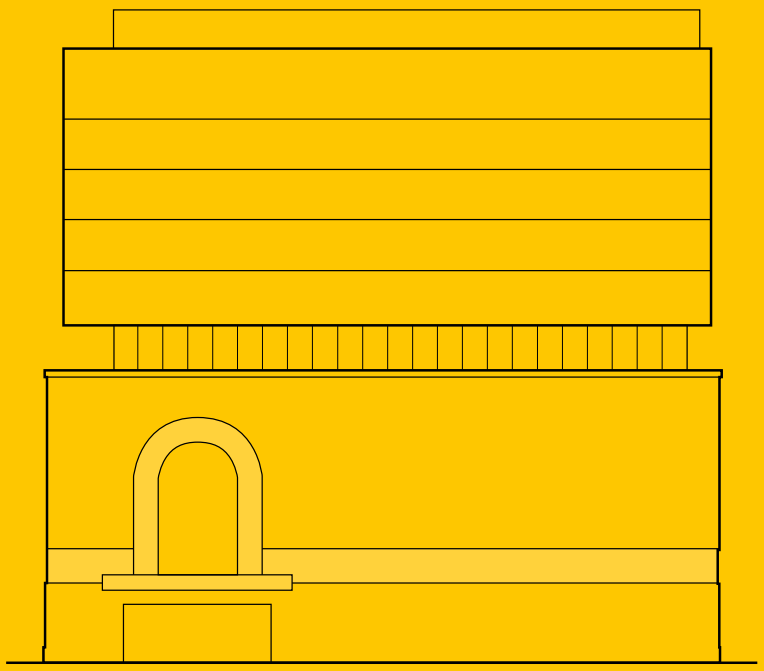

SAVILLE THEATRE

135 SHAFTESBURY AVENUE

HOTEL: BREEAM RFO
PRE-ASSESSMENT

HOARE LEA

Audit sheet.

Rev.	Date	Description	Prepared	Verified	Authorised
01	26/01/2024	Issue for comment	C. Mooney	T. Brown	G. Jones
02	31/01/2024	Updated from issue feedback	C. Mooney	C. Dutton	G. Jones

BREEAM Audit box

BRE registration number	TBC
Licensed assessor	Tim Whitehouse
Assessor support	-
BREEAM scheme	UK 2014 Refurbishment and Fit out
BREEAM scheme version	2014 RFO
Assessment stage	Pre-Assessment
Technical manual version	Issue 2.0
Tier code (internal use only)	Tier 3

BREEAM Credit filtering box

Building type and sub-group	Other, Residential institution (short term stay) - Hotel, hostel, boarding and guest house
Building floor area	TBC
Building services (heating)	Air System
Building services (cooling)	Air Conditioning
Building services (DHW system)	Centralised supply and distribution
Building services (controls)	Standard controls (time / temperature)
Commercial cold storage systems	Yes
Transportation systems	Yes
Laboratory (type, area and size)	N/A (No laboratory)
Laboratory containment level	N/A (No laboratory)
Fume cupboards / containment devices	N/A (No containment devices)
Unregulated water uses	No

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1. Executive Summary

This report provides the BREEAM 2014 Refurbishment and Fit out (RFO) pre-assessment for proposed Hotel refurbishment at 135 Shaftesbury Avenue, London. The space has been assessed under 'Other, Residential institution (short term stay)' and Building Type 'Hotel, hostel, boarding and guest house' project.

The scope of the BREEAM assessment will cover Parts 1 and 2.

Part 1 Fabric and Structure: Building façade, such as new cladding, rendering, façade system, internal dry lining etc. Roof, either new or where significant changes are being made to the structure or replacement/refurbishment of roof coverings. Windows, such as replacement, upgrade/refurbishment of existing windows with new glazing or the specification of secondary glazing. Where at least *one or more of the following alterations to the building fabric and where the area to be renovated is greater than 50 per cent of the surface of the individual element or 25 per cent of the total building envelope.*

Part 2 Core Services: Heating, ventilation and air-conditioning (HVAC), building management system, water services and low/zero carbon (LZC) technologies. *Where at least two systems are installed/upgraded and require compliance with Building Regulations.*

1.1 Assessment target

The development is targeting a BREEAM 'Excellent' rating, for which a potential approach is highlighted within this report. This target is in line with GLA planning requirements.

Figure 1 illustrates the current anticipated 'baseline' and 'potential' scores relative to the minimum required score for each BREEAM rating threshold.

The current anticipated baseline score is 74.71%, equivalent to a BREEAM 'Excellent' rating, with a difference between the minimum required score for a BREEAM 'Excellent' rating of 70% of 4.71%.

A number of potential credits have also been identified that if included within the assessment strategy could result in the building achieving a potential score of 86.46%, equivalent to a BREEAM 'Outstanding' rating with a difference of 1.46% above the minimum required score.

A margin of at least 3% – 5% is recommended above the minimum required score at this stage to secure the target rating taking into account contingency for design changes and potential constraints identified during the construction stage. Therefore it is recommended that additional potential features should be identified.

The below credits have been identified as potential credits which will provide an uplift to a BREEAM rating of 'Outstanding'.

- Man 01: Stakeholder consultation (project delivery) and (3rd party)
- Man 03: Sustainability Champion
- Man 04: Commissioning and handover
- Hea 02: Indoor air quality
- Ene 01: Reduction of energy use and CO_2 emissions
- Ene 04: Passive design analysis
- Wat 01: Water consumption
- Mat 01: Environmental impact of materials
- Mat 03: Responsible sourcing of materials
- Wst 01: Project waste management

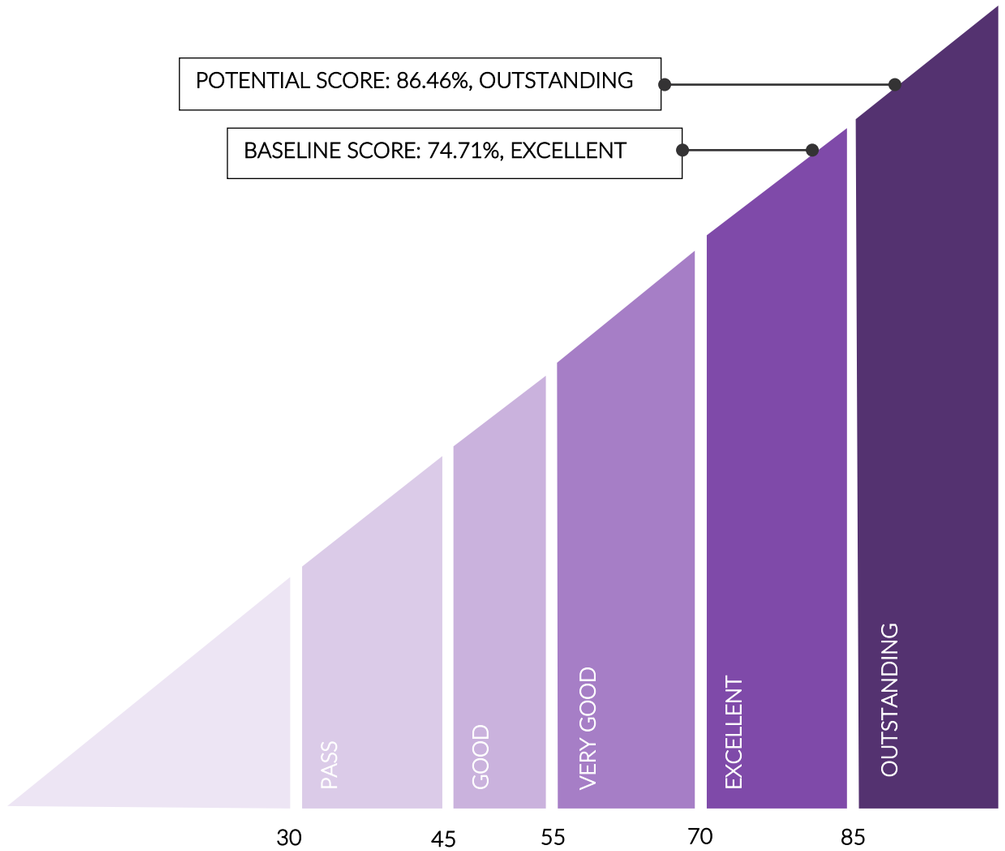

Figure 1: BREEAM 2014 Scale and Anticipated Performance Scores: Theatre

2. BREEAM Pre-Assessment

2.1 Introduction

This report provides the BREEAM 2014 Refurbishment and Fit out (RFO) pre-assessment for proposed Hotel refurbishment at 135 Shaftesbury Avenue, London. The space has been assessed under 'Other, Residential institution (short term stay)' and Building Type 'Hotel, hostel, boarding and guest house' and is targeting BREEAM 'Excellent' rating.

This is one of three reports which make up the BREEAM assessment for the full development at Shaftsbury Avenue. The Hotel is a refurbishment (RFO 2014) of the existing upper floors which will become a hotel use-type.

The Development also includes a three-storey extension below ground to create a space which will be a theatre. The theatre assessment also includes the existing below-ground level floors and ground floor level which will be used solely for the theatre's reception area. An extension will also be completed to the upper floors of the hotel and will be assessed under a new construction scheme (V6).

2.2 Pre-Assessment

This draft pre-assessment has been carried out independently by a qualified BREEAM assessor prior to a review by the project design team. This report sets out a route to achieving the target rating and highlights the design team members responsible for each credit issue. Credits currently included in the credit score should be reviewed by the design team, and each team member is expected to provide feedback regarding credits under their responsibility, identifying any relevant issues. Once comments have been raised by the project team, the report and the predicted scores will be updated.

The following predicted scores have been calculated based upon experience with similar buildings and Hoare Lea's current understanding of the proposed development:

- Baseline score / rating: 74.71% equivalent to a BREEAM 'Excellent' rating.
- Potential score / rating: 86.46% equivalent to a BREEAM 'Outstanding' rating.

All mandatory and minimum standards for the BREEAM 'Excellent' rating have been included within the assessment strategy for the target baseline score.

Given the nature of the development (theatre, hotel, restaurant/bar) individual BREEAM assessments will be required where spaces are >500sqm.

