BREEAM Refurbishment and Fit-Out 2014, Camden reference 2021/3673/P

This paper has been prepared in response to the Camden Council Sustainability Officer's response that "In line with CPG Energy Efficiency and Adaptation section 11.4 "Refurbishments/change of use schemes can undertake a BREEAM Refurbishment and Fit Out assessment". The area to be refurbished is greater than 500sqm and therefore the BREEAM Excellent is required. The BREEAM pre assessment report should be submitted and if BREEAM excellent cannot be achieved then full justification should be provided".

The proposed refurbishment is undergoing a BREEAM Refurbishment and Fit-Out 2014 Assessment. There are four possible parts to this assessment:

- Part 1 Fabric & Structure
- Part 2 Core Services
- Part 3 Local Services
- Part 4 Interior Design

All four of these parts or a combination of parts could be assessed, depending on the project scope.

The building was reviewed by the BREEAM Assessor and the Design Team and the following was observed:

- There are no major refurbishments or additions being undertaken to the fabric or structure (as defined by the BREEAM Manual, Section Scope of BREEAM UK Non-domestic Refurbishment and Fit-out 2014 Assessment Scope). Therefore Part 1 Fabric and Structure is NOT applicable
- Core services are being installed. Therefore Part 2 Core Services is applicable
- There are no Local Services being installed. Therefore Part 3 Local Services is NOT applicable
- There is no Interior Design (i.e. Cat B) as part of the works. Therefore **Part 4 Interior Design** is **NOT applicable**

Hence **Part 2 – Core Services** are being undertaken in relation to the BREEAM Assessment. As such the number of available credits have reduced. Indeed, the Transport and Ecology sections are removed altogether.

Because of this the score weightings changes for each section. Thus each credit is worth more (in score percentage). As an example, the Health & Well Being credits are now worth c1.19%, whereas for a building that is undertaking all of the Parts noted above the credit may only be worth 0.80%. Therefore the loss of one credit can have a much higher impact on the overall score compared to other projects.

There are many credits which are applied to the BREEAM Assessment which simply cannot be achieved because of the restrictions of the existing building. For example:

Suitability	Revision	Date	Details	Ву	Chkd	File Ref	Page
S2	P01	28 January 2022	1 st issue	NA	ВН	L0721-KJT-ZZ-XX-RP-ME-0010-BREEAM Target Rating Summary	1

- 1. Natural Ventilation cannot be incorporated due to the floor depths and the requirement to achieve a controlled internal environment for the proposed Life Science use.
- 2. Achievable credits under Energy and Carbon reduction are restricted due to the nature of the existing building, the extent of the works and the financial viability of the proposals. The team have identified a score of 4-8 credits potentially being achieved. This is an accurate and realistic target and still represents a significant improvement in energy and carbon associated with the building.
- 3. Water use credits are being maximised to the extent that are practicably achievable, however achievable credits are again restricted by the constraints of the existing site, e.g. the provision of rainwater harvesting tanks is not viable.
- 4. For the Materials selection there are over 6 credits available for this section. Given major alterations are not being undertaking, these credits cannot be realised in full and only partial credits can be achieved.
- 5. There are a number of Waste credits that cannot be achieved from a practical point of view. For example, under the *Resource efficiency* criteria there are 3 credits (plus an exemplar credit). To gain the 3 credits the Contractor MUST produce ≤0.4 tonnes/100m2 GIA of non-hazardous waste. The Team have reviewed this and it is felt from experience that the Contractor cannot gain these full credits due to the site restrictions. Hence, it was confirmed that 1 credit can be achieved/is likely (≤3.5 tonnes/100m2 GIA).
- 6. Under the Pollution *Impact of refrigerants* criteria there are up to 3 credits available. To gain these credits, the building would need to be naturally ventilated, with no cooling, and very low NOx emissions, however the internal environmental criteria required by Life Science Labs necessitate the provision of mechanical ventilation and cooling. The team have opted for electric heat pumps to minimise the environmental impact associated with providing the required internal environment.
- 7. Similarly under the *NOx emissions* criteria any heat source has to have NOx emissions of less than 40 mg/kWh, however the NOx criteria cannot be met under BREEAM as the BREEAM calculator applies the NOx emissions of the National Grid, which we have no control over. Therefore the 3 credits cannot be achieved, however it is worth noting that the proposals will improve the local air quality contribution of the building by removing the existing gas fired boiler plant and replacing with heat pumps thereby reducing local NOx emissions. (*It should be noted that in the new BREEAM New Construction 2018 criteria has changed to apply only to local combustion plant*).

In conclusion, given the above and the constraints of the existing site, the nature of the proposed development and the use of the building prevent the project from gaining a BREEAM Excellent rating.

The BREEAM process has progressed beyond the Pre-Assessment stage and is currently in the Design Stage assessment phase. The Design Stage Credit Analysis is enclosed with this paper.

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B0321 - Project Anatomy, 85 Gray's Inn Road, London

BREEAM Credit Analysis

REVISION:	0001-P06	Refurbishment and Fitout 2014
DETAIL:	Design Stage	PART: 2 Only
DATE:	29 January 2022	BREEAM-0089-1648
ASSESOR:	Neil Adamson	D&B Contract

Legend Awarded - Credits awarded to date.

Targeted

- Credits the design team/client have confirmed shall be achieved; evidence awaited. (Note: these credits are based from Design Team meetings and will only be awarded when compliant evidence is issued and received.)

Investigate - Credits requiring some investigation; design team to investigate and advise accordingly.

Sensitive
- Credits which may have an additional associated cost or are design prohibitive.



Targeted: Y N N N N Awarded: Y N N N N

3.88% 58 FAIL V. GOOD

Tarc

Results Summary

Management Credit Summary of Requirements Evidence (Design Stage) Parts Applicable Common						Standard			
Management	Credit	Summary of Requirements	Evidence (Design Stage)	Parts Applicable	Comments	Pa Gd VG Ex	Ou Av	vailable	Awarde
MAN 01 (1-4	Stakeholder consultation - Project delivery	A sustainability brief is developed prior to RIBA stage 2 which sets out:	Consultation plan setting out the process and scope of the consultation. Project Execution Plan or similar showing roles and responsibilities of project delivery stakeholders. Communication strategy Minutes Project programme		It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved. Project Execution Plan (PEP) received [Man 01-001]: • Section 4.1.2 discusses the constraints of the project. • Section 7.5.0 discusses the environmental standards. Project Brief [Man 01-002] received: • Section 1.2.1 outlines the client requirements for the project. • Section 1.2.1 outlines the client requirements for the project. • Section 1.2.1 outlines the client requirements for the project. • Section 1.2.1 outlines the sustainability objectives including achieving a BREEMN Very Good rating, enhancing EPC to a minimum of a 'B' rating. • Section 4 states that the project must be delivered within a capex budget of £4.97m • Section 5 outlines the programme and procurements which confirms the project must be delivered by the end of C3 2022. • Section 6 confirms the required professional appointments. • Constraints are discussed throughout the report including Section 5.1.5 which discusses identifying design constraints during the strip out.		-	1	
MAN 01 (5-8) Stakeholder consultation - Third party	 5. Prior to completion of the Concept Design RIBA stage 2, all relevant third parties have been consulted by the design team on the minimum consultation content. 6. The project must demonstrate how the stakeholder contributions and outcomes of the consultation exercise have influenced or changed the Initial Project Brief and Concept Design. 7. Prior to completion of the Technical Design (RIBA Stage 4), consultation feedback has been given to, and received by, all relevant parties. 8. N/A 	Consultation plan setting out the process and scope of the consultation. Project Execution Plan or similar showing roles and responsibilities of project delivery stakeholders. Communication strategy Minutes Project programme	All	It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved. Consultation examples issued to Adam (06/08/21). Also Information/Templates has been issued as part of Transfer link by AH		-	1	
MAN 01 (9-11) Sustainability Champion - Design	 A Sustainability Champion (AP) has been appointed at RIBA stage 1 to facilitate the setting and achievement of BREEAM performance target(s). The defined BREEAM performance target(s) has been contractually agreed between the client and design/project team no later than the Concept Design stage (RIBA stage 2). The agreed BREEAM performance target(s) must be demonstrably achieved by the project design - via the BREEAM performance target(s) must be demonstrably achieved by the 	AP-appointment-letter. Relevant section/clauses of the building specification or contract. Project programme Meeting notes/mimutes, recorded correspondence or schedules the AP progress report Design Stage BREEAM assessment report.		It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved. Letter of appointment [Man 01-001] received from C. Bolt of Grays Property Holdings Ltd. It confirms that KJ Tat have been appointed as BREEAM Accredited professional for the project.		-	1	
MAN 01 (12-13) Sustainability Champion - Monitoring	12. A Sustainability Champion is appointed to monitor progress against the agreed BREEAM performance target(s) throughout the design process and formally report progress to the client and design team.	As above		It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved.		-	1	
MAN 02 (1-2) Elemental LCC	An elemental life cycle cost (LCC) analysis has been carried out at RIBA stage 2, together with any design option appraisals in line with 'Standardised method of life cycle costing for construction procurement' PD 156865-2008 The LCC analysis shows: a. An outline LCC plan has been undertaken for the project based on the building's basic structure and envelope, appraising a range of options and based on the life expectancy of the refurbished building, eg. 20, 30, 50+ years. b. The servicing strategy for the project outlining services component over a 15 -year period, in the rom of an 'elemental LCC Plan. c. A fit-out strategy is developed outlining fit-out options over a 10-year period.	A copy of the Elemental life cycle cost plan.		It was stated at the pre-assessment meeting (14.04.21) that this credit will be investigated if required.		-	2	
MAN 02 (3-4	Component LCC	 A component level LCC plan has been developed by the end of RIBA stage 4, in line with PD 156865:2008 and includes the following component types (where present): - Envelope, e.g. cladding, windows, roofing - Newly specified local and core service equipment, e.g. boiler, AC, AHU etc. Finishes, e.g. avalls, partitions, floors, coilings etc. External spaces, e.g. alternative hard landscaping and fencing 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. 	A copy of the Component level life cycle cost plan. Design drawings or relevant section/clauses of the building specification or contract demonstrating implementation of the preferred option(s) from the latest LCC analysis. A copy of the maintenance strategy AND/OR a letter of commitment from the client/developer to provide one.	All	It was stated at the pre-assessment meeting (14.04.21) that this credit will be investigated if required.		-	1	

