 1 been carried out using Checklis home as follows: Checklist A-8 of t Section 1 Completed with Evidence | Available contribution to ov Minimum Standards at A-8 of the Technical Manual to he Technical Manual Section 2 | verall score applicable Indicative Achie 2 | 2.83% No Credits eved |
| Assessme | Inclusive Design No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where an access statement has optimise the accessibility of the One Credit Minimum Accessibility Two Credits Advanced Accessibility | 2 1 been carried out using Checklis home as follows: <u>Checklist A-8 of t</u> <u>Section 1</u> Completed with Evidence Completed with Evidence | Available contribution to ov Minimum Standards at A-8 of the Technical Manual to he Technical Manual Section 2 Completed with Evidence | verall score applicable Indicative Achie 2 | 2.83% No Credits eved |
| Assessme | Inclusive Design No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where an access statement has optimise the accessibility of the One Credit Minimum Accessibility Two Credits Advanced Accessibility | 2 1 been carried out using Checklis home as follows: <u>Checklist A-8 of t</u> <u>Section 1</u> Completed with Evidence Completed with Evidence | Available contribution to ov Minimum Standards at A-8 of the Technical Manual to he Technical Manual Section 2 Completed with Evidence | verall score applicable Indicative Achie 2 | 2.83% No Credits eved |
| Assessme | Inclusive Design No. of BREEAM credits available Io. of BREEAM innovation credits Int Criteria Where an access statement has optimise the accessibility of the One Credit Minimum Accessibility Two Credits Advanced Accessibility Exemplary Performance | 2 1 been carried out using Checklis home as follows: <u>Checklist A-8 of t</u> <u>Section 1</u> Completed with Evidence Completed with Evidence | Available contribution to ov Minimum Standards at A-8 of the Technical Manual to he Technical Manual Section 2 Completed with Evidence | verall score applicable Indicative Achie 2 | 2.83% No Credits eved |
| Assessme | Inclusive Design No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where an access statement has optimise the accessibility of the One Credit Minimum Accessibility Two Credits Advanced Accessibility Exemplary Performance | 2 1 been carried out using Checklis home as follows: Checklist A-8 of t Section 1 Completed with Evidence Completed with Evidence | Available contribution to ov Minimum Standards at A-8 of the Technical Manual to he Technical Manual Section 2 Completed with Evidence | verall score applicable Indicative Achie 2 | 2.83% No Credits eved |
| Assessme | Inclusive Design No. of BREEAM credits available to. of BREEAM innovation credits nt Criteria Where an access statement has optimise the accessibility of the One Credit Minimum Accessibility Two Credits Advanced Accessibility Exemplary Performance | 2 1 been carried out using Checklis home as follows: <u>Checklist A-8 of t</u> <u>Section 1</u> Completed with Evidence Completed with Evidence | Available contribution to ov Minimum Standards at A-8 of the Technical Manual to he Technical Manual Section 2 Completed with Evidence | verall score applicable Indicative Achie 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 2.83% No Credits eved |
| Assessme | Inclusive Design No. of BREEAM credits available Io. of BREEAM innovation credits Int Criteria Where an access statement has optimise the accessibility of the One Credit Minimum Accessibility Two Credits Advanced Accessibility Exemplary Performance | 2 1 been carried out using Checklis home as follows: <u>Checklist A-8 of t</u> <u>Section 1</u> Completed with Evidence Completed with Evidence Where an access expert suitak design team has completed se | Available contribution to ov Minimum Standards at A-8 of the Technical Manual to he Technical Manual Section 2 Completed with Evidence | verall score applicable Indicative Achie 2 2 Indicative In Credits Ac 0 | 2.83% No Credits eved |
| Assessme | Inclusive Design No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where an access statement has optimise the accessibility of the One Credit Minimum Accessibility Two Credits Advanced Accessibility Exemplary Performance One Credit | 2 1 been carried out using Checklis home as follows: Checklist A-8 of t Section 1 Completed with Evidence Completed with Evidence Where an access expert suitable design team has completed se access statement template with | Available contribution to ov Minimum Standards at A-8 of the Technical Manual to he Technical Manual Section 2 Completed with Evidence | verall score applicable Indicative Achie 2 2 Indicative Ir Credits Action | 2.83% No Credits eved |
| Assessme | Inclusive Design No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where an access statement has optimise the accessibility of the One Credit Minimum Accessibility Two Credits Advanced Accessibility Exemplary Performance One Credit | 2 1 been carried out using Checklis home as follows: <u>Checklist A-8 of t</u> <u>Section 1</u> Completed with Evidence Completed with Evidence Where an access expert suitak design team has completed se access statement template wi measures implemented in the | Available contribution to ov Minimum Standards at A-8 of the Technical Manual to he Technical Manual Section 2 Completed with Evidence | verall score applicable Indicative Achie 2 Indicative Ir Credits Ac 0 | 2.83% No Credits eved |
| Assessme | Inclusive Design No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where an access statement has optimise the accessibility of the One Credit Minimum Accessibility Two Credits Advanced Accessibility Exemplary Performance One Credit One Credit | 2 1 been carried out using Checklis home as follows: <u>Checklist A-8 of t</u> <u>Section 1</u> Completed with Evidence Completed with Evidence Where an access expert suitak design team has completed se access statement template wi measures implemented in the | Available contribution to ov Minimum Standards at A-8 of the Technical Manual to he Technical Manual Section 2 Completed with Evidence | verall score applicable Indicative Achie 2 Indicative Ir Credits Ac 0 | 2.83% No Credits eved |
| Assessme | Inclusive Design No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where an access statement has optimise the accessibility of the One Credit Minimum Accessibility Two Credits Advanced Accessibility Exemplary Performance One Credit | 2 1 been carried out using Checklis home as follows: Checklist A-8 of t Section 1 Completed with Evidence Completed with Evidence Completed with Evidence | Available contribution to ov Minimum Standards at A-8 of the Technical Manual to he Technical Manual Section 2 Completed with Evidence | verall score applicable Indicative Achie 2 Indicative Ir Credits Ac 0 | 2.83% No Credits eved |
| Assessme Comment | Inclusive Design No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where an access statement has optimise the accessibility of the One Credit Minimum Accessibility Two Credits Advanced Accessibility Exemplary Performance One Credit One Credit | 2 1 been carried out using Checklis home as follows: Checklist A-8 of t Section 1 Completed with Evidence Completed with Evidence Completed with Evidence Where an access expert suitak design team has completed se access statement template wi measures implemented in the | Available contribution to ov Minimum Standards at A-8 of the Technical Manual to he Technical Manual Section 2 Completed with Evidence Oly qualified member of the ections 1, 2 and 3 of Checklist A-8, th evidence provided of the refurbishment | verall score applicable Indicative Achie 2 Indicative Ir Credits Ac 0 | 2.83% No Credits eved |
| Assessme Comment An NRAC r | Inclusive Design No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where an access statement has optimise the accessibility of the One Credit Minimum Accessibility Two Credits Advanced Accessibility Exemplary Performance One Credit One Credit S Cone Credit | 2 1 been carried out using Checklis home as follows: Checklist A-8 of t Section 1 Completed with Evidence Completed with Evidence Where an access expert suitak design team has completed se access statement template wi measures implemented in the s to be appointed. All 16 require | Available contribution to ov Minimum Standards at A-8 of the Technical Manual to he Technical Manual Section 2 Completed with Evidence Oly qualified member of the actions 1, 2 and 3 of Checklist A-8, th evidence provided of the refurbishment | verall score applicable Indicative Achie 2 Indicative Ir Credits Ac 0 as practicabl | 2.83% No Credits eved |
| Hea 05 | Ventilation | | | | |
|--|--|---|---|--|---|
| | No. of BREEAM credits available | 2 | Available contribution to ov | verall score | 2.83% |
| Ν | lo. of BREEAM innovation credits | 0 | Minimum Standards | s applicable | Yes |
| Assessme | nt Criteria | | | Indicative | e Credits |
| | where the dwelling meets the fo | bilowing ventilation requirement | ITS: | Achie 2 | eved |
| | | | | L | |
| | | A minimum level of backgrour | nd ventilation is provided (with |] | |
| | | trickle ventilators or other me | ans of ventilation) for all | | |
| | | nabitable rooms, kitchens, util | ity rooms and bathrooms | | |
| | | Document Part F, 2010 | any regulations Approved | | |
| | One Credit | A minimum level of extract ve | ntilation is provided in all wet | | |
| | Minimum Ventilation | rooms (e.g. kitchen, utility and | bath-rooms), compliant with | | |
| | Requirements | section 5, Building Regulations | S Approved Document Part F | | |
| | | A minimum level of purge ven | tilation is provided in all | - | |
| | | habitable rooms and wet roor | ns, compliant with section 7, | | |
| | | Building Regulations Approved | l Document Part F, 2010. | | |
| | | requirements in CN4 of the te | chnical manual | | |
| | | | | 1 | |
| 1 | | | |] | |
| | Two Cradits | Ventilation is provided for the | dwelling that meets the | | |
| | Advanced Requirements | Where the building is a histori | c building and meets the | - | |
| | | requirements for Historic Build | dings in compliance note 4 of the | | |
| | | technical manual | | | |
| Comment | 2 | 1 | | | |
| Ventilatio | n to meet requirements of sectior | n 5 of Part F. | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Hea 06 | Safety | | | | |
| Hea 06 | Safety No. of BREEAM credits available | 1 | Available contribution to ov | verall score | 1.42% |
| Hea 06 | Safety No. of BREEAM credits available Io. of BREEAM innovation credits | 1 0 | Available contribution to ov Minimum Standards | verall score | 1.42% Yes |
| Hea 06 N Assessme | Safety No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where a fire and carbon monox | 1 0 ide (CO) detection and alarm sy | Available contribution to ov Minimum Standards estem is specified as follows: | verall score s applicable Indicative Achie | 1.42% Yes e Credits |
| Hea 06 N Assessme | Safety No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where a fire and carbon monox | 1 0 ide (CO) detection and alarm sy | Available contribution to ov Minimum Standards stem is specified as follows: | verall score s applicable Indicative Achie 1 | 1.42% Yes e Credits eved |
| Hea 06 N Assessme | Safety No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where a fire and carbon monox | 1 0 ide (CO) detection and alarm sy Carbon Monoxide detector ins | Available contribution to ov Minimum Standards estem is specified as follows: stalled if dwelling is supplied with | verall score s applicable Indicative Achie 1 | 1.42% Yes e Credits eved |
| Hea 06 N Assessme | Safety No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where a fire and carbon monox | 1 0 ide (CO) detection and alarm sy Carbon Monoxide detector ins mains gas or other fossil fuel | Available contribution to ov Minimum Standards estem is specified as follows: stalled if dwelling is supplied with | verall score s applicable Indicative Achie 1 | 1.42% Yes e Credits eved |
| Hea 06 N Assessme | Safety No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where a fire and carbon monox One Credit | 1 0 ide (CO) detection and alarm sy Carbon Monoxide detector ins mains gas or other fossil fuel Where a compliant fire detect provided | Available contribution to ov Minimum Standards estem is specified as follows: stalled if dwelling is supplied with ion and fire alarm system is | verall score s applicable Indicative Achie 1 | 1.42% Yes e Credits eved |
| Hea 06 N Assessme | Safety No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where a fire and carbon monox One Credit Fire and Carbon Monoxide (CO) | 1 0 ide (CO) detection and alarm sy Carbon Monoxide detector ins mains gas or other fossil fuel Where a compliant fire detect provided Mains supplied fire detection | Available contribution to ov Minimum Standards estem is specified as follows: stalled if dwelling is supplied with ion and fire alarm system is and alarm system if project | verall score s applicable Indicative Achie 1 | 1.42% Yes e Credits eved |
| Hea 06 N Assessme | Safety No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where a fire and carbon monox One Credit Fire and Carbon Monoxide (CO) Detection and Alarm Systems | 1 0 ide (CO) detection and alarm sy Carbon Monoxide detector ins mains gas or other fossil fuel Where a compliant fire detect provided Mains supplied fire detection involves re-wiring | Available contribution to ov Minimum Standards estem is specified as follows: stalled if dwelling is supplied with ion and fire alarm system is and alarm system if project | verall score s applicable Indicative Achie 1 | 1.42% Yes e Credits eved |
| Hea 06 N Assessme | Safety No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where a fire and carbon monox One Credit Fire and Carbon Monoxide (CO) Detection and Alarm Systems | 1 0 ide (CO) detection and alarm sy Carbon Monoxide detector ins mains gas or other fossil fuel Where a compliant fire detect provided Mains supplied fire detection involves re-wiring Battery operated fire detection wiring is to take place | Available contribution to ov Minimum Standards estem is specified as follows: stalled if dwelling is supplied with ion and fire alarm system is and alarm system if project n and alarm system if no re- | verall score s applicable Indicative Achie 1 | 1.42% Yes e Credits eved |
| Hea 06 N Assessme | Safety No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where a fire and carbon monox One Credit Fire and Carbon Monoxide (CO) Detection and Alarm Systems | 1 0 ide (CO) detection and alarm sy Carbon Monoxide detector ins mains gas or other fossil fuel Where a compliant fire detect provided Mains supplied fire detection involves re-wiring Battery operated fire detectio wiring is to take place | Available contribution to ov Minimum Standards estem is specified as follows: stalled if dwelling is supplied with ion and fire alarm system is and alarm system if project n and alarm system if no re- | verall score s applicable Indicative Achie 1 | 1.42% Yes e Credits eved |
| Hea 06 N Assessme | Safety No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where a fire and carbon monox One Credit Fire and Carbon Monoxide (CO) Detection and Alarm Systems | 1 0 ide (CO) detection and alarm sy Carbon Monoxide detector ins mains gas or other fossil fuel Where a compliant fire detect provided Mains supplied fire detection involves re-wiring Battery operated fire detectio wiring is to take place | Available contribution to ov Minimum Standards estem is specified as follows: stalled if dwelling is supplied with ion and fire alarm system is and alarm system if project n and alarm system if no re- | verall score s applicable Indicative Achie 1 | 1.42% Yes e Credits eved |
| Hea 06 N Assessme Comment Assume e | Safety No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where a fire and carbon monox One Credit Fire and Carbon Monoxide (CO) Detection and Alarm Systems S verything will comply with Part B. | 1 0 ide (CO) detection and alarm sy Carbon Monoxide detector ins mains gas or other fossil fuel Where a compliant fire detect provided Mains supplied fire detection involves re-wiring Battery operated fire detection wiring is to take place | Available contribution to ov Minimum Standards estem is specified as follows: stalled if dwelling is supplied with ion and fire alarm system is and alarm system if project n and alarm system if no re- | verall score s applicable Indicative Achie 1 | 1.42% Yes e Credits eved |
| Hea 06 N Assessme Comment Assume er system is | Safety No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where a fire and carbon monox One Credit Fire and Carbon Monoxide (CO) Detection and Alarm Systems s verything will comply with Part B. required. | 1 0 ide (CO) detection and alarm sy Carbon Monoxide detector ins mains gas or other fossil fuel Where a compliant fire detect provided Mains supplied fire detection involves re-wiring Battery operated fire detectio wiring is to take place | Available contribution to ov Minimum Standards estem is specified as follows: stalled if dwelling is supplied with ion and fire alarm system is and alarm system if project n and alarm system if no re- | verall score s applicable Indicative Achie 1 | 1.42% Yes e Credits eved |
| Hea 06 N Assessme Comment Assume e system is | Safety No. of BREEAM credits available to. of BREEAM innovation credits nt Criteria Where a fire and carbon monox One Credit Fire and Carbon Monoxide (CO) Detection and Alarm Systems | 1 0 ide (CO) detection and alarm sy Carbon Monoxide detector ins mains gas or other fossil fuel Where a compliant fire detect provided Mains supplied fire detection involves re-wiring Battery operated fire detectio wiring is to take place | Available contribution to ov Minimum Standards estem is specified as follows: stalled if dwelling is supplied with ion and fire alarm system is and alarm system if project n and alarm system if no re- | verall score s applicable Indicative Achie 1 | 1.42% Yes e Credits eved |
| Hea 06 N Assessme Comment Assume e system is | Safety No. of BREEAM credits available to. of BREEAM innovation credits nt Criteria Where a fire and carbon monox One Credit Fire and Carbon Monoxide (CO) Detection and Alarm Systems | 1 0 ide (CO) detection and alarm sy Carbon Monoxide detector ins mains gas or other fossil fuel Where a compliant fire detect provided Mains supplied fire detection involves re-wiring Battery operated fire detectio wiring is to take place | Available contribution to ov Minimum Standards estem is specified as follows: stalled if dwelling is supplied with ion and fire alarm system is and alarm system if project n and alarm system if no re- | verall score s applicable Indicative Achie 1 | 1.42% Yes e Credits eved |
| Hea 06 N Assessme Comment Assume er system is | Safety No. of BREEAM credits available to. of BREEAM innovation credits nt Criteria Where a fire and carbon monox One Credit Fire and Carbon Monoxide (CO) Detection and Alarm Systems s verything will comply with Part B. required. | 1 0 ide (CO) detection and alarm sy Carbon Monoxide detector ins mains gas or other fossil fuel Where a compliant fire detect provided Mains supplied fire detection involves re-wiring Battery operated fire detectio wiring is to take place | Available contribution to ov Minimum Standards estem is specified as follows: stalled if dwelling is supplied with ion and fire alarm system is and alarm system if project n and alarm system if no re- | verall score s applicable Indicative Achie 1 | 1.42% Yes e Credits eved on & alarm |
| Hea 06 N Assessme Comment Assume er system is | Safety No. of BREEAM credits available to. of BREEAM innovation credits nt Criteria Where a fire and carbon monox One Credit Fire and Carbon Monoxide (CO) Detection and Alarm Systems s verything will comply with Part B. required. ENERGY Improvement in Energy Efficien | ide (CO) detection and alarm sy Carbon Monoxide detector ins mains gas or other fossil fuel Where a compliant fire detect provided Mains supplied fire detection involves re-wiring Battery operated fire detectio wiring is to take place | Available contribution to ov Minimum Standards estem is specified as follows: stalled if dwelling is supplied with ion and fire alarm system is and alarm system if project n and alarm system if no re- | verall score | 1.42% Yes e Credits eved on & alarm 32.62% |
| Hea 06 N Assessme Comment Assume e system is Ene 01 | Safety No. of BREEAM credits available to. of BREEAM innovation credits nt Criteria Where a fire and carbon monox One Credit Fire and Carbon Monoxide (CO) Detection and Alarm Systems S verything will comply with Part B. required. ENERGY Improvement in Energy Efficien No. of BREEAM credits available | ide (CO) detection and alarm sy Carbon Monoxide detector ins mains gas or other fossil fuel Where a compliant fire detect provided Mains supplied fire detection involves re-wiring Battery operated fire detection wiring is to take place If there is no fossil fuel supply for Section Weighting: 43% | Available contribution to ov Minimum Standards estem is specified as follows: stalled if dwelling is supplied with ion and fire alarm system is and alarm system if project n and alarm system if no re- to any apartment, only a compliant ico any apartment, only a compliant Indicative Se | verall score s applicable Indicative Achie 1 | 1.42% Yes credits eved on & alarm 32.62% 8.90% |
| Hea 06 N Assessme Comment Assume er system is Ene 01 | Safety No. of BREEAM credits available lo. of BREEAM innovation credits nt Criteria Where a fire and carbon monox One Credit Fire and Carbon Monoxide (CO) Detection and Alarm Systems s verything will comply with Part B. required. ENERGY Improvement in Energy Efficien No. of BREEAM credits available to. of BREEAM innovation credits | ide (CO) detection and alarm sy Carbon Monoxide detector ins mains gas or other fossil fuel Where a compliant fire detect provided Mains supplied fire detection involves re-wiring Battery operated fire detection wiring is to take place If there is no fossil fuel supply for Section Weighting: 43% | Available contribution to ov Minimum Standards estem is specified as follows: stalled if dwelling is supplied with ion and fire alarm system is and alarm system if project in and alarm system if no re- co any apartment, only a compliant ico any apartment, only a compliant Indicative Se Available contribution to ov Minimum Standards | verall score s applicable Indicative Achie 1 | 1.42% Yes credits eved on & alarm 32.62% 8.90% No |
| Hea 06 N Assessme Comment Assume e system is Ene 01 N Assessme Where the | Safety No. of BREEAM credits available to. of BREEAM innovation credits nt Criteria Where a fire and carbon monox One Credit Fire and Carbon Monoxide (CO) Detection and Alarm Systems S Verything will comply with Part B. required. ENERGY Improvement in Energy Efficien No. of BREEAM credits available to. of BREEAM innovation credits at Criteria a following targets are met for the complexity of the second se | ide (CO) detection and alarm sy Carbon Monoxide detector ins mains gas or other fossil fuel Where a compliant fire detect provided Mains supplied fire detection involves re-wiring Battery operated fire detectio wiring is to take place If there is no fossil fuel supply for Section Weighting: 43% | Available contribution to ov Minimum Standards estem is specified as follows: stalled if dwelling is supplied with ion and fire alarm system is and alarm system if project in and alarm system if no re- to any apartment, only a compliant ico any apartment, only a compliant Indicative Se Available contribution to ov Minimum Standards | verall score sapplicable Indicative Achie 1 nt fire detection ction Score | 1.42% Yes e Credits eved on & alarm 32.62% 8.90% No e Credits |
| Hea 06 N Assessme Comment Assume e system is Ene 01 N Assessme Where the refurbishr | Safety No. of BREEAM credits available to. of BREEAM innovation credits nt Criteria Where a fire and carbon monox One Credit Fire and Carbon Monoxide (CO) Detection and Alarm Systems S Verything will comply with Part B. required. ENERGY Improvement in Energy Efficien No. of BREEAM credits available to. of BREEAM innovation credits nt Criteria e following targets are met for the nent: | Interviewent in Energy Efficie | Available contribution to ov Minimum Standards estem is specified as follows: stalled if dwelling is supplied with ion and fire alarm system is and alarm system if project n and alarm system if no re- to any apartment, only a compliant io any apartment, only a compliant Indicative Se Available contribution to ov Minimum Standards ncy Rating achieved as a result of | verall score applicable Indicative Achie 1 t fire detection ction Score | 1.42% Yes credits eved on & alarm 32.62% 8.90% 8.90% credits eved 5 |
| Hea 06 N Assessme Comment Assume e system is Ene 01 N Assessme Where the refurbishr | Safety No. of BREEAM credits available lo. of BREEAM innovation credits Int Criteria Where a fire and carbon monox One Credit Fire and Carbon Monoxide (CO) Detection and Alarm Systems S Verything will comply with Part B. required. ENERGY Improvement in Energy Efficien No. of BREEAM credits available lo. of BREEAM innovation credits Int Criteria e following targets are met for the nent: Improvement in EER | Interview of the section of the section with the section of the | Available contribution to ov Minimum Standards estem is specified as follows: stalled if dwelling is supplied with ion and fire alarm system is and alarm system if project in and alarm system if no re- to any apartment, only a compliant ico any apartment, only a compliant Indicative Se Available contribution to ov Minimum Standards incy Rating achieved as a result of | verall score sapplicable Indicative Achie 1 of fire detection ction Score verall score sapplicable Indicative Achie 3.1 | 1.42% Yes credits eved on & alarm 32.62% 8.90% 8.90% No e Credits eved 5 |
| Hea 06 N Assessme Comment Assume e system is Ene 01 N Assessme Where the refurbishr | Safety No. of BREEAM credits available Io. of BREEAM innovation credits Int Criteria Where a fire and carbon monox One Credit Fire and Carbon Monoxide (CO) Detection and Alarm Systems s verything will comply with Part B. required. ENERGY Improvement in Energy Efficient No. of BREEAM credits available lo. of BREEAM innovation credits and Criteria e following targets are met for the nent: Improvement in EER ≥ 5 | ide (CO) detection and alarm sy Carbon Monoxide detector ins mains gas or other fossil fuel Where a compliant fire detect provided Mains supplied fire detection involves re-wiring Battery operated fire detection wiring is to take place If there is no fossil fuel supply for Section Weighting: 43% Cy Rating improvement in Energy Efficie Credits 0.5 | Available contribution to ov Minimum Standards estem is specified as follows: stalled if dwelling is supplied with ion and fire alarm system is and alarm system if project n and alarm system if no re- to any apartment, only a compliant io any apartment, only a compliant Indicative Se Available contribution to ov Minimum Standards ncy Rating achieved as a result of | verall score sapplicable Indicative Achie 1 of fire detection ction Score verall score sapplicable Indicative Achie 3.1 | 1.42% Yes credits eved on & alarm 32.62% 8.90% 8.90% credits eved 5 |
| Hea 06 N Assessme Comment Assume et system is Ene 01 N Assessme Where the refurbishr | Safety No. of BREEAM credits available to. of BREEAM innovation credits nt Criteria Where a fire and carbon monox One Credit Fire and Carbon Monoxide (CO) Detection and Alarm Systems s verything will comply with Part B. required. S ENERGY Improvement in Energy Efficient No. of BREEAM credits available to. of BREEAM credits available to. of BREEAM credits available to. of BREEAM innovation credits nt Criteria a following targets are met for the nent: Improvement in EER ≥ 5 ≥ 9 $\rightarrow 13$ | ide (CO) detection and alarm sy Carbon Monoxide detector ins mains gas or other fossil fuel Where a compliant fire detect provided Mains supplied fire detection involves re-wiring Battery operated fire detection wiring is to take place If there is no fossil fuel supply for Section Weighting: 43% Cy Rating Section Weighting: 43% Cy Rating improvement in Energy Efficie Credits 0.5 1 | Available contribution to ov Minimum Standards estem is specified as follows: stalled if dwelling is supplied with ion and fire alarm system is and alarm system if project in and alarm system if no re- to any apartment, only a compliant ico any apartment, only a compliant Indicative Se Available contribution to ov Minimum Standards incy Rating achieved as a result of | verall score sapplicable Indicative Achie 1 at fire detection ction Score verall score sapplicable Indicative Achie 3.9 | 1.42% Yes credits eved on & alarm 32.62% 8.90% 8.90% No e Credits eved 5 |

