# BREEAM TECHNICAL NOTE

## Introduction

This document has been prepared by Hodkinson Consultancy, a specialist energy and environmental consultancy for planning and development to outline the BREEAM strategy for the Richard Attenborough Theatre and associated development at 16-18 Chenies Street for the Royal Academy of Dramatic Art.

A BREEAM pre-assessment was originally presented by Bluesky Unlimited within the Sustainability & Energy Statement (January 2016), in support of the planning application for the development (reference 2015/5759/P). This pre-assessment followed the BREEAM New Construction 2014 methodology for a multi-residential development.

Following consultation with the Building Research Establishment (BRE) it has been determined that it is neither feasible nor appropriate to assess the whole development under the BREEAM New Construction 2014 scheme, due to the proportions of refurbishment and new build areas and also the multiple use types of the building. Instead, a bespoke BREEAM assessment is required.

## Bespoke BREEAM 2014

The bespoke process for BREEAM allows buildings that are not considered to be 'standard' to be assessed and certified against BREEAM. This includes part new build, part-refurbishment projects and buildings with different function areas. The part new build, part-refurbishment project at 16-18 Chenies Street falls into this category.

In the bespoke process, BREEAM criteria are selected and amended to reflect the specifics of the project. Amendments and additions to the standard criteria reflect the unique use and sustainability opportunities of the project and the location. Although the bespoke process involves amending criteria for individual developments, it still adheres to a set of standards in terms of BREEAM structure, credit methodology and content. This ensures the credibility of the BREEAM standard is maintained.

The BRE has reviewed the project details and provided a set of bespoke BREEAM criteria against which the project is to be assessed. Hodkinson Consultancy has undertaken a pre-assessment against these criteria which is discussed in detail in the following sections.

Version: 1
Date: 02 February 2018
Author: KP
Checked by: CS
Approved by Project Manager: KP

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# BREEAM Ratings

There are a number of elements that determine the overall performance of a project assessed using BREEAM. These are as follows:

> The scope of the assessment;

> The BREEAM rating level benchmarks;

> The minimum BREEAM standards;

> The environmental section weightings;

> The BREEAM assessment issues and credits.

As the scope of the assessment has changed since the planning pre-assessment, this has an impact on the overall score achievable. Environmental section weightings, BREEAM assessment issues and credits also differ between schemes (New Construction vs. Bespoke), which will also have an impact on the overall score.

The BREEAM rating benchmarks are as follows:

**Table 1: BREEAM 2014 rating benchmarks**

| BREEAM rating | % score |
|---|---|
| Outstanding | ≥ 85% |
| Excellent | ≥ 70% |
| Very Good | ≥ 55% |
| Good | ≥ 45% |
| Pass | ≥ 30% |
| Unclassified | < 30% |

To ensure that performance against fundamental environmental issues is not overlooked in pursuit of a particular rating, BREEAM sets minimum standards of performance in key areas. To achieve a particular BREEAM rating, the minimum overall percentage score must be achieved and the minimum standards applicable to that rating level must also be met.

# Pre-assessment

The appended BREEAM pre-assessment demonstrates that a high 'Very Good' rating is achievable for the development, with a target rating of 68%. The pre-assessment demonstrates a route to achieving certification; the actual credits achieved in each section may differ at final certification stage. Achievement of credits will be reviewed as the developed design progresses.

A BREEAM 'Excellent' rating is not considered to be feasible for the following reason:

> The design stage Building Regulations UK Part L (BRUKL) compliance document provided for the new build areas does not meet the minimum standard for an 'Excellent' rating.

Although the pre-assessment shows 8 credits targeted for Ene 01, this does not meet the mandatory minimum for BREEAM 'Excellent' because the credits are determined as a weighted average of the new build and refurbished areas. Both areas must achieve a minimum of 5 credits.

The design stage BRUKL documents confirm that 12 credits can be achieved for the refurbished areas, however only 3 credits are feasible for the new build areas. Therefore the minimum standard cannot be met.

All other minimum standards for an 'Excellent' rating will be met.

The table below sets out the credits achieved within the pre-assessment for each BREEAM category.