The following potential credits have been identified that allow a BREEAM 'Outstanding' rating to be achieved:

- MAN 01 01 – Stakeholder consultation (project delivery)
- MAN 01.02 – Stakeholder consultation (3rd party)
- MAN 03.02 – Sustainability Champion (construction)
- MAN 04.03 – Commissioning and handover: Testing and inspecting building fabric.
- HEA 02.03 – Indoor air quality: Potential for natural ventilation
- ENE 01.01 – Passive design analysis
- ENE 04.02 – Low carbon design: Free cooling
- WAT 01.01 – Water consumption: 55% improvement over baseline building water consumption.
- MAT 01.01 – Environmental impact of materials: 80% BREEAM Mat 01 calculator points achieved.
- MAT 03.04 – Responsible sourcing of materials: Responsible sourcing of materials (RSM greater than 54%).
- WST 01.06 – Project waste management: Resource efficiency

2.3 Project Team

The following are members of the design team responsible for the delivery of the proposed development.

Table 3: Project Team Members.

Discipline	Organisation	Abbreviation
Architect	Spparc	S
Building Services Consultant	Hoare Lea	HL MEP
BREEAM Assessor	Hoare Lea	HL AP
Client	YC Saville Theatre Ltd	YCST
Cost Management	G&T	G&T
Daylight Sunlight Consultant	Point 2	P2
Ecologist	RSP	RSP
Project Manager	Opera	O
Structural Engineer	Pell Frischmann	PF
Transport Consultant	Momentum	M

3. Summary Score Sheet

The summary table below highlights the list of targeted credits for the current BREEAM 2014 Refurbishment and Fit out (RFO) pre-assessment. Mandatory credits to achieve a 'Very Good' rating and above are highlighted by (M_V). Mandatory credits to achieve an 'Excellent' rating and above are highlighted by (M_e). Mandatory credits to achieve an 'Outstanding' rating and above are highlighted by (M_o).

Additional performance credits are available for some credit issues, and where these were deemed applicable to the development, they have been indicated by a plus sign, e.g. +1.

Table 2: BREEAM Target Summary.

Category	Issue	Credits		
		Available	Targeted	Potential
Management	Man 01: Project Brief and design	4	2	+2
	Man 02: Lifecycle Cost and Service Life Planning	4	4	-
	Man 03: Responsible Construction Practices **(M_e) (M_o)**	6	5	+1
	Man 04: Commissioning and Handover **(M_e) (M_o)**	4	3	+1
	Man 05: Aftercare	3	3	-
Health & Wellbeing	Hea 01: Visual Comfort	5	2	-
	Hea 02: Indoor Air Quality	3	2	+1
	Hea 04: Thermal Comfort	3	3	-
	Hea 05: Acoustic Performance	2	2	-
	Hea 06: Safety and Security	1	1	-
Energy	Ene 01: Reduction of Energy Use & CO_2 Emissions **(M_e) (M_o)**	15	6	+4
	Ene 02: Energy Monitoring **(M_V) (M_e) (M_o)**	1	1	-
	Ene 03: External Lighting	1	1	-
	Ene 04: Low Carbon Design	3	1	+1
	Ene 05: Energy efficient cold storage	2	2	-
	Ene 06: Energy Efficient Transportation Systems	3	2	-
Transport	Tra 01: Sustainable transport solutions	3	3	-
	Tra 02: Proximity to Amenities	1	1	-
	Tra 03: Cyclist facilities	2	2	-
	Tra 05: Travel plan	1	1	-
Water	Wat 01: Water consumption **(M_V) (M_e) (M_o)**	5	4	+1
	Wat 02: Water Monitoring **(M_V) (M_e) (M_o)**	1	1	-
	Wat 03: Water Leak Detection and Prevention	2	2	-
Materials	Mat 01: Life Cycle Impacts	6	5	+1
	Mat 03: Responsible Sourcing of Materials **(M_V) (M_e) (M_o)**	4	3	+1
	Mat 04: Insulation	1	1	-
	Mat 05: Designing for Durability and Resilience	1	1	-
	Mat 06: Material Efficiency	1	1	-
Waste	Wst 01: Project Waste Management **(M_o)**	7	4	+1
	Wst 03: Operational Waste **(M_e) (M_o)**	1	1	-
	Wst 05: Adaptation to climate change	1	1	-
	Wst 06: Functional Adaptability	1	1	-
Land use and ecology	Le 04: Enhancing site ecology	0	0	-
	Le 05: Long term impact on biodiversity	0	0	-
Pollution	Pol 01: Impact of Refrigerants	4	3	-
	Pol 02: NOx Emissions	3	2	-
	Pol 03: Surface Water Run-off	5	3	-
	Pol 04: Reduction of Night Time Light Pollution	1	1	-
	Pol 05: Noise attenuation	1	1	-
Innovation	Man 03: Responsible construction practices	1	1	-
	Wst 05: Adaptation to climate change	1	1	-
	Targeted weighted score / rating:		**74.71%**	
	Potential weighted score / rating:		**86.46%**	

4. Conclusion

Based upon an initial credit review independent of the project design team, it is anticipated that the Proposed Development could achieve a score of 74.71%, equivalent to a BREEAM 'Excellent' rating.

Additional potential credits have also been identified which, if targeted, could results in a higher BREEAM performance score and rating; 86.46%, equivalent to a BREEAM 'Outstanding'. The potential credits include the following credit issues:

- Man 01: Stakeholder consultation (project delivery) and (3rd party)
- Man 03: Sustainability Champion
- Man 04: Commissioning and handover
- Hea 02: Indoor air quality
- Ene 01: Reduction of energy use and CO_2 emissions
- Ene 04: Passive design analysis
- Wat 01: Water consumption
- Mat 01: Environmental impact of materials
- Mat 03: Responsible sourcing of materials
- Wst 01: Project waste management

Figure 2 outlines the Proposed Development scores in each category. It also outlines where potential credits could be targeted to increase the assessment score and rating.

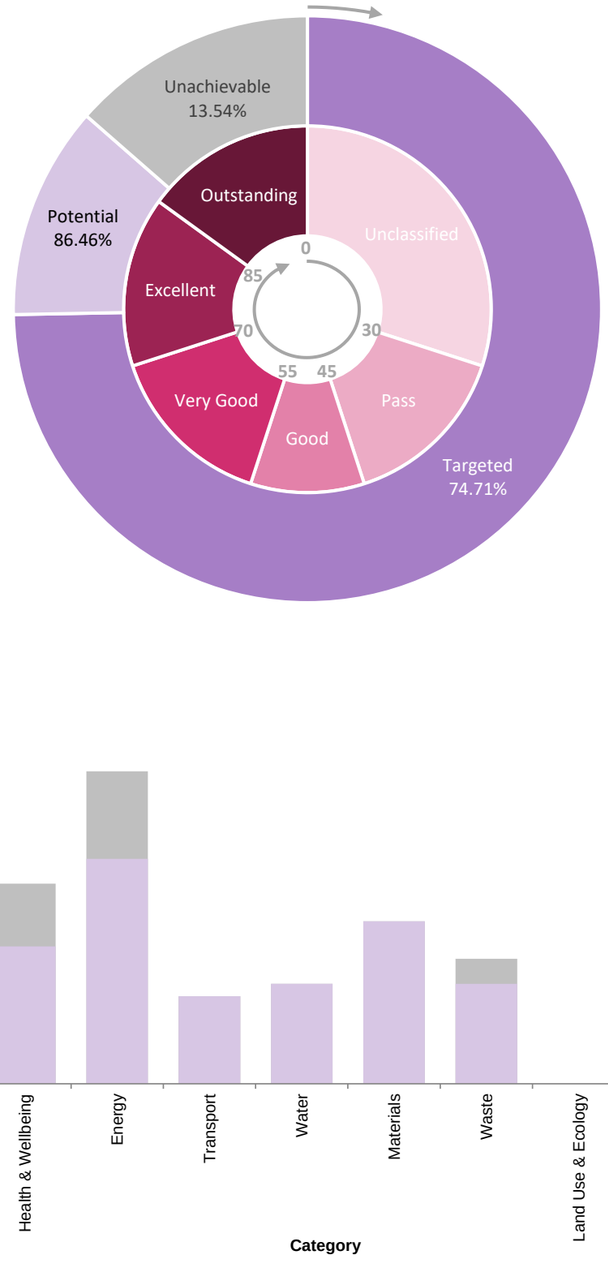

Figure 2: BREEAM Score Distribution.

Appendix A: Early Action Credits

Under the BREEAM 2014 Criteria, there are a number of credits which require specialist consultancy input, as well as some which require early action by the design team in order for the credits to be awarded. The targeted early action credits, the actions which need to be carried out and when these should be executed are listed below.

Table 4: BREEAM 2014 Early Action Credits (RIBA Stage 1).

Credit Issues	Credit	RIBA Stage 1 Actions	Owner	Status
Man 01 Project Brief and Design	Credit 3	– Sustainability Champion to be appointed to facilitate the setting and achievement of BREEAM performance targets for the project by Stage 2.	Project Manager BREEAM AP	Ongoing.
Mat 06 Material Efficiency	Credit 1	Consult with relevant design team members to identify and implement measures for efficient use of materials throughout all key stages. Suggested actions include: – Provide details outlining activities relating to material efficiency – Provide drawings or building integrated model (BIM), calculations showing reduction of material use through design – Collate meeting notes, construction programme, and responsibilities schedule (indicating parties consulted).	Design Team	Ongoing.

Table 5: BREEAM 2014 Early Action Credits (RIBA Stage 2).

Credit Issues	Credit	RIBA Stages 2 Actions	Owner	Status
Man 01 Project Brief and Design	Credit 1 & 2	– Stakeholder consultation by completion of Concept Design– definition and engagement of key stakeholders (incl. team member with significant construction experience) and their roles and responsibilities.	Project Manager	Ongoing.
	Credit 4	– Sustainability Champion: BREEAM performance targets to be formally agreed between the client and design/project team no later than Concept Design stage (RIBA Stage 2)	BREEAM AP	HL appointment
Man 02 Life cycle costing and service life planning	Credit 3	– An elemental level Life Cycle Cost (LCC) analysis has been carried out based on the proposals developed during RIBA Work Stage 2	Cost Consultant	Appointment required (G&T to confirm).
Hea 06 Safety and Security	Credit 2	– Appoint security specialist to conduct a Security Needs Assessment (SNA) and/or consult with an Architectural Liaison Officer (ALO)	Architect	Appointment required (HL can provide proposal)
Ene 04 Low carbon design	Credit 1	– Carry out a passive design analysis and a renewables feasibility study.	MEP	Appointment required for passive design study (HL can provide proposal). Renewable's feasibility study in HL scope.
Wst 01 Project Waste Management	Credit 1	– Undertake a pre-refurbishment audit of all existing buildings and structures.	Contractor	Appointment required.
Wst 05 Adaptation to climate change	Credit 1	– Conduct a climate change adaption strategy appraisal for structural and fabric resistance	Architect	Ongoing.
Wst 06 Functional Adaptability	Credit 1	– Undertake a Building-specific functional adaptation strategy study. – Subsequently incorporate adaption measures into the design where practical and cost effective at RIBA Stage 4	Design Team	Ongoing.