| ≥ 17 | 2 |
|------|-----|
| ≥ 21 | 2.5 |
| ≥ 26 | 3 |
| ≥ 31 | 3.5 |
| ≥ 36 | 4 |
| ≥ 42 | 4.5 |
| ≥ 48 | 5 |
| ≥ 54 | 5.5 |
| ≥ 60 | 6 |
| | |

Assumed: an area weighted EER improvement of 31+ will be achieved.

| Ene 02 | Energy Efficiency Rating Post Ref | urbishment | | |
|--|---|---|--|--|
| | No. of BREEAM credits available | 4 | Available contribution to or | verall score 5.93% |
| Ν | No. of BREEAM innovation credits | 2 | Minimum Standards | applicable Yes |
| Assessme | ent Criteria | | | Indicative Credits |
| | | | | Achieved |
| Where the | e following Energy Efficiency Rating | benchmarks will be met as a | result of refurbishment: | 3.5 |
| | FFR post refurbishment | Credits | Minimum requirements | |
| | 50 | | 'Pass' loval EEP of 50 | |
| | 250 | 0.5 | Cood' lovel EED of 59 | • |
| | 255 | I | | • |
| | 200 | 1.5 | | 4 |
| | 200 | <u> </u> | Very GOOd level EER 01 05 | 4 |
| | 270 | 2.5 | | |
| | ≥/5 | 3 | | |
| | ≥80 | 3.5 | 'Outstanding' level EER of 81 | |
| | ≥85 | 4 | | |
| | | | _ | |
| | Exemplary | Credits | | Indicative Innovation |
| | ≥90 | 1 | | Credits Achieved |
| | ≥100 | 2 | 1 | 0 |
| | | | 4 | |
| Comment | ts. | | | |
| Current fo | brie and building convisoe accumpti | and would achieve an erea u | wighted EED rating greater than 90 | but loss than OF |
| Currentia | iblic and building services assumpti | | cigitica EER rating greater than oo | but less than 05. |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| Ene 03 | Primary energy demand | | | |
| | No. of BRFFAM credits available | 7 | Available contribution to o | verall score 10.38% |
| Ν | No. of BRFFAM innovation credits | 0 | Minimum Standards | applicable No |
| Assossmo | ant Critoria | 0 | | Indicativo Crodita |
| ASSESSILLE | | | | |
| Where the | e following Primary Energy Demand | benchmarks will be met as a | a result of refurbishment: | 7 |
| | | | | , |
| | Drimary Energy Demand Post | | | |
| | Frimary Energy Demand Post | Credits | | |
| | Refurbishment (kWh/m²/year) | | 4 | |
| | ≤ 400 | 0.5 | | |
| | ≤ 370 | 1 | | |
| | ≤ 340 | 1.5 | | |
| | ≤ 320 | 2 | | |
| | ≤ 300 | 2.5 | 1 | |
| | ≤ 280 | 3 | 1 | |
| | < 260 | 3.5 | 1 | |
| | < 240 | <u>4</u> | - | |
| | < 220 | | - | |
| | < 200 | 4.5 | - | |
| | <u> </u> | <u></u> | - | |
| | ≤ 180 | 5.5 | - | |
| | ≤ 160 | 6 | 4 | |
| | <u>≤ 140</u> | 6.5 | - | |
| | ≤ 120 | 7 | J | |
| | | | | |
| Comment | ts | | | |
| Current fa | | ons would achieve an area w | eighted Primary Energy Demand le | ess than 100kWh/m2/vr |
| | adric and duilding services assumpti- | | | |
| | abric and building services assumpti | | · · · · · · | |
| | abric and building services assumpti | | | |
| | abric and building services assumpti | | | , |
| | abric and building services assumpti | | | , |
| | abric and building services assumpti | | | |
| Ene 04 | Renewable Technologies | | | |
| Ene 04 | Renewable Technologies No. of BREEAM credits available | 2 | Available contribution to ov | /erall score 2.97% |
| Ene 04 | Renewable Technologies No. of BREEAM credits available No. of BREEAM innovation credits | 2 0 | Available contribution to ov Minimum Standards | /erall score 2.97% applicable No |
| Ene 04 N Assessme | Renewable Technologies No. of BREEAM credits available No. of BREEAM innovation credits | 2 0 | Available contribution to ov Minimum Standards | verall score 2.97% applicable No Indicative Credits |
| Ene 04 N Assessme Where the | Renewable Technologies No. of BREEAM credits available No. of BREEAM innovation credits ent Criteria e dwelling will meet the following % | 2 0 contribution from renewab | Available contribution to ov Minimum Standards | verall score 2.97% applicable No Indicative Credits Achieved |
| Ene 04 N Assessme Where the | Renewable Technologies No. of BREEAM credits available No. of BREEAM innovation credits ent Criteria e dwelling will meet the following % | 2 0 contribution from renewab | Available contribution to ov Minimum Standards es and primary energy demand | verall score 2.97% applicable No Indicative Credits Achieved |
| Ene 04 N Assessme Where the targets as | Renewable Technologies No. of BREEAM credits available No. of BREEAM innovation credits ent Criteria e dwelling will meet the following % a result of refurbishment | 2 0 5 contribution from renewab | Available contribution to ov Minimum Standards | verall score 2.97% applicable No Indicative Credits Achieved 0 |
| Ene 04 N Assessme Where the targets as | Renewable Technologies No. of BREEAM credits available No. of BREEAM innovation credits ent Criteria e dwelling will meet the following % a result of refurbishment | 2 0 5 contribution from renewab | Available contribution to ov Minimum Standards les and primary energy demand | verall score 2.97% applicable No Indicative Credits Achieved 0 |
| Ene 04 N Assessme Where the targets as | Renewable Technologies No. of BREEAM credits available No. of BREEAM innovation credits ent Criteria e dwelling will meet the following % a result of refurbishment Dwelling Type | 2 0 5 contribution from renewab Primary Energy Demand | Available contribution to ov Minimum Standards les and primary energy demand Percentage from Re | verall score 2.97% applicable No Indicative Credits Achieved 0 enewables |
| Ene 04 N Assessme Where the targets as | Renewable Technologies No. of BREEAM credits available No. of BREEAM innovation credits ent Criteria e dwelling will meet the following % a result of refurbishment Dwelling Type | 2 0 5 contribution from renewab Primary Energy Demand | Available contribution to ov Minimum Standards les and primary energy demand Percentage from Re 1 Credit | verall score 2.97% applicable No Indicative Credits Achieved 0 enewables 2 Credits |
| Ene 04 N Assessme Where the targets as | Renewable Technologies No. of BREEAM credits available No. of BREEAM innovation credits ent Criteria e dwelling will meet the following % a result of refurbishment Dwelling Type Detached | 2 0 5 contribution from renewab Primary Energy Demand ≤ 250 kWh/m²/year | Available contribution to ov Minimum Standards les and primary energy demand Percentage from Re 1 Credit ≥10% | verall score 2.97% applicable No Indicative Credits Achieved 0 enewables 2 Credits ≥20% |

| Bungalow | | ≥10% | ≥20% |
|--|-----------------------------------|------------------------------------|--------------|
| End of Terrace | | ≥10% | ≥20% |
| Mid Terrace | ≤ 220 kWh/m²/year | ≥10% | ≥20% |
| Low Rise Flat | | ≥10% | ≥20% |
| Mid Rise Flat | | ≥10% | ≥15% |
| High Rise Flat | | ≥10% | ≥15% |
| | | | |
| Comments | | | |
| Although the primary energy demand targe | et will be met, there is no renew | vable energy so the credits cannot | be achieved. |
| | | | |
| | | | |
| | | | |

| Ene 05 | Energy Labelled White Goods | | | | |
|------------|------------------------------------|-----------------------------------|--------------------------------------|---------------|-------------|
| | No. of BREEAM credits available | 2 | Available contribution to ov | verall score | 2.97% |
| Ν | No. of BREEAM innovation credits | 0 | Minimum Standards | applicable | No |
| Assessme | nt Criteria | he may ideal as fellows | | | e Credits |
| where En | ergy Efficiency white goods are to | be provided as follows: | | | evea |
| | First Credit | | | |) |
| | Appliance | Appliance provided | Appliance not to be provided | | |
| | Fridaes Freezers and Fridae | Energy Saving Trust | EU Energy Efficiency Labelling | | |
| | Freezers | Recommended appliances | Scheme Information Leaflet | | |
| | | specified | provided to all dwellings | | |
| | Second Credit | | | | |
| | Appliance | Appliance provided | Appliance not to be provided | | |
| | | Energy Saving Trust | | | |
| | Washing Machines and | Recommended appliances | Second credit not achieved | | |
| | Distiwastiers | specified | | | |
| | Washer-Drvers and Tumble | Appliances specified with B | EU Energy Efficiency Labelling | | |
| | Dryers | Rating under EU Energy | Scheme Information Leaflet | | |
| | | Efficiency Labelling Scheme | provided to all dwellings | | |
| Comment | ⁺ S | l | | | |
| Credits ca | n only be achieved if goods are ce | rtified on the EST labelling sche | eme. Currently there is a very limit | ed choice. Po | otential |
| shopping | list credit. | 0 | 5 | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Ene 06 | Drying Space | 1 | Available contribution to o | orall coora | 1 / 00/ |
| N | NO. OF BREEAN inpovation credits | 0 | Available contribution to ov | erali score | 1.48% No |
| Assessme | ent Criteria | 0 | | Indicative | e Credits |
| Where ad | equate, secure internal or externa | I space with posts and footings | or fixings is provided with the | Achie | eved |
| following: | · · · | - | 5 1 | 1 | |
| | 1 Credit | | | | |
| | Number of bedrooms | Drying line required | | | |
| | 1-2 | 4m+ | | | |
| | 3+ | 6M+ | l | | |
| Comment | te | l | | | |
| Assume th | ne credit will be taken. | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Ene 07 | Lighting | | | | |
| | No. of BREEAM credits available | 2 | Available contribution to ov | verall score | 2.97% |
| N | No. of BREEAM innovation credits | 0 | Minimum Standards | applicable | No |
| Assessme | nt Uriteria | lighting is provided as follows | | | e Credits |
| where en | ergy enicient internal and externa | i lighting is provided as follows | | | |
| | Extornal Lighting 1 Cradit | | | 2 | - |