**Table 2: Predicted building performance by environment section**

| Environmental section | Credits available | Credits achieved | % credits achieved | Section weighting | Section score |
|---|---|---|---|---|---|
| Management | 21 | 17 | 81% | 12% | 10% |
| Health & wellbeing | 20 | 9 | 45% | 15% | 7% |
| Energy | 27 | 19 | 70% | 15% | 10% |
| Transport | 10 | 10 | 100% | 9% | 9% |
| Water | 8 | 6 | 75% | 7% | 5% |
| Materials | 13 | 9 | 69% | 13.5% | 9% |
| Waste | 11 | 7 | 64% | 8.5% | 5% |
| Land use & ecology | 10 | 6 | 60% | 10% | 6% |
| Pollution | 13 | 6 | 46% | 10% | 5% |
| Innovation | 10 | 2 | 20% | N/A | 2% |
| **Predicted total score** | | | | | **68%** |

The pre-assessment demonstrates that a very high percentage of credits can be achieved in the Energy, Water and Materials sections, demonstrating a high level of sustainability. The percentage scores achieved in these sections exceed those targeted within the original pre-assessment, as demonstrated within the table below.

**Table 3: Percentage credits targeted within Energy, Water and Materials sections**

| Environmental section | % achieved in original pre-assessment (January 2016) | % achieved in current pre-assessment (January 2018) |
|---|---|---|
| Energy | 60% | 70% |
| Water | 70% | 75% |
| Materials | 63% | 69% |

# Conclusion

Following liaison with the BRE, it has been established that the original BREEAM pre-assessment submitted as part of the planning application (Bluesky Unlimited, January 2016) is no longer appropriate or feasible. A bespoke BREEAM assessment will instead be undertaken and the BRE has provided a set of bespoke BREEAM criteria for the development.

A new pre-assessment (appended) demonstrates that a high 'Very Good' rating can be achieved, indicating a high level of sustainability achieved by less than 25% of new and refurbished buildings in the UK (according to the BRE).

An 'Excellent' rating is not achievable as the design stage BRUKL output demonstrates that it is not possible to achieve the minimum Ene 01 requirements for the new build elements.

Percentages of credits targeted within the Energy, Water and Materials sections exceed those previously targeted within the original pre-assessment.

The overall energy strategy for the development has not changed, therefore an updated Energy Statement is not deemed necessary.

# Appendix A

## Bespoke BREEAM 2014

## Pre-assessment

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# RADA 16-18 Chenies Street - Bespoke 2014 Other Assessment
# BREEAM Very Good - Fully Fitted Out Other

## Pre-Assessment Stage Summary

| | | | |
|---|---|---|---|
| Project Name - Number | RADA 16-18 Chenies Street - 2643 | | |
| Client | Fraser Jopp - Royal Academy of Dramatic Art | BREEAM Assessor | Kate Paxton |
| Project Town - Postcode | London - WC1E 7EX | Project Manager | Kate Paxton |
| Development Description | The Richard Attenborough Theatre and associated development for the Royal Academy of Dramatic Art | | |

| | Credits Available | Credits Targeted | Contribution | Mandatory |
|---|---|---|---|---|
| Man01 | 4 | 2 | 1.14% | |
| Man02 | 4 | 2 | 1.14% | |
| Man03 | 6 | 6 | 3.43% | |
| Man04 | 4 | 4 | 2.29% | |
| Man05 | 3 | 3 | 1.71% | |
| **Management Total** | **21** | **17** | **9.71%** | |
| Hea01 | 7 | 2 | 1.50% | |
| Hea02 | 5 | 3 | 2.25% | |
| | | | | |
| Hea04 | 3 | 0 | 0.00% | |
| Hea05 | 4 | 3 | 2.25% | |
| Hea06 | 1 | 1 | 0.75% | |
| **Health & Wellbeing Total** | **20** | **9** | **6.75%** | |
| Ene01 | 13 | 8 | 4.44% | |
| Ene02 | 2 | 2 | 1.11% | Yes |
| Ene03 | 1 | 1 | 0.56% | |
| Ene04 | 3 | 0 | 0.00% | |
| Ene05 | 2 | 2 | 1.11% | |
| Ene06 | 3 | 3 | 1.67% | |
| | | | | |
| Ene08 | 2 | 2 | 1.11% | |
| Ene09 | 1 | 1 | 0.56% | |
| **Energy Total** | **27** | **19** | **10.55%** | |
| Tra01 | 5 | 5 | 4.50% | |
| Tra02 | 2 | 2 | 1.80% | |
| Tra03 | 2 | 2 | 1.80% | |
| | | | | |
| Tra05 | 1 | 1 | 0.90% | |
| **Transport Total** | **10** | **10** | **9.00%** | |
| **Innovation Total** | **10** | **2** | **2.00%** | |