KJ TAIT ENGINEERS

% score BREEAM Rating

 <30</td>
 Unclassified

 ≥30
 Pass

 ≥45
 Good

 ≥55
 Very Good

 ≥70
 Excellent

 ≥ 85
 Outstanding

				1	
.38% 4.49%)	Investigate 66.1 7. V. GOOD	Sensitive 4% 66.14% 76% 0.00% V. GOOD	Cumulative (Difference)		SS RIBA Specific Stages - All remain credits to be issued before Tender
ted	s Investigate	Sensitive	DS Res'le	PCR Res'le	DS Stage
			Clearbell		2
			Clearbell		2
			Clearbell		1
			Clearbell		1
			Quantum		2
			Quantum		4

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MAN 02 (5)	Capital cost	 Report the capital cost for the refurbishment/fit-out works in pounds per square metre (£k/m2) via the BREEAM Assessment Scoring and Reporting tool. 	Calcs of predicted capital cost for the building in pounds per square metre (Ek/m2).		It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved.	9	1	1	Quantum	Client Project Manager QS	
MAN 03 (1) Pre-requisite	Timber procurement	 All timber and timber-based products used on the project is 'Legally harvested and traded timber' 	Relevant section/clauses of the building specification or contract. OR A signed and dated letter of commitment to meet the relevant criteria.		To be achieved	1 1 1 1 1			KJ Tait - BREEAM Quantum	Contractor	
MAN 03 (2-3)	Environmental management	The principal contractor operates an environmental management system (EMS) covering their main operations. The principal contractor implements best practice pollution prevention policies and procedures on-site in accordance with Pollution Prevention Guidelines, Working at construction and demolition-sites: PPG6	Relevant section/clauses of the building specification or contract. OR A signed and dated letter of commitment to meet the relevant criteria.		It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved.	°	1	1	KJ Tait - BREEAM Quantum	Contractor	
MAN 03 (4-6)	Sustainability Champion - Construction	 A Sustainability Champion is appointed to monitor the project to ensure ongoing compliance with the relevant sustainability performance/process criteria, and therefore BREEAM target(s), during the Construction, Handover and Close Out stages In defined BREEAM performance target forms a requirement of the principal contractor's contract To achieve this credit at the final post construction stage of assessment, the BREEAM related performance target for the project must be demonstrably achieved by the project. This is demonstrated via the BREEAM assessor's final post construction stage assessment report. 	Appointment letter Relevant section/clauses of the building specification or contract.		It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved.	a	1	ı	KJ Tait - BREEAM Quantum	Contractor	
MAN 03 (7-8)	ccs	 N/A One credit: a CCS score between 25 and 34, and at least 5 points per section Two credits: a CCS score between 35 and 39, and at least 7 points per section 	Relevant section/clauses of the building specification or contract. OR A formal letter of commitment from the client/developer.		It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved.	^a 1 2	2	2	KJ Tait - BREEAM Quantum	Contractor	
MAN 03 (9, 10-15)	Energy & Water monitoring	 Responsibility has been assigned to an individual(s) for monitoring, recording and reporting energy use, water consumption and transport data (where measured) resulting from all on-site refurbibitment or fit-out processes (and declated off-site monitoring) throughout the refurbibitment or fit-out programme. For Energy Consumption (<i>criterion 9 to be met</i>): Monitor and record data of the site energy consumption in kWh (and where relevant, lifes of fuel used) as a result of the use of construction plant, equipment (mobile and fixed) and site accommodation Report the total carbon dioxide emissions (total kgCO2/project value) from the construction process For Water Consumption (<i>criterion 9 to be met</i>): Monitor and record data on principal constructor's and subcontractors' potable water consumption (m3) arising from the use of construction plant, equipment (mobile and site accommodation Lising the collated data report the total net water consumption (m3), i.e. consumption mixes any recycled water use from the construction process 	Relevant section/clauses of the building specification or contract. OR A formal letter of commitment from the client/developer.	All	It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved.	a 	1	ı	KJ Tait - BREEAM Quantum	Contractor	
MAN 03 (9, 16-18)	Transport monitoring	 Criterion 9 (above) to be met Monitor and record data on transport movements and impacts resulting from delivery of the majority of refurbishment or fit-out materials to site and refurbishment, fit out and demolition or stirp-out waste from site. As a minimum this must cover: a. Transport inferediate storage and distribution This covers all major materials used within the scope of assessment (i.e. parts 1, 2, 3 and 4) See manual for more details C. Transport of construction waste from the construction gate to waste disposal processing or recovery centre gate. Scope of this monitoring must cover the construction waste groups cultured in the project waste manuement plan. Using the collated data, report separately for materials and waste, the total fuel consumption (fitres) and/or total carbon dioxide emissions (kgCO2 eq), plus total distance travelled (km) 	Relevant section/clauses of the building specification or contract. OR A formal letter of commitment from the client/developer.		It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved.	9	1	1	KJ Tait - BREEAM Quantum	Contractor	
MAN 03 (19) EXEMPLAF	CCS Innovation level	19. Exemplary level performance: a CCS score of 40 or more	Relevant section/clauses of the building specification or contract. OR A formal letter of commitment from the client/developer.				1		Project Manager Contractor prelims	Contractor	
MAN 04 (1-4	Commissioning	There is a schedule of commissioning and testing that identifies appropriate commissioning required for the scope of works that includes a suitable timescale for commissioning and re-commissioning of all relevant works carried out. Commissioning should be carried out where changes are being made to the following: a. Buiding services (including both complex and non-complex systems) b. Buiding services control systems (including BMS) c. Changes to the building fabric that will affect thermal performance 2. All commissioning activities are carried out in accordance with current Building Regulations, BSRIA and CIBSE guidelines. Where a BMS is specified, refer to the Compliance note CN8 on BMS commissioning procedures. 3. An appropriate project team member(s) is appointed to monitor and programme pre commissioning, commissioning, testing and, where necessary, re-commissioning activities on behail of the client. 4. The principal contractor accounts for the commissioning and testing programme, responsibilities and criteria within their budget and main programme of works	Appointment letter or commissioning responsibilities schedule. Relevant section/clauses of the building specification or contract. Principal contractors programme Commissioning schedule		It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved. It has yet to be decided who will appoint the commissioning manager.	9	1	1	KJ Tait	Contractor	4

