Method Consulting

Intelligent engineering, sustainable buildings

Imperial Hotel (Extension Only)

BREEAM 2018 New Construction Issue 3

Residential Institution (Fully Fitted)

Design Stage Assessment Summary Sheet

21 August 2019

Stage of assessment: Interim design stage	Project Assessor: Charlotte Whitlock 01793 836611, charlotte.whitlock@methodllp.com
BRE Reference Number:	Project AP: Type name Tel No, Email address

RIBA Stage 1&2	**Complete?**	**Building address:**
Man 01 Roles		**Scope of BREEAM assessment:** Top two new build floors only.
Man 01 Consultation		
Man 01 BREEAM AP		Number of buildings: 1 (9th & 10th floors only)
Man 02 LCC		GIA:
Hea 02 IAQ Plan		NIA:
Hea 06 Security		Heating strategy:
Ene 04 Passve Design		Cooling strategy:
Ene 04 LZC study		Ventilation strategy:
Tra 01 Travel Plan		Lift type:
Mat 01 Materials		LZCs:
Mat 03 Procurement		
Mat 06 Mat. Efficiency		Meeting record:
Wst 01 Pre-demo Audit		
LE02 Ecology		

Contents Amendment Record
P1: Initial pre-assessment for comment
P2: Pre-assessment issued for planning submission.
P3: Updated pre-assessment for planning submission.

BREEAM Standards		**Project Targets**
Total required for 'Pass'	**30**	**MINIMUM BREEAM RATING REQUIRED: Excellent** (This equates to a score of 70% and requires the achievement of certain mandatory credits.)
Total Required for 'Good'	**45**	It should be noted that until sufficient evidence is provided by the project team to the BREEAM Assessor to demonstrate that the full requirements have been met, none of these scores can be assumed to have been achieved, but remain as targets until the assessor confirms otherwise. This pre-assessment is based on discussions at project team meetings and additional correspondence.
Total required for 'Very Good'	**55**	
Total required for 'Excellent'	**70**	The base target shows the minimum credits anticipated to be achieved for the development. This equals 57.77% which is a rating of Very Good.
Total required for 'Outstanding'	**85**	

Expected Scores (%)	
Minimum required	70
Base Target	**57.77**

BREEAM Manual Link

http://www.breeam.com/NC2018/

Credit Title	**Summary of mandatory requirements**
Man 03 Responsible Construction Practices (Considerate Construction)	One credit for Excellent. Two credits for Outstanding.
Man 04 Commissioning and Handover	One credit and a Building User Guide for Very Good and above.
Man 05 Aftercare	Commissioning Implementation for Excellent and above.
Ene 01 Reduction of Energy Use and Carbon Emissions	At least four 'Energy Performance' credits for Excellent. At least six 'Energy Performance' and four 'Energy Modelling and Reporting' credits for Outstanding.
Ene 02 Energy Monitoring	Sub-metering of end-use categories for Very Good and above.
Wat 01 Water Consumption	At least one credit for Good and above. At least two credits for Outstanding.
Wat 02 Water Monitoring	A water meter on the mains supply to each building for Good and above.
Mat 03 Responsible Sourcing of Construction Products	All timber used on the project is 'legally harvested and traded timber'.
Wst 01 Construction Waste Management	One credit for Outstanding.
Wst 03 Operational Waste	At least one credit for Excellent and above.

Base Target	The base target shows the minimum credits anticipated to be achieved for the development. This equals 57.77% which is a rating of Very Good.