| | Credits Available | Credits Targeted | Contribution | Mandatory |
|---|---|---|---|---|
| Wat01 | 5 | 3 | 2.63% | Yes |
| Wat02 | 1 | 1 | 0.88% | Yes |
| Wat03 | 2 | 2 | 1.75% | |
| | | | | |
| **Water Total** | **8** | **6** | **5.25%** | |
| Mat01 | 6 | 3 | 3.12% | |
| | | | | |
| Mat03 | 4 | 3 | 3.12% | Yes |
| Mat04 | 1 | 1 | 1.04% | |
| Mat05 | 1 | 1 | 1.04% | |
| Mat06 | 1 | 1 | 1.04% | |
| **Materials Total** | **13** | **9** | **9.34%** | |
| Wst01 | 7 | 5 | 3.86% | |
| Wst02 | 1 | 0 | 0.00% | |
| Wst03 | 1 | 1 | 0.77% | |
| | | | | |
| Wst05 | 1 | 0 | 0.00% | |
| Wst06 | 1 | 1 | 0.77% | |
| **Waste Total** | **11** | **7** | **5.40%** | |
| LE01 | 2 | 1 | 1.00% | |
| LE02 | 2 | 2 | 2.00% | |
| LE03 | 2 | 2 | 2.00% | Yes |
| LE04 | 2 | 1 | 1.00% | |
| LE05 | 2 | 0 | 0.00% | |
| **Land Use/Ecology Total** | **10** | **6** | **6.00%** | |
| Pol01 | 3 | 2 | 1.54% | |
| Pol02 | 3 | 0 | 0.00% | |
| Pol03 | 5 | 2 | 1.54% | |
| Pol04 | 1 | 1 | 0.77% | |
| Pol05 | 1 | 1 | 0.77% | |
| **Pollution Total** | **13** | **6** | **4.61%** | |

| Indicative Target Building Score | Indicative Target Building Rating |
|---|---|
| 68% | Very Good |

| Current Building Score | Current Building Rating |
|---|---|
| | |

| Revision | Date | Revision Details | Author | Checked By |
|---|---|---|---|---|
| *v1* | 30.01.18 | Draft pre-assessment for comment | KP | ZW |
| *v2* | 31.01.18 | Pre-assessment for submission to Local Planning Authority | KP | ZW |
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# RADA 16-18 Chenies Street - Bespoke 2014 Other Assessment
# BREEAM Very Good - Fully Fitted Out