MAN 04 (5-6) Specialist commissioning	 Criteria 1-4 (above) to be met. For complex building services and systems, a specialist commissioning manager is appointed during the design stage (by either client or contractor) with responsibility for: Understaing design reviews and giving advice on suitability for ease of commissioning Providing commissioning management input to construction programming and during installation stages Management of commissioning, performance testing and handover/post handover stages. Note: Simple systems have different requirements - see manual for details 	Appointment letter or commissioning responsibilities schedule. 3 Relevant section/clauses of the building specification or contract. Commissioning schedule	All	It was stated at the pre-assessment meeting (14.04.21) that this credit will b achieved. It has yet to be decided who will appoint the commissioning manager.	a 	1		1	ĸ	J Tait	Contractor	4
MAN 04 (9-10) Handover - BUG and training	 A Building User Guide is developed / updated, prior to handover for distribution to the building occupiers and premises managers, with a draft copy developed and discussed with users first (where the building occupatists are known) to ensure the guide is most appropriate and useful to potential users. A training schedule is prepared for building occupiers/premises managers, timed appropriately around handover and proposed occupation plans. See manual for details on minimum content required. 	Relevant section/clauses of the building specification or contract. OR A formal letter of commitment from the client/developer.		It was stated at the pre-assessment meeting (14.04.21) that this credit will b achieved.	⁹ 1 1	1		,	KJ Tait Qu	BREEAM	Contractor	
				Innovatio	1	17 1	0 1 0	7 0 0	0 0 0			
				Section Scon Innovation Scon	9	16.99% 1.00%	0.00% 0.00%	16.99% 0.00% 0.00% 0.009	6 0.00% 6 0.00%			
Health & Wellbeing Credit	Summary of Requirements	Evidence (Design Stage)	Parts Applicable	Comments	Pa Gd VG Ex Ou	Available	Awarded Target	ted Investigate	Sensitive DS Res'l	e	PCR Res'le	DS Stage
HEA 02 (1) Indoor Air Quality Plan	1. An indoor air quality plan has been produced and implemented, with the objective of facilitating a process that leads to design, specification and installation decisions and actions that minimise indoor air pollution during the design, construction and occupation of the building. See manual for minimum content requirements.	Copy of the indoor air quality plan				1	1		BMJ A	urchitects J Tait	Assessor / Contractor	
HEA 02 (2-5) Ventilation Standards	 Provide fresh air in to the building in accordance with the criteria of the relevant standard for ventilation. Design ventilation. Design ventilation pathways to minimise the build-up of air pollutants in the building - detailed in manual i.e. minimum air intake/ exhaust distances Where present, HVAC systems must incorporate suitable filtration to minimise external air pollution, as defined in BS EN 13779/2007 Annex A3. Areas of the building subject to large and unpredictable or variable occupancy patterns have CO2 or air quality sensors specified and: In machanically ventilated buildings/spaces: sensors) are linked to the mechanical wentilation system and provide demand-controlled ventilation to the space. In naturally ventilated buildings/spaces: sensors either have the ability to alert the building owner or manager when CO2 levels exceed the recommended set point, or an linked to controls with the ability to adjust the quantity of fresh air, i.e. automatic opening windows/roof vents. 	Relevant section/clauses of the building specification or contract Design drawings e g		It was stated at the pre-assessment meeting (14.04.21) that this credit will b investigated further.	⁹	1		1	K	J Tait	Assessor / Contractor	
HEA 02 (13-14) Natural ventilation	 The building ventilation strategy is designed to be flexible and adaptable to potential building occupant needs and climatic scenarios. See manual for full defails. (i.e. compliance with CIBSE AN10) The natural ventilation strategy is capable of providing at least two levels of user- control on the supply of fresh air to the occupied space (see CN9 of the manual for further details). Note: Any opening mechanisms must be easily accessible and provide adequate user control onver air flow rates to avoid draughts. 	Relevant section/clauses of the building specification or contract Formal letter from the design team with details of the ventilation strategy and calculations/results from appropriate software modelling tool(s)	All			1			N	1&E	Assessor / Contractor	
HEA 02 EXEMPLAR Innovation for VOC emissions	One credit 15. Criterion 6 has been achieved. 16. All seven remaining product categories listed in <i>Table - 20</i> meet the testing requirements and emission levels criteria for VOC emissions 17. For products B – F listed in <i>Table - 20</i> , the formaldehyde emission levels have been measured and found to be less than or equal to 0.06mg/m3 air Two credits 18. Criterion 6 has been achieved. 19. Criterion 16 has been achieved. 20. For products B - F listed in <i>Table - 20</i> , the formaldehyde emission levels have beer measured and lound to be less than or equal to 0.01mg/m3 air	As per criteria 8-12 above							Project Contrac	: Manager tor prelims	Assessor / Contractor	

MAN 04 (5-6)	Specialist commissioning	 Criteria 1-4 (above) to be met. For complex building services and systems, a specialist commissioning manager is appointed during the design stage (by either client or contractor) with responsibility for: Undertaking design reviews and giving advice on suitability for ease of commissioning Providing commissioning management input to construction programming and during installation stages Management of commissioning, performance testing and handover/post handover stages. Note: Simple systems have different requirements - see manual for details 	Appointment letter or commissioning responsibilities schedule. Relevant section/dauses of the building specification or contract. Commissioning schedule	All	It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved. It has yet to be decided who will appoint the commissioning manager.		1			KJ Tait	Contractor	4
MAN 04 (9-10)	Handover - BUG and training	 A Building User Guide is developed / updated, prior to handover for distribution to the building occupiers and premises managers, with a draft copy developed and discussed with users first (where the building occupaties are known) to ensure the guide is most appropriate and useful to potential users. A training schedule is prepared for building occupation plans. See manual for details on minimum content required. 	Relevant section/clauses of the building specification or contract. OR A formal letter of commitment from the client/developer.		It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved.	1 1	1	•		KJ Tait - BREEAM Quantum	Contractor	
					Innovation		17	0 17 0 0	0 0)		
					Section Score Innovation Score		16.99% 1.00%	0.00% 16.99% 0.00% 0.00%	0.00% 0.00% 0.00% 0.00%	· · · · · · · · · · · · · · · · · · ·		
Health & Wellbeing	Credit	Summary of Requirements	Evidence (Design Stage)	Parts Applicable	Comments	PaGd VG Ex Ou	wailable Awa	arded Targeted I	Investigate Sensitive	DS Res'le	PCR Res'le D	DS Stage
HEA 02 (1)	Indoor Air Quality Plan	 An indoor air quality plan has been produced and implemented, with the objective of facilitating a process that leads to design, specification and installation decisions and actions that minimise indoor air pollution during the design, construction and occupation of the building. See manual for minimum content requirements. 	Copy of the indoor air quality plan				1	1		BMJ Architects KJ Tait	Assessor / Contractor	
HEA 02 (2-5)	Ventilation Standards	 Provide fresh air in to the building in accordance with the criteria of the relevant standard for ventilation. Design ventilation pathways to minimise the build-up of air pollutants in the building - detailed in manual i.e. minimum air intake/ exhaust distances Where present, HVAC systems must incorporate suitable filtration to minimise external air pollution, as defined in BS EN 137792007 Annex A3. Areas of the building subject to large and unpredictable or variable occupancy patterns have CO2 or air quality sensors specified and: In mechanically ventilated buildings/spaces: sensor(s) are linked to the mechanical ventilation system and provide demand-controlled ventilation to the space. In naturally ventilated buildings/spaces: sensors either have the ability to adent the building owner or manager when CO2 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. 	Relevant section/clauses of the building specification or contract Design drawings		It was stated at the pre-assessment meeting (14.04.21) that this credit will be investigated further.		1			KJ Tait	Assessor / Contractor	
HEA 02 (13-14)	Natural ventilation	 The building ventilation strategy is designed to be flexible and adaptable to potential building occupant needs and climatic scenarios. See manual for full details. (i.e. compliance with CIBSE AM10) The natural ventilation strategy is capable of providing at least two levels of user-control on the supply of fresh air to the occupied space (see CN9 of the manual for further details). Note: Any opening mechanisms must be easily accessible and provide adequate user-control over air flow rates to avoid draughts. 	Relevant section/clauses of the building specification or contract Formal letter from the design team with details of the ventilation strategy and calculations/results from appropriate software modelling tool(s)	All			1			M&E	Assessor / Contractor	
HEA 02 EXEMPLAR	Innovation for VOC emissions	One credit 15. Criterion 6 has been achieved. 16. All seven remaining product categories listed in <i>Table - 20</i> meet the testing requirements and emission levels criteria for VOC emissions 17. For products B – F listed in <i>Table - 20</i> , the formaldehyde emission levels have been measured and found to be less than or equal to 0.06mg/m3 air Two credits 18. Criterion 6 has been achieved. 19. Criterion 16 has been achieved 20. For products B - F listed in <i>Table - 20</i> , the formaldehyde emission levels have been measured and found to be less than or equal to 0.01mg/m3 air	As per criteria 8-12 above							Project Manager Contractor prelims	Assessor / Contractor	