5. Appendix B: Detailed Credit Assessment

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
Management					
Man 01 Project Brief and Design	1st Credit - Stakeholder consultation (project delivery): A clear sustainability brief is developed prior to Concept Design which sets out: Client requirements e.g. internal environmental conditions required, sustainability objectives and targets including target BREEAM rating, business objectives etc, Timescales and budget, List of consulters and professional appointments that may be required e.g. Suitably Qualified Acoustician etc, Constraints for the project (technical, legal, physical, environmental) Stage 2 Roles and Responsibilities a) End user requirements b) Aims of the design and design strategy c) Particular installation and construction requirements d) Design and construction risk assessments (e.g. CDM) e) Legislative requirements (Building control, heritage) f) Procurement and supply chain g) Identifying and measuring project success in line with project brief objectives h) Occupiers' budget and technical expertise i) Maintainability and adaptability of the proposals j) Requirements for end user documentation k) Requirements for commissioning and aftercare support The project team demonstrate how the project delivery stakeholder contributions and the outcomes of the consultation process have influenced or changed the Initial Project Brief, including if appropriate, the Project Execution Plan, Communication Strategy, and the Concept Design.	1	0 (+1)	To be provided: - Project directory; - Stage 1/2 minutes showing how design team has been consulted/collaborated to change the design; - Project Execution Plan; - Formal confirmation of BREEAM/sustainability targets.	Project Manager
	2nd Credit - Stakeholder consultation (third party): Where evidence provided demonstrates that prior to the completion of the Concept Design stage, all relevant third-party stakeholders have been consulted by the design team and this covers the minimum consultation content (including but not limited to functionality, impacts on local community, inclusive and accessible design). The impact this consultation has had on the Project Brief and Concept Design must be demonstrated and consultation feedback has been given to all relevant parties.	1	0 (+1)	PM to send evidence of discussion with facilities manager.	Project Manager
	3rd Credit - Sustainability Champion (design): Where evidence provided demonstrates that a Sustainability Champion has been appointed to facilitate the setting and achievement of BREEAM performance target(s) for the project and evidence shows that the designed BREEAM performance target(s) has been contractually agreed and demonstrably achieved by project design.	1	1		Project Manager

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
	4th Credit - Sustainability Champion (monitoring progress): Where evidence provided demonstrates that the 3rd credit is achieved and a Sustainability Champion is appointed to monitor progress against the agreed BREEAM performance target(s). This is done by attending key project/design team meetings during the Concept Design, Developed Design and Technical Design stages, reporting to the client during, and prior to, completion of each stage.	1	1	BREEAM AP for Stage 3 & 4 is a separate appointment.	Project Manager
Man 02 Life Cycle Impacts	1st and 2nd Credit - Elemental life cycle cost (LCC): Where evidence provided confirms that an outline, entire asset elemental life cycle cost (LCC) plan has been carried out at Process Stage 2 (equivalent to Concept Design - RIBA Stage 2) in line with 'Standardised method of life cycle costing for construction procurement' PD 156865:2008. The elemental LCC plan would need to: – Be applicable to the life expectancy of the building, incorporating a range of options over 20, 30, 50+ years. – Include the services component over a 15-year period – Develop a strategy outlining options over a 10-year period. Demonstrate, using appropriate examples provided by the design team, how the elemental LCC plan has been used to influence building and systems design/specification to minimise life cycle costs and maximise critical value.	2	2	Elemental Life Cycle assessment to be costed to confirm whether credit is to be pursued.	Client + Cost Consultant-
	3rd Credit - Component level LCC option appraisal: Where evidence provided demonstrates that a component level LCC plan has been developed by end of Process Stage 4 (RIBA Stage 4) including the following component types: – Services: e.g. heat source cooling source, and/or controls – Finishes: e.g. walls, floors and/or ceilings – External spaces Demonstrate using appropriate examples provided by the design team, how the component level LCC plan has been used to influence building and systems design/specification to minimise life cycle costs and maximise critical value.	1	1	Component Level Life Cycle assessment to be costed to confirm whether credit is to be pursued.	Client + Cost Consultant-
	4th Credit - Capital cost reporting: Where evidence provided demonstrates reporting of the capital cost for the building in pounds per square metre (£/m^2) via the BREEAM Assessment Scoring and Reporting tool, Assessment Issue Scoring tab, Management section. Report capital cost for the scope of the refurbishment (differentiate between the extension scope + refurbishment works). Pro-rata capital cost for components which are linked. E.g. AHU's.	1	1	Capital cost for the works in pounds per square metre £k/m2 to be provided.	Client + Cost Consultant-

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
Man 03 (M) Responsible Construction Practices Mandatory: 1 credit (Considerate construction) for Excellent 2 credits (Considerate construction) for Outstanding	Pre-Requisite All timber and timber-based products used on the project is 'legally' harvested and traded timber	1	1	All credits included excluding exemplary level CCS targeted. To be added to contractor prelims contractor's responsibilities for: - operating to ISO 14001 - sign up to Considerate Constructors Scheme - monitoring energy, water and material transport consumption & CO2 emissions during construction. Credit 5 & 6 All credits are included.	Client + Contractor
	1st Credit - Environmental management: Evidence which demonstrates that the principal contractor operates an environmental management system (EMS) covering main operations e.g. third party certified to ISO 14001/EMAS or equivalent standard or have a structure that is in compliance with BS 8555-2003 and has reached stage 4 of implemented stage. Evidence that the principal contractor implements best practice pollution policies and procedures on-site in accordance with Pollution Prevention Guidelines.				
	2nd Credit - Sustainability Champion (construction): Evidence which demonstrates that a Sustainability Champion is appointed to monitor the project to ensure ongoing compliance with relevant sustainability performance/process criteria. The defined BREEAM performance target forms a requirement of the principal contractor's contract and to achieve this credit in final post construction phase of assessment, the BREEAM-related performance target must be demonstrably achieved by the project.	1	0 (+1)		Client + Contractor
	3rd and 4th Credit - Considerate construction: Where evidence provided demonstrates the contractor achieves 'compliance' with the criteria of a compliant considerate construction scheme (CCS score of at least 25). Where evidence provided demonstrates the contractor significantly exceeds 'compliance' with the criteria of the scheme (CCS score of at least 35). Exemplary Credit: Where evidence provided demonstrates the contractor achieves 'compliance' with the criteria of a compliant considerate construction scheme (CCS score of at least 40).	2	2		Client + Contractor
	5th and 6th Credit - Monitoring of refurbishment site impacts: Where evidence provided demonstrates the responsibility has been assigned to an individual for monitoring, recording and reporting energy use, water consumption and transport data resulting from all on-site refurbishment processes (and dedicated off-site monitoring) throughout the refurbishment programme. For data on transport movements; the delivery of major fit out materials and strip out waste is required to be included. This will include materials used for core services and interior fit out.	2	2		Client + Contractor

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
	Exemplary Credit: With reference to the considerate construction criterion 7, in addition to meeting the criteria for two credits (i.e., where the contractor achieves 'compliance' with the criteria of a 'compliant' scheme), the contractor also achieves compliance with the criteria of the compliant scheme to an exemplary level of practice.	1	0		Client + Contractor
Man 04 Commissioning and Handover ⚠ Mandatory: Criterion 9 (Building User Guide) for Excellent and Outstanding	1st Credit - Commissioning and testing schedule and responsibilities: Where evidence provided demonstrates a schedule of commissioning and testing that identifies and includes a suitable timescale for commissioning and re-commissioning of all complex and non-complex building services and control systems and testing and inspecting building fabric, and that all commissioning is completed in accordance with current Building Regulations, BSRIA and CIBSE guidelines. BMS commissioning in compliance with BREEAM compliance note 3.2. An appropriate project team member(s) is appointed to monitor and programme pre-commissioning, testing, and where necessary, re-commissioning on behalf of the client The principal contractor accounts for the commissioning and testing programmes, responsibilities and criteria within their budget and main programme of works, allowing for sufficient time to complete commissioning and testing prior to handover.	1	1	To be added to contractor prelims contractors responsibilities for: - commissioning (including seasonal commissioning). - developing a building user guide (pre-requisite)	Contractor
	2nd Credit - Commissioning building services: The commissioning and testing schedule and responsibilities credit is achieved. For projects where work is being undertaken to upgrade, renovate or install new building services and systems. a. For complex building services and systems, a specialist commissioning manager is appointed during the design stage (by either client or contractor) with responsibility for: i. Undertaking design reviews and giving advice on suitability for ease of commissioning ii. Providing commissioning management input to construction programming and during installation stages iii. Management of commissioning, performance testing and handover/post-handover stages.	1	1		Contractor

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
	3rd Credit – Testing and Inspecting Building Fabric The commissioning and testing schedule and responsibilities credit is achieved. The integrity of the building fabric, including continuity of insulation, avoidance of thermal bridging and air leakage paths is quality assured through completion of post construction testing and inspection (see compliance notes CN3.3, CN3.4 and Man 04 Commissioning and handover). The survey and testing is undertaken by a Suitably Qualified Professional (see Relevant definitions) in accordance with the appropriate standard. Any defects identified in the thermographic survey or the airtightness testing reports are rectified prior to building handover and close out. Any remedial work must meet the required performance characteristics for the building/element.	1	0 (+1)		Contractor
	4th Credit - Handover: Where evidence provided demonstrates that Building User Guides (BUG) are provided and are appropriate to all users of the building (general users including staff and if applicable residents, as well as the non-technical facilities management team/building manager) and that a training schedule is prepared for building occupiers/premises mangers, timed appropriately around handover and proposed occupation plans. The training schedule includes the following: a. The design intent of refurbishment works b. The available aftercare provision and aftercare team main contact(s), including any scheduled seasonal commissioning and post occupancy evaluation c. Introduction to, and demonstration of, installed systems and key features, particularly building management systems, controls and their interfaces, to ensure they are fully conversant with the detailed operation of the building d. Introduction to the Building User Guide and other relevant building documentation, e.g. design data, technical guides, maintenance strategy, operations and maintenance (O&M) manual, commissioning records, log book etc. e. Maintenance requirements, including any maintenance contracts and regimes in place.	1	1		Contractor
Man 05 Aftercare	1st Credit – Aftercare Support 1. There is (or will be) operational infrastructure and resources in place to provide aftercare support to the building occupier(s), which includes the following as a minimum: a. A meeting programmed to occur between the aftercare team/individual and the building occupier/management (prior to initial occupation, or as soon as possible thereafter) to: i. Introduce the aftercare team or individual to the aftercare support available, including the Building User Guide (where existing) and training schedule/content.	1	1	To be added to contractor prelims contractors' responsibilities for: - Aftercare support team and associated materials.	Client + Contractor