## Pre-Assessment Tracker

| Section | Issue | Issue Sub-Title | Summary Requirements | Credits Available for sub-title | Credits Targeted | Minimum for Very Good Rating |
|---|---|---|---|---|---|---|
| Management | Man01 Project brief and design | Stakeholder Consultation (project delivery) | Roles and responsibilities of the delivery stakeholders to be defined in accordance with BREEAM | 1 | 1 | |
| | | Stakeholder Consultation (third party) | During RIBA stage 4 conduct BREEAM compliant consultation with the relevant parties | 1 | 1 | |
| | | Sustainability Champion (design) | Sustainability Champion to be appointed during the feasibility stage (stage 1) and targets are agreed for BREEAM assessment no later than RIBA stage 2. | 1 | 0 | |
| | | Sustainability Champion (monitoring progress) | Sustainability Champion to monitor and report throughout RIBA stages to 2-4. | 1 | 0 | |
| | Man02 Life Cycle Costs and Service Life Planning | Elemental life cycle cost (LCC) | Conduct Elemental life cycle costing (LCC) at RIBA stage2 to be conducted in accordance with PD15686-5:2008 | 2 | 0 | |
| | | Component level LCC plan | Conduct life cycle costing (LCC) at RIBA stage C/D and a further LCC at RIBA stage D/E to be conducted in accordance with BS ISO 15686-5:2008 | 1 | 1 | |
| | | Capital cost reporting | Report the capital cost for the building in £ per m2. | 1 | 1 | |
| | Man03 Responsible Construction Practices | Pre-Requisite | All timber and timber based products used on the project will need to be legally harvested | - | - | |
| | | Environmental Management | The principal contractor will need to operate an Environmental Management System (EMS) | 1 | 1 | |
| | | Sustainability Champion (Construction) | A sustainability champion (AP) is to be appointed to monitor the project during the construction, handover and close out. | 1 | 1 | |
| | | Considerate Construction | Developer to register site to CCS. | 2 | 2 | |
| | | Monitoring of Construction Site Impacts - Utility | Monitor and record data on principal contractors/subcontractors' potable water consumption (m3) and energy consumption in kWh (and where relevant, litres of fuel used) as a result of the use of construction plant, equipment (mobile and fixed) and site accommodation. | 1 | 1 | |
| | | Monitoring of Construction Site Impacts - Transport | Monitor and record data on transport movements and impacts resulting from delivery of the majority of construction materials to site and construction waste from site | 1 | 1 | |
| | Man04 Commissioning and Handover | Commissioning and Testing Schedule and Responsibilities | Commissioning schedule and testing that identifies includes a timescale for commissioning and re-commissioning of all complex/non-complex building services and control systems. | 1 | 1 | |
| | | Commissioning Building Services | A specialist commissioning manager will need to be appointed during the design stage to provide commissioing advice during installation and handover/post handover. | 1 | 1 | |
| | | Testing and Inspecting Building Fabric | Thermographic survey to be carried out | 1 | 1 | |
| | | Handover | Training schedules and a building user guide to be developed prior to handover for the building occupiers and premises managers. | 1 | 1 | |
| | Man05 Aftercare | Aftercare Support | Resources to be put in place to offer aftercare support to the building occupiers | 1 | 1 | |
| | | Seasonal Commissioning | Seasonal commissioning activities to be completed over a minimum 12-month period once the building becomes substantially occupied | 1 | 1 | |
| | | Post Occupancy Evaluation | Post-occupancy evaluation (POE) exercise to be carried out one year after initial building occupation | 1 | 1 | |
| | | | **Total for Management** | **21** | **17** | |

| RADA 16-18 Chenies Street - Bespoke 2014 Other Assessment<br>BREEAM Very Good - Fully Fitted Out | | | | | | |
|---|---|---|---|---|---|---|
| Pre-Assessment Tracker | | | | | | |
| **Section** | **Issue** | **Issue Sub-Title** | **Summary Requirements** | **Credits Available for sub-title** | **Credits Targeted** | **Minimum for Very Good Rating** |
| Health and Wellbeing | Hea01 Visual Comfort | Glare Control | Demonstrate that all relevant building areas are using a glare control strategy | 1 | 1 | |
| | | Daylighting | Demonstrate that at least 80% of floor area in each occupied space is adequately day lit with a daylight factor of 2%. | 3 | 0 | |
| | | View Out | Demonstrate that 95% of the floor area in relevant building areas is within 7m of a wall which has a window or permanent opening that provides an adequate view out | 2 | 0 | |
| | | Internal and External Lighting Levels, Zoning and Control | Internal lighting in all relevant areas of the building to be designed to provide an illuminance (lux) level appropriate to the tasks undertaken, accounting for building user concentration and comfort levels in accordance with the SLL Code for Lighting 2012 and any other relevant industry standard.<br><br>External lighting located within the construction zone to provide illuminance levels that enable users to perform outdoor visual tasks efficiently and accurately, especially during the night.<br><br>Internal lighting to be zoned to allow for occupant control in accordance with the criteria below for relevant areas present within the building. | 1 | 1 | |
| | Hea02 Indoor Air Quality | Indoor Air Quality Plan | An air quality plan for the building will need to be developed and carried out. | 1 | 1 | |
| | | Ventilation | The building should been designed to minimise the concentration and recirculation of pollutants in the building | 1 | 0 | |
| | | Volatile organic compound (VOC) emission levels (products) | Decorative paints and varnishes will need to meet the necessary criteria | 1 | 1 | |
| | | Volatile organic compound (VOC) emission levels (post construction) | Demonstrate that the emissions of VOCs and other substances from key internal finishes and fittings comply with best practice levels as demonstrated by the applicable BS. | 1 | 1 | |
| | | Adaptability - Potential for natural ventilation | The building ventilation strategy will need to be designed to be flexible and adaptable to potential building occupant needs and climatic scenarios. | 1 | 0 | |
| | Hea04 Thermal Comfort | Thermal Modelling | Demonstrate that thermal comfort levels in occupied spaces of the building are assessed at the design stage to evaluate appropriate servicing options; ensuring appropriate thermal comfort levels are achieved. | 1 | 0 | |
| | | Adaptability for a Projected Climate Change Scenario | The thermal modelling demonstrates that the relevant requirements set out in criteria 3 (thermal modelling) are achieved for a projected climate change environment | 1 | 0 | |
| | | Thermal Zoning and Controls | Demonstrate that the modelling will inform the thermal zoning and controls strategy | 1 | 0 | |
| | Hea05 Acoustic Performance | Appointed Acoustician | Acoustician to be appointed to define a set of performance requirements for all function areas.. | 4 | 3 | |
| | Hea06 Safety and Security | Security of the Building | Security specialist to provide recommendations that ensure the design of the building is done to address issues raised in the security needs assessment (SNA) | 1 | 1 | |
| | | | **Total for Health and Wellbeing** | **20** | **9** | |