Hea 03 (1-3)	Laboratory containment devices and containment areas	One Credit 1. An objective risk assessment of the proposed/existing laboratory facilities has been carried out prior to completion of the design to ensure potential risks are considered in the design/refurbishment of the laboratory. 2. Where containment devices such as fume outpobards are specified/present, their manufacture and installation meet best practice safety and performance requirements and objectives, demonstrated through compliance with the following standards: a. General purpose fume cupboards: BSEN 14175 Parts 1-7 (as appropriate) b. Recirculatory filtration fume cupboards: BSF9392:2001 c. Microbiological safety cabinets BSEN 14269:2001 (for manufacture) and BS5728:2005 (for installation). 4. Clean air hoods, glove boxes, isolators and mini-environments: BSEN ISO14644-7:2004 b. Articulated extension arms:PD CEN/TR 16599 Or, for Schools, Sixth Form Colleges and Further Education buildings with laboratories and funder and laboratory containment devices that are ducted to discharge externally are specified, the guidance in the National Annex of BSEN 14175-2 must be followed to ensure an appropriate discharge velocity is achieved. 3. Where laboratory containment devices that are ducted to discharge externally are specified, the guidance in the National Annex of BSEN 14175-2 must be followed to ensure an appropriate discharge velocity is achieved.	Relevant section/clauses of the building specification or contract AND/OR a formal letter from the design team. Design drawings	Parts 2, 3 & 4 Only	It was stated at the pre-assessment meeting (14.04.21) that this credit will be investigated further. Confirmed via on-line scoring tool as NOT APPLICABLE (17/08/21) Investigate credits removed.			KJ Tait	Assessor / Contractor	
Hea 03 (4-5)	Suildings with containment level 2 and 3 aboratory facilities	One Credit 4. Where containment level 2 and 3 laboratory facilities are specified/present they must meet best practice safety and performance criteria and objectives. This is demonstrated as follows: a. Criterion 1 has been achieved. b. Ventilation systems comply with the best practice guidance set out in 'DRAFT HSEBiological Agents and Genetically Modified Organisms (Contained Use) Regulations 2010 ^o . c. Filters for all areas designated as containment level 2 and 3 are located outside the main laboratory space for cease of cleaning/replacement and the filters are easily accessible by maintenance staff or technicians. 5. The design team demonstrate that the individual fume cupboard location and stack heights have been considered in accordance with HMIP Technical Guidance Note (Dispersion) D1.	Relevant section/clauses of the building specification or contract AND/OR a formal letter from the design team. Design drawings	Parts 2, 3 & 4 Only	It was stated at the pre-assessment meeting (14.04.21) that this credit will be investigated further. As above			KJ Tait	Assessor / Contractor	
HEA 04 (1-5)	Thermal modelling	Thermal modelling has been carried out using software in accordance with CIBSE AM11 1 Building Energy and Environmental Modelling. The software used to carry out the simulation at the detailed design stage provides full dynamic thermal analysis. The modelling must comply with BREEAM standards - see manual - such as CIBSE Guide A Environmental design Table 1.5 Where undertaking a 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 S. For air conditioned buildings, the PMV (predicted mean vote) and PPD (predicted percentage of dissatisfied) indices based on the above modelling are reported	Relevant section/clauses of the building specification Thermal modelling results PMV and PPD data from the design team		It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved.	 1 1		KJ Tait	Assessor / Contractor	
HEA 04 (6-9) /	Adaptation to climate change	6. Criteria 1 to 4 are achieved. 7. The thermal modeling demonstrates that the relevant requirements set out in criterion 3 are achieved for a projected climate change environment - i.e. modelled using projected climate change servinorment hermal comfort criteria are not met for the projected climate change environment, the project team demonstrates bow the building has been adapted, or designed to be easily adapted in the future using passive design solutions in order to subsequently meet the requirements under criterion 7. 9. For air conditioned buildings, the PMV and PPD indices based on the above modelling are reported	As above, accounting for projected climate change scenario	Ali	It was stated at the pre-assessment meeting (14.04.21) that this credit will be investigated further.	 1	•	KJ Tait	Assessor / Contractor	
HEA 04 (10-12)	Thermal zoning and controls	 Criteria 1 to 4 are achieved. The thermal modelling analysis (undertaken for compliance with criteria 1 to 4) 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 b. Local cooling/ heating systems do not conflict with core services The degree of occupant control required for these zones d. How the proposed systems will interact with each other e. The need for an accessible building user actuated manual override 	Thermal comfort study/ strategy highlighting the points that have been considered and decisions taken accordingly Relevant section/dauses of the building specification or contract Design drawings		It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved.	 , ,		KJ Tait	Assessor / Contractor	

	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 b. Indoor ambient noise level c. Reverberation times.						
HEA 05 (1-3) Acoustic performance	principles are applicable to each assessment part: a. Part 1: NA b. Part 2: criteria for indoor ambient noise levels only c. Part 3: criteria for sound insulation and indoor ambient noise levels d. Part 4: sound insulation and reverberation control 3. For any combination of parts, the available credits for each part are assessed. In the instance where the same criteria are applicable to each assessment part, the most onerous requirement must be adopted and a single credit awarded for that element of acoustic performance.	appointed. Relevant section/clauses of the building specification or contract and/or formal letter from the project team regarding commitments	All	a mas stated at the pre-assessment meeting (14.0421) that this crook while achieved.	1		
				Innovation	7	1	

HEA 05 (1-3) Acoustic pe	1 erformance f c c c c c c c c c c c c c c c c c c c	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:	Professional report/study and calculations from the acoustician. Letter of appointment or other confirmation demonstrating when the acoustician was appointed. Relevant section/clauses of the building specification or contract and/or formal letter from the project team regarding commitments	All	It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved.	,	1				Acoustician ,	Acoustician / Contractor	
					Innovation		7 0	1 0	3 2 0	0 0 0			
					Section Score Innovation Score	9	8.35% 0.00%	1.19% 0.00%	3.58% 2 0.00% 0	2.39% 0.00% 0.00% 0.00%			
Energy Credit	5	Summary of Requirements	Evidence (Design Stage)	Parts Applicable	Comments	Pa Gd VG Ex Ou	Available	Awarded Target	ed Investigate	Sensitive D	S Res'le	PCR Res'le	DS Stage
ENE 01 (1-7) Reduction o	t of energy and carbon i i i i i i i i i i i i i i i i i i i	Up to fifteen credits - Whole building energy model (option 1) 1. Calculate the Energy Performance Ratio for Non Domestic Refurbishment (EPR NDR) and compare with the benchmarks in <i>Table - 27</i> to determine the corresponding number of BREEAM credits. Up to twelve credits - Elemental level energy model (option 2) 2. Calculate the energy score using the BREEAM Refurbishment and Fit-out energy model (calculator) for the applicable assessment parts to determine the number of credits awarded. Refer to <i>Table - 28</i> to determine the minimum requirements for this save. The following should be assessed as applicable to the scope of works (see <i>Table - 306 truther details</i>): a. Part 1: NA b. Part 2: Core Services: energy performance of core heating, hot water, cooling and venitation systems and controls c. Part 3: Local Services: energy performance of local heating, cooling, ventilation, lighting and controls as relevant d. Part 4: N/A	Option 1 A copy of the Building Regulations Output Document from the approved software for both the existing building and proposed building. The output documents must be based on the design stage of analysis. Option 2 A copy of the BREEAM Refurbishment and Fit-out energy model (calculator) to reflect the actual and proposed building performance and scope of the assessment as relevant to the applicable assessment parts. Appointment of the Suitably Qualified Heritage Conservation Specialist Copy of the Suitably Qualified Heritage Conservation Specialist's report and recommendations Evidence to show where recommendations have been adopted, and justification where recommendations are not being adopted.	All	Option 1 is to model the existing and compare the proposed against this as a baseline. Credits are achieved for the improvement over the existing. Option 2 is to review the building services improvement over the existing counterparts, i.e. efficiency improvements, this option does not require modelling the existing building, but there are fewer credits available overall. * <i>Minimum standards vary depending on 'option' taken</i> If whole building approach is being assessed. and therefore 15 credits available. If option 2 then only 9 credits available. To be reviewed. Information has been issued as part of Transfer link by AH Option 2 Proforma	6 9	15		4 4		KJ Tait	Contractor / M&E	
ENE 01 EXEMPLAR Innovation for carbon	for reduction of energy and	Two credits - Zero regulated carbon The building achieves an EPR NDR ≥ 0.9 and zero net regulated CO2 emissions Up to four credits - Zero regulated carbon and carbon neutral unregulated energy An equivalent percentage of the building's modelled regulated operational delivered energy consumption, as stipulated in <i>Table - 29</i> , is generated by carbon neutral on-site or near-site sources and used to meet energy demand from unregulated building systems or processes. Five credits - Carbon negative The building is carbon negative in terms of its total modelled operational delivered energy consumption, including regulated and unregulated energy	As above, plus evidence confirming: 1. The total carbon neutral energy generation (kWh/yr) 2. The source of the carbon neutral energy. 3. Calculated estimate of energy consumption from unregulated systems/process (kWh/yr) (only required if confirming zero regulated carbon or carbon negative exemplary credits). 4. Calculated estimate of exported energy surplus (only required if confirming carbon negative status).	All			5				M&E	M&E	
ENE 02 (1-4) Major energ	1 a rgy sub-metering r r r r t	 Energy metering systems are installed that enable at least 90% of the estimated annual energy consumption of each fuel to be assigned to the various end-use categories of energy consuming systems, in accordance with CIBSE TM39 and TM54 The energy consuming systems in buildings with a total useful floor area >1,000m2 are metered using an appropriate energy monitoring and management system. The systems in smaller buildings are metered either with an energy monitoring and management system or with separate accessible energy sub-meters with pulsed or other open protocol communication outputs, to enable future connection to an energy monitoring and management system The energy consuming uses are identifiable to the building users, for example through labeling or data outputs. 	Relevant section/clauses of the building specification or contract. Design drawings	Parts 2, 3 & 4 Only	It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved.	1 1 1	1				KJ Tait	Assessor	
ENE 02 (5) Tenancy/fur	e e unction area sub-metering s t	5. An accessible energy monitoring and management system or separate accessible energy sub-meters with pulsed or other open protocol communication outputs to enable future connection to an energy monitoring and management system are provided, covering a significant majority of the energy supply to tenanted areas or, in the case of single occupancy buildings, relevant function areas or departments within the building/unit.	Relevant section/clauses of the building specification or contract. Design drawings	Parts 2, 3 & 4 Only	It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved.		1		1		KJ Tait	Assessor	
ENE 03 (1-3) External ligh	thting 2 3 3 4	 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. Al external light fittings are automatically controlled for prevention of operation during daylight hours and presence detection in areas of intermittent pedestrian traffic. 	Relevant section/clauses of the building specification or contract. Design drawings	Parts 2, 3 & 4 Only	It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved.		1		1		KJ Tait	Assessor / Contractor	