Energy Efficient Space Lighting and Energy Efficient Security Lighting OR Where Energy Efficient Space Lighting is provided ONLY

Internal Lighting - 1 Credit Maximum average wattage across the total floor area of the dwelling of 9 watts/m2

Comments

| No. of BREEAM innovation credits 1 Minimum Standards applicable No Assessment Criteria Indicative Credits 1 Minimum Standards applicable No Assessment Criteria Primary Heating Fuel 2 2 2 Electricity usage data displayed 2 credits awarded 1 credit awarded 2 Electricity usage data displayed 2 credits awarded 1 credit awarded 2 Electricity age data displayed 2 credits awarded 1 credit awarded 1 Fuel usage data displayed 2 credits awarded 1 credit awarded 1 One credit Where any compliant Energy Display Device is capable of recording consumption data 1 1 One credit Where any compliant Energy Display Device is capable of recording consumption data 1 1 Comments 2 Available contribution to overall score 2.97% Assume this will be possible. 2 Available contribution to overall score 2.97% No. of BREEAM innovation credits 0 Minimum Standards applicable No Assume this will be possible. 2 Available contribution to overall score 2.97% No. of BREEAM innovation | Ene 08 | Display Energy Devices | | | |
|---|-------------|--|----------------------------------|------------------------------------|-------------------------|
| No. of BREEAM innovation credits 1 Minimum Standards applicable No. Where consumption data is displayed to occupants by a compliant energy display device Indicative Credits Achieved 2 Electricity usage data displayed 2 credits awarded 1 oredit awarded 2 Plinary Heating Fuel 2 2 2 Electricity usage data displayed 2 credits awarded 1 oredit awarded 2 Plinary Heating Fuel usage N/A 1 oredit awarded 1 Electricity Aprimary Heating Fuel usage displayed N/A 2 credits awarded 1 Exemplary Credits Indicative Innovation Credits available 1 1 One credit Where any compliant Energy Display Device is capable of recording consumption data 1 1 Comments Assume this will be possible. 1 1 1 No. of BREEAM innovation credits 0 Minimum Standards applicable No. No. 1 Actieved 2 One credit Two Credits 2 1 1 More of BREEAM innowation credits 0 Minimum Stand | | No. of BREEAM credits available | 2 | Available contribution to ov | verall score 2.97% |
| Assessment Criteria Where consumption data is displayed to occupants by a compliant energy display device | Ν | lo. of BREEAM innovation credits | 1 | Minimum Standards | applicable No |
| Where consumption data is displayed to occupants by a compliant energy display device Achieved Primary Heating Fuel 2 Electricity usage data displayed Electricity Other Electricity usage data displayed 2 credits awarded 1 credit awarded Primary Heating N/A 1 credit awarded Electricity & Primary Heating N/A 2 credits awarded Exemplary Credits Indicative Innovation One credit Where any compliant Energy Display Device is capable of recording consumption data Recording consumption data Where any compliant Energy Display Device is capable of recording consumption data Comments Available contribution to overall score 2/97% No. of BREEAM medits available 2 Available contribution to overall score 2/97% No. of BREEAM movestion credits 0 Minimum Standards applicable No Assume this will be possible. 1 Indicative Credits Achieved Ene 09 Cycle Storage 0 Minimum Standards applicable No Assume this will be possible. 1 Indicative Credits Achieved Stations / 1 per two dwollings 1 per dwelling 2 per dwelling | Assessme | nt Criteria | | | Indicative Credits |
| Electricity usage data displayed Primary Heating Fuel Electricity usage data displayed 2 credits awarded 1 credit awarded Primary Heating Fuel usage N/A 1 credit awarded Electricity & Primary Heating N/A 1 credit awarded Electricity & Primary Heating N/A 2 credits awarded Electricity & Primary Heating N/A 2 credits awarded Exemplary Credits Indicative Innovation Credits Achieved Recording consumption data Where any compliant Energy Display Device is capable of recording consumption data 1 Comments Assume this will be possible. 1 2 No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria 0 Concerdit 1 2 Where Individual or communal compliant cycle storage is provided as follows: 2 2 2 Quelling 1 per dwelling 1 per dwelling 2 2 2 2-3 bedrooms 1 per dwelling 2 per dwelling 4 per dwelling 2 2 2-3 bedrooms 2 per dwelling 4 per dwelling 4 per dwelling 3. The minimum requre | Where co | nsumption data is displayed to occ | upants by a compliant energy | display device | Achieved |
| Electricity usage data displayed Primary Heating Fuel Electricity usage data displayed 2 credits awarded 1 credit awarded Primary Heating Fuel usage N/A 1 credit awarded Electricity wasge data displayed 2 credits awarded 1 credit awarded Electricity e primary Heating N/A 2 credits awarded Electricity e primary Heating N/A 2 credits awarded Concredit Where any compliant Energy Display Device is capable of recording consumption data Indicative Innovation Credits Achieved Comments Assume this will be possible. 1 Ene 09 Cycle Storage Available contribution to overall score 2.97% No< of BREEAM innovation credits | | | | | 2 |
| Electricity Other Electricity usage data displayed 2 credits awarded Primary Heating Fuel usage N/A 1 credit awarded Electricity & Primary Heating N/A 2 credits awarded Electricity & Primary Heating N/A 2 credits awarded Electricity & Primary Heating N/A 2 credits awarded Exemplary Credits Indicative Innovation Credits Achieved One credit Where any compliant Energy Display Device is capable of recording consumption data 1 Comments Assume this will be possible. 1 Ene 09 Cycle Storage 0 Minimum Standards applicable No No. of BREFAM Innovation credits 0 Minimum Standards applicable No Assessment Criteria 1 Primary Electricity 2 Where individual or communal compliant cycle storage is provided as follows: 2 2 Owelling Size One Credit Two Credits 2 Studios/1 bedrooms 1 per two dwellings 1 per dwelling 2 2-3 bedrooms 1 per dwelling 2 per dwelling 4 per dwelling 2-3 bedrooms 2 per dwelling | | Electricity usage data displayed | Primary I | Heating Fuel | |
| Electricity usage data displayed 2 credits awarded 1 credit awarded Primary Heating Puel usage N/A 1 credit awarded Electricity & Primary Heating N/A 2 credits awarded Evemplary Credits Indicative Innovation One credit Where any compliant Energy Display Device is capable of Recording consumption data Indicative Innovation Comments Assume this will be possible. Indicative Innovation Credits Available 2 No. of BREEAM innovation credits 0 Minimum Standards applicable No Assume this will be possible. 0 Minimum Standards applicable No Where individual or communal compliant cycle storage is provided as follows: Indicative Credits Achieved Quelling Size One Credit Two Credits Achieved 23 bodrooms 1 per dwelling 1 per dwelling 2 per dwelling 24 bedrooms 2 per dwelling 4 per dwelling 3 the minimum required to achieve one credit is:- 3 The minimum required to achieve 2 credits would be:- 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum required to achieve 2 credits would be:- 6 cycle spaces. 14 spaces in | | | Electricity | Other | l, |
| Primary Heating Fuel usage N/A 1 credit awarded Electricity & Primary Heating N/A 2 credits awarded Exemplary Credits Indicative Innovation One credit Where any compliant Energy Display Device is capable of recording consumption data 1 Comments Assume this will be possible. 1 Ene 09 Cycle Storage 2 No. of BREEAM credits available 2 Available contribution to overall score 2.97%. No. of BREEAM innovation credits 0 Minimum Standards applicable No Assume this will be possible. 1 Indicative Credits Achieved Where individual or communal compliant cycle storage is provided as follows: 2.97%. 1 Achieved Questions 1 per two dwellings 1 per dwelling 2 2 2 Where individual or communal compliant cycle storage is provided as follows: 2 <td< td=""><td></td><td>Electricity usage data displayed</td><td>2 credits awarded</td><td>1 credit awarded</td><td>-</td></td<> | | Electricity usage data displayed | 2 credits awarded | 1 credit awarded | - |
| Idea displayed N/A 2 credits awarded Exemplary Credits Indicative Innovation One credit Where any compliant Energy Display Device is capable of recording consumption data 1 Comments 1 Assume this will be possible. 1 Ene 09 Cycle Storage 1 No. of BREFAM credits available 2 Available contribution to overall score 2.97% No. of BREFAM innovation credits 0 Minimum Standards applicable No Assessment Criteria Indicative Credits 2 Where individual or communal compliant cycle storage is provided as follows: Achieved 2 Dwelling Size One Credit Two Credits 2 Studios 1 bedroom 1 per two dwelling 1 per dwelling 2 2 bedrooms 2 per dwelling 4 per dwelling 3 4 bedrooms 2 per dwelling 4 per dwelling 1.48% No. of BREFAM innovation credits 0 Minimum standards applicable No Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum required to achieve 2 credits available 1 Available contribution to overal | | Primary Heating Fuel usage | N/A | 1 credit awarded | |
| Lectricity & Primary Heating Fuel usage displayed N/A 2 credits awarded Exemplary Credits One credit Recording consumption data Indicative Innovation Credits Achieved Comments 1 Assume this will be possible. 1 Ene 09 Cycle Storage No. of BREEAM innovation credits 0 More individual or communal compliant cycle storage is provided as follows: 1 Assume this will be possible. 1 Ene 09 Cycle Storage 1 No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria 1 Indicative Credits 2 Studios1 bedroom 1 per dwelling 1 per dwelling 2 Studios1 bedroom 1 per dwelling 2 per dwelling 2 Studios1 bedrooms 1 per dwelling 2 per dwelling 4 per dwelling Comments Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum required to achieve 2 credits would be- 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assume 6 spaces will be allocated to the existing dwellings. Ene 10 Home Office No. of BREEAM innovation credits 0 | | data displayed | | | 4 |
| Evemplary Credits Indicative Innovation One credit Where any compliant Energy Display Device is capable of recording consumption data Comments 1 Assume this will be possible. 1 Ene 09 Cycle Storage No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria Indicative Credits Where individual or communal compliant cycle storage is provided as follows: Indicative Credits Assessment Criteria Indicative Credits Where individual or communal compliant cycle storage is provided as follows: Indicative Credits Achieved 2 Owelling Size One Credit Two Credits Studios/1 bedroom 1 per dwelling 2 per dwelling 2-3 bedrooms 2 per dwelling 4 per dwelling 2-3 bedrooms 2 per dwelling 4 per dwelling Assume 6 spaces will be allocated to the existing dwellings. Indicative Credits would be: 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assume 6 spaces will be allocated to the existing dwellings. Indicative Credits would be: 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assume | | Electricity & Primary Heating | N/A | 2 credits awarded | |
| Exemplary Credits Indicative Innovation One credit Where any compliant Energy Display Device is capable of recording consumption data 1 Comments 1 Assume this will be possible. 1 Ene 09 Cycle Storage 2 No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria 0 Minimum Standards applicable No Where individual or communal compliant cycle storage is provided as follows: Achieved 2 Dwelling Size One Credit Two Credits 2 Studios/ 1 bedrooms 1 per dwelling 1 per dwelling 2 Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum required to achieve 2 credits would be:- 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assume 6 spaces will be allocated to the existing dwellings. Ene 10 Home Office No. of BREEAM innovation credits 0 Minimum Standards applicable No. Assessment Criteria No. of BREEAM innovation credits 0 Minimum Standards applicable 1 Available contribution to overall score 1.48% No. of BREEAM innovation credits 0 Minimum S | | Fuel usage displayed | | |] |
| Exemplary Ureans Mere any compliant Energy Display Device is capable of recording consumption data Credits Achieved Omments 1 Assume this will be possible. 1 Ene 09 Cycle Storage 1 No. of BREEAM credits available 2 Available contribution to overall score 2.97% No. of BREEAM credits available 2 Available contribution to overall score 2.97% No. of BREEAM credits available 0 Minimum Standards applicable No Assessment Criteria Indicative Credits Achieved 2 Dwelling Size One Credit Two Credits Achieved 2 Studios/ 1 bedroom 1 per dwelling 1 per dwelling 2 2 Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum required to achieve 2 credits would be:- 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assume 6 spaces will be allocated to the existing dwellings. Indicative Credits Ene 10 Home Office 1 Available contribution to overall score 1.48% No. of BREEAM readits available 1 Available contribution to overall score 1.48% No. of BREEAM innovation c | | | | | |
| Othe creating consumption data Oreginal consumption data Creating consumption data Comments 1 Assume this will be possible. Assume this will be possible. Ene 09 Cycle Storage No. of BREEAM credits available 2 Available contribution to overall score 2.97% No. of BREEAM credits available 2 Available contribution to overall score 2.97% No. of BREEAM credits available 2 Assessment Criteria Indicative Credits Where individual or communal compliant cycle storage is provided as follows: Indicative Credits <u>Dwelling Size One Credit Two Credits Studios/ 1 bedroom 1 per two dwellings 1 per dwelling 2.3 bedrooms 2 per dwelling 4 per dwelling 2.3 bedrooms 2 per dwelling 4 per dwelling Comments Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum required to achieve 2 credits would be:- 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assume 6 spaces will be allocated to the existing dwellings. Ene 10 Home Office No. of BREEAM innovation credits 0 Minimum Standards applicable </u> | | Exemplary credits | M/home environmentionst From | mu Diamlau Davias is seasable of | Indicative Innovation |
| Comments Assume this will be possible. Ene 09 Cycle Storage No. of BREEAM credits available 2 Available contribution to overall score 2.97% No. of BREEAM credits available 2 Assessment Criteria 0 Where individual or communal compliant cycle storage is provided as follows: Indicative Credits Achieved 2 Dwelling Size One Credit Two Credits Studios/1 bedroom 1 per two dwellings 1 per dwelling 2.3 bedrooms 1 per dwelling 2 per dwelling 4 bedrooms 2 per dwelling 4 per dwelling Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum required to achieve 2 credits would be:- 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assume 6 spaces will be allocated to the existing dwellings. Ene 10 Home Office No. of BREEAM innovation credits 0 Minimum Standards applicable No No. of BREEAM oredits available 1 Available contribution to overall score 1.48% No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria | | One creat | where any compliant Energy | gy Display Device is capable of | credits Achieved |
| Comments Assume this will be possible. Ene 09 Cycle Storage No. of BREEAM innovation credits 0 Monof BREEAM innovation credits 0 Mere individual or communal compliant cycle storage is provided as follows: Indicative Credits Studios/1 bedroom 1 per two dwellings 1 per dwelling 2.3 bedrooms 1 per dwelling 2 per dwelling 4 bedrooms 2 per dwelling 4 per dwelling 2.3 bedrooms 1 per dwelling 2 per dwelling 4 bedrooms 2 per dwelling 4 per dwelling 2.3 bedrooms 1 per dwelling 2 per dwelling 4 bedrooms 2 per dwelling 4 per dwelling 2.3 bedrooms 1 per dwelling 2 per dwelling 4 bedrooms 2 per dwelling 4 per dwelling 2.3 bedrooms 1 per dwelling 2 per dwelling 4 bedrooms 2 per dwelling 4 per dwelling 2.3 bedrooms 1 per dwelling 1 per dwelling | | Recording consumption data | recording co | insumption data | I |
| Comments Assume this will be possible. Ene 09 Cycle Storage No. of BREEAM credits available 2 Available contribution to overall score 2.97% No. of BREEAM innovation credits 0 Mhrimum Standards applicable No Assessment Criteria Indicative Credits Achieved 2 Dwelling Size One Credit Studios/1 bedroom 1 per two dwelling 2-3 bedrooms 1 per dwelling 2-3 bedrooms 1 per dwelling 2-3 bedrooms 2 per dwelling 4 bedrooms 2 per dwelling Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum required to achieve 2 credits would be:- 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assume 6 spaces will be allocated to the existing dwellings. Indicative Credits Ene 10 Home Office No. of BREEAM innovation credits 0 No. of BREEAM innovation credits 0 Minimum Standards applicable <td< td=""><td>Commonst</td><td></td><td></td><td></td><td></td></td<> | Commonst | | | | |
| Ene 09 Cycle Storage No. of BREEAM credits available 2 Available contribution to overall score 2.97% No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria Indicative Credits Achieved Dwelling Size One Credit Two Credits Studios/1 bedroom 1 per two dwellings 1 per dwelling 2.3 bedrooms 1 per dwelling 2 per dwelling 4 bedrooms 2 per dwelling 4 per dwelling Comments Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum required to achieve 2 credits would be:- 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assume 6 spaces will be allocated to the existing dwellings. Ene 10 Home Office No. of BREEAM rendits available 1 Available contribution to overall score 1.48% No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria Indicative Credits Achieved 1 Where sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation 1 | | | | | |
| Ene 09 Cycle Storage No. of BREEAM innovation credits 0 Mo. of BREEAM innovation credits 0 Mo. of BREEAM innovation credits 0 Mo. of BREEAM innovation credits 0 More individual or communal compliant cycle storage is provided as follows: Indicative Credits Achieved 2 Dwelling Size One Credit Two Credits Studios/1 bedroom 1 per two dwellings 1 per dwelling 2-3 bedrooms 1 per dwelling 2 per dwelling 2-3 bedrooms 2 per dwelling 4 per dwelling 2-4 bedrooms 2 per dwelling 4 per dwelling 2-3 bedrooms 2 per dwelling 4 per dwelling 3-4 bedrooms 2 per dwelling 4 per dwelling 4 bedrooms 2 per dwelling 1 minum Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum< | Assume tr | iis will be possible. | | | |