# RADA 16-18 Chenies Street - Bespoke 2014 Other Assessment
# BREEAM Very Good - Fully Fitted Out

## Pre-Assessment Tracker

| Section | Issue | Issue Sub-Title | Summary Requirements | Credits Available for sub-title | Credits Targeted | Minimum for Very Good Rating |
|---|---|---|---|---|---|---|
| Energy | Ene01 Reduction of Energy Use and Carbon Emissions | Energy Performance | Up to 12 credits to recognise and encourage buildings designed to minimise operational energy demand consumption and Carbon emissions. | 13 | 8 | |
| | Ene02 Energy Monitoring | Sub-Metering of Major Energy Consuming Systems | Demonstrate the provision of a BMS or accessible sub-metering strategy of major energy uses within the building. | 1 | 1 | First Credit |
| | | Sub-Metering of High Energy Load and Tenancy Areas | Demonstrate the provision of a BMS or accessible sub-metering strategy of major energy uses within the building. | 1 | 1 | |
| | Ene03 External Lighting | External Lighting | Energy-efficient external lighting to be specified with all light fittings controlled by the presence of daylight. | 1 | 1 | |
| | Ene04 Low Carbon Design | Passive design analysis | Analysis of the proposed building design/development to influence decisions made for the implementation of passive design solutions that reduce demands for energy consuming building services. | 1 | 0 | |
| | | Free cooling | Passive design analysis includes opportunities for the implementation of free cooling solutions and these strategies are used. | 1 | 0 | |
| | | Low zero carbon feasibility study | A feasibility study considering local (on-site and/or near site) low or zero carbon (LZC) technologies is to be carried out with the results implemented. | 1 | 0 | |
| | Ene05 Energy Efficient Cold Storage | Refrigeration energy consumption | Install energy efficient refrigeration systems | 1 | 1 | |
| | | Indirect greenhouse gas emissions | Install energy efficient refrigeration systems | 1 | 1 | |
| | Ene06 Energy Efficient Transportation Systems | Energy consumption | Demonstrate the installation of energy-efficient lift's and escalators and moving walkways. | 1 | 1 | |
| | | Energy efficient features | As above with additional energy efficient features. | 2 | 2 | |
| | Ene08 Energy Efficient Equipment | Energy Efficient Equipment | To recognise and encourage procurement and commissioning of energy-efficient equipment to ensure optimum performance and energy savings. | 2 | 2 | |
| | Ene09 Drying Space | Drying Space | Provide a reduced energy means of drying clothes. | 1 | 1 | |
| | | | **Total for Energy** | **27** | **19** | |
| Transport | Tra01 Public Transport Accessibility | Public Transport Accessibility | 5 credits are available on a sliding scale based on the assessed buildings' accessibility to the public transport network. | 5 | 5 | |
| | Tra02 Proximity to Amenities | Proximity to Amenities | 1 credit is available where evidence provided demonstrates that the building is located within 500m of accessible local amenities appropriate to the building type and its users. | 2 | 2 | |
| | Tra03 Cyclist Facilities | Cycle Storage | 1 credit available where evidence provided demonstrates that covered, secure and well-lit cycle storage facilities are provided for all building users. | 1 | 1 | |
| | | Cyclist Facilities | 2 credits available where, in addition to the above, adequate changing facilities are provided for staff use. | 1 | 1 | |
| | Tra05 Travel Plan | Travel Plan | 1 credit available where evidence provided demonstrates that a travel plan has been developed and tailored to the specific needs of the building users. | 1 | 1 | |
| | | | **Total for Transport** | **10** | **10** | |