Credit Title	CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
	Credits Available	Base Target					
MANAGEMENT							
Man 01	**Project brief and design**		**To optimise final building design through recognising and encouraging an integrated design process and robust stakeholder engagement.**				
Project brief and design							
Project delivery planning (1-3) **RIBA STAGE 2 ACTION**	1	0	Credit awarded where, prior to completion of the Concept Design, the client, building occupier, design team and contractor meet to identify and define for each key phase of project delivery: a) Roles, b) Responsiblities, c) Contributions. Demonstrate through documentation that consideration was given to all topics as listed in the guidance (requirements 2a-h) - e.g. user requirements, design aims, installation limitations, budget and expertise, maintainability, operational energy, documentation production etc. Demonstrate how the project delivery stakeholders' contributions and the consultation process outcomes influence: a. Initial Project Brief; b. Project Execution Plan; c. Communication Strategy; d. Concept Design.	0.52%	This has not been included in the target for now but is potentially achievable if early discussions were held with relevant team members to discuss roles and responsibilities etc. and were sufficiently documented. This would need to be checked further.	Client/PM	
Stakeholder Consultation (Interested parties) (4-6) **RIBA STAGE 2 ACTION**	1	0	Credit awarded where prior to completion of the Concept Design, the design team consult with all interested parties on matters that cover the minimum consultation content (Refer to guidance for full details). The project team must demonstrate how the stakeholder contributions and consultation exercise outcomes influence the Initial Project Brief and Concept Design. Credit awarded where prior to completion of the detailed design (RIBA Stage 4 or equivalent), all interested parties give and receive consultation feedback.	0.52%	Consultation has occurred so this may be achievable. This has not been included in the target for now as it would need to be checked that the consultation covered all of the topics required for BREEAM.	Client/Arch	
Pre-requisite (BREEAM AP) (Concept and Developed Design) (8) **RIBA STAGE 2 ACTION**	0	0	Note: This must be achieved in order to achieve the following BREEAM AP credits. Pre-requisite awarded where the project team, including the client, formally agree strategic performance targets early in the design process (with the support of the BREEAM Advisory Professional where appointed). To demonstrate 'formally agreed', this should be contracts or letters of appointment with the architect and other relevant project team members).	0.00%	This required BREEAM AP involvement at RIBA stage 2 which has not occurred. Credit not achievable.	-	
BREEAM AP (Concept Design) (9) **BREEAM AP Developed Design) (10-11)** **RIBA STAGE 2 ACTION**	2	0	Up to two credits awarded where BREEAM AP is involved to: a) Work with the project team, including the client, to consider links between BREEAM issues and assist in maximising the overall performance against BREEAM, from their appointment and throughout Concept Design (one credit) and Developed Design (second credit). b) Monitor progress against performance targets agreed under the pre-requisite throughout all stages after appointment where decisions critically impact BREEAM performance. c) Proactively identify risks and opportunities related to the achievement of the targets agreed under the pre-requisite. d) Provide feedback to the project team, to support them in taking corrective actions and achieving agreed performance targets. e) Monitor and, where relevant, coordinate the generation of evidence by the project team. The BREEAM AP must attend key meetings (see Definitions) with the project team during the Concept Design, Developed Design and Technical Design stages.	1.05%	The first credit required BREEAM AP involvement at RIBA stage 2, which has not occurred. The second credit is dependent on achieving the first credit so is not achievable. Although these credits aren't achievable, the project is still benefitting from involvement of a BREEAM AP. Credits not achievable.	-	