ENE 04 (1-3) (Passive design	 Credit Hea 04 Thermal comfort has been achieved The project team carries out an analysis of the existing building fabric, form, site location and outline scheme design to influence decisions made during the Concept Design stage (RIBA Stage 2 or equivalent) and identifies opportunities for the implementation of passive design solutions and retroft measures that reduce demands for energy consuming building services (see compliance note CN7 for minimum content requirements e.g. building form and daylighting) The building uses passive design measures to reduce the total heating, cooling, mechanical ventilation and lighting loads and energy consumption in line with the findings of the passive design analysis and the analysis demonstrates a meaningful reduction in the total energy demand as a result (i.e. 25%). 	Passive Design report and confirmation from design team of measures to be used.	Parts 2, 3 & 4 Only	Information/Templates has been issued as part of Transfer link by AH		1		KJ Tait	Assessor / Contractor	2
ENE 04 (4-6)	Free cooling technology	 Criteria 1-3 are achieved The passive design analysis carried out under criterion 2 includes an analysis of free cooling and identifies opportunities for the implementation of free cooling solutions. The building uses ANY of the free cooling strategies listed in compliance note CN8 (e.g. night fine cooling, absorption cooling from waste heat) to achieve a meaningful reduction in active cooling load (i.e. ≥5%). Note: The free cooling strategy does NOT need to fully displace all active cooling. 	As above, plus: Results from a dynamic simulation model demonstrating the feasibility of the free cooling strategy and meeting the first credit for Hea 04.	АШ			1		KJ Tait	Assessor / Contractor	2
ENE 04 (7-6) (Renewable technology (LZCT)	 A renewables feasibility study has been carried out by the completion of the Concept Design stage (RIBA Stage 2 or equivalent) by an energy specialist A local LZC technology/technologies has/have been specified in-line with the recommendations of this feasibility study and results in a meaningful reduction in regulated carbon dioxide emissions (i.e. 25%). 	The feasibility study report. Design drawings or relevant section/clauses of the building specification or contract. Evidence (as outlined above) confirming compliance with the first credit. Report, calculations/outputs from the manufacturer, supplier, engineer or approved modelling software confirming carbon savings as a result of the installed LZC technology		LZCT Feasibility report and BRUKIs received which confirms a 5.13% saving in carbon. Drawings and Specification required to show LZCT technologies have been adopted in the deign (Heat Pump)		1	1	KJ Tait	Assessor / Contractor	2
ENE 06 (1) L	Lift traffic analysis	 Where new lifts, escalators and/or moving walks (transportation types) are specified within refurbishment works: a. An analysis of the transportation demand and usage patterns for the building has been carried out determine the optimum number and size of lifts b. The energy consumption has been estimated in accordance with BS EN ISO 25745 Energy performance of lifts, escalators and moving walks, Pat 2: Energy calculation and classification for lift (elevators) and/or Part 3 - Energy calculation and classification for escalators and moving walks. All east two types of lift should be reviewed. c. The use of regenerative drives should be considered, subject to the requirements in CN9 d. The transportation system with the lowest energy consumption is specified. 	Professional report/study of transportation analysis and calculations		It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved.		1	1	KJ Tait	Assessor	
ENE 06 (2-4) (Energy efficient lift features	 Criterion 1 is achieved 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: a. The fifts operate in a standby condition during off-peak periods The fift and thring and display lighting provides an average lamp efficacy > 55 lamp lumenscircuit 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 (see CN9) 	As above, plus: Relevant section/clauses of the building specification or contract AND EITHER Manufacturers products details OR Formal letter of commitment from the system(s) manufacturer/supplier	Parts 2, 3 & 4 Only	It was stated at the pre-assessment meeting (14.04.21) that these credits will be achieved.		2	2	KJ Tait	Assessor	
Ene 07 (1)	Energy efficient laboratory systems Pre-requisite	1. Criterion 1 within issue Hea 03 Safe containment in laboratories has been achieved.	As outlined under Hea 03	Parts 2, 3 & 4 Only	To be achieved	1 1 1 1 1			KJ Tait	Assessor	

Ene 07 (2-5) Ener	rgy efficient laboratory systems	One credit - Design specification 2. Client engagement is sought through consultation during the preparation of the initial project brief (RIBA Stage 1 or equivalent) to determine occupant requirements for new laboratory systems, or to review existing laboratory systems and define laboratory performance criteria to be met for any new systems or systems to be upgraded or refurbised. Performance criteria should include, but not be limited to the following aspects: a. Description of purpose b. Occupant/process activities c. Containment requirements and standards d. Ar change requirements i. Heating and cooling requirements (including heat recovery) g. Interaction between systems 1. Heating and cooling requirements including heat recovery) g. Interaction between systems 3. The design team demonstrates that the energy demand of the laboratory facilities 3. The design team demonstrates that the energy demand of the laboratory facilities This has informed the right-sizing (see Relevant definitions) of the services system equipment (including ventilation supply and extract).	Relevant section/clauses of the building specification or contract AND/OR supplier/manufacturers documentation Evidence as required for compliance with the relevant Hea 02 criteria. Drawings, relevant section/clauses of the building specification or contract Modelling results/calculations/manufacturers information Formal correspondence from the design team	Parts 2, 3 & 4 Only	It was stated at the pre-assessment meeting (14.04.21) that this credit will be investigated further. NOTED only shell and core and therefore this credit is not applicable. Nor Pre-Request above. Target Credit removed (17/08/21)			KJ Tait	Assessor	
		to building containing these facilities) 4. New or existing time supported and other containment devices have a specification- that is compliant with oritinal 2 and 3 of issue Hea 03 Safe containment in laboratories, as appropriate to the containment device specification. 5. Where ducted time cupboards are newly specified or present: a. Compliance with Rem A in Table 31 b. The measurement of volume Bow rate should be taken in the exhaust duct (at the beundary of the laboratory) to take account of reductions in (inward) volume flow rate- from tume cupboard leakage. A. Areduction in air flow does not compromise the defined performance criteria and therefore does not increase the health and safety risk to future building occupants.								
Ene 07 (6-9) Ener	rgy efficient laboratory systems	Up to four credits - Best practice energy efficient measures The following criteria are applicable where the laboratory area accounts for at least 10% of the total building floor area (see Relevant definitions). 6. Criteria 1 to 5 are achieved (or criteria 1 to 4 where ducted fume cupboards are not specified). 7. New or existing plant and systems are designed, specified and installed to promote energy efficiency, demonstrated through compliance with items B to Lin Table 31 (see 7a and b below for how credits are awarded) a. Up to 2 credits: the laboratory area (see Relevant definitions) accounts for at least 10% (but less than 25%) of the total building floor area. OR b. Up to 4 credits: the laboratory area accounts for 25% or more of the total building floor area. 8. To achieve credits for energy efficient measures, the chosen measure(s) must have a reasonably significant effect on the total energy concurption of the laboratory, i.e. 2% reduction or greater. This must be demonstrated by calculations or modelling. 9. The energy efficient measures specified do not compromise the defined performance criteria, and therefore do not increase the health and safety risk to future building occupants.	Relevant section/clauses of the building specification or contract AND/OR supplier/manufacturers documentation Evidence as required for compliance with the relevant Hea 02 criteria. Drawings, relevant section/clauses of the building specification or contract Modelling results/calculations/manufacturers information Formal correspondence from the design team		It was stated at the pre-assessment meeting (14.04.21) that this credit will be investigated further. NOTED only shell and core and therefore this credit is not applicable. Nor Pre-Request above. Investigate Credit removed (17/08/21)			KJ Tait	Assessor	
					Innovation		24 0 11 4 0 5 0 0 0	0		
					Section Score Innovation Score	2	24.17% 0.00% 11.08% 4.03% 0.0 5.00% 0.00% 0.00% 0.00% 0.00%	0% 0%		
Transport Cree	dit	Summary of Requirements	Evidence (Design Stage)	Parts Applicable	Comments	Pa Gd VG Ex Ou Availa	able Awarded Targeted Investigate Sensitive 0 0 0 0 0 0 0 0 0 0 0	DS Res'le	PCR Res'le	DS Stage