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
	ii. Present key information about features of the refurbished building including the design intent and how to use the building to ensure it operates as efficiently and effectively as possible (including the use of local services and controls and central services, as applicable). b. On-site facilities management training, to include a walkabout of the refurbished area of the building and introduction to, and familiarisation with the building systems, their controls and how to operate them in accordance with the design intent and operational demands. c. Initial aftercare support provision for at least the first month of building occupation, e.g. on-site attendance on a weekly basis to support building users/and management and to conduct a walk-around to examine how the refurbished area of the building is being used/operated to identify any issues that need to be communicated to building users/facilities managers (this could be more or less frequent depending on the complexity of the building and building operations). d. Longer term aftercare support provision for occupants for at least the first 12 months from occupation, e.g. a helpline, nominated individual or other appropriate system to support building users/management. 2. There is (or will be) operational infrastructure and resources in place to coordinate the collection and monitoring of energy and water consumption data for a minimum of 12 months (for Part 4, where local metering is available and accessible), once the building is occupied. Discrepancies between actual and predicted performance should be identified, with a commitment to identify actions required to address any discrepancies such as adjusting systems and/or to develop/review operational policies to influence user behaviours accordingly.				
	2nd credit – Seasonal Commissioning 3. The following seasonal commissioning activities will be completed over a minimum 12-month period, once the building becomes substantially occupied (except solar photovoltaics): a. Complex systems - Specialist Commissioning Manager: i. Testing of all building services under full load conditions, i.e. heating equipment in mid-winter, cooling/ventilation equipment in mid-summer, and under part load conditions (spring/autumn). ii. Where applicable, testing should also be carried out during periods of extreme (high or low) occupancy. iii. Interviews with building occupants (where they are affected by the complex services) to identify problems or concerns regarding the effectiveness of the systems. iv. Re-commissioning of systems (following any work needed to serve revised loads), and incorporating any revisions in operating procedures into the operations and maintenance (O&M) manuals. b. Simple systems (naturally ventilated) - external consultant/aftercare team/facilities manager: i. Review thermal comfort, ventilation, and lighting, at three, six and nine month intervals after initial occupation, either by measurement or occupant feedback. ii. Take all reasonable steps to re-commission systems following the review to take account of deficiencies identified and incorporate any relevant revisions in operating procedures into the O&M manuals.	1	1	To be added to contractor prelims contractors responsibilities for: - commissioning (including seasonal commissioning).	Client + Contractor

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
	3rd Credit – Post Occupancy Evaluation 4. The client or building occupier makes a commitment to carry out a post occupancy evaluation (POE) exercise one year after initial building occupation (see compliance note CN7). This is done to gain in-use performance feedback from building users to inform operational processes, including re-commissioning activities, and maintain or improve productivity, health, safety and comfort. The POE is carried out by an independent party (see Man 01 Project brief and design – Relevant definitions) and needs to cover: a. A review of the design intent and construction process (review of design, procurement, construction and handover processes). b. Feedback from a wide range of building users including facilities management on the design and environmental conditions of the building covering: i. Internal environmental conditions (light, noise, temperature, air quality) ii. Control, operation and maintenance iii. Facilities and amenities iv. Access and layout v. Other relevant issues. c. Sustainability performance (energy/water consumption, performance of any sustainable features or technologies, e.g. materials, renewable energy, rainwater harvesting etc.). 5. The client or building occupier makes a commitment to carry out the appropriate dissemination of information on the building's post occupancy performance. This is done to share good practice and lessons learned and inform changes in user behaviour, building operational processes and procedures, and system controls.	1	1	To be added to contractor prelims contractors' responsibilities to: - Conduct a post occupancy evaluation.	Client + Contractor
Health and Wellbeing					
Hea 01 Visual Comfort	1st Credit - Glare Control: Where evidence provided demonstrates that the potential for disabling glare has been designed out of all relevant building areas either through building layout and/or building design. In additional, a glare control strategy should be developed in tandem with the lighting strategy to ensure that glare is minimised whilst avoiding potential conflict with the lighting control systems, therefore avoiding higher than expected energy consumption.	1	1	Architect confirmed blinds already included and are to be retained.	Architect

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
	2nd, 3rd + 4th Credits – Average daylighting: Up to three credits are awarded on a sliding scale depending on the percentage of relevant building areas that comply with one of the following daylighting criteria: 1. The relevant building areas meet good practice daylight factor(s) (2% ADF for 80% of area for 3 credits): AND 2. A uniformity ratio of at least 0.3 or a minimum point daylight factor of at least 0.3 times the relevant average daylight factor value (2%). Spaces with glazed roofs, such as atria, must achieve a uniformity ratio of at least 0.7 or a minimum point daylight factor of at least 0.7 times the relevant average daylight factor value (2%); OR 3. At least 80% of the room has a view of sky from desk or tabletop height (0.85m in multi-residential buildings, 0.7m in other buildings) AND the room depth criterion d/w +d/HW < 2/(1-RB) is satisfied. Where: d = room depth w = room width HW = window head height from floor level RB = average reflectance of surfaces in the rear half of the room	3	0		Architect + Daylight Consultant
	5th + 6th Credit - View Out Two credits 95% of the floor area / One credit 80% of floor area in relevant building areas are within 7m of a wall which has a window or permanent opening that provides an adequate view out. The window/opening must be ≥20% of the surrounding wall area. Where the room depth is greater than 7m, compliance is only possible where the percentage of window/opening is the same as, or greater than, the values in Table 1.0 of BS 8206.	2	0	Architect to mark-up on drawings.	Architect
	7th Credit - Internal and external lighting: Internal lighting Where evidence provided demonstrates that internal and external lighting is designed in accordance with the required standard. b. All fluorescent and compact fluorescent lamps are fitted with high frequency ballasts. c. Internal lighting in all relevant areas of the building is designed to provide an illuminance (lux) level appropriate to the tasks undertaken. This can be demonstrated through a lighting design strategy that provides illuminance levels in accordance with the SLL Code for Lighting 2012 and any other relevant industry standard. d. For areas where computer screens are regularly used, the lighting design complies with CIBSE Lighting Guide 7 sections 3.3, 4.6, 4.7, 4.8 and 4.9. External lighting	1	1	Additional lighting components to be costed to confirm whether credit is to be pursued.	MEP

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
	e. For external areas, lighting provided is specified in accordance with BS 5489-1:2013 Lighting of roads and public amenity areas 3BS 5489-1:2013 Lighting of roads and public amenity areas, Code of Practice for the design of road lighting, BSI, 2013 and BS EN 12464-2:2014. Zoning and occupant control Lighting should be zoned to allow for occupant control as follows: f. In office areas, zones of no more than four workplaces g. Workstations adjacent to windows/atria and other building areas separately zoned and controlled h. Seminar and lecture rooms: zoned for presentation and audience areas i. Teaching space or demonstration area j. Whiteboard or display screen k. Auditoria: zoning of seating areas, circulation space and lectern area Areas for teaching, seminar or; lecture purposed in accordance with CIBSE LG 7. Manual lighting controls must be accessible while teaching and entering/leaving teaching space.				
	Exemplary Credit: Where evidence is provided which demonstrates that the exemplary level requirements are achieved, as outlined below: All building types (multi storey buildings) – at least 80% of the floor area achieved minimum point daylight factors of greater than 1.2% OR 2.1% for spaces with glazed roofs such as atria. Daylight factor of 3% is achieved over greater than 80% of the floor space.	1	0		Architect + Daylight Consultant-
Hea 02 Indoor Air Quality	1st Credit - Indoor air quality (IAQ) plan: Where evidence provided demonstrates that an IAQ plan has been produced with the objective of facilitating a process that leads to design, specification and installation decisions and actions that minimise indoor air pollution during occupation of the building. It must include a) Removal of contaminant sources b) Dilution and control of contaminant sources c) Procedures for pre-occupancy flush out d) Protection of Heating Ventilation and Air Conditioning (HVAC) systems from sources of pollution during refurbishment/fit-out works e.g. dust e) Procedures for protecting the indoor air quality of areas outside of the refurbishment or fit-out zone that may be affected by the refurbishment/fit-out works f) Procedures for identifying and implementing third party testing and analysis required to ascertain that the contaminant sources have been removed effectively before occupancy	1	1	Indoor air quality plan to be produced.	Architect + MEP + IAQ Specialist

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
	g) Commitments for maintaining indoor air quality in-use, e.g. maintenance and cleaning of the HVAC system, ductwork and filters.				
	2nd Credit - Ventilation: For air-conditioned and mixed-mode buildings: the building's air intakes and exhausts are over 10m apart to minimise recirculation and intakes are over 20m from sources of external pollution or designed in accordance with BS EN 13779:2007 Annex A2. In addition, the building must be designed to provide fresh air and minimise internal pollutants (and ingress of external polluted air into the building) in accordance with the criteria of the relevant standard for ventilation. If naturally ventilated the openable windows/ventilators must be over 10m from sources of external pollution. Areas of the building subject to large and unpredictable or variable occupancy patterns have CO_2 or air quality sensors specified and: a. In mechanically ventilated spaces, the sensor(s) are linked to the mechanical ventilation system and provide demand-controlled ventilation to the space. b. In naturally ventilated spaces, the sensors either have the ability to alert the building owner/manager when CO_2 levels exceed the recommended set point, or are linked to controls with the ability to adjust the quantity of fresh air, i.e. automatic opening windows/roof vents.	1	1	Intake / exhaust separation to be investigated.	Architect + MEP
	3rd Credit - Volatile organic compound (VOC) emission levels (products): Where evidence provided demonstrates that the indoor air quality plan has been developed and all decorative paints and varnishes meet the emission requirements with regards to VOCs. At least five of the seven remaining product categories listed in Table - 20 of the BREEAM manual meet the testing requirements and emission levels criteria for volatile organic compound (VOC) emissions.	1	(+1)	VOC specification of internal finishes	Architect