| Ene 09 Cycle Storage No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria Indicative Credits Where individual or communal compliant cycle storage is provided as follows: Indicative Credits Achieved 2 Dwelling Size One Credit Two Credits Studios/1 bedroom 1 per two dwellings 1 per dwelling 2-3 bedrooms 1 per dwelling 2 per dwelling 4 bedrooms 2 per dwelling 4 per dwelling Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum required to achieve 2 credits would be:- 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assume 6 spaces will be allocated to the existing dwellings. Indicative Credits Ene 10 Home Office No. of BREEAM innovation credits 0 No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria No Indicative Credits Achieved 1 Mere sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation 1 | | | | | |
| Ene 09 Cycle Storage No. of BREEAM credits available 2 Available contribution to overall score 2.97% No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria Indicative Credits Achieved 2 Dwelling Size One Credit Two Credits Achieved 2 Studios/1 bedroom 1 per two dwellings 1 per dwelling 2 2 2-3 bedrooms 1 per dwelling 2 per dwelling 4 per dwelling 2 4 bedrooms 2 per dwelling 4 per dwelling 4 per dwelling 1 1 Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum required to achieve 2 credits would be:- 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assume 6 spaces will be allocated to the existing dwellings. 1 Ene 10 Home Office No. of BREEAM innovation credits 0 Minimum Standards applicable No No. of BREEAM innovation credits 0 Minimum Standards applicable No No 1 Where sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation <td< td=""><td></td><td></td><td></td><td></td><td></td></td<> | | | | | |
| Ene 09 Cycle Storage No. of BREEAM innovation credits 0 Assessment Criteria Indicative Credits Where individual or communal compliant cycle storage is provided as follows: Indicative Credits Achieved 2 Dwelling Size One Credit Two Credits Studios/1 bedroom 1 per two dwellings 1 per dwelling 2-3 bedrooms 1 per dwelling 2 per dwelling 4 bedrooms 2 per dwelling 4 per dwelling Comments Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum required to achieve 2 credits would be:- 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assume 6 spaces will be allocated to the existing dwellings. Ene 10 Home Office No. of BREEAM innovation credits No No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria No No Indicative Credits Achieved No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria No Indicative Credits Achieved No. of BREEAM innovation credits 0 <t< td=""><td></td><td></td><td></td><td></td><td></td></t<> | | | | | |
| Ene 09 Cycle storage Available contribution to overall score 2.97% No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria Indicative Credits Achieved 2 Dwelling Size One Credit Two Credits Achieved 2 Dwelling Size One Credit Two Credits Achieved 2.3 bedrooms 1 per two dwellings 1 per dwelling 2 4 bedrooms 2 per dwelling 4 per dwelling 4 per dwelling Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum required to achieve 2 credits would be:- 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assume 6 spaces will be allocated to the existing dwellings. Indicative Credits Indicative Credits No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria 0 Minimum Standards applicable Indicative Credits No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria Indicative Credits Indicative Credits Where sufficient space and services will be provide | F 00 | | | | |
| No. of BREEAW innovation credits 0 Minimum Standards applicable No Assessment Criteria 0 Minimum Standards applicable No Assessment Criteria Indicative Credits Achieved 2 Dwelling Size One Credit Two Credits Studios/1 bedroom 1 per two dwellings 1 per dwelling 2-3 bedrooms 1 per dwelling 2 per dwelling 4 bedrooms 2 per dwelling 4 per dwelling Comments Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum required to achieve 2 credits would be:- 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assume 6 spaces will be allocated to the existing dwellings. Indicative Credits No. of BREEAM credits available 1 Available contribution to overall score 1.48% No. of BREEAM credits available 1 Available contribution to overall score 1.48% No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria 1 Available contribution to overall score 1.48% Where sufficient space and services will be provided to allow occupants to set up a home office in a suitabl | Ene 09 | | 2 | | 2.07% |
| No. or BREEAM innovation credits 0 Minimum standards applicable No Assessment Criteria Indicative Credits Where individual or communal compliant cycle storage is provided as follows: Indicative Credits Achieved 2 Dwelling Size One Credit Two Credits Studios/1 bedroom 1 per two dwellings 1 per dwelling 2.3 bedrooms 1 per dwelling 2 per dwelling 4 bedrooms 2 per dwelling 4 per dwelling Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum required to achieve 2 credits would be:- 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assume 6 spaces will be allocated to the existing dwellings. Indicative Credits No. of BREEAM credits available 1 Available contribution to overall score 1.48% No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria Indicative Credits Achieved 1 Where sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation 1 | | NO. OF BREEAIN CREDITS AVAILABLE | 2 | Available contribution to ov | verall score 2.97% |
| Assessment Criteria Indicative Credits Where individual or communal compliant cycle storage is provided as follows: Achieved Dwelling Size One Credit Two Credits Studios/1 bedroom 1 per two dwellings 1 per dwelling 2-3 bedrooms 1 per dwelling 2 per dwelling 2-3 bedrooms 1 per dwelling 2 per dwelling 4 bedrooms 2 per dwelling 4 per dwelling Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum required to achieve 2 credits would be:- 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assume 6 spaces will be allocated to the existing dwellings. Indicative Credits Ene 10 Home Office No. of BREEAM innovation credits 0 No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria Indicative Credits Achieved 1 Where sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation 1 | N | IO. OF BREEAIN INNOVATION CREdits | 0 | IVIINIMUM Standards | |
| Achieved 2 Dwelling Size One Credit Two Credits 2:3 bedrooms 1 per two dwellings 1 per dwelling 2:3 bedrooms 1 per dwelling 2 per dwelling 4 bedrooms 2 per dwelling 4 per dwelling Comments Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum required to achieve 2 credits would be:- 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assume 6 spaces will be allocated to the existing dwellings. Ene 10 Home Office No. of BREEAM credits available 1 Available contribution to overall score 1.48% No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria Indicative Credits Achieved Where sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation 1 Comments 1 1 Achieved Sufficient consider will be provided. Each proom used as a home office must be large approved to to be used for its original functions. 1 | Assessme | nt criteria lividual ar communal compliant cu | ale storage is provided as falle | | |
| Dwelling Size One Credit Two Credits Studios/1 bedroom 1 per two dwellings 1 per dwelling 2-3 bedrooms 1 per dwelling 2 per dwelling 4 bedrooms 2 per dwelling 4 per dwelling Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum required to achieve 2 credits would be:- 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assume 6 spaces will be allocated to the existing dwellings. Ene 10 Home Office No. of BREEAM credits available 1 Assessment Criteria No Where sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation 1 Comments 1 Suitable room with adequate ventilation 1 | where inc | invidual of communal compliant cy | cie storage is provided as tono | wvs. | Achieved 2 |
| Dwenning size One credit Two credits Studios/1 bedroom 1 per two dwellings 1 per dwelling 2-3 bedrooms 1 per dwelling 2 per dwelling 4 bedrooms 2 per dwelling 4 per dwelling 6 spaces 2 per dwelling 4 per dwelling Comments Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum required to achieve 2 credits would be:- 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assume 6 spaces will be allocated to the existing dwellings. Ene 10 Home Office 1 No. of BREEAM credits available 1 Available contribution to overall score 1.48% No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria Indicative Credits Achieved 1 where sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation 1 1 | | Dwolling Sizo | Opo Crodit | Two Crodits | <u> </u> |
| 2-3 bedrooms 1 per dwelling 2 per dwelling 2-3 bedrooms 1 per dwelling 2 per dwelling 4 bedrooms 2 per dwelling 4 per dwelling Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum required to achieve 2 credits would be:- 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assume 6 spaces will be allocated to the existing dwellings. Ene 10 Home Office No. of BREEAM credits available 1 Assessment Criteria 0 Where sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation 1 Comments 1 | | Studios / 1 bedroom | 1 per two dwellings | 1 per dwelling | 1 |
| 2 betrooms 1 betrowening 2 per dwelling 4 bedrooms 2 per dwelling 4 per dwelling Comments Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum required to achieve 2 credits would be:- 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assume 6 spaces will be allocated to the existing dwellings. Ene 10 Home Office No. of BREEAM credits available 1 Assessment Criteria 0 Where sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation 1 | | 2-3 hedrooms | 1 per dwelling | 2 per dwelling | 4 |
| Comments Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum required to achieve 2 credits would be:- 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assume 6 spaces will be allocated to the existing dwellings. Ene 10 Home Office No. of BREEAM credits available 1 Available contribution to overall score 1.48% No. of BREEAM innovation credits 0 Mere sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation 1 Comments 1 | | 4 hedrooms | 2 per dwelling | 4 per dwelling | 4 |
| Comments Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum required to achieve 2 credits would be:- 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assume 6 spaces will be allocated to the existing dwellings. Ene 10 Home Office No. of BREEAM credits available 1 Assessment Criteria 1 Where sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation 1 Comments 1 | | | 2 per dwennig | + per dwennig |] |
| Assuming there are 3 x 2 bed apartments. The minimum number of cycle spaces required to achieve one credit is:- 3 The minimum required to achieve 2 credits would be:- 6 cycle spaces. 14 spaces in total are provided for the new build and refurbishment. Assume 6 spaces will be allocated to the existing dwellings. Ene 10 Home Office No. of BREEAM credits available 1 Available contribution to overall score 1.48% No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria Where sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation Comments Sufficient space will be provided. Each room used as a home office must be large approximate to to be used for its ariginal function. | Comment | 2 | | | |
| Ene 10 Home Office No. of BREEAM credits available 1 Assessment Criteria 0 Where sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation 1 Comments 1 | Assuming | there are 3 x 2 bed apartments. The | e minimum number of cycles | paces required to achieve one cre | dit is- 3 The minimum |
| Ene 10 Home Office No. of BREEAM credits available 1 Available contribution to overall score 1.48% No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria Indicative Credits Achieved 1 Where sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation 1 1 Comments Sufficient space will be provided. Each room used as a home office must be large and used for its original function 1 | required t | o achieve 2 credits would be - 6 cv | cle spaces 14 spaces in total a | are provided for the new build and | t refurbishment |
| Ene 10 Home Office No. of BREEAM credits available 1 Available contribution to overall score 1.48% No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria Indicative Credits Vhere sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation Indicative Credits Comments 1 1 | Assume 6 | spaces will be allocated to the exis | sting dwellings | | |
| Ene 10 Home Office No. of BREEAM credits available 1 Available contribution to overall score 1.48% No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria Indicative Credits Vhere sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation Indicative Credits Comments 1 1 | | | sting attennige. | | |
| Ene 10 Home Office No. of BREEAM credits available 1 Available contribution to overall score 1.48% No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria Indicative Credits Where sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation Indicative Credits Comments 1 | | | | | |
| No. of BREEAM credits available 1 Available contribution to overall score 1.48% No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria Indicative Credits Where sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation Indicative Credits Comments 1 | Eno 10 | Homo Offica | | | |
| No. of BREEAM innovation credits 0 Minimum Standards applicable No Assessment Criteria Indicative Credits Where sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation Indicative Credits Comments 1 | | No. of BREFAM credits available | 1 | Available contribution to ov | verall score 1 48% |
| Assessment Criteria Where sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation Comments | Ν | In of BREEAM innovation credits | 0 | Minimum Standards | applicable N0 |
| Where sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation Achieved Comments 1 Sufficient services will be provided. Each room used as a home office must be large enough to to be used for its original function 1 | Assessme | nt Criteria | 0 | | Indicative Credits |
| suitable room with adequate ventilation Comments Sufficient services will be provided. Each room used as a home office must be large enough to to be used for its original function | Where suf | fficient space and services will be r | provided to allow occupants to | set up a home office in a | Achieved |
| Comments Sufficient services will be provided. Each room used as a home office must be large enough to to be used for its original function | suitable ro | com with adequate ventilation | | | 1 |
| Comments Sufficient services will be provided. Each room used as a home office must be large ensuch to to be used for its original function | | | | | · |
| Sufficient services will be provided. Each room used as a home office must be large enough to to be used for its original function | Comment | s | | | |
| CONTREM 26 MILES MILES DIOVIDED. LACTITOOM 0260 32 3 NOME ONCE MUST DE 1909 EDOUOD TO TO DE USED TOUTS OUDIDALMONTON | Sufficient | services will be provided. Each roo | m used as a home office must | be large enough to to be used for | r its original function |
| | (bedroom | ?) and sufficient space should be p | rovided i.e. a 1.8m wall length | . This would need to be checked | for each apartment |
| Upodroom () and sufficient space should be provided i.e. a 1.0m wall length. This would need to be should for each another and | Inegroom | c) and summerit space should be p | novided i.e. a T.om Wall length | i. This would need to be checked | ior each apartment |

type. Restrictions on the location of the home officemeans it can't be located in the kitchen or living room. There is no minimum ave daylight requirement.

| | WATER | Section Weighting: 11% Indicative Section Score | | |
|-------------|-------------------------------------|---|--------------------------------------|----------------------|
| Wat 01 | Internal Water Use | | | |
| | No. of BREEAM credits available | 3 | Available contribution to ov | verall score 6.60% |
| N | o. of BREEAM innovation credits | 1 | Minimum Standards | applicable Yes |
| Assessmer | nt Criteria | | | Indicative Credits |
| Where the | dwellings water consumption me | eets the following consumption | benchmarks, or where terminal | Achieved |
| fittings me | et the following water consumpti | on standards: | | 2 |
| | Calculated Water Consumption | Equivalent terminal fitting | Minimum Standard | Credits |
| | (litres/person/day) | standards | | |
| | >150 | Typical baseline performance | N/A | 0 |
| | 140-150 | All showers specified to 'Good' OR All taps and WC's to 'Good' OR Kitchen fittings specified to 'Excellent' | N/A | 0.5 |
| | 129-139 | All showers specified to 'Excellent' OR All showers and bathroom taps to 'Good' | BREEAM Very Good | 1 |
| | 118-128 | All bathroom and WC room fittings specified to 'Good' OR All bathroom fittings specified to 'Excellent' | N/A | 1.5 |
| | 107-117 | All Bathroom and WC room fittings specified to 'Excellent' OR All Bathroom fittings Specified to 'Excellent' and WC room fitting specified to 'Good' OR All Bathroom fittings, kitchen and utility sittings specified to 'Good' | BREEAM Excellent | 2 |
| | 96-106 | All kitchen, bathroom, utility room and WC room fittings specified to 'Good' OR All bathrooms, kitchens and utility rooms specified to 'Excellent' | N/A | 2.5 |
| | <95 | All bathroom fittings specified to 'Excellent' and WC room, kitchen and utility room fittings specified to 'Good' | BREEAM Outstanding | 3 |
| | NOTE: 'Good' fittings are equival | ent to good practice fittings with | th "Excellent" fittings equivalent t | o best |
| | practice fittings (see the technica | ai manuai for full détails. | | Indianting house the |
| | Exemplary Credit | If the water consumption is | | Credits Achieved |
| | | less than 80l/person/day | | 0 |