					Innovation Scot	e .	5.00	6 U.UU%	0.00%		0.00%	
ransport	Credit	Summary of Requirements	Evidence (Design Stage)	Parts Applicable	Comments	Pa Gd VG Ex O	u Available 0	Awarded 0	Targeted 0	Investigate 0	Sensitive DS 0	S Res'le
					Innovation	n		ο (0		0 0	
					Section Score Innovation Score	e e	0.00° 0.00°	% #DIV/0! % 0.00%	#DIV/0!	#DIV/0!	#DIV/0! 0.00% 0.00%	
Vater	Credit	Summary of Requirements	Evidence (Design Stage)	Parts Applicable	Comments	Pa Gd VG Ex O	u Available	Awarded	Targeted	Investigate	Sensitive D	S Res'le
		 An assessment of the efficiency of the building's domestic water consuming components is undertaken using the BREEAM Wat 01 calculator, including all fittings applicable to the project type as detailed in Table - 42 										
		2. The water consumption (litres/person/day) for the assessed building is compared	Completed copy of the BREEAM Wat 01 calculator		It was stated at the pre-assessment meeting (14.04.21) that these credits w	ill						

WAT 01 (1-5)	Water consumption	2. The water consumption (ittres/person/day) for the assessed building is compared against a baseline performance and BREEAM credits awarded based upon Table - 41 3. The efficiency of the 'domestic scale' water consuming components detailed in the BREEAM manual must be included in the assessment 4. N/A greywater harvesting requirements 5. N/A rainwater harvesting requirements 6. Healthcare - refer to BREEAM manual CN8 for specific requirements.	Completed copy of the BREEAM Wat 01 calculator Relevant section/design of the building specification/ design drawings confirming technical details of sanitary components OR; A letter of instruction to a contractor/supplier or a formal letter from the developer giving a specific undertaking, providing sufficient information to allow the water calculations to be completed.	Parts 2, 3 & 4 only	t was stated at the pre-assessment meeting (14.04.21) that these credits will be achieved. Calculator has been issued as part of Transfer link by AH.	- 1 1 1 2	5	2
WAT 01 EXEMPLAR	Innovation for reduction in water consumption	Exemplary level performance: 65% improvement over baseline performance	As above	Parts 2, 3 & 4 only			1	
WAT 02 (1-5)	Water monitoring	The specification of a water meter on the mains water supply to the building Water-consuming plant or building areas, consuming 10% or more of the building's total water demand, are either filted with easily accessible sub-meters or have water monitoring equipment integral to the plant or area Sach meter (main and sub) has a pulsed or other open protocol communication output to enable connection to an appropriate utility monitoring and management system, e.g. BMS, for the monitoring of water consumption 4. If the refurbishment zone is within a site that has an existing BMS, managed by the same occupier/ower (as the space undergoing refurbishment or fit-out), the pulsed/digital water meter(s) for the refurbishment or fit-out zone must be connected to the existing BMS S. If the refurbishment roffit-out zone is within a building that is leasehold, the pulsed/digital water meter(s) for the refurbishment or fit-out zone must be connected to the incoming water supply for water using equipment in tenanted areas	Relevant section/clauses of the building specification or contract Design drawings	Parts 2, 3 & 4 only	It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved.	- 1 1 1 1	1	1

BMJ Architects	Assessor	
Architect	Assessor	
KJ Tait	Assessor / Contractor	

WAT 03 (1) Major leak detection	 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 installed. See the manual for minimum specification requirements (e.g. to be audible, programmable etc.) 	Relevant section/clauses of the building specification or contract Design drawings	Parts 2, 3 & 4 only	It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved. Boundary and incoming meter to be pulsed and linked to the BMS for leak detection. Removed (29/010/22) as on-line tool confirms not applicable.		
WAT 03 (2) Flow control devices	Flow control devices that regulate the supply of water to each WC area/facility according to demand are installed e.g. PIR operated solenoid shut-off valve	Relevant section/clauses of the building specification or contract Design drawings		It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved. Removed (29.010/22) as on-line tool confirms not applicable.		
WAT 04 (1-2) Irrigation equipment	 The design team has identified all unregulated water demands that could be realistically mitigated or reduced. System(s) or processes have been identified to reduce the unregulated water demand, and demonstrate, through either good practice design or specification, a meaningful reduction in the total water demand of the building. 	Documentation detailing the planting and irrigation strategy Relevant section/clauses of the building specification or contract AND/OR design drawings (where necessary)	All	It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved. Assumed NOT APPLICABLE (17/08/21). Target Score removed.		
				les surtire.	6	0