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
Hea 04 Thermal Comfort	1st Credit: Thermal Modelling Where evidence provided demonstrates that thermal modelling has been carried out using software in accordance with CIBSE AM11. The modelling demonstrates that the building design and services strategy can deliver thermal comfort levels in occupied spaces in accordance with the criteria set out in CIBSE Guide A Environmental Desi. In addition to the requirements above; Part 4 assessment: A competent person (e.g. chartered building services engineer) must assess the suitability of existing building services and controls to identify any changes that may be required as a result of fit-out works (e.g. as a result of changes to internal layout, occupant density, additional equipment that may increase cooling loads etc.).	1	1	Thermal Comfort study to be costed to confirm whether credit is to be pursued.	MEP
	2nd Credit: Adaptability Where credit 1 is achieved and evidence provided outlines that the thermal modelling demonstrates that the building design and services strategy can deliver thermal comfort levels in occupied spaces in accordance with the criteria set out in CIBSE Guide A Environmental Design for a projected climate change environment. Where these levels are not met the project team demonstrates how the building has been adapted or designed to be easily adapted in future using passive design solutions. Additionally, evidence is provided for air-conditioned buildings, the PMV and PPD indices based on the modelling are reported via the BREEAM assessment scoring and reporting tool.	1	1	Credit included as changing core services have more opportunity to change the design with regards to climate change.	MEP

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
	3rd Credit: Thermal zoning and controls The thermal modelling analysis has informed the temperature control strategy for the building and its users. The strategy for proposed heating/cooling system(s) demonstrates that it has addressed the following: a. Zones within the building and how the building services could efficiently and appropriately heat or cool these areas. For example, consider the different requirements for the central core of a building compared with the external perimeter adjacent to the windows. b. The degree of occupant control required for these zones, based on discussions with the end user (or alternatively building type or use specific design guidance, case studies, feedback) considers: i. User knowledge of building services ii. Occupancy type, patterns and room functions (and therefore appropriate level of control required) iii. How the user is likely to operate or interact with the system(s), e.g. are they likely to open windows, access thermostatic radiator valves (TRV) on radiators, change air-conditioning settings etc. iv. The user expectations (this may differ in the summer and winter) and degree of individual control (i.e. obtaining the balance between occupant preferences, for example some occupants like fresh air and others dislike draughts). c. How the proposed systems will interact with each other (where there is more than one system) and how this may affect the thermal comfort of the building occupants. d. The need or otherwise for an accessible building user actuated manual override for any automatic systems. In addition to the requirements above, the following applies: Where specified, any new local cooling or heating services (or changes to existing services) are designed to ensure they do not conflict with core services (e.g. conflicts between two separate cooling systems, conflicts between core heating and locally provided cooling systems).	1	1	If thermal comfort study undertaken, credit will be achievable.	MEP
Hea 05 Acoustic Performance	Up to two credits: The building meets the appropriate acoustic performance standards and testing requirements defined in the checklists and tables section which defines criteria for the acoustic principles of: a. **Sound insulation (1 credit)**: the sound insulation between acoustically sensitive rooms and other occupied areas complies with the performance criteria given in Section 7 of BS 8233:2014 b. **Indoor ambient noise level (1 credit)**: achieve indoor ambient noise levels that comply with the design ranges given in Section 7 of BS 8233:2014	2	2		Architect + Acoustician
Hea 06 Safety and Security	1 Credit - Security of site and building: Where evidence provided demonstrates that a suitably qualified security specialist (SQSS) conducts an evidence-based Security Needs Assessment during or prior to Concept Design (RIBA Stage 2). The SQSS develops a set of recommendations or solutions during or prior to Concept Design (RIBA Stage 2 or equivalent). These recommendations or solutions aim to ensure that the design of buildings, public and private car	1	1	Requires consultation with security consultant; to develop set of safety/security recommendations. To be completed by end of stage 2.	Architect

<table>
<tr><th>Issue</th><th>Credit Requirements</th><th colspan="2">Credits</th><th>Comments / Actions</th><th>Responsible Team Member</th></tr>
<tr><th></th><th></th><th>Available</th><th>Targeted (Potential)</th><th></th><th></th></tr>
<tr><td></td><td>parks and public or amenity space are planned, designed and specified to address the issues identified in the preceding SNA.

The recommendations from the SQSS must be implemented into the design.</td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="6">Energy</td></tr>
<tr><td>Ene 01 (M)

Reduction of CO_2 emissions

⚠

Mandatory:

6 credits for Excellent

10 credits for Outstanding</td><td>Up to 15 Credits – Energy performance

Option 1 – For projects that want to gain recognition for improvements made at the whole building level, using whole building energy modelling National Calculation Methodology (NCM) compliant software.

<table>
<tr><th colspan="2"></th><th colspan="2">Minimum Standards</th></tr>
<tr><td>BREEAM Credits</td><td>EPR_{NDR}</td><td>Rating</td><td>Minimum Requirements</td></tr>
<tr><td>1</td><td>0.06</td><td>Pass</td><td>Very Good</td></tr>
<tr><td>2</td><td>0.12</td><td rowspan="4">Good</td><td rowspan="4">Requires performance improvement progressively better than relevant national building regulations compliant standards</td></tr>
<tr><td>3</td><td>0.18</td></tr>
<tr><td>4</td><td>0.24</td></tr>
<tr><td>5</td><td>0.30</td></tr>
<tr><td>6</td><td>0.36</td><td rowspan="4">Excellent</td><td rowspan="4">Requires 6 credits to be achieved</td></tr>
<tr><td>7</td><td>0.42</td></tr>
<tr><td>8</td><td>0.48</td></tr>
<tr><td>9</td><td>0.54</td></tr>
<tr><td>10</td><td>0.60</td><td rowspan="3">Outstanding</td><td rowspan="3">Requires 10 Credits to be achieved</td></tr>
<tr><td>11</td><td>0.66</td></tr>
<tr><td>12</td><td>0.72</td></tr>
</table>
</td><td>15</td><td>6

(+4)</td><td>Two options possible here;
1. Elemental Approach: crude estimate of regulated energy consumption.
2. Part L pre and post-refurbishment model.

Whilst the elemental approach can be used, it is anticipated that a Part L assessment of the building pre-refurbishment & post-refurbishment would be done And potentially more credits would be available.</td><td>MEP</td></tr>
</table>

<table>
<tr><th>Issue</th><th>Credit Requirements</th><th>Credits
Available</th><th>Credits
Targeted (Potential)</th><th>Comments / Actions</th><th>Responsible Team Member</th></tr>
<tr><td></td><td>
<table>
<tr><td>13</td><td>0.78</td><td></td><td></td></tr>
<tr><td>14</td><td>0.84</td><td></td><td></td></tr>
<tr><td>15</td><td>0.9</td><td></td><td></td></tr>
</table>

Option 2 - For projects where the scope of work is limited to a single or multiple assessment part (from parts 1, 2, 3 and 4) such as partial or minor refurbishment projects and fit-out projects. This option can, however, be used by projects undertaking a full refurbishment (all assessment parts).

Option 2
<table>
<tr><th>Rating</th><th>Minimum requirements</th></tr>
<tr><td>Pass
Good
Very Good</td><td>Evidence that the project has complied with the minimum requirements of Building Regulations Approved Document Part L2B</td></tr>
<tr><td>Excellent</td><td>Requires a minimum of 36% of available credits to be achieved</td></tr>
<tr><td>Outstanding</td><td>Requires a minimum of 60% of available credits to be achieved</td></tr>
</table>

Note: The credits available for option 2 are dependent upon the applicable assessment part and building type as defined in the BREEAM Refurbishment and Fit-out reporting tool. However irrespective of the building type and assessment scope, it is always possible to score up to 100% of the credits available to each project.</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>Exemplary Credits Available – 5 credits

The building achieves an EPR_{NC} ≥0.9 and zero net CO_2 emissions, and an equivalent percentage of the buildings modelled ‘regulated’ operational energy consumption, as stipulated in the table below, is generated by carbon neutral on-site, near-site or ‘accredited external’ sources and used to meet energy demand from ‘unregulated’ building systems or processes.
<table>
<tr><th>Innovation Credits</th><th>Equivalent % Criteria</th></tr>
<tr><td>1</td><td>10%</td></tr>
<tr><td>2</td><td>20%</td></tr>
<tr><td>3</td><td>50%</td></tr>
</table></td><td>5</td><td>0</td><td></td><td>-</td></tr>
</table>

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
	4 80% 5 >100%				
Ene 02 (M) Energy monitoring *Mandatory:* 1 credit (First sub-metering credit) for Very Good and above	1st Credit: Sub-metering of major energy consuming systems Where evidence provided demonstrates that the energy metering systems are installed that enable 90% of the estimated annual energy consumption of each fuel to be assigned to the various end-use categories of energy consuming systems. For buildings with a total useful floor area > 1000m^2 are metered using an appropriate energy monitoring and management system and systems in smaller buildings are metered either with an energy monitoring and management system or separate assessable energy sub-meters with pulsed or other open protocol communication outputs, to enable future connection to an energy monitoring and management system. The end energy consuming use is identifiable to the building user through labelling or data outputs. Systems that consume energy to perform the following functions within a building: a. Space heating b. Domestic hot water heating, c. Humidification*, d. Cooling*, e. Ventilation, i.e. fans (major)*, f. Pumps, g. Lighting h. Small power, i. Renewable or low carbon systems (separately), j. Controls, k. Other major energy consuming systems	1	1	MEP to confirm metering strategy.	MEP
Ene 03 External Lighting	- The building has been designed to operate without the need for external lighting (which includes on the building, signs and at entrances). OR alternatively, where the building does have external lighting, one credit can be awarded as follows: - The average initial luminous efficacy of the external light fittings within the construction zone is not less than 60 luminaire lumens per circuit Watt. - All external light fittings are automatically controlled for prevention of operation during daylight hours and presence detection in areas of intermittent pedestrian traffic.	1	1		MEP
Ene 04 Low Carbon Design	1st Credit - Passive design analysis: Where the first credit of Hea 04 (Thermal comfort) is achieved and the project team carries out an analysis of the design to identify opportunities for the implementation of passive design solutions that reduce demands for energy consuming building services, and that these solutions are implemented meaningfully into the design. Full consideration must be given to passive design measures from the base build are maintained (BREEAM knowledge Base Ref. KBCN0859)	1	0 (+1)	Passive design analysis to be undertaken at stage 2. Thermal comfort model needs to be carried out for credit to be awarded.	MEP/ Sustainability
	Second credit - Free cooling: Where the first credit is achieved, the passive design analysis includes an analysis of free cooling and identifies opportunities for the implementation of free cooling solutions. Free cooling solutions might include night time cooling, ground coupled air cooling or surface water cooling; i.e. does not use active cooling.	1	0	.	MEP