Min 2 credits required for Excellent. Assume no grey water use. A separate calc has to be performed for each sanitary ware specification and is exactly the same as for Part G & Code for Sustainable Homes. Need to know flow rates for all showers, kitchen taps and WHB as prescribed by CLG Water Efficiency Calculator. Need L/kg dry load and L/place setting for washing machines & dishwashers. Water use of waste disposal units & water softeners if specified.

| Wat 02 External Water Use | | | | |
|--|--|---|--------------|-----------|
| No. of BREEAM credits available | 2 1 | Available contribution to ov | verall score | 2.20% |
| No. of BREEAM innovation credit | s 0 | Minimum Standards | applicable | No |
| Assessment Criteria | | | Indicative | e Credits |
| Where the following requirements will be r | net: | | Achie | eved |
| | | | 1 | 1 |
| | Requirements: | | | |
| Opo Crodit | Where a compliant rainwa irrigation use h | ter collection system for external/ as been provided to dwellings. | internal | |



| Wat 03 Water Meter | | | | | <u></u> |
|--|------------------------|--|---|----------------|-----------------|
| No. of BREEAM credits | available | 1 | Available contribution to ov | verall score | 2.20% |
| No. of BREEAM innovation | on credits | 0 | Minimum Standards | applicable | No |
| Assessment Criteria | | | | Indicative | Credits |
| Where an appropriate water mete | r for measuring usag | je of mains potable | water meter has been provided | Achie | ved |
| to dwelling(s), one credit may be a | iwarded | | | 1 | |
| - | | | | | |
| Comments | | | | | |
| The meter needs to provide a visib | ble display of mains p | otable water consu | imption to occupants and should b | e a permaner | nt feature |
| secured within the apartment in a | location visible to o | cupants i.e. not nic | Iden Inside a cupboard. The visual of | display should | d be |
| capable of recording and displaying | g nistoric water cons | sumption and shoul | d be capable of displaying current (| consumption | eitner |
| | ervais. | | | | |
| ΜΛΤΕΡΙΛΙς | Soction M | loighting: 8% | Indicative Sec | ction Score | 2 01% |
| | | | | | 3.71/0 |
| Mat 01 Environmental Impact | of Materials | | | | 4 4 4 0/ |
| | | 25 | | /erall score | 4.44% |
| | on creaits | 0 | Minimum Standards | applicable | NO One alite |
| Assessment Uniteria | with cradits calculate | dusing the Mat 01 | calculator tool. The table below | | Credits |
| shows the maximum number of cr | adits available for or | su using the Mat OT | | Achie 19 | vea |
| | | ich element. | | | , |
| | Green G | uide Rating credits | Thermal performance credits | 1 | |
| Elements | | available | available* | | |
| Roof | | 5 | 3 | | |
| External walls | S | 5 | 3.8 | | |
| Internal walls (inclu | uding | F | | 1 | |
| separating wall | s) | 5 | - | | |
| Upper and Ground | Floor | 5 | 1.2 | | |
| Windows | | 5 | 2 | | |
| | | | | - | |
| The full 25 credits repre | esents all of the eler | nents containing ref | furbished or existing materials | | |
| that meet the Green G | uide Rating of A+(6) | | | | |
| | Doint | to for ovicting / | | 1 | |
| GG Rating | POIN | is for existing / | | | |
| A+ (6) | rofurb | ished elements | Points for new elements | | |
| $\frac{A+(5)}{A+(5)}$ | refurk | ished elements | Points for new elements | | |
| $\frac{A+(3)}{A+(4)}$ | refurb | bished elements 5 | Points for new elements | | |
| | refurb | oished elements 5 4.6 4.2 | Points for new elements | | |
| Δ +(3) | refurt | pished elements 5 4.6 4.2 3.8 | Points for new elements | | |
| A+ (3) A+ (2) | | bished elements 5 4.6 4.2 3.8 3.4 | Points for new elements | | |
| A+ (3) A+ (2) A+ | | bished elements 5 4.6 4.2 3.8 3.4 3 | Points for new elements | | |
| A+ (3) A+ (2) A+ A | | 5 4.6 4.2 3.8 3.4 3 2 | Points for new elements | | |
| A+ (3) A+ (2) A+ A B | | 5 4.6 4.2 3.8 3.4 3 2 1 | Points for new elements 3 2 1 | | |
| A+ (3) A+ (2) A+ A B C | | 5 4.6 4.2 3.8 3.4 3 2 1 0.5 | Points for new elements Points for new elements 3 2 1 0.5 | | |
| A+ (3) A+ (2) A+ A B C D | | S 5 4.6 4.2 3.8 3.4 3 2 1 0.5 0.25 | Points for new elements 3 2 1 0.5 0.25 | | |

Where the full 25 credits cannot be achieved the score can be 'topped up' with thermal performance credits. The full number of thermal performance credits for each element can be achieved when achieving the minimum U-values shown below.

| Flomonto | |
|----------|--|
| FIEMENIS | |

| | Minimum U-Value (W/m2K) |
|---------------------------|-------------------------|
| | |
| Roof | 0.11 |
| External walls | 0.15 |
| Internal walls (including | |
| separating walls) | - |
| | |
| Upper and Ground Floor | 0.15 |
| Windows | 1.4 |

Comments

External walls are being thermally upgraded. Upper floors and roof are existing. Internal walls & separating walls are a combination of new, existing and refurbished. Windows will be new. Ground floor not assessed. 18 credits are based on likely worse case scenario using refurbishment green guide calculator tool. Need to know area for each of the above elements and whether they are new, refurbished or existing. U-value before & after is required for any refurbished elements. Need green guide rating for new Aluminium windows (currently assumed C rating).

| No. of REEAM credits available | 10 | Available contribution to overall score | 2 1 2 % |
|---|-----------------------------------|---|----------------------|
| No. of PDEEAN inpovation credits | 0 | Available contribution to over all score | Z.1370 |
| NO. OF BRELAW INNOVATION CLEUIS | U | | i Crodite |
| essment officials are responsibly source | d up to 12 credits may be aw | arded where 80% of pew Achi | |
| are new materials are responsibly source | rced The credits achieved ar | e dependent on % of point | eveu N |
| eved which is based upon the responsibly | e sourcing tier level of each m | aterial sourced as detailed | 0 |
| W: | | | |
| Table 1 | | | |
| Tier level | Points | | |
| 1 | 4 | | |
| 2 | 3.5 | | |
| 3 | 3 | | |
| 4 | 2.5 | 1 | |
| 5 | 2 | | |
| 6 | 1.5 | 1 | |
| 7 | 1 | 1 | |
| 8 | 0 |] | |
| BREEAM credits | % of available points achieved | | |
| 12 | ≥54% | | |
| 10 | ≥45% |] | |
| 8 | ≥36% | | |
| 6 | ≥ 27% | | |
| 4 | ≥ 18% | | |
| 2 | ≥ 9% | | |
| | | Will all new timber used in the project be s accordance with the UK Government's Procurement Policy | sourced in Timber |
| | | Yes | |
| nents | | | |
| credits have been assumed although so | me will be achievable if requir | red. All new timber has to be sourced in accor | dance with |
| JK Government's Timber Procurement P | olicy regardless. The BRE have | e issued new guidance that documentary evide | ence from |
| liers & volumes of materials need to cor | firm the amount of credits w | e are targeting can actually be achieved. It is r | no longer |
| cient to write a letter stating we will ach | ieve X number of credits. tbc. | | |
| at 03 Insulation | | | |
| No. of BREEAM credits available | 8 | Available contribution to overall score | 1.42% |
| No. of BREEAM innovation credits | 0 | Minimum Standards applicable | No |

Minimum Standards applicable 0 Indicative Credits Where any new insulation specified for use within external walls, ground floor, roof and buildings services Achieved

4

meet the following requirements:

Assessment Criteria

| | 0 | | | |
|------------|------------------------------------|---|---------------------------|--|
| | | Requirements | | |
| | | Where the Insulation Index for new insulation used in the | veighted insulation is A+ | |
| | 4 Crodito | buildings is ≥2 | | |
| | 4 Credits | Where Green Guide ratings are determined using the Green | | |
| | | Guide to specification tool | | |
| | | Requirements | | |
| | 1 Crodits | Where \geq 80% of the new thermal insulation used in the | | |
| | 4 credits | building elements is responsibly sourced. | | |
| | | | | |
| Comments | 5 | | | |
| Most insul | ation is A or A+ rated. An Insulat | ion Index of 2 can be achieved where at least 67% of the area weig | ghted insulation is A+ | |
| rated. The | volume, thermal conductivity & | Green Guide rating is required for each type of insulation. 8 crea | lits may be achievable | |
| but 80% of | the insulation will be required to | o show procurement from suppliers with Environmental Managen | nent Systems for both | |
| the supply | chain process (collecting/creating | ng the raw materials) and the key process (producing the insulation | n). tbc. | |
| - | | | | |

| WASTE | Section Weighting: 3% | Indicative Sect | tion Score | 1.20% |
|--|-----------------------------------|------------------------------------|-------------|---------|
| Was 01 Household Waste | | | | |
| No. of BREEAM credits available | 2 | Available contribution to over | erall score | 1.20% |
| No. of BREEAM innovation credits | 0 | Minimum Standards a | applicable | No |
| Assessment Criteria | | | Indicative | Credits |
| Where compliant recycling and composting | facilities are provided, up to tv | o credits may be awarded as | Achie | ved |
| follows | | | 1 | |
| | | | | |
| First Credit - Recycling Facilities | <u> </u> | | | |
| Scenario | Internal recycling | storage requirements | | |
| | 3 internal recycling containers | provided where recycling is not | | |
| | sorted post collection | | | |
| | 1 internal recycling container | provided where recycling is | | |
| Compliant collection scheme in | sorted post collection | | | |
| place | Minimum 30 litre total capacit | y, no single container less than 7 | | |
| | Intre capacity | acc with compliance note 1 | | |
| | Dedicated position in accorda | ice with compliance note 1 | | |
| | 3 internal recycling containers | provided | | |
| No compliant collection scheme | Minimum 60 litre total capacit | ΣV | | |
| In place | Dedicated position in accorda | nce with compliance note 1 | | |
| No adequate external storage | | | | |
| No compliant collection scheme | 3 internal recycling containers | provided | | |
| in place | Minimum 30 litre total capacit | y, no single container smaller | | |
| Adequate external storage | than 7 litre capacity | | | |
| provided | Dedicated position in accorda | nce with compliance note 1 | | |
| | | | | |
| Cocond gradit Compacting for | ilition | I | | |
| With external space | Mithout ovtornal space | | | |
| Where a composting service or | Where a composting service | | | |
| facility is provided for | or facility is provided for | | | |
| areen/arden waste | kitchen waste | | | |
| gi ceni gai den waste | Kitcheri waste | | | |

| <u> </u> | |
|----------------------------------|------------------------------|
| Where a composting service or | Where an interior container |
| facility is provided for kitchen | is provided for kitchen |
| waste | composting waste of at least |
| Where an interior container is | |
| provided for kitchen | |
| composting waste of at least 7 | |
| litres | |

Credit assumed for the internal recycling bin.

| Was 02 | Refurbishment Site Waste Man | agement | | | |
|------------|-----------------------------------|----------------------------------|-----------------------------------|--------------|------------|
| | No. of BREEAM credits available | 3 | Available contribution to ov | /erall score | 1.80% |
| N | o. of BREEAM innovation credits | 1 | Minimum Standards | applicable | No |
| Assessmer | nt Criteria | | | Indicativ | e Credits |
| Up to thre | e credits are available depending | on the site waste management | plan to be implemented as | Achi | eved |
| follows | | | | | 1 |
| | Projects up to £100k | | | | |
| | Three Credits | Where waste generated throu | gh the refurbishment process is | Indicative | Innovation |
| | | managed in accordance with C | checklist A-9 | Credits / | Achieved |
| | Exemplary Credit | Where a compliant Level 1; Sit | e Waste Management Plan | |) |
| | 1 3 | (SWIVIP) is in place | | | |
| | Drainsta un ta C200k | | | | |
| | Projects up to £300k | Where a compliant Loval 1. Sit | a Masta Managamant Dian | 1 | |
| | Three Credits | | e waste wanagement Plan | | |
| | | Where a compliant Level 2: Sit | e Waste Management Plan | | |
| | | (SWMP) is in place | | | |
| | | Non-hazardous construction w | aste generated by the dwellings | | |
| | | refurbishment meets or excee | ds the resource efficiency | | |
| | - · · · · | benchmark | j | | |
| | Exemplary Credit | | | | |
| | | The percentage of non-hazard | ous construction waste and | | |
| | | demolition waste generated by | y the project has been diverted | | |
| | | from landfill and meets or exce | eeds the refurbishment & | | |
| | | demolition waste diversion be | nchmarks | | |
| | | | | | |
| | Projects over £300k | | | 1 | |
| | First Credit | Where a compliant Level 2; Sit | e Waste Management Plan | | |
| | IVIanagement Plan | (SVVIVIP) IS IN place | | | |
| | | Non bazardous construction w | uses apported by the dwellings | | |
| | | refurbishment meets or excee | ds the resource efficiency | | |
| | | benchmark | as the resource enterency | | |
| | Second Credit | Amount of waste generated a | painst £100,000 of project value | | |
| | Good Practice Waste | is recorded in the SWMP | | | |
| | Benchmarks | Pre-refurbishment audit of the | existing building is completed | | |
| | | | | | |
| | | If demolition is included as par | rt of the refurbishment | | |
| | | programme, then the audit she | ould also cover demolition | | |
| | | materials | | | |
| | | Where the first two credits have | ve been achieved achieved | | |
| | Third Credit | Where Non-hazardous demoli | tion waste generated by the | | |
| | Best Practice Waste | dwellings refurbishment meet | s or exceeds the refurbishment & | | |
| | Benchmarks | demolition waste diversion be | nchmarks | | |
| | | M/bara pap bazardaus const | ruction wasta generated by the | | |
| | | dwollings refurbishment meet | s or overaged the overpland lovel | | |
| | | resource efficiency | iency henchmark | | |
| | Exemplary Credit | Where Non-hazardous dem | olition waste generated by the | | |
| | | dwellings refurbishment meet | s or exceeds the exemplary level | | |
| | | diversion | benchmarks | | |
| | | | | 1 | |

A minimum of 1 credit should be achievable, maybe 3. Depends on the project value.

| POLLUTION | Section Weighting: 6% | Indicative Section Score | 2.25% |
|--|-----------------------------------|---|-----------|
| Pol 01 NOx Emissions | | | |
| No. of BREEAM credits available | 3 | Available contribution to overall score | 2.25% |
| No. of BREEAM innovation credits | 0 | Minimum Standards applicable | No |
| Assessment Criteria | | Indicativ | e Credits |
| Credits are awarded on the basis of NOx en | nissions arising from the operat | ion of space heating and hot Achi | eved |
| water systems for each refurbished dwellin | g as follows: | | 0 |
| | | | |
| | Dry NO: | x Emissions | |
| One Credit | ≤100 mg/kWh (| (NOx class 4 boiler) | |
| Two Credits | ≤70 mg/kWh (| NOx class 5 boiler) | |
| Three Credits | ≤40 ו | mg/kWh | |
| | - | | |
| Comments | | | |
| Too much heating will be derived from hea | t pumps using grid electricity. N | o credits can be achieved. | |
| | | | |
| | | | |
| | | | |
| | | | |
| Pol 02 Surface Water Runoff | | | |
| No. of BREEAM credits available | 3 | Available contribution to overall score | 2.25% |
| No. of BREEAM innovation credits | 1 | Minimum Standards applicable | No |
| Assessment Criteria | | Indicativ | e Credits |
| Where impacts of the refurbishment on sur | face water runoff are neutralise | ed or where runoff is reduced as Achi | eved |
| a result of refurbishment, up to three credi | ts can be awarded as follows: | | 1 |
| | Requirements | | |
| First Credit | New hard standing areas mus | t be permeable | |
| | If building on to previously per | rmeable area additional run-off must be | |
| Neutral Impact on Surface | managed on site | out hu on one restately suchified | |
| Water | | out by an appropriately qualified | |
| | Poquiromonts | | |
| | Where all run-off from the roo | of for rainfall denths up to 5 mm have been | |
| Second Credit | managed on site using source | control methods | |
| | Include runoff from all existing | and new parts of the roof | |
| Reducing Run-Off From Site: | An appropriately qualified pro | fessional should be used to design an | |
| Basic | appropriate drainage strategy | for the site | |
| | Requirements | | |
| | Where run-off as a result of th | e refurbishment is managed on site using | |
| | source control | 5 5 | |
| | An appropriately qualified pro | fessional should be used to design an | |
| | appropriate drainage strategy | for the site. | |
| Third Cradit | | | |
| Third creat | The peak rate of run-off as a re | esult of the refurbishment for the 1 in 100 | |
| Reducing Run Off From Site | year event has been reduced b | by 75% from the existing site. | |
| Advanced | The total volume of run-off dis | scharged into the watercourses and sewers | |
| Auvanceu | as a result of the refurbishmer | nt, for a 1 in 100 year event of 6 hour | |
| | duration has been reduced by | 75% | |
| | | | |
| | An allowance for climate chan | ge must be included for all of the above | |
| | calculations, in accordance wi | th current best practice (PPS25, 2010). | |

| | Requirements | |
|------------------|---|--------------------------------|
| | Where all run-off from the developed site is managed on site using source control | Indicative Credits Achieved |
| | | 0 |
| | The peak rate of run-off as a result of the refurbishment for the 1 in 1 year event is reduced to zero. | |
| | The peak rate of run-off as a result of the refurbishment for the | |
| Exemplary Credit | 1 in 100 year event is reduced to zero. | |
| | There is no volume of run-off discharged into the watercourses and sewers as a result of the refurbishment, for a 1 in 100 year event of 6 hour duration. | |
| | An allowance for climate change must be included for all of the | |
| | above calculations, in accordance with current best practice | |
| | (PPS25, 2010). | |