WAT 03 (1)	Major leak detection	 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 instaled. See the manual for minimum specification requirements (e.g. to be audible, programmable etc.) 	Relevant section/clauses of the building specification or contract Design drawings	Parts 2, 3 & 4 only	It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved. Boundary and incoming meter to be pulsed and linked to the BMS for leak detection. Removed (29/010/22) as on-line tool confirms not applicable.		-				KJ Tait	Assessor / Contractor	
WAT 03 (2)	Flow control devices	 Flow control devices that regulate the supply of water to each WC area/facility according to demand are installed e.g. PIR operated solenoid shut-off valve 	Relevant section/clauses of the building specification or contract Design drawings		a mas alabed a line pre assessment meeting (1404-27) that this creat minor achieved. Removed (29/010/22) as on-line tool confirms not applicable.		-				KJ Tait	Assessor / Contractor	
WAT 04 (1-2)	Irrigation equipment	 The design team has identified all unregulated water demands that could be realistically mitigated or reduced. System(s) or processes have been identified to reduce the unregulated water demand, and demonstrate, through either good practice design or specification, a meaningful reduction in the total water demand of the building. 	Documentation detailing the planting and irrigation strategy Relevant section/clauses of the building specification or contract AND/OR design drawings (where necessary)	All	It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved. Assumed NOT APPLICABLE (17/08/21). Target Score removed.		-				BMJ Architects	Assessor / Contractor	
				_	Innovation	1	6	U 1 0	3 0	0 0 0 0			
					Section Score Innovation Score	9	7.00 ⁻ 1.00 ⁻	% 0.00% % 0.00%	3.50% 0.00%	0.00% 0.00% 0.00% 0.00%			
Materials	Credit	Summary of Requirements	Evidence (Design Stage)	Parts Applicable	Comments	Pa Gd VG Ex 🤇	Du Available	Awarded	argeted I	Investigate Sensitive	DS Res'le	PCR Res'le	DS Stage
MAT 01 (1-10)	Environmental impacts of materials	Up to six credits (option 1): Project lifecycle assessment study 1. The project uses a life cycle assessment (EA) 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 2. The LCA covers new materials as relevant to the assessment parts listed in CN7 and indicated in the 'Materials assessment (Cac) of the BREEAM Refurbishment and Fit-out Mat 01 calculator 3. The mandatory requirements identified in the 'Materials assessment tool, method and data' section have been met. 4. A member of the project team completes the BREEAM Refurbishment and Fit-out Mat 01 calculator 5. The design team can demonstrate how the LCA has benefited the building in terms of measuring and reducing its environmental impact. 6. The design team submit the LCA tool output (e.g. Building Information Model (BIM)) for assessing the building to BRE Global 7. Credits are awarded in accordance with Table - 46 Up to four credits (option 2): Elemental assessment 6. Robust environmental assessment 6. Robust environmental particulas, partitions, windows, furniture etc.) 8. The bate intervision environmental assessment 6. Robust environmental particulas, partitions, windows, furniture etc.) 8. Robust environmental particulas, partitions, windows, furniture etc.) 9. The bate (option 2): Elemental assessment 6. The design team submit part (acc) assessment 6. Robust environmental particulas, partitions, windows, furniture etc.) 9. The bate (option 2): Elemental assessment 6. The design team submit part (acc) as a relevant to the BREEAM 6. The design team submit part (acc) as a relevant to the submit part 6. The design team submit part 6. The	Option 1 Copy of the LCA output Statement demonstrating the benefit of the LCA assessment Copy of the completed BREEAM Mat01 calculator tool Option 2 Data from design team confirming: 1. Elements which shall be re-used in situ (%) 2. Elements re-used with minor repairs (%) 3. Newly specified materials with EPDs etc. (%) Part 2 and 3 includes elements used for core and local services including: a. Heat source, space heating, air-conditioning and ventilation b. Communication, security and control systems c. Electrical installations g. Santary installations g. Santary installations g. Santary installations Part 4 includes interior fit-out elements including: a. Internal floor finishes (including access floors) b. Internal celling trinshes (including suspended/access cellings) c. Internal walls and partitions	Ali	It was stated at the pre-assessment meeting (14.04.21) that these credits wil be achieved. Calculator has been issued as part of Transfer link by AH.		- 6		2		BMJ Architects KJ Tait	Assessor / Contractor	
		9. The total number of points achieved are calculated using 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 b. reused in situ c. specified with robust environmental performance information. i.e. EPD 10. Credits are awarded based upon the percentage of available points achieved as se out in Table - 47	d. Internal wall finishes e. Internal windows f. Internal doors g. Furniture (desks, chairs, display cabinets, shelving) h. Fittings (shop fittings, railings, screens, gutters, vents, air grilles)										
MAT 01 EXEMPLAR	Exemplary level performance	Exemplary level performance is achieved: 85% of available points	As above	Ali			- 1					Assessor / Contractor	
MAT 03 (1) Pre-requisite	Timber procurement	 All timber and timber-based products used on the project is 'Legally harvested and traded timber' 	Relevant section/clauses of the building specification or contract. OR A signed and dated letter of commitment to meet the relevant criteria.	All	To be achieved	1 1 1 1	1				KJ Tait - BREEAM Quantum	Contractor	
MAT 03 (2)	Sustainable procurement plan	 The principal contractor sources materials for the project in accordance with a documented sustainable procurement plan See manual for content requirements 	Copy of sustainable procurement plan OR Relevant section/clauses of the building specification or contract. OR A signed and dated letter of commitment to meet the relevant criteria.		It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved.		- 1		1		KJ Tait - BREEAM Quantum	Contractor	
MAT 03 (3-4)	Responsible sourcing of materials	 One credit can be awarded where at least three of the material types listed in Table- 53 'Material categories' has been responsibly sourced from one of the responsible sourcing schemes recognised by BREEAM (e.g. ISO 14001, FSC, BES 6001 etc.) Up to three of the available RSM credits can be awarded where the applicable building materials (<i>refer to Table - 52</i>) are responsibly sourced 	Design plan and/or specification confirming the building elements and details of the materials specification for each element. AND EITHER 1. A letter of intent from the design team or other detailed documentary evidence confirming the product shall be sourced from suppliers capable of providing required certification OR 2. A copy of the relevant responsible sourcing scheme certificate(s) for the relevant specifications/products.	All	It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved. Calculator has been issued as part of Transfer link by AH.		- 3		1		BMJ Architects	Contractor	
MAT 03 (5) EXEMPLAR	Innovation for scoring >70% of available points	5. Where at least 70% of the available RSM points are achieved.	As above	All	It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved.		- 1				Project Manager Contractor prelims	Contractor	

MAT 04 (1-2)	Insulation index	 Any new insulation specified for use within the building fabric and building services must be assessed The Insulation Index for the building fabric and services insulation is the same as or greater than 2.5, as determined using the BREEAM Mat04 calculator. 	Design drawings AND/OR relevant section/clauses of the building specification or contract confirming: 1. The location of insulating materials. 2. The area (m2) and thickness (mm) of building fabric insulation 3. The volume (m3) of building services insulation Manufacturer's technical details confirming the thickness and thermal conductivity of the insulating materials specified. The Green Guide rating and element number for the assessed insulation specifications and where available, copies of EPDs	All	It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved. Calculator has been issued as part of Transfer link by AH.	 1		1	кјт	it Contractor	
MAT 06 (1-2)	Material efficiency	 Opportunities have been identified, and appropriate measures investigated and implemented within the scope of refurbishment or fit-out works, to optimise the use of materials through building design, procurement, refurbishment, maintenance and end o life See manual for further details and examples for each 'Part' The above is carried out by the design/construction team in consultation with the relevant parties at RIBA Stages 1, 2, 3, 4 & 5 	Copy of material optimisation report - to be reviewed at each key RIBA stage (1-5) Relevant section/clauses of the building specification or contract Design drawings DTM minutes	All	It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved. Information has been issued as part of Transfer link by AH.	 1		1	BMJ Arc	tects Contractor	1-5
					 Innovation	12	0 0	6 0	0 0 0 0		

					Innovation Score	2.00% 0.00%	% 0.00% 0.00% 0.00%	%	
Waste	Credit	Summary of Requirements	Evidence (Design Stage)	Parts Applicable	Comments	Pa Gd VG Ex Ou Available Awarded	Targeted Investigate Sensitive	DS Res'le PCR Res'le DS Sta	tage
WST 01 (1)	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. Requirements are: The audit should be carried out at the Concept Design Stage (equivalent to RIBA stage 2) prior to strip-out or demolition works The audit should be carried out by a completent person i.e. demolition contractor c. Actual waste arisings and waste management routes used should be compared with those forecast from the audit and barriers to achieving targets should be investigated. See manual for minimum content requirements 	Copy of pre-demolition audit OR Relevant section/clauses of the building specification or contract/ signed and dated letter of commitment to meet the relevant criteria.		It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved. Strip Out [Wst 01-001] drawings received. Information/Templates has been issued as part of Transfer link by AH.	1	r	KJ Tait - BREEAM Contractor Quantum	2
WST 01 (2-4)	Re-use and direct recycling	 Where waste material types (detailed in Table - 64 of the manual e.g. brick, carpet tiles, timber etc.) are either directly re-used on-site or off-site or are sent back to the manufacturer for closed loop recycling. This must be in the original form. One credit is achieved where 50% of the total available points have been achieved - as determined by the Wst01 calculator. All waste types are assessed. Two credits are achieved where 75% of the total available points have been achieved - as determined by the Wst01 calculator. All waste types are assessed. 	Identify the waste material types that are present on site. Provide data for % of each waste type which will be re-used or directly recycled in original form.	Ali	It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved. Calculator has been issued as part of Transfer link by AH.	· · · · · 2	r	KJ Tait - BREEAM Contractor Quantum	
WST 01 (5-6)	Resource efficiency	 Develop and implement a compliant Resource Management Plan (RMP) covering the waste arisings from the refurbishment or fit-out project with the aim of minimising waste, recording and reporting accurate data on waste arisings. 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: One credit = ≤3.5 tonnes/100m2 GIA Thore credits = ≤0.4 tonnes/100m2 GIA Note: This refers to non-hazardous waste 	Copy of Resource Management Plan OR Relevant section/clauses of the building specification or contract/ signed and dated letter of commitment to meet the relevant criteria.	All	It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved.	1 3	1	KJ Tait - BREEAM Contractor Quantum	
WST 01 (7)	Diversion from landfill	7. The following percentages of non-hazardous construction and demolition waste (where applicable) generated have been diverted from landfill: Refurbishment/fit-out waste = 90% (tonnage) or 85% (volume), AND Demolition waste = 95% (tonnage) or 90% (volume) Note: This refers to non-hazardous waste	Copy of Resource Management Plan OR Relevant section/clauses of the building specification or contract/ signed and dated letter of commitment to meet the relevant criteria.	All	It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved.	1	1	KJ Tait - BREEAM Contractor Quantum	
WST 01 (8-11) EXEMPLAR	Innovation benchmarks	 Exemplary level waste resource efficiency targets should be achieved - See Table 61 and 62 Exemplary level diversion from landfill targets should be achieved - See Table 63 Waste materials will be sorted into separate key waste groups, either on-site or off-site. 75% of difficult to manage wastes have been reused on or off-site rather than recycled - See Table 64 	Copy of Resource Management Plan OR Relevant section/clauses of the building specification or contract/ signed and dated letter of commitment to meet the relevant criteria.	All	It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved.	· · · · · 1		Project Manager Contractor prelims Contractor	
WST 04 (1-2)	Speculative finishes	I. For tenanted areas (where the future occupant is not known), prior to full fit-out works, interior finishes (including carpets, other floor finishes, ceiling finishes and any other interior finishes) have been installed in a show area only. I. In a building being refurbished or fitted out for a specific occupant, that occupant has selected (or agreed to) the specified interior finishes.	Design drawings and/or relevant section/clauses of the building specification or contract AND/OR A letter from the client, project team or building user where the future occupant is known	Parts 2, 3 & 4	It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved	1	r	BMJ Architects Assessor / Contractor	
WST 06 (1-2)	Functional adaptability	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. Functional adaptation measures have been adopted in the design by Technical Design stage (RIBA Stage 4) See manual for examples of acceptable measures e.g. easily replaced floor finishes, standardised grids, provision of capacity in infrastructure to enable future expansion and adaptation of core and local services	Copy of functional adaptation strategy and implementation plan report. Documentation evidencing any changes made to the design resulting from the above study.	All	Stage 2 functional Adaptability Report received June 2021. Stage 4 to be issued in due course.	1	r	BMJ Architects Assessor / Contractor KJ Tait	2 & 4