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
	Third credit - Low zero carbon feasibility study: Where evidence provided demonstrates that a feasibility study has been carried out by the completion of the Concept Design stage (RIBA Stage 2) by an energy specialist to establish the most appropriate recognised local (on- or near-site) low or zero carbon energy source(s) for the development. A local LZC technology/ies has been specified for the building in line with the recommendations of this feasibility study and this method of supply results in a meaningful reduction in regulated CO_2 emissions.	1	1	LZC study to be undertaken at stage 2.	MEP/ Sustainability
Ene 05 Energy Efficient Cold Storage	1st credit - Refrigeration energy consumption 1. The refrigeration system, its controls and components have been designed, installed and commissioned as follows: a. In accordance with the Code of Conduct for carbon reduction in the refrigeration retail sector1 (see Other information) and BS EN 378-2 Refrigeration systems and heat pumps - Safety and environmental requirements. b. Using robust and tested refrigeration systems/components, normally defined as those included on the Enhanced Capital Allowance (ECA) Energy Technology Product List (ETPL)2 or an equivalent list (see CN8 for a list of components). 2. The refrigeration plant has been commissioned to comply with the criteria for commissioning outlined in BREEAM issue Man 04 Commissioning and handover.	1	1	Refrigeration units specs to be provided and confirmation of compliance with BS EN 378-2. Confirmation refrigerant system is on the ECA Energy Technology Product List.	MEP
	One credit - Greenhouse gas emissions from energy use 3. Criteria 1 and 2 have been achieved. 4. The installed refrigeration system demonstrates a saving in greenhouse gas emissions from energy use (CO2 eq.) over the course of its operational life.	1	1	Compliance with Code of Conduct for carbon reduction in the retail refrigeration sector	MEP
Ene 06 Energy efficient transportation systems	2nd and 3rd credit - Energy efficient features: For each newly specified lift, the following three energy efficient features are specified and for existing lifts, at least two of the following energy efficient features are specified: - The lifts operate in a standby condition during off-peak periods. For example, the power side of the lift controller and other operating equipment such as lift car lighting, user displays and ventilation fans switch off when the lift has been idle for a prescribed length of time. - The lift car lighting and display lighting provides an average lamp efficacy, (across all fittings in the car) of > 55 lamp lumens/circuit Watt. - The lift uses a drive controller capable of variable speed, variable-voltage, and variable-frequency (VVVF) control of the drive motor. Where the use of regenerative drives is demonstrated to save energy, they are specified.	3	2	Current lift specs to be provided.	MEP
Transport					
Tra 01 Proximity to amenities	Up to Three credits - Accessibility Index:	3	3	AI study to be undertaken	Architect

<table>
<tr><th>Issue</th><th>Credit Requirements</th><th colspan="2">Credits</th><th>Comments / Actions</th><th>Responsible Team Member</th></tr>
<tr><th></th><th></th><th>Available</th><th>Targeted (Potential)</th><th></th><th></th></tr>
<tr><td></td><td>The public transport Accessibility Index (AI) for the assessed building is calculated and BREEAM credits awarded in accordance with the table of building types, AI benchmarks and BREEAM credits in Table 29 (see checklists and tables).

The Accessibility Index is determined by entering the following information in to the BREEAM Tra 01 calculator:
a. The distance (m) from the main building entrance to each compliant public transport node
b. The public transport type(s) serving the compliant node e.g. bus or rail
c. The average number of services stopping per hour at each compliant node during the operating hours of the building for a typical day (see compliance notes and Table 30 in the Additional Information section).

OR

One credit - Dedicated bus service:

For buildings with a fixed shift pattern, i.e. where building users will predominantly arrive/depart at set times, one credit can be awarded where the building occupier provides, or commits to providing a dedicated bus service to and from the building at the beginning and end of each shift/day.

This credit is only available in cases where a development is unable to achieve any of the available credits using the Accessibility Index criteria (i.e. its location has a low public transport Accessibility Index).</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Tra 02

Proximity to amenities</td><td>1 Credit (building type specific)

Where evidence provided demonstrates that the building is located within the 500m distance via safe walking route of at least two of the following amenities:
a. Appropriate food outlet
b. Cash point
c. Leisure facility</td><td>1</td><td>1</td><td></td><td>Architect</td></tr>
<tr><td>Tra 03

Cyclist Facilities</td><td>1 credit - Cycle storage (Other buildings – Type 2):

Compliant cycle storage spaces that meet the minimum levels set out in the following table are installed:

<table><tr><th>Building Type</th><th>No. Spaces per Measure</th><th>Unit of Measure</th></tr><tr><td>Other: Assembly and Leisure - Theatre</td><td>1</td><td>10 Staff</td></tr></table></td><td>2</td><td>2</td><td></td><td>Architect & MEP</td></tr>
<tr><td>Tra 05

Travel Plan</td><td>1 Credit:

Where evidence provided demonstrates that a travel plan has been developed as part of the feasibility and design stages which considers all types of travel relevant to the building type and users.

The travel plan must be structured to the needs of the particular site and takes into consideration the findings of a site-specific transport survey.</td><td>1</td><td>1</td><td>Travel plan to be developed.</td><td>Project Manager</td></tr>
</table>

<table>
<tr><th>Issue</th><th>Credit Requirements</th><th colspan="2">Credits</th><th>Comments / Actions</th><th>Responsible Team Member</th></tr>
<tr><th></th><th></th><th>Available</th><th>Targeted (Potential)</th><th></th><th></th></tr>
<tr><td></td><td>The travel plan must include a package of measures that have been used to steer the design of the development in order to meet the travel plan objectives and minimise car-based travel patterns.</td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="6">Water</td></tr>
<tr><td>Wat 01 (M)
Water consumption
⚠
Mandatory:
– One credit for Good and above.
– Two credits for Outstanding.</td><td>Up to five credits:

Where evidence provided demonstrates that water consumption has been reduced to the following levels compared against the baseline building model:

<table><tr><th>% Improvement</th><th>No. of BREEAM Credits</th></tr><tr><td>12.5%</td><td>1</td></tr><tr><td>25%</td><td>2</td></tr><tr><td>40%</td><td>3</td></tr><tr><td>50%</td><td>4</td></tr><tr><td>55%</td><td>5</td></tr><tr><td>65%</td><td>Exemplary performance</td></tr></table></td><td>5</td><td>4
(+1)</td><td>Sample flow rates provided below to get 4 credits:

WCs – 3.75 l (Effective flush volume)
Urinals – 0.75 litres/bowl/hour
Showers – 4 litres/min
Wash hand basins- 3.75 litres/min
Kitchen taps – kitchenette- 5 litres/min
Kitchen taps – pre-rinse nozzles- 6.30 litres/min
Commercial Dishwasher - 4.00 litres/rack

Architect to provide sanitary schedule with flow rates.</td><td>MEP + Architect</td></tr>
<tr><td>Wat 02 (M)
Water monitoring
⚠
Mandatory:
Criterion 1 only for Good and above.</td><td>One credit:
– Where evidence provided demonstrates that a water meter with a pulsed output will be installed on the mains supply to each building/unit.
– Water-consuming plant or building areas, consuming 10% or more of the building's total water demand, need to be fitted with either sub meters or have water monitoring equipment integral to the plant or area. (Not applicable to Shell Only Assessments).
– Each meter (main and sub) must have a pulsed output to enable connection to a Building Management System (BMS) for the monitoring of water consumption.
– If the site on which the building is located has an existing BMS, managed by the same occupier/owner (as the new building), the pulsed water meter(s) for the new building must be connected to the existing BMS.</td><td>1</td><td>1</td><td>MEP confirmed new meter will be added.</td><td>MEP</td></tr>
<tr><td rowspan="2">Wat 03
Water leak detection</td><td>First credit - Leak detection system:
Where evidence provided demonstrates that a leak detection system which is capable of detecting a major water leak on the mains water supply within the building and between the building and the utilities water meter is provided.</td><td>1</td><td>1</td><td></td><td>MEP</td></tr>
<tr><td>Second credit - Flow control devices:
Where evidence provided demonstrates that flow control devices that regulate the supply of water to each WC area/facility according to demand are installed (and therefore minimise water leaks and wastage from sanitary fittings)</td><td>1</td><td>1</td><td></td><td>MEP</td></tr>
</table>

Materials					
Mat 01 Environmental Impact of Materials	Up to 6 Credits- Project lifecycle assessment study: The project uses a life cycle assessment (LCA) tool or undertakes a building information model life cycle assessment (BIM LCA) to measure the life cycle environmental impact of the refurbishment or fit-out works. OR Up to 4 Credits- Elemental assessment of environmental performance information: Robust environmental performance information has been collected for newly specified materials or where materials are retained in situ, for elements listed in CN7. The total number of points achieved as set out in the Methodology section is calculated using Part B of the BREEAM Mat 01 calculator. The number of points scored is based on the percentage of each element that has been: a) Reused in situ b) Reused in situ with minor repairs c) Specified with robust environmental performance information. Credits are awarded based upon the percentage of available points achieved as set out in Table – 47	6	5 (+1)	PM to add to contractor prelims contractor's responsibilities for: - Specifying materials with Environmental Product Declarations (EPDs). Architect to discuss with manufacturers the green guide ratings + environmental product declarations. Architects to complete following specification of materials. - Green guide ratings + environmental product declarations; - ISO 15804 Type 3, - ISO 14025 Type 3, - ISO 14024 Type 1 - Re-used in-situ - Self declared recycled content - https://www.bre.co.uk/register.jsp	Project Manager Architect
Mat 03 (M) Responsible Sourcing Mandatory: Criterion 1 sustainable timber sourcing for all ratings	Pre-requisite All timber and timber-based products used on the project are 'legally harvested and traded timber' 1st Credit: Sustainable Procurement Plan Where evidence provided demonstrates that the principal contractor sources materials for the project in accordance with a documented sustainable procurement plan.	1	1	Pre-Requisite PM to add to contractor prelims contractors' responsibilities for: - All timber and timber-based products used on the project is Legally harvested and traded timber. - Produce sustainable procurement plan. Credit 1 PM to add to contractor prelims contractor's responsibilities for: - Developing sustainable procurement plan (sets targets for responsible sourcing)	Project Manager Architect + Contractor