One credit has been assumed. 2 credits may be possible but would need calcs from an Appropriately Qualified Professional demonstrating rainfall depths up to 5mm have been managed on site using source control methods (e.g. soakaways, infiltration etc.) Any new hard standing areas should be permeable. This includes new pavements, driveways and where applicable public rights of way, car parks and non-adoptable roads.

| Pol 03 Flooding | | | | |
|--|--|---|---|------------|
| No. of BREEAM credits available | vailable 2 Available contribution to overall score | | 1.50% | |
| No. of BREEAM innovation credits | No. of BREEAM innovation credits 0 Minimum Standards applicabl | | applicable | Yes |
| Assessment Criteria | | | Indicative | Credits |
| | | | Achie | ved |
| Where the dwelling is located in a low flood | risk zone, or where in a mediu | Im to high flood risk zone and a | 2 | |
| nood resilience/resistance strategy has been | h implemented, up to two cred | at he achieved for this issue at the | Fycollopt | |
| Minimum Standards | and Outstanding levels | st be achieved for this issue at the | Excellent | |
| Option 1 - Low Flood Risk | | | | |
| Two Credits | Where a Flood Risk Assessme assessed dwellings are defined flooding. | nt (FRA) has been carried out and t d as having a low annual probabilit | the ry of | |
| Option 2 - Medium / High Flood | Risk | | | |
| Two Credits | Where a Flood Risk Assessment assessed dwellings are defined probability of flooding. Two credits are awarded when measures to keep water away avoidance from flooding by fo Flow Chart. | nt (FRA) has been carried out and t d as having a medium or high annu re as a result of the dwellings floor the dwelling is defined as achievir llowing Checklist A-10; Decision St | the ial level or ng rrategy | |
| | flood resilience/resistance stra accordance with recommenda Professional | ategy is implemented for the dwel ations made by a Suitably Qualified | lings in Building | |
| Commonts | 1 | | | |
| 2 credits required for Excellent rating. The E | RA needs to have been prepar | ed in line with PP\$25 Although th | e NPPF noticy | renlaced |
| PPS25 in March 2012, the Government conf | irmed that until the review pro | pcess for all the removed auideline | s have been of | completed. |
| PPS25 must still be used for compliance wit | h the Code criteria. BRE Global | has also confirmed that this guida | nce/approac | h applies |
| to BREEAM assessments. Therefore the new | / 'Technical Guidance to the NF | PPF' for flood risk assessments is n | ot compliant | with any |
| of the schemes until further notice. | | | | |

This assessment and indicative BREEAM rating is not a formal certified BREEAM assessment or rating and must not be communicated as such. The score presented is indicative of a buildings potential performance and is based on a simplified pre-formal BREEAM assessment and unverified commitments given at an early stage in the design process.

| Building nam | West Central Street - Office |
|--|---|
| Indicative building score (% | 74.93% |
| Indicative BREEAM ratin | Pre-Assessment result indicates potential for |
| Indicative minimum standards level achieve | Pre-Assessment result indicates the minimur |

| MANAGEMENT | Section Weighting | 12.00% | Ind |
|-------------------------------|-------------------|--------|-----|
| | | | |
| Man01 Sustainable Procurement | | | |

| No. of BREEAM credits available | 8 | Available contribution to overall score | 4.36% |
|--|---|---|-------|
| No. of BREEAM innovation credits available | 1 | Minimum standards applicable | Yes |

| | | | Indicative credits |
|---|----------|-------------------|--------------------|
| Pre-Assessment question/criteria | Response | Credits available | achieved |
| Will roles, responsibilities and a training schedule be defined in accordance with BREEAM? | Yes | 1 | 1 |
| Will a BREEAM AP be appointed at RIBA stage A/B and performance targets contractually agreed? | Yes | 1 | 1 |
| Will a BREEAM AP be appointed to monitor and report progress during RIBA stage B-E? | Yes | 1 | 1 |
| Willa BREEAM AP be appointed to monitor and report progress during RIBA stage F-L? | Yes | 1 | 1 |
| Will a thermographic survey be conducted and any defects uncovered remedied? | No | 1 | 0 |
| Will compliant commissioning of building services be carried out? | yes | 1 | 1 |
| Will compliant seasonal commissioning of building services be carried out? | Yes | 1 | 1 |
| Will water/energy consumption data be recorded and aftercare support provided for 12 months? | Yes | 1 | 1 |
| Will water/energy consumption be recorded/reported for 3 years post construction? | Yes | 1 | 1 |
| | | | |

| | 7 | Total indicative BREEAM credits achieved |
|----------------------------------|------------------|---|
| % | 3.82% | Total indicative contribution to overall building score |
| | 1 | Total indicative BREEAM innovation credits achieved |
| sment result indicates the minim | Pre-Assessment r | Indicative minimum standard(s) level |

Comments/notes:

BREEAM®

BREEAM Excellent rating m standards for Excellent level

icative Section Score 9.27%

um standards for Outstanding level

Man02 Responsible Construction Practices

| No. of BREEAM credits available 2 | Available |
|--|-----------|
| No. of BREEAM innovation credits available 1 | N |

Pre-Assessment question/criteria

| Which considerate construction scheme will be used or required to be used by the pr | incipal contractor? | Considerate Constructors Scheme |
|---|---------------------|---|
| For the required scheme, what will be the target performance level set for the | ne site/contractor? | A CCS score of 36 or more |
| | | |
| Total indicative BREEAM credits achieved | 2 | |
| Total indicative contribution to overall building score | 1.09% | |
| Total indicative BREEAM innovation credits achieved | 1 | |
| Indicative minimum standard(s) level | Pre-Assessment re | esult indicates the minimum standards for Outstanding |
| | | |

Comments/notes:



e contribution to overall score 1inimum standards applicable

1.09% Yes

level

Man03 Construction Site Impacts

| No. of BREEAM credits available | 5 | Available |
|--|---|-----------|
| No. of BREEAM innovation credits available | 0 | Ν |

| | | | Indicative credits |
|---|----------|-------------------|--------------------|
| Pre-Assessment question/criteria | Response | Credits available | achieved |
| Will site energy consumption be metered/monitored? | Yes | 1 | 1 |
| Will site water consumption be metered/monitored? | Yes | 1 | 1 |
| Will the transport of construction materials and waste to/from site be measured/monitored? | Yes | 1 | 1 |
| Will timber be sourced in accordance with the Government's Timber Procurement Policy? | Yes | 1 | 1 |
| Will/does the principal contractor operate a compliant Environmental Management System? | Yes | 1 | 1 |
| Will the principal contractor adopt best practice pollution prevention policies & procedures? | Yes | I | |
| | | | |

| 5 | Total indicative BREEAM credits achieved |
|-------|---|
| 2.73% | Total indicative contribution to overall building score |
| N/A | Total indicative BREEAM innovation credits achieved |
| N/A | Indicative minimum standard(s) level |

Comments/notes:



e contribution to overall score

linimum standards applicable

2.73%

No

| achieved | |
|----------|--|
| 1 | |

Man04 Stakeholder Participation

| No. of BREEAM credits available | 4 | Available |
|--|---|-----------|
| No. of BREEAM innovation credits available | 0 | Ν |

| Pre-Assessment question/criteria | Response | Credits available | achieved | |
|--|----------|-------------------|----------|--|
| Will an appropriate level of consultation activities be undertaken? | No | 1 | 0 | |
| Will an access statement be developed and appropriate building user facilities provided? | Yes | 1 | 1 | |
| Will building user guides and relevant user information be provided? | | 1 | 1 | |
| Will a post occupancy evaluation assessment be undertaken and information disseminated? | | 1 | 1 | |
| | | | | |
| Total indicative BREEAM credits achieved 3 | | | | |
| Total indicative contribution to overall building score 1.64% | | | | |
| Total indicative BREEAM innovation credits achieved N/A | | | | |

Indicative minimum standard(s) level Pre-Assessment result indicates the minimum standards for Outstanding level

Comments/notes:



e contribution to overall score

linimum standards applicable

2.18% Yes

Man05 Life cycle cost and service life planning

| No. of BREEAM credits available | 3 | Available |
|--|---|-----------|
| No. of BREEAM innovation credits available | 0 | М |

| Pre-Assessment question/criteria | | | Response | Credits available | achieved |
|----------------------------------|---|----------------|----------|-------------------|----------|
| | Will a feasibility stage Life Cycle Cost (LCC) analysis be commissioned | and completed? | No | 1 | 0 |
| | Will a strategic and system level LCC be commissioned | and completed? | No | 1 | 0 |
| | Will a technical design LCC to be commissioned | and completed? | No | 1 | 0 |
| | | | | | |
| | Total indicative BREEAM credits achieved | 0 | | | |
| | Total indicative contribution to overall building score | 0.00% | | | |
| | Total indicative BREEAM innovation credits achieved | N/A | | | |
| | Indicative minimum standard(s) level | N/A | | | |

Comments/notes:



contribution to overall score

1.64% No

linimum standards applicable

| HEALTH & WELLBEING | Section Weighting | 15.00% | Indicative Section Score | | 11.79% | |
|--|---|---------------------|------------------------------|-----------------------|--------------------------------|-------|
| Hea01 Visual Comfort | | | | | | |
| No. | of BREEAM credits available | 3 | ŀ | Available contributio | n to overall score | 3.21% |
| NO. OT BREEAM | innovation credits available | | Minimum standards applicable | | | Yes |
| Pre-Assessment question/criteria | | | Response | Credits available | Indicative credits achieved | |
| Will all fluorescer | nt lamps be fitted with high fre | equency ballasts? | Yes | N/A | N/A | |
| will all relevant building areas be designe Will the design provide adequat | d to achieve the appropriate d e glare control and view out fo | aylight factor(s)? | Yes | 1 | 1 | |
| Will internal/external lighting be specified in accordance wit | h the relevant CIBSE Guides/B | British Standards? | Yes | 1 | 1 | |
| Will all relevant building areas be designed | d to achieve exemplary level d | laylight factor(s)? | | 1 | 0 | |
| Total indicativ | ve BREEAM credits achieved | 2 | | | | |
| Total indicative contribut | ion to overall building score | 2.14% | | | | |
| Total indicative BREEAM | innovation credits achieved | 0 | | | | |
| Indicative | e minimum standard(s) level | Pre-Assessment res | sult indicates the | minimum standards | for Outstanding lev | vel |

Comments/notes:



Hea02 Indoor Air Quality

| No. of BREEAM credits available 4 | Available |
|--|-----------|
| No. of BREEAM innovation credits available 0 | N |

| Pre-Assessment question/criteria | Response | Credits available | achieved |
|---|----------|-------------------|----------|
| Will an air quality plan be produced? | Yes | 1 | 1 |
| Will the building be designed to minimise sources of internal air pollution? | Yes | I | I |
| Will the relevant products be specified to meet the VOC testing and emission levels required? | Yes | 1 | 1 |
| 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 |

| Total indicative BREEAM credits achieved | 2 |
|---|-------|
| Total indicative contribution to overall building score | 2.14% |
| Total indicative BREEAM innovation credits achieved | N/A |
| Indicative minimum standard(s) level | N/A |

Comments/notes:



e contribution to overall score linimum standards applicable

4.29%

No

Hea03 Thermal Comfort

| No. of BREEAM credits available 2 | Available |
|--|-----------|
| No. of BREEAM innovation credits available 0 | N |

| Pre-Assessment question/criteria | | | Response | Credits available | achieved |
|----------------------------------|---|-------------------|----------|-------------------|----------|
| | Will thermal modelling of the desig | n be carried out? | Yes | 1 | 1 |
| | Will the modelling inform the development of a thermal zoning and | control strategy? | Yes | 1 | 1 |
| | | | | | |
| | Total indicative BREEAM credits achieved | 2 | | | |
| | Total indicative contribution to overall building score | 2.14% | | | |
| | Total indicative BREEAM innovation credits achieved | N/A | | | |
| | Indicative minimum standard(s) level | N/A | | | |
| | | | | | |

Comments/notes:



e contribution to overall score

2.14% No

1inimum standards applicable

Hea04 Water Quality

| No. of BREEAM credits available | 1 | | Available contributio | n to overall score |
|---|--|------------------------------|-----------------------|--------------------------------|
| No. of BREEAM innovation credits available | 0 | Minimum standards applicable | | |
| Pre-Assessment question/criteria | | Response | Credits available | Indicative credits achieved |
| Will all water systems be designed to comply with the relevant HSE Approved Code of Practic Where humidification is to be provided, will a failsafe humidification syste Will a wholesome supply of accessible, clean and fresh drinking water be supplied fo | e and Guidance? em be specified? r building users? | Yes N/A Yes | 1 | 1 |
| Total indicative BREEAM credits achieved | 1 | | | |
| Total indicative contribution to overall building score | 1.07% | | | |
| Total indicative BREEAM innovation credits achieved | N/A | | | |
| Indicative minimum standard(s) level | Pre-Assessment re | esult indicates the | minimum standards | s for Outstanding level |

Comments/notes:



1.07% Yes

Hea05 Acoustic Performance

| No. of BREEAM credits available 2 | Available |
|--|-----------|
| No. of BREEAM innovation credits available 0 | Ν |

| Pre-Assessment question/criteria | | Response | Credit |
|--|-------------------|----------|--------|
| Will/has a suitably qualified acoustician be appointed to provide appropria | te design advice? | Yes | |
| Will the building meet the relevant acoustic performance standards and testi | ng requirements? | Yes | |
| | - | | |
| Total indicative BREEAM credits achieved | 2 | | |
| Total indicative contribution to overall building score | 2.14% | | |
| Total indicative BREEAM innovation credits achieved | N/A | | |
| Indicative minimum standard(s) level | N/A | | |
| | | | |

Comments/notes:





Hea06 Safety and Security

| No. of BREEAM credits available 2 | Available |
|--|-----------|
| No. of BREEAM innovation credits available 0 | Ν |

| Pre-Assessment question/criteria | | Response | Credits available | achieved |
|---|------------|----------|-------------------|----------|
| Where external site areas are present, will safe access be designed for pedestrians and cyclists? | | Yes | 1 | 1 |
| Will a suitably qualified security consultant be appointed and security considerations accou | unted for? | Yes | 1 | 1 |
| | | | | |
| Total indicative BREEAM credits achieved | 2 | | | |
| Total indicative contribution to overall building score 2. | 14% | | | |
| Total indicative BREEAM innovation credits achieved | N/A | | | |
| Indicative minimum standard(s) level | N/A | | | |
| | | | | |

Comments/notes:



e contribution to overall score

2.14% No

1inimum standards applicable

| ENERGY | Section Weighting | 19.00% | Indicative Section Score |
|--|---|--------------------|---|
| | | | |
| Ene01 Reduction of CO ₂ Emissions | | | |
| | No. of BREEAM credits available | 15 | Available contribution to overall score |
| No. (| of BREEAM innovation credits available | 5 | Minimum standards applicable |
| How do you wish to assess the number of B | BREEAM credits achieved for this issue? | Define a target nu | mber of BREEAM credits achieved |
| Select the target number | of BREEAM credits for the Ene01 issue | 7 | BREEAM Innovation credits |



11.26%

10.56%

Yes

| 7 | Total indicative BREEAM credits achieved |
|-------------------|---|
| 4.93% | Total indicative contribution to overall building score |
| 0 | Total indicative BREEAM innovation credits achieved |
| Pre-Assessment re | Indicative minimum standard(s) level |