# RADA 16-18 Chenies Street - Bespoke 2014 Other Assessment
# BREEAM Very Good - Fully Fitted Out

## Pre-Assessment Tracker

| Section | Issue | Issue Sub-Title | Summary Requirements | Credits Available for sub-title | Credits Targeted | Minimum for Very Good Rating |
|---|---|---|---|---|---|---|
| Water | Wat01 Water Consumption | Water Consumption | 5 credits available where evidence provided demonstrates that the specification includes taps, urinals, WCs and showers that consume less potable water in use than standard specifications for the same type of fittings. | 5 | 3 | One Credit |
| | Wat02 Water Monitoring | Water Monitoring | 1 credit available where evidence provided demonstrates that a water meter with a pulsed output will be installed on the mains supply to each building/unit. (Minimum requirement for a pulsed water meter on mains for Good) | 1 | 1 | Criterion 1 only |
| | Wat03 Water Leak Detection and Prevention | Leak detection systems | Demonstrate that a leak detection system will be installed on the buildings main water supply. | 1 | 1 | |
| | | Flow control devices | Flow control devices that regulate the supply of water to each WC area to be installed. | 1 | 1 | |
| | | | **Total for Water** | **8** | **6** | |
| Materials | Mat01 Life Cycle Impacts | Life Cycle Impacts | The credits are determined using the Green Guide to Specification ratings for the major building elements. | 6 | 3 | |
| | Mat03 Responsible Sourcing of Materials | Responsible Sourcing of Materials | All timber is legally harvested and traded | - | - | Criterion 1 Only |
| | | Responsible Sourcing of Materials | Materials to be sourced in accordance with a procurement plan | 1 | 1 | |
| | | Responsible Sourcing of Materials | 3 credits available where evidence provided demonstrates that 80% of the assessed materials in the building elements are responsibly sourced. Additionally 100% of any timber must be sourced in accordance with the UK Governments Timber Procurement policy. (This is mandatory for pass) | 3 | 2 | |
| | Mat04 Insulation | Embodied Impact | Thermal insulation products used in the building are to have a low embodied impact relative (insulation index the same as or greater than 2.5) to their thermal properties. | 1 | 1 | |
| | Mat05 Designing for durability and resilience | Designing for durability and resilience | Encourage the adequate protection of exposed elements of the building and landscape, therefore minimising the frequency of replacement and maximising materials optimisation. | 1 | 1 | |
| | Mat06 Material Efficiency | Material Efficiency | Opportunities will need to be identified in order to optimise the use of materials in all stages of the design. | 1 | 1 | |
| | | | **Total for Materials** | **13** | **9** | |
| Waste | Wst01 Construction Waste Management | Construction Resource Efficiency | 1 credit available for a pre-refurbishment audit.<br>2 credits available for reuse and direct recycling of materials.<br>3 credits available where evidence provided demonstrates that the amount of non-hazardous construction waste (m3/100m2 or tonnes100m2) generated on site by the development is the same as or better than good or best practice levels. | 6 | 4 | |
| | | Diversion from Landfill | 1 credit available where evidence provided demonstrates that a significant majority of non-hazardous construction and demolition waste generated by the development will be diverted from landfill and reused or recycled. | 1 | 1 | |
| | Wst02 Recycled Aggregates | Recycled Aggregates | 1 credit available where evidence provided demonstrates the significant use of recycled or secondary aggregates in 'high-grade' building aggregate uses. | 1 | 0 | |
| | Wst03 Operational Waste | Operational Waste | 1 credit available where a central, dedicated space is provided for the storage of the building's recyclable waste streams. | 1 | 1 | |
| | Wst05 Adaptation to climate change | Adaptation to climate change – structural and fabric resilience | Conduct a climate change adaptation strategy appraisal for structural and fabric resilience. An Exemplary credit can be awarded where a holistic approach on adaptation to climate change has been covered. | 1 | 0 | |
| | Wst06 Functional Adaptability | Functional Adaptability | Encourage measures taken to accommodate future changes of use of the building over its lifespan. | 1 | 1 | |
| | | | **Total for Waste** | **11** | **7** | |