Credit Title	CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
	Credits Available	Base Target					
Man 02	**Life cycle cost and service life planning**		**To promote the business case for sustainable buildings and to deliver whole life value by encouraging the use of life cycle costing to improve design, specification, through-life maintenance and operation.**				
Elemental Life Cycle Cost (LCC) (1-3) **RIBA STAGE 2 ACTION**	2	0	Two credits awarded where a competent person carries out an outline, entire asset LCC plan at RIBA Stage 2 together with any design options appraisals in line with 'Standardised method of life cycle costing for construction procurement' PD 156865: 20081. The elemental LCC plan must provide an indication of future replacement costs over a period of analysis as required by the client (e.g. 20, 30, 50 or 60 years) and includes service life, maintenance and operation cost estimates. Demonstrate how the elemental LCC plan has been used to influence building and systems design and specification to minimise life cycle costs and maximise critical value.	1.05%	Detailed life cycle cost analysis (that covers the BREEAM requirements) has not been carried out at RIBA stage 2. Credits not achievable.	-	
Component Level LCC options appraisal (4-5)	1	1	Credit awarded where a competent person develops a component level LCC options appraisal by the end of RIBA Stage 4 in line with PD 156865: 2008. The component level LCC should cover and review the envelope, services, finishes, external spaces (selections that will offer valued comparisons). Demonstrate how the component level LCC options appraisal has been used to influence building and systems design and specification to minimise life cycle costs and maximise critical value.	0.52%	This should be achievable so has been included in the targets. A component life cycle cost plan must be developed prior to the end of RIBA stage 4.	QS	
Capital Cost Reporting (6)	1	1	Credit awarded where the project team reports the capital cost for the building in (£k/ m^2) of gross internal floor area. At the design stage, this can be awarded based on confirmation of the predicted cost, and a client commitment to provide the information on the final cost at the end of the project.	0.52%	This should be achievable so has been included in the targets.	Client	
Man 03	**Responsible construction practices**		**To recognise and encourage construction sites which are managed in an environmentally and socially considerate, responsible and accountable manner.**		**Mandatory minimum requirement: One credit for Excellent and two credits for Outstanding for Responsible Construction Management.**		
Pre-requisite (1)	0	Y	**MANDATORY FOR ALL RATINGS: All timber and timber based products used during the construction process of the project are legal and sustainable timber.**	0.00%	This should be achievable so has been included in the targets.	QS	
Environmental Management (3-4)	1	1	Credit awarded where all parties who at any stage manage the construction site (e.g. the principal contractor, the demolition contractor) operate an EMS covering their main operations. This is typically ISO 14001 certification. AND The same parties demonstrate via evidence that they have implemented best practice pollution prevention policies and procedures on site in accordance with PPG 6.	0.52%	This should be achievable so has been included in the targets.	QS	
Pre-requisite (BREEAM AP Site) (5)	0	Y	Pre-requisite awarded where the client and the contractor formally agree performance targets, via a contract.	0.00%	This should be achievable so has been included in the targets.	QS	
BREEAM AP (Site) (6)	1	1	Involve a BREEAM AP in the project at an appropriate time and level to cover requirements 6 a-e of the BREEAM requirements (refer to guidance for details). This is the same scope as required under Man 01 above, but for the Construction, Handover and Close Out stages.	0.52%	This should be achievable so has been included in the targets.	QS	
Responsible Construction Management (7-9)	2	2	**MANDATORY FOR EXCELLENT:** One credit awarded where the ticked items in Table 4.1 of the BREEAM guidance have been covered. **MANDATORY FOR OUTSTANDING:** Two credits awarded where the above has been achieved and six additional items have been covered from the table.	1.05%	Two credits should be achievable so have been included in the targets.	QS	

Credit Title	CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
	Credits Available	Base Target					
Monitoring of Construction Site Impacts **(Utility Consumption) (11-18)** **(Transport) (19-22)**	2	2	Up to two credits awarded where responsibility for monitoring all data on site has been assigned to an individual. AND First credit: Set targets, monitor and record data for the site energy consumption in kWh (where relevant, litres of fuel) and potable water consumption (m^3) as a result of the use of construction plant, equipment (mobile and fixed) and site accommodation. Report the total CO_2 emissions (total $kgCO_2$ / project value). Second credit: Set targets for transportation movements and impacts resulting from delivery of the majority of construction materials to site and construction waste from site. As a minimum this needs to cover requirements 20-21 (refer to guidance for details). Using the collated data, report separately for materials and waste, the total transport-related carbon dioxide emissions ($kgCO_2$-eq), total distance travelled (km).	1.05%	These credits should be achievable so have been included in the targets.	QS	
Man 04	**Commissioning and handover**		**To encourage a properly planned handover and commissioning process that reflects the needs of the building occupants.**		**Mandatory minimum requirement: Achieve the 'Commissioning - testing schedule and responsiblities' credit and have a compliant Building User Guide for Very Good and above.**		
Commissioning - Testing Schedule and Responsibilities (1-5)	1	1	Credit awarded where a schedule of commissioning and testing is prepared and includes a suitable timescale for commissioning and re-commissioning of all complex and non-complex building services and control systems and for testing and inspecting building fabric. Please refer to the technical guidance for details of the appropriate standards (2 a-d) and BMS commissioning procedures (3 a-e). AND An appropriate project team member is appointed to monitor and programme pre-commissioning, commissioning and, where necessary, re-commissioning on behalf of the client. AND The principal contractor accounts for the commissioning programme, responsibilities and criteria within their budget and programme of works.	0.52%	This should be achievable so has been included in the targets.	M&E	
Commissioning - Design and Preparation (6-7)	1	1	Credit awarded where the first commissioning credit has been achieved and an appropriate project team member has been appointed during design stage with responsibility for: a) Undertaking design reviews and advising on suitability for ease of commissioning. b) Providing commissioning management input to construction programming and during installation stages. c) Management of commissioning, performance testing and handover / post-handover stages. Note: For buildings with complex building services and systems, this role needs to be carried out by a specialist commissioning manager.	0.52%	This should be achievable so has been included in the targets.	M&E	
Testing and Inspecting Building Fabric (8-10)	1	1	Credit awarded where the first commissioning credit is achieved, and a post construction thermographic survey and airtightness testing and inspection is completed to assure the quality of the building fabric, including insulation continuity, avoidance of thermal bridging and air leakage paths. Defects identified must be rectified prior to building handover. All testing must be carried out by a Suitably Qualified Professional, in line with the appropriate standard and evidence of qualifications will be required.	0.52%	This should be achievable so has been included in the targets.	QS	