Comments/notes:



m standards for Excellent level

Ene02 Energy Monitoring

| No. of BREEAM credits available | 2 | Available |
|--|---|-----------|
| No. of BREEAM innovation credits available | 0 | N |

| | | | | Indicative credits |
|---|--------------|-----------------------|-------------------|--------------------|
| Pre-Assessment question/criteria | | Response | Credits available | achieved |
| Will a BMS or sub-meters be specified to monitor energy use from major building service | es systems? | Yes | 1 | 1 |
| Will a BMS or sub-meters be specified to monitor energy use by tenant/building func | ction areas? | Yes | 1 | 1 |
| | | | | |
| Total indicative BREEAM credits achieved | 2 | | | |
| Total indicative contribution to overall building score | 1.41% | | | |
| Total indicative BREEAM innovation credits achieved | N/A | | | |
| Indicative minimum standard(s) level Pre-As | ssessment re | esult indicates the r | minimum standard | s for Outstanding |

Comments/notes:



e contribution to overall score

1.41% Yes

1inimum standards applicable

level

Ene03 External Lighting

| No. of BREEAM credits available 1 | Available |
|--|-----------|
| No. of BREEAM innovation credits available 0 | Ν |

| No. of BREEAM credits available | 1 | Available contribution to overall score | | 0.70% | |
|---|------------------|---|-------------------|-------------------------------------|--|
| No. of BREEAM innovation credits available | 0 | Minimum standards applicable | | No | |
| Pre-Assessment question/criteria Will external light fittings and controls be specified in accordance with the | BREEAM criteria? | Response Yes | Credits available | Indicative credits achieved 1 | |
| Total indicative BREEAM credits achieved | 1 | | | | |
| Total indicative contribution to overall building score | 0.70% | | | | |
| Total indicative BREEAM innovation credits achieved | N/A | | | | |
| Indicative minimum standard(s) level | N/A | | | | |

Comments/notes:



Ene04 Low and Zero Carbon Technology

| | No. of BREEAM credits available | 5 | / | Available c |
|----------------------------------|--|----------------------|------------------|-------------|
| | No. of BREEAM innovation credits available | 1 | | Mir |
| | | | | |
| Pre-Assessment question/criteria | | | Response | Credits |
| | Compliant LZC feasibility study | to be undertaken | Yes | |
| | What will be the intended scope of the | e feasibility study? | Operational stag | e carbon s |
| | Target percentage net reduction in operational sta | age CO2 emissions | 10.00% | |
| | Please confirm the intended energy source of the Low and/or zero | ro carbon system? | Aerothermal | |

Building is cooled mechanically, not utilising 'free' cooling No

| Total indicative BREEAM credits achieved 2 | Total indicative BREEAM credits achieved |
|---|---|
| Total indicative contribution to overall building score 1.41% | Total indicative contribution to overall building score |
| Total indicative BREEAM innovation credits achieved 0 | Total indicative BREEAM innovation credits achieved |
| Indicative minimum standard(s) level Pre-Assessment res | Indicative minimum standard(s) level |

Comments/notes:





minimum standards for Outstanding level

Ene05 Energy Efficient Cold Storage

| No. of BREEAM credits available | N/A | Available |
|--|-----|-----------|
| No. of BREEAM innovation credits available | N/A | M |

| Pre-Assessment question/criteria | | Response | Credits available | achieved |
|---|-----|----------|-------------------|----------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| I otal indicative BREEAM credits achieved | N/A | | | |
| Total indicative contribution to overall building score | N/A | | | |
| Total indicative BREEAM innovation credits achieved | N/A | | | |
| Indicative minimum standard(s) level | N/A | | | |

Comments/notes:



Assessment Issue Not Applicable

contribution to overall score linimum standards applicable N/A N/A

Ene06 Energy Efficient Transportation Systems

| No. of BREEAM credits available | 2 | Available |
|--|---|-----------|
| No. of BREEAM innovation credits available | 0 | M |

| Pre-Assessment question/criteria | | Response | Credits available | achieved |
|---|--------------|----------|-------------------|----------|
| Will a transportation system analysis be carried out to determine the optimum number and size | ze of lifts? | Yes | 1 | 1 |
| Will three energy-efficient features offering the greatest potential energy savings be part of th | e system? | Yes | 1 | 1 |
| | | | | |
| Total indicative BREEAM credits achieved | 2 | | | |
| Total indicative contribution to overall building score 1 . | 41% | | | |
| Total indicative BREEAM innovation credits achieved | N/A | | | |
| Indicative minimum standard(s) level | N/A | | | |
| | | | | |

Comments/notes:



e contribution to overall score

1.41% N/A

linimum standards applicable

Ene07 Energy Efficient Laboratory Systems

| No. of BREEAM credits available | N/A | Available |
|--|-----|-----------|
| No. of BREEAM innovation credits available | N/A | Μ |

| Pre-Assessment question/criteria | | Response | Credi |
|--|-----|----------|-------|
| | | | |
| | | | |
| | | | _ |
| | | | |
| | | | - |
| | | | |
| | | | |
| | | | - |
| | | | |
| | | | _ |
| | | | |
| Total indicative BREEAM credits achieved | N/A | | |

| N/A | Total indicative BREEAM credits achieved |
|-----|---|
| N/A | Total indicative contribution to overall building score |
| N/A | Total indicative BREEAM innovation credits achieved |
| N/A | Indicative minimum standard(s) level |
| | |

Comments/notes:



Assessment Issue Not Applicable



Ene08 Energy Efficient Equipment

| No. of BREEAM credits available | 2 | ļ | Available |
|--|----------------------|-------------|-----------|
| No. of BREEAM innovation credits available | 0 | | М |
| | | | |
| | | | Sigr |
| Pre-Assessment question/criteria | | | ma |
| Which of the following will be present and likely to be a/the major contributor to 'unregulated' energy us | se: | Present | con |
| Small power/p | lug in equipment? | No | |
| | Swimming pool? | No | |
| Co | mmunal laundry? | No | |
| | Data centre? | No | |
| IT-intensive operation areas? | | No | |
| | Residential areas? | No | |
| | Healthcare? | No | _ |
| Kitchen and | catering facilities? | NO | |
| | | Indicative | |
| | | compliance? | Credite |
| Will the significant majority contributor(s) to 'upregulated' operay use (above) meet the | RDEEANA critoria? | Vos | |
| | DRELAWICHTEHA | 163 | |
| Total indicative BREEAM credits achieved | 2 | | |
| Total indicative contribution to overall building score | 1.41% | | |
| Total indicative BREEAM innovation credits achieved | N/A | | |
| Indicative minimum standard(s) level | N/A | | |
| | | | |

Comments/notes:





Ene09 Drying Space

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

| Pre-Assessment question/criteria | | Response | Credit |
|---|-----|----------|--------|
| | | | |
| Total indicative BREEAM credits achieved | N/A | | |
| Total indicative contribution to overall building score | N/A | | |
| Total indicative BREEAM innovation credits achieved | N/A | | |
| Indicative minimum standard(s) level | N/A | | |

Comments/notes:



Assessment Issue Not Applicable

N/A N/A

Indicative credits its available achieved
| TRANSPORT Section Weighting | g 8.00% | |
|--|-------------------------|---------------------------------|
| Tra01 Dublic Transport Accessibility | | |
| Trau i Public Transport Accessibility | | |
| No. of BREEAM credits availa | able 3 | Available |
| No. of BREEAM innovation credits availa | able 0 | Μ |
| Pre-Assessment question/criteria | | |
| What is the building type category (for the purpose of Tra01 issue assessmer | nt)? Business (office/i | ndustrial) |
| What is the degree of public transport provision for the building's location | on? Excellent provisio | on of public transport, i.e. la |
| Building's indicative Accessibility In | dex 18 |] |
| Does the building have a dedicated bus servi | ce? | |
| Total indicative BREEAM credits achie | ved 3 | 1 |
| Total indicative contribution to overall building sc | ore 2.67% | |
| Total indicative BREEAM innovation credits achie | ved N/A | |
| Indicative minimum standard(s) le | evel N/A | |

Comments/notes:



Indicative Section Score 8.00%

e contribution to overall score Iinimum standards applicable 2.67% No

arge urban/metropolitan city centre

Tra02 Proximity to Amenities

| No. of BREEAM credits available | 1 | Available |
|--|---|-----------|
| No. of BREEAM innovation credits available | 0 | Λ |

| Pre-Assessment question/criteria | | | Response | Credits |
|----------------------------------|---|-------------------|----------|---------|
| | Will the building be in close proximity of and accessible to appl | icable amenities? | Yes | |
| | Total indicative BREEAM credits achieved | 1 | | |
| | Total indicative contribution to overall building score | 0.89% | | |
| | Total indicative BREEAM innovation credits achieved | N/A | | |
| | Indicative minimum standard(s) level | N/A | | |
| | | | | |



| e contributic | on to overall score | 0.89% |
|---------------|-----------------------------|-------|
| /linimum sta | ndards applicable | No |
| ts available | Indicative credits achieved | |
| 1 | 1 | |
| | | |
| | | |

Tra03 Cyclist facilities

| No. of BREEAM credits available | 2 | Available |
|--|---|-----------|
| No. of BREEAM innovation credits available | 0 | Μ |

What is the building type category (for the purpose of Tra03 issue assessment)? Business - offices, Indust

| assessment)? | Business - offices, | Industrial | | | |
|--------------|---------------------|----------------------------|--------------------|--|--|
| | | | Indicative credits | | |
| | Response | Credits available achieved | | | |
| be provided? | Yes | 2 | 2 | | |
| be provided? | Yes | 2 | 2 | | |

Pre-Assessment question/criteria

| ╢ | Yes Yes | Will cycle storage spaces be provided? Will cyclist facilities be provided? | |
|---|------------|--|--|
| | | | |
| | | 2 | I otal indicative BREEAM credits achieved |
| | | I./8% | I OTAL INDICATIVE CONTRIBUTION TO OVERALI DUILDING SCORE |
| | | N/A | Indicative minimum standard(s) level |

Comments/notes:





1.78% No

| No. of BREEAM credits available | 2 | Available |
|--|---|-----------|
| No. of BREEAM innovation credits available | 0 | Μ |

| Building type category (for the purpose of Tra04 issue)? | Business - offices, | , Industri |
|---|---------------------|------------|
| Buildings indicative Accessibility Index (sourced from issue Tra01) | 18 | |

| | | | | Indicative credits |
|--|--------------------|----------|-------------------|--------------------|
| Pre-Assessment question/criteria | | Response | Credits available | achieved |
| Will the building meet BREEAM's maximum parking capacity criteria for this building type/Acc | cessibility Index? | Yes | 2 | 2 |
| | | | | |
| Total indicative BREEAM credits achieved | 2 | | | |
| Total indicative contribution to overall building score | 1.78% | | | |
| Total indicative BREEAM innovation credits achieved | N/A | | | |
| Indicative minimum standard(s) level | N/A | | | |
| | | | | |

Comments/notes:



e contribution to overall score Iinimum standards applicable

1.78% No

ial

Tra05 Travel Plan

| No. of BREEAM credits available | 1 | Available |
|--|---|-----------|
| No. of BREEAM innovation credits available | 0 | Ν |

| | No. of BREEAM credits available | 1 | Available contribution to overall score | | 0.89% | |
|----------------------------------|--|---------------------|---|-------------------|-------------------------------------|--|
| | No. of BREEAM innovation credits available | 0 | Minimum standards applicable | | No | |
| Pre-Assessment question/criteria | Will a transport plan based on site specific travel survey/assessme Total indicative BREEAM credits achieved | ent be developed? | Response Yes | Credits available | Indicative credits achieved 1 | |
| | Total indicative contribution to overall building score Total indicative BREEAM innovation credits achieved Indicative minimum standard(s) level | 0.89% N/A N/A | | | | |



| WATER | Section Weighting | 6.00% | Indicative Section Score | 4.50% |
|-------------------------|--|-------|---|-------|
| Wat01 Water Consumption | | | | |
| | No. of BREEAM credits available | 5 | Available contribution to overall score | 3.75% |
| | No. of BREEAM innovation credits available | 1 | Minimum standards applicable | Yes |
| | | | | |

Select the level that corresponds closely to the target or likely water component specification? Level 3 - Three credits

| 3 | Total indicative BREEAM credits achieved |
|-------------------|---|
| 2.25% | Total indicative contribution to overall building score |
| 0 | Total indicative BREEAM innovation credits achieved |
| Pre-Assessment re | Indicative minimum standard(s) level |

Comments/notes:



um standards for Outstanding level

Wat02 Water Monitoring

| No. of BREEAM credits available 1 | Available |
|--|-----------|
| No. of BREEAM innovation credits available 0 | Ν |

| Pre-Assessment question/criteria | Response | Credit |
|---|--------------------|----------|
| Will there be a water meter on the mains water supply to the building(s)? | Yes | |
| 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 indicative BREEAM credits achieved 1 | | |
| Total indicative contribution to overall building score0.75% | | |
| Total indicative BREEAM innovation credits achieved N/A | | |
| Indicative minimum standard(s) level Pre-Assessment res | sult indicates the | e minimu |

Comments/notes:



| e contributic | on to overall score | 0.75% |
|---------------|--------------------------------|-------|
| 1inimum sta | ndards applicable | Yes |
| ts available | Indicative credits achieved | |
| 1 | 1 | |
| | | |

um standards for Outstanding level

Wat03 Water Leak Detection and Prevention

| No. of BREEAM credits available | 2 | Available |
|--|---|-----------|
| No. of BREEAM innovation credits available | 0 | Μ |

| Pre-Assessment question/criteria | | Response | Credits available | achieved |
|---|--------------|----------|-------------------|----------|
| Will a mains water leak detection system be installed on the building's mains water | er supply? | Yes | 1 | 1 |
| Will flow control devices be installed in each sanitary are | ea/facility? | Yes | 1 | 1 |
| | | | | |
| Total indicative BREEAM credits achieved | 2 | | | |
| Total indicative contribution to overall building score 1 . | .50% | | | |
| Total indicative BREEAM innovation credits achieved | N/A | | | |
| Indicative minimum standard(s) level | N/A | | | |
| | | | | |

Comments/notes:



contribution to overall score linimum standards applicable

1.50% No

Indicative credits

Wat04 Water Efficient Equipment

| No. of BREEAM credits available N/A | Available |
|--|-----------|
| No. of BREEAM innovation credits available N/A | M |

| Pre-Assessment question/criteria | | Response | Credit |
|---|-----|----------|--------|
| | | | |
| Total indicative BREEAM credits achieved | N/A | | |
| Total indicative contribution to overall building score | N/A | | |
| Total indicative BREEAM innovation credits achieved | N/A | | |
| Indicative minimum standard(s) level | N/A | | |

Comments/notes:





| MATERIALS | Section Weighting | 12.50% | Indicative Section Score | 9.38% |
|----------------------------------|---|---------------------|---|-------|
| Mat01 Life Cycle Impacts | | | | |
| | No. of BREEAM credits available | 5 | Available contribution to overall score | 5.21% |
| | No. of BREEAM innovation credits available | 1 | Minimum standards applicable | No |
| Pre-Assessment question/criteria | | | | |
| | How do you wish to assess the number of BREEAM credits achieved | ved for this issue? | Define a target number of BREEAM credits to be achieved | |
| | Select the number of BREEAM credits being targeted for | r the Mat01 issue | 3 BREEAM Innovation credits | |
| | | | | |
| | | | | |

| Total indicative BREEAM credits achieved | 3 |
|---|-------|
| Total indicative contribution to overall building score | 3.13% |
| Total indicative BREEAM innovation credits achieved | 0 |
| Indicative minimum standard(s) level | N/A |

Comments/notes:



Mat02 Hard Landscaping and Boundary Protection

| No. of BREEAM credits available | 1 | Available |
|--|---|-----------|
| No. of BREEAM innovation credits available | 0 | Μ |

| No. of BREEAM credits available | 1 | | Available contributio | n to overall score | 1.04% |
|--|---------------------|------------------------------|-----------------------|-------------------------------------|-------|
| No. of BREEAM innovation credits available | 0 | Minimum standards applicable | | No | |
| Pre-Assessment question/criteria Will ≥80% of all external hard landscaping and boundary protection achieve a Green Gui | ide A or A+ rating? | Response Yes | Credits available | Indicative credits achieved 1 | |
| Total indicative BREEAM credits achieved | 1 | | | | |
| Total indicative contribution to overall building score | 1.04% | | | | |
| Total indicative BREEAM innovation credits achieved | N/A | | | | |
| Indicative minimum standard(s) level | N/A | | | | |



Mat03 Responsible Sourcing

| No. of BREEAM credits available | 3 | Available contribution to overall score |
|--|---|---|
| No. of BREEAM innovation credits available | 1 | Minimum standards applicable |