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|---|---|---|---|---|---|---|
| **Pre-Assessment Tracker** | | | | | | |
| **Section** | **Issue** | **Issue Sub-Title** | **Summary Requirements** | **Credits Available for sub-title** | **Credits Targeted** | **Minimum for Very Good Rating** |
| Land Use and Ecology | Le01 Site Selection | Previously Developed Land | 1 credit available where evidence is provided to demonstrate that the majority of the footprint of the proposed development falls within the boundary of previously developed land. | 1 | 1 | |
| | | Contaminated Land | 1 credit available where evidence is provided to demonstrate that the land used for the new development has, prior to development, been defined as contaminated and adequate remedial steps have been taken to decontaminate the site prior to construction. | 1 | 0 | |
| | Le02 Ecological Value of Site and Protection of Ecological Features | Ecological Value of Site | Demonstrate that the site's construction zone is defined as land of low ecological value and all existing features of ecological value will be fully protected from damage during site preparation and construction works. | 1 | 1 | |
| | | Protection of Ecological Features | Where evidence provided demonstrates that the site's construction zone is defined as land of low ecological value and all existing features of ecological value will be fully protected from damage during site preparation and construction works. | 1 | 1 | |
| | Le03 Minimising impact on existing site ecology | Change in ecological value. | The change in ecological value of the site is to be equal to or greater than zero plant species. | 2 | 2 | One Credit |
| | Le04 Enhancing Site Ecology | Ecologist's report and recommendations | Ecologist's report to be undertaken to include appropriate recommendations to enhance the sites ecology. | 1 | 1 | |
| | | Increase in ecological value | Encourage actions taken to enhance the ecological value of the site as a result of development. | 1 | 0 | |
| | Le05 Long Term Impact on Biodiversity | Long Term Impact on Biodiversity | 1 credit available where the client has committed to achieving the mandatory requirements and at least two of the additional requirements.<br>2 credits available where the client has committed to achieving the mandatory requirements and at least four of the additional requirements. | 2 | 0 | |
| | | | **Total for Land Use and Ecology** | **10** | **6** | |

| RADA 16-18 Chenies Street - Bespoke 2014 Other Assessment<br>BREEAM Very Good - Fully Fitted Out | | | | | | |
|---|---|---|---|---|---|---|
| **Pre-Assessment Tracker** | | | | | | |
| **Section** | **Issue** | **Issue Sub-Title** | **Summary Requirements** | **Credits Available for sub-title** | **Credits Targeted** | **Minimum for Very Good Rating** |
| Pollution | Pol01 Impact of Refrigerants | Impact of Refrigerants | 2 credits available where there are refrigerants with a global warming potential (GWP) of less than 10.<br><br>1 credit available where systems using refrigerants have direct effect life cycle Carbon equivalent emissions of 1000 kgCarbon/kW cooling capacity | 2 | 2 | |
| | | Leak detection | 1 credit available where systems are also enclosed in moderately air tight containers or a mechanically ventilated plant room with automatic shut down system with alarm. | 1 | 0 | |
| | Pol02 NOx Emissions | NOx Emissions | The plant installed is to have NOx emission levels (measured on a dry basis at 0% excess O2) of either <100, <70 or <40 mg/kWh | 3 | 0 | |
| | Pol03 Surface Water Run Off | Flood Resilience - Low Risk | 2 credits available where evidence provided demonstrates that the assessed development is located in a zone defined as having a low annual probability of flooding. | 2 | 2 | |
| | | Surface Water Run Off | 1 credit available where drainage measures are specified to ensure peak rate of run-off from the site to the watercourses is no greater for the developed site than it was for the pre-development site. | 1 | 0 | |
| | | Surface Water Run Off | 1 credit where flooding of property will not occur in the event of a local drainage system failure. | 1 | 0 | |
| | | Minimising Watercourse Pollution | Confirmation that there will be no discharge from the development site for rainfall events up to 5mm. | 1 | 0 | |
| | Pol04 Reduction of Night Time Light Pollution | Reduction of Night Time Light Pollution | 1 credit available where evidence provided demonstrates that the external lighting design is in compliance with the guidance in the Institution of Lighting Engineers (ILE) Guidance notes for the reduction of obtrusive light, 2005. | 1 | 1 | |
| | Pol05 Noise Attenuation | Noise Attenuation | 1 credit available where evidence provided demonstrates that new sources of noise from the development do not give rise to the likelihood of complaints from existing noise-sensitive premises and amenity or wildlife areas that are within the locality of the site. | 1 | 1 | |
| | | | **Total for Pollution** | **13** | **6** | |