Materials

	Up to 3 Credits: Responsible Sourcing of Materials Where evidence provided demonstrates the available responsible sourcing of materials (RSM) can be awarded where the applicable building materials are responsibility sourced in accordance with the BREEAM methodology. RSM Credits / % of available RSM points achieved 3 / ≥ 54% 2 / ≥ 36% 1 / ≥ 18% Exemplary Credit: Where evidence provided demonstrates that at least 70% of the available RSM points are achieved	3	2 (+1)	Architect to discuss with manufacturers the responsible sourcing certificates of specification. Targeting 54% of all materials to be responsibly sourced. Architect to complete following specification of materials. Responsible sourcing certificates: - BES 6001 - FSC (timber) - ISO 14001 - etc.	Architect
Mat 04 Insulation	1 Credit: Embodied Impact Where evidence provided demonstrates that any new insulation specified for use within the following building elements must be assessed: a. External walls b. Ground floor c. Roof d. Building services The Insulation Index for the building fabric and services insulation is the same as or greater than 2.5.	1	1	For any new building services provide; green guide rating (A or A+), thermal conductivity and area/ thickness/ volume of insulation.	Architect + MEP
Mat 05 Designing for Durability and Resilience	1 Credit: Designing for Durability and Resilience **PART A: Protecting vulnerable parts of the building from damage** Where evidence provided demonstrates that the building incorporates suitable durability and protection measures or designed features/solutions to prevent damage to vulnerable parts of the internal and external building and landscaping elements. This must include, but is not necessarily limited to: a. Protection from the effects of high pedestrian traffic in main entrances, public areas and thoroughfares (corridors, lifts, stairs, doors etc.). b. Protection against any internal vehicular/trolley movement within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas. c. Protection against, or prevention from, any potential vehicular collision where vehicular parking and manoeuvring occurs within 1m of the external building façade for all car parking areas and within 2m for all delivery areas.	1	1	Architect to mark-up on drawings vulnerable areas to high pedestrian traffic, internal vehicular/trolley movement and demonstrate through specs measures to include to ensure durability - e.g. corner guards / wall guards / bumper rails / kick plates etc.	Architect

Materials					
Mat 06 Material Efficiency	1 Credit: Where evidence provided demonstrates that opportunities have been identified and appropriate measures investigated and implemented to optimise the use of materials in building design, procurement, construction, maintenance and end of life. This process must be carried out by the design/construction team in consultation with relevant parties at each RIBA stage. a. Preparation and Brief b. Concept Design c. Developed Design d. Technical Design e. Construction	1	1	At each stage of the project demonstrate how material use and waste has been minimised - questions to consider from WRAP - Designing out Waste: A design team guide for Buildings: https://www.modular.org/marketing/documents/DesigningoutWaste.pdf 1.Design for Reuse and Recovery 2.Design for Off Site Construction 3.Design for Materials Optimisations 4.Design for Waste Efficient 5.Design for Deconstruction & Flexibility	Architect
Waste					
Wst 01 (M) Construction waste management Mandatory: 1 credit for Outstanding	1st credit: Pre-refurbishment audit The client shall ensure that a pre-refurbishment audit of all existing buildings, structures or hard surfaces within the scope of the refurbishment or fit-out zone is completed at the concept design stage and identifies, quantifies and sets targets on the waste production as a result of the refurbishment. The audit must be referenced in the resource management plan and include, quantification of the key materials where present on the project, applications for reuse and recycling, recycling rate predication, re-use targets and landfill diversion rates.	1	1		Contractor

Materials

2nd–3rd Credit: Reuse and direct recycling of materials

Where waste material types detailed in Table - 64 are either directly re-used on-site or off-site or are sent back to the manufacturer for closed loop recycling:

- One credit is achieved where 50% of the total available points for the waste material types detailed in Table - 64 that are present on the project have been achieved.
- Two credits are achieved where 75% of the total available points for the waste material types detailed in Table - 64 that are present on the project have been achieved.

Please note that in most instances any materials specified in Table - 64 that are sent to a Material Recovery Facility (MRF) for recovery does not qualify for this credit.

2 | 1

Up to 3 Credits: Resource efficiency

Develop and implement a compliant resource management plan covering the waste arising from the refurbishment or fit-out project with the aim of minimising waste, recording and reporting accurate data on waste arising.
The non-hazardous waste relating to on-site refurbishment or fit-out, and dedicated off-site manufacture or fabrication processes generated by the building's design and construction meets, or exceeds, the resource efficiency benchmarks set out below.

BREEAM Credits	Amount of construction waste generated per 100m2 (gross internal floor area)	
	M3	Tonnes
1	<11.3	<3.5
2	<4.5	<1.2
3	<2.1	<0.4
Exemplary	<1.4	<0.3

3 | 1 (+1)

PM to include the following in Contractor prelims:

- At least 50% of material categories to have re-use opportunities (i.e. takeback schemes).
- Develop and implement a compliant resource management plan
- Set target & achieve a resource efficiency benchmark of <11.3m3 (volume) or <3.5 (tonnes) amount of construction waste generate per 100m2
- Achieve 85% (volume) or 90% (tonnage) of diversion from landfill for non-hazardous waste.

4th Credit - Diversion of resources from landfill:

The following percentages of non-hazardous construction and demolition waste (where applicable) generated have been diverted from landfill:

BREEAM Credits	Type of Waste	Volume	Tonnage
One Credit	Refurbishment / fit out	85%	90%
	Demolition	90%	95%
Exemplary level	Refurbishment	95%	97%
	Demolition	95%	97%

1 | 1

Wst 03 (M)

Operational waste

1 Credit:

Where evidence provided demonstrates that there is dedicated space(s) to cater for the segregation and storage of operational recyclable waste volumes generated by the assessed building/unit, its occupant(s) and activities.

The dedicated space(s) must be:

a. Clearly labelled, to assist with segregation, storage and collection of the recyclable waste streams

1 | 1 | Architect to mark-up on drawings | Architect

Materials					
Mandatory: 1 credit for Excellent and above	b. Accessible to building occupants / facilities operators for the deposit of materials and collections by waste management contractors c. Of a capacity appropriate to the building type, size, number of units (if relevant) and predicted volumes of waste that will arise from daily/weekly operational activities and occupancy rates. Where the consistent generation in volume of the appropriate operational waste streams is likely to exist, e.g. large amounts of packaging or compostable waste generated by the building's use and operation, the following facilities must be provided as part of its waste management strategy: d. Static waste compactor(s) or baler(s); situated in a service area or dedicated waste management space. e. Vessel(s) for composting suitable organic waste resulting from the building's daily operation and use OR adequate space(s) for storing segregated food waste and compostable organic material prior to collection and delivery to an alternative composting facility. f. Where organic waste is to be stored/ composted on site, a water outlet is provided adjacent to or within the facility for cleaning and hygiene purposes.				
Wst 05 Adaption to Climate Change	One credit - Structural and fabric resilience Conduct a climate change adaptation strategy appraisal for structural and fabric resilience by the end of Concept Design (RIBA Stage 2 or equivalent), in accordance with the following approach: a. Carry out a systematic (structural and fabric resilience specific) risk assessment to identify and evaluate the impact on the building over its projected life cycle from expected extreme weather conditions arising from climate change and, where feasible, mitigate against these impacts. The assessment should cover the following stages: i. Hazard identification ii. Hazard assessment iii. Risk estimation iv. Risk evaluation v. Risk management.	1	1		Architect
Wst 06 Functional Adaptability	One Credit - Functional adaptability: Where evidence provided demonstrates that a building-specific functional adaptation strategy study has been undertaken by the client and design team by Concept Design (RIBA Stage 2) which includes recommendations for measures to be incorporated to facilitate future adaptation. Additionally, functional adaptation measures have been implemented by RIBA Stage 4 in accordance with the functional adaptation strategy recommendations, where practical and cost effective.	1	1	Stage 2 - A functional adaptation Strategy, which includes recommendations for measures to be incorporated to facilitate future adaptation: <u>Questions to consider at Stage 2</u> - How easy can major plant be removed? Do you need removable walls? - Can the internal environment adapt to changing working practices? Internal gyms, open plan, standing desks.	Architect

Materials					
				- Is it easy to change the use of building? - Is the underlying infrastructure suitable to support a change in use? What else is needed? Stage 4 – Functional Adaptation Implementation; outline the measures that have been adopted. <u>Questions to consider at Stage 4</u> - The feasibility for multiple/alternative building uses and area functions, e.g. related to structural design of the building. - Options for multiple building uses and area functions based on design details, e.g. modularity. - Routes and methods for major plant replacement, e.g. networks and connections have flexibility and capacity for expansion. - Accessibility for local plant and service distribution routes, e.g. detailed information on building conduits and connections infrastructure.	
Pollution					
Pol 01 Impact of refrigerants	Pre-requisite: All systems (with electronic compressors) must comply with the requirements of BS EN 378:2008, and where refrigeration systems containing ammonia are installed, they must comply with the Institute of Refrigeration Ammonia Refrigeration Systems Code of Practice. Three credits: Where evidence provided demonstrates that the building does not require the use of refrigerant within its building services or plant. Two credits:	3	2	What level of new plant is being incorporated? Two credit targeted - Aim for systems using refrigerants have Direct Effect Life Cycle CO2 equivalent emissions (DELC CO2e) of 1000 kgCO2e/kW cooling/heating capacity.	MEP

<table>
<tr><th colspan="6">Materials</th></tr>
<tr><td></td><td>Where evidence provided demonstrates that the systems specified using refrigerants have Direct Effect Life Cycle CO_2 equivalent emissions (DELC CO_{2e}) of ≤100 kgCO_{2e}/kW cooling/heating capacity.

OR

Where air-conditioning or refrigeration systems are installed the refrigerants used have a Global Warming Potential (GWP) ≤10.

One credit:
Where evidence provided demonstrates that the systems using refrigerants have Direct Effect Life Cycle CO_2 equivalent emissions of (DELC CO_{2e}) of ≤1000 kgCO_{2e}/kW cooling/heating capacity.</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>One Credit - Leak detection

Where systems using refrigerants have a permanent automated refrigerant leak detection system installed; OR where an inbuilt automated diagnostic procedure for detecting leakage is installed. In all instances a robust and tested refrigerant leak detection system must be installed and must be capable of continuously monitoring for leaks.