					Innovation	,	9 1	0 6 0	0 0 0	0			
					Section Score Innovation Score		9.84% 1.00%	0.00% 6.5 0.00% 0.0	6% 0.00% 0% 0.00%	o 0.00%			
Land Use & Ecology	Credit	Summary of Requirements	Evidence (Design Stage)	Parts Applicable	Comments	PaGd VG Ex Ou	Available 0	Awarded Targeted 0 0	Investigate 0	Sensitive D	DS Res'le	PCR Res'le	DS Stage
					Innovation	l i i i i i i i i i i i i i i i i i i i	0	0	0 0	0			
					Section Score Innovation Score		0.00% 0.00%	#DIV/0! #DIV/0! 0.00% 0.0	#DIV/0! 0% 0.00%	#DIV/0! 0.00%			
Pollution	Credit	Summary of Requirements	Evidence (Design Stage)	Parts Applicable	Comments	Pa Gd VG Ex Ou	Available	Awarded Targeted	Investigate	Sensitive I	OS Res'le	PCR Res'le	DS Stage
POL 01 (1-5) Impact of refrigerants	Three credits - No refrigerant use 1. Where the building does not require the use of refrigerants within its installed plant/systems. OR Pre-requisite 2. All systems (with electric compressors) must comply with the requirements of BS EN 578: 2008, and where refrigeration systems containing armonia are installed, the Institute of Refrigeration Ammonia Refrigeration Systems Code of Practice Two credits - Impact of refrigerant 3. Where the systems using refrigerants have Direct Effect Life Cycle CO2 equivalent emissions of \$ 100kg CO2erkW cooling/heating capacity OR 4. Where air-conditioning or refrigerants nave Direct Effect Life Cycle CO2 equivalent emissions (DELC CO2e) of \$ 1000kg CO2e/kW cooling/heating capacity. One credit - Impact of refrigerant 5. Where the systems using refrigerants have Direct Effect Life Cycle CO2 equivalent emissions (DELC CO2e) of \$ 1000kg CO2e/kW cooling/heating capacity. One credit - Leak detection 6. 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. 7. The system must be capable of automatically isolating and containing the remaining refrigerant(s) charge in response to a leak detection incident	A copy of the specification clause or letter from the M&E engineer/system manufacture confirming relevant refrigeration type and system information. A completed copy of the BREEAM Pol 01 Calculator.	Part 2 - Yes Part 3 & 4 - Scope dependant	It was stated at the pre-assessment meeting (14.04.21) that this credit will be investigated further. Note: Pre-requisite for compliance with BS EN 378:2008 parts 2 and 3 Pol 01 calculator to be completed. Calculator has been issued as part of Transfer link by AH.		3		1		KJ Tait	Assessor / Contractor	r
POL 02 (1-2)) NOx emissions	Where the plant installed to meet the building's delivered heating and hot water demand has, under normal operating conditions, a NOX emission level (measured on a dry basis at 0% excess O2) as follows: One credit = ≤ 100 mg/kWh Two credits = ≤ 70 mg/kWh Two credits = ≤ 40 mg/kWh 2. Report via the BREEAM scoring and reporting tool the direct and indirect NOx emissions in mg/kWh and energy consumption in kWh/m2/yr arising from systems installed to meet the building's space heating, cooling and hot water demands.	Relevant section/clauses of the building specification or contract. Manufacturer's product details. Calculations from the project team.	Part 2 - Yes Part 3 - Scope dependant			3				M&E	Assessor / Contractor	r
POL 03 (1-6) Flood risk management	Low flood risk 1. Where flood maps from the Environment Agency confirm the refurbishment or fit-out is situated in a flood zone that is defined as having a low annual probability of flooding 2. TBC Medium/high flood risk 3. to 6 TBC	Copies of flood risk maps showing location and status of site as low risk	Ali	Confirmed by Elliott Wood as "very low risk of flooding"		2	2			Elliot Wood	Assessor / Contractor	r
POL 04 (1-5) Night time light pollution	I. Where external lighting pollution has been eliminated through effective design that removes the need for external lighting OR alternatively, where the building does have external lighting, one credit can be awarded as follows: I. The external lighting istrategy has been designed in compliance with Table 2 of the ILP Guidance notes for the reduction of obtrusive light, 2011 All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00. His part of the lighting system complex with the lower levels of lighting recommended it Table 2 of the ILP S Guidance notes. S. Illuminated advertisements, where specified, must be designed in compliance with ILE Technical Report 5 – The Brightness of Illuminated Advertisements.	Design drawings Relevant section/clauses of the building specification or contract or external lighting design data/calculations. In the case of the external lighting design, the M&E engineer or lighting designer must provide indicative examples of where and how the strategy complies with the assessment criteria.	Part 2 & 3 Only	It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved.		1	1			KJ Tait	Assessor / Contractor	r

POL 05 (1-5) Noise pollution	Where there are, or will be, no noise-sensitive areas or buildings within 800 m radius of the assessed development. OR Where the building does have noise sensitive areas or buildings within 800 m radius of the development, one credit can be awarded where a noise impact assessment in compliance with BS 745 has been carried out and the following noise levels measured/determined: a. Existing background noise levels at nearest noise-sensitive development b. The rating noise level resulting from the new noise source 3. The noise impact assessment must be carried out by a suitably qualified acoustic consultant. 4. 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 +368 during the day (07:00 to 23:00) and +338 at night (23:00 to 07:00) compared to the background noise level. S. Where the noise source(s) from the proposed site/building is greater than the levels desorbed in criterion 4, measures have been installed to attenuate the noise at its source to a level where it will comply with criterion 4.	Acoustician's report with recommendations for noise attenuation measures. AND EITHER A marked-up design plan highlighting the specification of the acoustician's attenuation measures OR A formal letter from the client or design team confirming where relevant, that attenuation measures recommended by an appointed suitably qualified acoustician will be installed.	All	It was stated at the pre-assessment meeting (14.04.21) that this credit will be achieved.	1		1
				Innovation	10	2 0	2
				Section Score	13.46%	2.69%	

- This document is to be used only as a guide for score tracking. The "Summary of Requirements" noted above are to be used as a quick reference guide only and are thus often simplified/reduced; reference must be made to the BREEAM Manual for full credit requirements and evidence required.

- RIBA Stage milestones for specific criteria are noted; although the majority of evidence is issued at Tender Stage, many of these credits can be, and should, issued prior to this stage. - The Design Stage assessment and interim certified BREEAM rating confirms the building's performance at the design stage of the life cycle and assessment and certification will ideally occur prior to the beginning of operations on site. - The Post Construction Stage assessment and BREEAM rating confirms the final 'as-built' performance of the building at the new construction stage of the life cycle. A final PCS assessment is completed and certified after practical completion of the building works.

Note

				Acoustician KJ Tait	Assessor / Acoustician / Contractor	
	1		U			
0		0	0			
2.69%		1.35%	0.00%			
0 00%		0.009/	0.00%			