| RADA 16-18 Chenies Street - Bespoke 2014 Other Assessment<br>BREEAM Very Good - Fully Fitted Out | | | | | | | |
|---|---|---|---|---|---|---|---|
| Pre-Assessment Tracker | | | | | | | |
| Section | | Issue | Issue Sub-Title | Summary Requirements | Credits Available for sub-title | Credits Targeted | Minimum for Very Good Rating |
| Innovation | Man03 | Responsible Construction Practices | Criteria 7 | Exemplary level performance: a CCS score of 40 or more and a score of 7 in each of the 5 sections | 1 | 1 | |
| | Man05 | Aftercare | Criteria 6 | Implement the resources to carry out the collection of data over a 3 year period. | 1 | 1 | |
| | Hea01 | Visual Comfort | Criteria 14 | Exemplary daylight factors have been met. | 1 | 0 | |
| | Hea02 | Indoor Air Quality | Criteria 15-18 | Minimising sources of air pollution - volatile organic compound (VOC) emission levels (products | 1 | 0 | |
| | Ene01 | Reduction of Carbon Emissions | Criteria 2-4 | Up to 5 credits can be awarded when a building improves upon he EPR of 0.9 and is a net Carbon zero building. | 5 | 0 | |
| | Wat01 | Water Consumption | Criteria 2 | 1 credit where evidence provided demonstrates that the specification includes taps, urinals, WCs and showers that consume less potable water in use than standard specifications for the same type of fittings (65% improvement) | 1 | 0 | |
| | Mat01 | Life Cycle Impacts | Criteria 4-5 | Route 1: Where assessing four or more applicable building elements, the building achieves at least two points in addition to the total points in addition to the total points required to achieve maximum credits under the standard BREEAM criteria | 1 | 0 | |
| | Mat01 | Life Cycle Impacts | Criteria 6-8 | Route 2: Where the design team has used an IMPACT compliant software to measure the environmental impact of the building. Where the design team can demonstrate how the use of an IMPACT compliant software has benefited the building terms of measuring and reducing its environmental impact. Where the design team submit BIIM from the IMPACT compliant software tool for the assessed building to BRE global. | 2 | 0 | |
| | Mat03 | Responsible Sourcing of Materials | Criteria 4 | Where 70% of the points available have been achieved. | 1 | 0 | |
| | Wst01 | Construction Site Waste Management | Criteria 6-8 | If the development achieves less than 1.6m3 per 100m2 or 1.9tonnes per 100m2 a exemplary credit is awarded. | 1 | 0 | |
| | Wst02 | Recycled Aggregates | Criteria 4-6 | Where the total amount of recycled and/or secondary aggregate specified is greater than 35% of the total high grade aggregate specified for the project. To contribute to the total amount the percentage of high grade aggregate specified per application that is recycled and/or secondary aggregate must meet the exemplary minimum levels. | 1 | 0 | |
| | Wst05 | Adaptation to Climate change | Criteria 2 | A holistic approach to the design and construction of the current building's life cycle, to mitigate against the impacts of climate change, is represented by the achievement of criteria within Hea04, Ene01, Ene04, Wat01, Mat05, Pol03. | 1 | 0 | |
| | | | | **Total for Innovation** | **10** | **2** | |