The system must be capable of automatically isolating and containing the remaining refrigerant(s) charge in response to a leak detection incident</td><td>1</td><td>1</td><td></td><td>MEP</td></tr>
<tr><td>Pol 02

NO_x emissions</td><td>Up to three credits:

<table><tr><th>NO_x emissions levels for heating and hot water (mg/kWh)</th><th>Credits</th></tr><tr><td>≤ 100mg/kWh</td><td>1 credit</td></tr><tr><td>≤ 70mg/kWh</td><td>2 credits</td></tr><tr><td>≤ 40mg/kWh</td><td>3 credits</td></tr></table>
Where evidence provided demonstrates where the plant specified to meet the building's delivered heating and cooling demand has, under normal operating conditions, a dry NO_x emission level (measured at 0% excess O_2) as follows for non-industrial buildings)</td><td>3</td><td>2</td><td></td><td>MEP</td></tr>
</table>

Materials					
Pol 03 Surface Water Run Off	Up to two credits - Flood resilience Two credits - Low flood risk 1. Where a site-specific flood risk assessment (FRA) confirms the development is situated in a flood zone that is defined as having a low annual probability of flooding (in accordance with current best practice national planning guidance (refer to Pol 03 Surface water run-off). The FRA must take all current and future sources of flooding into consideration (see CN3.2). One credit - Medium/high flood risk 2. Where a site-specific FRA confirms the development is situated in a flood zone that is defined as having a medium or high annual probability of flooding and is not in a functional floodplain (in accordance with current best practice national planning guidance (refer to Pol 03 Surface water run-off). The FRA must take all current and future sources of flooding into consideration (see CN3.2). 3. To increase the resilience and resistance of the development to flooding, one of the following must be achieved: a. The ground level of the building and access to both the building and the site, are designed (or zoned) so they are at least 600mm above the design flood level of the flood zone in which the assessed development is located (see CN3.5); OR b. The final design of the building and the wider site reflects the recommendations made by an appropriate consultant in accordance with the hierarchy approach outlined in section 5 of BS 8533:2011 [1].	2	1	Flood risk assessment to be conducted to determine credits targeted	Flood Risk Consultant
	Two credits - Surface water run-off Pre-requisite An Appropriate Consultant is appointed to carry out, demonstrate and/or confirm the development's compliance with the following criteria: One credit Where drainage measures are specified to ensure that the peak rate of run-off from the site to the watercourses (natural or municipal) is no greater for the developed site than it was for the pre-development site. This should comply at the 1-year and 100-year return period events. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS are in place. Calculations include an allowance for climate change; this should be made in accordance with current best practice planning guidance (see definitions). One credit Where flooding of property will not occur in the event of local drainage system failure (caused either by extreme rainfall or a lack of maintenance); AND EITHER	3	2		MEP / Flood Risk Consultant

Materials					
	Drainage design measures are specified to ensure that the post development run-off volume, over the development lifetime, is no greater than it would have been prior to the assessed site's development for the 100-year 6-hour event, including an allowance for climate change (see criterion 14). Any additional predicted volume of run-off for this event is prevented from leaving the site by using infiltration or other Sustainable Drainage System (SuDS) techniques. OR (only where criteria 9 and 10 for this credit cannot be achieved): Justification from the Appropriate Consultant indicating why the above criteria cannot be achieved, i.e. where infiltration or other SuDS techniques are not technically viable options. Drainage design measures are specified to ensure that the post development peak rate of run-off is reduced to the limiting discharge. The limiting discharge is defined as the highest flow rate from the following options: a. The pre-development 1-year peak flow rate; OR b. The mean annual flow rate Qbar; OR c. 2L/s/ha. Note that for the 1-year peak flow rate the 1-year return period event criterion applies (as described in the peak run-off criteria above). Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS are in place. For either option, above calculations must include an allowance for climate change; this should be made in accordance with current best practice planning guidance. One credit - Minimising watercourse pollution There is no discharge from the developed site for rainfall up to 5mm (confirmed by the Appropriate Consultant). In areas with a low risk source of watercourse pollution, an appropriate level of pollution prevention treatment is provided, using appropriate SuDS techniques. Where there is a high risk of contamination or spillage of substances such as petrol and oil (see Compliance notes for a list of areas), separators (or an equivalent system) are installed in surface water drainage systems. Where the building has chemical/liquid gas storage areas, a means of containment is fitted to the site drainage system (i.e. shut-off valves) to prevent the escape of chemicals to natural watercourses (in the event of a spillage or bunding failure). All water pollution prevention systems have been designed and installed in accordance with the recommendations of documents such as Pollution Prevention Guideline 3 (PPG 3) [2] and/or where applicable the SuDS manual [3]. For areas where vehicle washing will be taking place, pollution prevention systems must be in accordance with Pollution Prevention Guidelines 13 [4]. A comprehensive and up to date drainage plan of the site will be made available for the building/site occupiers. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS must be in place. Where present, all external storage and delivery areas designed and detailed in accordance with the current best practice planning guidance (see Pol 03 Surface water run-off for further information).				

Materials					
Pol 04 Reduction of Night Time Light Pollution	One credit - Where external lighting pollution has been eliminated through effective design that removes the need for external lighting without adversely affecting the safety and security of the site and its users. OR alternatively, where the building does have external lighting, one credit can be awarded as follows: - The external lighting strategy has been designed in compliance with Table 2 (and its accompanying notes) of the ILP Guidance notes for the reduction of obtrusive light, 2011[1]. Buildings located in Scotland must comply with the light pollution criteria in the guidance note 'Controlling Light Pollution and Reducing Lighting Energy Consumption[2]'. This can be demonstrated via completion of the checklists in Annexes B and C of the guidance note by a relevant member of the design team. - All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00. - If safety or security lighting is provided and will be used between 23:00 and 07:00, this part of the lighting system complies with the lower levels of lighting recommended during these hours in Table 2 of the ILP's Guidance notes. - Illuminated advertisements, where specified, must be designed in compliance with ILP PLG 05 The Brightness of Illuminated Advertisements	1	1		MEP
Pol 05 Noise Attenuation	One credit - Where there are, or will be, no noise-sensitive areas or buildings within 800m radius of the assessed site. OR - Alternatively, where the building does have noise-sensitive areas or buildings within 800m radius of the site, one credit can be awarded as follows: a. Where a noise impact assessment in compliance with BS 7445[1] has been carried out and the following noise levels measured/determined: i. Existing background noise levels at the nearest or most exposed noise-sensitive development to the proposed development or at a location where background conditions can be argued to be similar. ii. The rating noise level resulting from the new noise source (see CN4). - The noise impact assessment must be carried out by a suitably qualified acoustic consultant holding a recognised acoustic qualification and membership of an appropriate professional body (see Relevant definitions in the Additional information section). - The noise level from the proposed site/building, as measured in the locality of the nearest or most exposed noise-sensitive development, is a difference no greater than +5dB during the day (07:00 to 23:00) and +3dB at night (23:00 to 07:00) compared to the background noise level. - Where the noise source(s) from the proposed site/building is greater than the levels described in criterion 4, measures have been installed to attenuate the noise at its source to a level where it will comply with criterion 4.	1	1		Acoustics

Materials					
Innovation Credits	Up to 10 credits: Where the building demonstrates exemplary performance by meeting defined exemplary level performance criteria in one or more of following BREEAM assessment issues: – Man 03 Responsible construction practices – Man 05 Aftercare – Hea 01 Visual comfort – Hea 02 Indoor air quality – Ene 01 Reduction of energy use and carbon emissions – Wat 01 Water consumption – Mat 01 Environmental impact of materials – Mat 03 Responsible sourcing of materials – Wst 01 Project waste management – Wst 02 Recycled aggregates – Wst 05 Adaptation to climate change – Pol 03 Flood risk management and reducing surface water run-off Please refer to the relevant BREEAM issue within this Scheme Document for the exemplary level performance assessment criteria. OR One innovation credit can be awarded for each innovation application approved by BRE Global, where the building complies with the criteria defined within an Approved Innovation Application Form.	10	2	Man 03 currently targeted. Wst 05 Adaptation currently targeted	

Appendix C: Overview of BREEAM

5.1 Introduction

The 'Building Research Establishment Environmental Assessment Method' (BREEAM) is currently used as a benchmarking tool in the design of new non-domestic developments. The purpose of BREEAM is to assess and rate the sustainability of buildings and to promote programmes of design improvement.

5.2 Background

BREEAM is published by the BRE. The methodology is based upon the categories and issues as set out in Table 6 below.

Mandatory requirements for ratings of 'Excellent' are identified in the table by annotation with (M_e), while M_o represents mandatory further credit requirements for 'Outstanding' rating.

Failure to meet the mandatory criteria could restrict a development to a 'zero-rating' regardless of the overall number of credits achieved.

Category	Issue
Management	Project brief and design Lifecycle cost and service lift planning Responsible construction practice (M_e), (M_o) Commissioning and handover (M_e), (M_o) Aftercare (M_e) (M_o)
Health & Wellbeing	Visual comfort Indoor air quality Thermal comfort Acoustic performance Safety and security
Energy	Reduction of CO_2 emissions (M_e) (M_o) Energy monitoring (M_e) (M_o) External lighting Low carbon design Energy efficient cold storage Energy efficient transpiration systems Energy efficient equipment
Transport	Public transport accessibility Proximity to amenities Cyclist facilities Maximum car parking capacity Travel plan
Water	Water consumption (M_e) (M_o) Water monitoring (M_e) (M_o) Water leak detection and prevention Water efficient equipment
Materials	Life cycle impacts Hard landscaping and boundary protection Responsible sourcing of materials (M_e) (M_o) Insulation Designing for durability and resilience Material efficiency
Waste	Construction waste management (M_o) Recycled Aggregates Operational waste (M_e), (M_o) Speculative ceiling and floor finishes Adaptation to climate change Functional adaptability
Land Use & Ecology	Site selection Ecological value of site and protraction of ecological features Minimising the impact of existing site ecology Enhancing site ecology Long term impact on biodiversity
Pollution	Impact of refrigerants NO_x emissions Surface water run-off Reduction of night-time light pollution Noise attenuation

Table 6: BREEAM Category and Credit Issues

Appendix D: Credit Weightings BREEAM 2018

The weightings for the associated credits depending on the assessment route are shown in Table D1 below.

	Credit Value (%)	Available	Targeted	Potential
Management	13.84	21	18	19
Health and Wellbeing	14.67	16	10	11
Energy	19.36	25	15	19
Transport	6.28	7	6	7
Water	7.17	8	7	8
Materials	16.81	13	11	13
Waste	8.41	10	7	8
Land Use and Ecology	0.00	0	0	0
Pollution	13.45	13	10	10
Innovation	10.00	10	2	2

Table D1: BREEAM Credit Weightings

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