Pre-Assessment question/criteria

| How do you wish to assess the number of BREEAM credits achieved for this issue? Define a target number of BREEAM credits | | | | | |
|--|-----|---------------------------|---|--|--|
| Select the number of BREEAM credits being targeted for the Mat03 issue | 2 | BREEAM Innovation credits | 0 | | |
| Will all timber used on the project be sourced in accordance with the UK Govt's Timber Procurement Policy? | Yes | | | | |

| 2 | Total indicative BREEAM credits achieved |
|-------------------|---|
| 2.08% | Total indicative contribution to overall building score |
| 0 | Total indicative BREEAM innovation credits achieved |
| Pre-Assessment re | Indicative minimum standard(s) level |

Comments/notes:



3.13% Yes

m standards for Outstanding level

Mat04 Insulation

| M credits available 2 | No. of BREEAM credits available | Availab |
|------------------------|--|---------|
| on credits available 0 | No. of BREEAM innovation credits available | |

| Pre-Assessment question/criteria | Response | Credits available | achieved |
|--|----------|-------------------|----------|
| Is the building targeting an insulating index of 2 or more? | Yes | 1 | 1 |
| Will the building's insulating materials be responsibly sourced? | Yes | 1 | 1 |
| | | | |
| Total indicative BREEAM credits achieved 2 | | | |
| Total indicative contribution to overall building score 2.08% | | | |
| Total indicative BREEAM innovation credits achieved N/A | | | |
| Indicative minimum standard(s) level N/A | | | |
| | | | |

Comments/notes:



e contribution to overall score

2.08% No

1inimum standards applicable

Indicative credits

Mat05 Designing for Robustness

| No. of BREEAM credits available | 1 | Available |
|--|---|-----------|
| No. of BREEAM innovation credits available | 0 | N |

| No. of BREEAM credits available | 1 | | Available contributio | n to overall score | 1.04% |
|---|---|------------------------------|-----------------------|-------------------------------------|-------|
| No. of BREEAM innovation credits available | 0 | Minimum standards applicable | | N/A | |
| Pre-Assessment question/criteria Will suitable durability/protection measures be specified and installed to vulnerable are Total indicative BREEAM credits achieved Total indicative contribution to overall building score Total indicative BREEAM innovation credits achieved Indicative minimum standard(s) level | as of the building? 1 1.04% N/A N/A | Response Yes | Credits available | Indicative credits achieved 1 | |



| WASTE | Section Weighting | 7.50% | Indicative Section Score | 5.36% |
|-------------------------------------|--|-------|---|-------|
| Wst01 Construction Waste Management | | | | |
| | No. of BREEAM credits available | 4 | Available contribution to overall score | 4.29% |
| | No. of BREEAM innovation credits available | 1 | Minimum standards applicable | Yes |

Pre-Assessment question/criteria

| How do you wish to assess the number of BREEAM credits achieved for this issue? | Define a target number of BREEAM credits to be achieved | |
|---|---|---------------------------|
| Select the number of BREEAM credits being targeted for the Wst01 issue | 3 | BREEAM Innovation credits |
| | | |
| | | |
| | | |
| | | |
| | | |

| 3 | Total indicative BREEAM credits achieved |
|--------------------|---|
| 3.21% | Total indicative contribution to overall building score |
| 0 | Total indicative BREEAM innovation credits achieved |
| Pre-Assessment res | Indicative minimum standard(s) level |

Comments/notes:



m standards for Outstanding level

Wst02 Recycled Aggregates

| No. of BREEAM credits available | 1 | Available |
|--|---|-----------|
| No. of BREEAM innovation credits available | 1 | Ν |

Pre-Assessment question/criteria

| How do you wish to assess the number of BREEAM credits achieved for this issue? | Define a target nu | umber of BREEAM credits to be achieved | |
|---|--------------------|--|--|
| Select the number of BREEAM credits being targeted for the Wst02 issue | 0 | BREEAM Innovation credits | |

| Total indicative BREEAM credits achieved | 0 |
|---|-------|
| Total indicative contribution to overall building score | 0.00% |
| Total indicative BREEAM innovation credits achieved | 0 |
| Indicative minimum standard(s) level | N/A |

Comments/notes:



e contribution to overall score 1inimum standards applicable 1.07% No

Wst03 Operational Waste

| No. of BREEAM credits available 1 | Available |
|--|-----------|
| No. of BREEAM innovation credits available 0 | Ν |

| Pre-Assessment question/criteria | Response | Credits |
|--|----------|---------|
| Will appropriate facilities for the storage of operational recyclable waste volumes be provided? | Yes | |
| If relevant, will a static waste compactor(s) or baler(s) be specified/installed? | N/A | |
| If relevant, will a vessel for composting suitable organic waste be specified/installed? | N/A | |

| 1 | Total indicative BREEAM credits achieved |
|--------------------|---|
| 1.07% | Total indicative contribution to overall building score |
| N/A | Total indicative BREEAM innovation credits achieved |
| Pre-Assessment res | Indicative minimum standard(s) level |

Comments/notes:



| e contributio | 1.07% | |
|---------------|--------------------------------|--|
| /linimum sta | Yes | |
| ts available | Indicative credits achieved | |
| 1 | 1 | |
| | | |

um standards for Outstanding level

Wst04 Speculative Floor and Ceiling Finishes

| No. of BREEAM credits available | 1 | Available |
|--|---|-----------|
| No. of BREEAM innovation credits available | 0 | Mi |

| No. of BREEAM credits available | 1 | Available contribution to overall score | | 1.07% | |
|--|-------|---|-------------------|-------------------------------------|----|
| No. of BREEAM innovation credits available | 0 | Minimum standards applicable | | ndards applicable | No |
| Pre-Assessment question/criteria Speculative floor and ceiling finishes will be installed in a show area only | | Response Yes | Credits available | Indicative credits achieved 1 | |
| Total indicative BREEAM credits achieved | 1 | | | | |
| Total indicative contribution to overall building score | 1.07% | | | | |
| Total indicative BREEAM innovation credits achieved | N/A | | | | |
| Indicative minimum standard(s) level | N/A | | | | |



| LAND USE & ECOLOGY | Section Weighting | 10.00% | | Indicative | e Section Score | 8.00% |
|---|--|-------------------------------------|------------------------------|-----------------------|--|-------|
| LE01 Site Selection | | | | | | |
| Nc | o. of BREEAM credits available | 2 | | Available contributio | n to overall score | 2.00% |
| No. of BREEAN | VI innovation credits available | 0 | Minimum standards applicable | | | No |
| Pre-Assessment question/criteria Will at least 75% of the proposed development's footprin Is th | t be located on previously been he site deemed to be significant | developed land? ly contaminated? | Response Yes No | Credits available | Indicative credits achieved 1 0 | |
| Total indica Total indicative contribu Total indicative BREEAN Indicativ | tive BREEAM credits achieved ution to overall building score M innovation credits achieved ve minimum standard(s) level | 1 1.00% N/A N/A | | | | |
| Comments/notes: | | | | | | |



LE02 Ecological Value of Site and Protection of Ecological Features

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

| | | | Indicative credits |
|---|----------|-------------------|--------------------|
| Pre-Assessment question/criteria | Response | Credits available | 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 | I | • |
| | | | |
| Total indicative BREEAM credits achieved 1 | | | |
| Total indicative contribution to overall building score 1.00% | | | |
| Total indicative BREEAM innovation credits achieved N/A | | | |
| Indicative minimum standard(s) level N/A | | | |
| | | | |
| Comments/notes: | | | |



1.00% No

LE03 Mitigating Ecological Impact

| No. of BREEAM credits available 2 | Available |
|--|-----------|
| No. of BREEAM innovation credits available 0 | Ν |

Pre-Assessment question/criteria

What is the likely change in ecological value (plant species richness) as a result of the sites development? No negative change or improvement in plant species richness

| 2 | Total indicative BREFAM credits achieved |
|-------------------|---|
| 2 00% | Total indicative contribution to overall building score |
| 2.00% | |
| N/A | I otal indicative BREEAIM innovation credits achieved |
| Pre-Assessment re | Indicative minimum standard(s) level |

Comments/notes:



e contribution to overall score 1inimum standards applicable 2.00% Yes

esult indicates the minimum standards for Outstanding level

LE04 Enhancing Site Ecology

| No. of BREEAM credits available 3 | Available |
|--|-----------|
| No. of BREEAM innovation credits available 0 | N |

| Pre-Assessment question/criteria | | Response | Credits |
|---|---------------------|----------------|-------------|
| Will a suitably qualified ecologist be appointed to report on enhancing and prote | cting site ecology? | Yes | |
| Will the suitably qualified ecologists general recommendations | be implemented? | Yes | |
| What is the targeted/intended improvement in ecological value as a result of enha | ancement actions? | Small improvem | nent in pla |
| | | | |
| Total indicative BREEAM credits achieved | 2 | | |
| Total indicative contribution to overall building score | 2.00% | | |
| Total indicative BREEAM innovation credits achieved | N/A | | |
| Indicative minimum standard(s) level | N/A | | |
| | | | |



| contributio | on to overall score | 3.00% |
|---------------|-----------------------------|-------|
| linimum sta | ndards applicable | No |
| s available | Indicative credits achieved | |
| 3 | 2 | |
| | | |
| ant species i | richness | |

LE05 Long Term Impact on Biodiversity

| No. of BREEAM credits available 2 | Available |
|--|-----------|
| No. of BREEAM innovation credits available 0 | M |

| Pre-Assessment question/criteria | Response | Credit |
|---|----------|--------|
| Will the building meet BREEAM's mandatory criteria for this BREEAM issue? | Yes | |
| Will a Biodiversity Champion be appointed to monitor/minimise impacts of site activities on biodiversity? | Yes | |
| Will the contractor provide training for the site workforce on how to protect ecology during the project? | Yes | |
| Will the contractor record actions to protect biodiversity and monitor their effectiveness during construction? | Yes | |
| Will a new ecologically valuable habitat, appropriate to the local area, be created? | Yes | |
| Where flora/fauna habitats exist on site, will the contractor programme site works to minimise disturbance? | Yes | |

| Total indicative BREEAM credits achieved | 2 |
|---|-------|
| Total indicative contribution to overall building score | 2.00% |
| Total indicative BREEAM innovation credits achieved | N/A |
| Indicative minimum standard(s) level | N/A |





| POLLUTION | Section Weighting | 10.00% | | Indicative | e Section Score | 5.38% |
|----------------------------------|--|---------------------|----------|-----------------------|-----------------------------|-------|
| Pol01 Impact of Refrigerants | | | | | | |
| | No. of BREEAM credits available | 3 | | Available contributic | n to overall score | 2.31% |
| | No. of BREEAM innovation credits available | 0 | | Minimum sta | ndards applicable | No |
| Pre-Assessment question/criteria | | | Response | Credits available | Indicative credits achieved | |
| | Will refrigerant containing systems be installed in the a | ssessed building? | Yes | 2 | 0 | |
| | Is the Global Warming Potential of the specified refrigerant(s) likely | y to be 10 or less? | No | | | |
| | What is the target range Direct Effect Life Cycle CO ₂ eq. emissior | ns for the system? | >1000 | kgCO2eq/kW cool | th capacity | |
| | Will a refrigerant leak detection and containment system be sp | pecified/installed? | No | 1 | 0 | |
| | Total indicative BREEAM credits achieved | 0 | | | | |
| | Total indicative contribution to overall building score | 0.00% | | | | |
| | Total indicative BREEAM innovation credits achieved | N/A | | | | |
| | Indicative minimum standard(s) level | N/A | | | | |



Pol02 NO_x Emissions

| No. of BREEAM credits available | } | Available |
|--|---|-----------|
| No. of BREEAM innovation credits available |) | N |

| Pre-Assessment question/criteria | | Response | |
|----------------------------------|---|----------|-------|
| | Please enter the target/maximum NO _x emission level for space heating system | 39.00 | mg/kW |
| | | | |

| Total indicative BREEAM credits achieved | 3 |
|---|-------|
| Total indicative contribution to overall building score | 2.31% |
| Total indicative BREEAM innovation credits achieved | N/A |
| Indicative minimum standard(s) level | N/A |

Comments/notes:



e contribution to overall score 1inimum standards applicable 2.31% No

Vh

Pol03 Surface Water Run off

| No. of BREEAM credits available | 5 | Available |
|--|---|-----------|
| No. of BREEAM innovation credits available | 0 | M |

| Pre-Assessment question/criteria | Response | Credits available | achieved |
|--|----------|-------------------|----------|
| What is the actual/likely annual probability of flooding for the assessed site? | Low | 2 | C |
| Will a compliant Flood Risk Assessment be undertaken? | Yes | 2 | Z |
| Will the site meet the BREEAM criteria for peak rate surface water run off? | No | 1 | 0 |
| 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 |
| | | | |

| 2 | Total indicative BREEAM credits achieved |
|-------|---|
| 1.54% | Total indicative contribution to overall building score |
| N/A | Total indicative BREEAM innovation credits achieved |
| N/A | Indicative minimum standard(s) level |

Comments/notes:



e contribution to overall score linimum standards applicable

3.85% No

Indicative credits

Pol04 Reduction of Night Time Light Pollution

| No. of BREEAM credits available 1 | Available |
|--|-----------|
| No. of BREEAM innovation credits available 0 | M |

| Will the external lighting be designed to reduce light pollution? | |
|---|--|
| | |
| Total indicative BREEAM credits achieved 1 | |
| Total indicative contribution to overall building score 0.77% | |
| Total indicative BREEAM innovation credits achieved N/A | |
| Indicative minimum standard(s) level N/A | |





Pol05 Noise Attenuation

| No. of BREEAM credits available | 1 | Available |
|--|---|-----------|
| No. of BREEAM innovation credits available | 0 | Ν |

| Pre-Assessment question/criteria | | Response | Credit |
|---|------------------|----------|--------|
| Will there be, or is there noise-sensitive areas/buildings within 800m radius of th | e development? | Yes | |
| Will a noise impact assessment be completed and, if applicable, noise attenuation mea | sures specified? | Yes | |
| Total indicative BREEAM credits achieved | 1 | | |
| Total indicative contribution to overall building score | 0.77% | | |
| Total indicative BREEAM innovation credits achieved | N/A | | |
| Indicative minimum standard(s) level | N/A | | |
| | | | |





| INNOVATION | Section Weighting | 10.00% | | Indicativ | e Section Score | 2.00% |
|----------------------------------|--|---------------------|-----------------|----------------------|---------------------|--------|
| Inn01 Innovation | | | | | | |
| | No. of BREEAM innovation credits available | 10 | A | vailable contributio | on to overall score | 10.00% |
| | | | | Minimum sta | indards applicable | No |
| | | | Exemplary level | | Indicative credits | |
| Pre-Assessment question/criteria | | | achieved | Credits available | achieved | |
| | Man01 Sustain | able Procurement | Yes | 1 | 1 | |
| | Man02 Responsible Cons | struction Practices | Yes | 1 | 1 | |
| | Hea | 01 Visual Comfort | No | 1 | 0 | |
| | Ene01 Reduction | of CO2 Emissions | No | 5 | 0 | |
| | Ene04 Low and Zero C | arbon Technology | No | 1 | 0 | |
| | Ene05 Energy Effi | cient Cold Storage | N/A | N/A | N/A | |
| | Wat01 W | ater Consumption | No | 1 | 0 | |
| | Mat01 | Life Cycle Impacts | No | 1 | 0 | |
| | Mat03 Responsible Sou | urcing of Materials | No | 1 | 0 | |
| | Wst01 Construction W | aste Management | No | 1 | 0 | |
| | Wst02 Re | cycled Aggregates | No | 1 | 0 | |

| 2 | Total indicative BREEAM credits achieved |
|-------|---|
| 2.00% | Total indicative contribution to overall building score |
| N/A | Indicative minimum standard(s) level |



breglobal

Results

| Development Name: | Museum Street Redevelopment | | |
|-----------------------|---|--|--|
| Dwelling Description: | Three Refurbished Appartments within a mixed development site | | |
| Name of Company: | Grontmij | | |
| Code Assessor's Name: | David Partington | | |
| Company Address: | 1 Bath Road, Maidenhead, SL6 4AQ | | |
| Notes/Comments: | | | |

PREDICTED RATING - CODE LEVEL: 4

| Mandatory Requirements: | | All Levels |
|-------------------------|------------------|------------------------------------|
| % Points: Breakdown: | 70.01% Energy | - Code Level: 4 - Code Level: 4 |
| | Water | - Code Level: 4 |

Graph 1: Predicted contribution of individual sections to the total score and percentage of total achievable score



Graph 2: Predicted percentage of credits achievable: Total and by Category



NOTE: The rating obtained by using this Pre Assessment Estimator is for guidance only. Predicted ratings may differ from those obtained through a formal assessment, which must be carried out by a licensed Code assessor.

© BRE Global Ltd, 2010. The BRE Global name and logo are registered trademarks owned by BRE Global Ltd and may not be used without BRE Global's written permission. Permission is given for this estimator to be conied without infringement of convright for use only on projects where a Code for Sustainable Homes assessment is carried out Whilst every care is taken in preparing this estimator, BREG cannot accept responsibility for any inaccuracies or for consequential loss incurred as a result of such inaccuracies arising through the use of the estimator tool.