Credit Title	CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
	Credits Available	Base Target					
Handover (11-12)	0	Y	**MANDATORY FOR VERY GOOD AND ABOVE:** Two Building User Guides are developed prior to handover covering all functions and uses of the building. One for the non technical user (distributed to building occupiers) and one for the technical user (premise facilities managers). Where building occupants are known, a draft copy should be discussed and developed with these users. Note in order to achieve a Very Good rating or better, this requirement must be achieved.	0.00%	This should be achievable so has been included in the targets.	QS	
	1	1	Credit awarded where, in addition to the above, two training schedules are developed for handover: One for the non technical user (distributed to building occupiers) and one for the technical user (premise facilities managers). Refer to guidance for details of what needs to be included in the BUGs and training schedules.	0.52%	This should be achievable so has been included in the targets.	QS	
Man 05	**Aftercare**		**To ensure the building operates in accordance with the design intent and operational demands, through providing aftercare to the building owner and occupants during the first year of occupation.**		**Mandatory minimum requirement: One credit (Commissioning - implementation) for Excellent and Outstanding.**		
Aftercare Support (1-2)	1	1	Credit awarded where the principal contractor provides aftercare support to the building occupier, which includes a meeting, introducing avaliable aftercare support, introduction to the building systems and walkabout of the building. They also need to provide two levels of aftercare support; including on-site attendance for a month after handover and longer term support for at least the first 12 months. AND The client/building occupier commits to collect and monitor energy and water consumption data for a minimum of 12 months, once the building is occupied, to analyse discrepancies between actual and predicted performance.	0.52%	This should be achievable so has been included in the targets.	QS/Client	
Commissioning - Implementation (3)	1	1	**MANDATORY FOR EXCELLENT AND ABOVE:** Credit awarded where the following commissioning activities are undertaken over 12 months after building occupation: **Complex systems: The specialist commissioning manager:** a) Identifies occupier changes that might have impaired or improved performance. b) Test all building services under full load conditions (heating equipment in mid-winter, cooling and ventilation equipment in mid-summer and under part load conditions (spring and autumn). c) Where applicable, carry out testing during periods of extreme (high/low) occupancy. d) Interview building occupants to identify problems regarding the effectiveness of the systems. e) Produce monthly reports comparing sub-metered energy performance to the predicted. f) Identify inefficiencies and areas in need of improvement. g) Recommissioning of systems (following any work needed to serve revised loads), and incorporate any revisions in operating procedures into the O&M manuals. **Simple systems (naturally ventilated): The external consultant, aftercare team or facilities manager:** a) Reviews thermal comfort, ventilation, and lighting, at three, six and nine month intervals after initial occupation. b) Identifies deficiencies and areas in need of improvement. c) Recommissions systems and incorporates any relevant revisions in operating procedures into the O&M manuals.	0.52%	This should be achievable so has been included in the targets.	M&E	
Post Occupancy Evaluation (4-7)	1	1	Credit awarded where the client makes a commitment to carry out a Post Occupancy Evaluation (POE) one year after building occupation, to gain building performance feedback. The POE should be carried out by an independent third party. See technical guidance for full list of what should be included. The client or building occupier must commit funds to pay for the POE in advance (to avoid making an empty commitment). This requires an independent party to be appointed and a report with lessons learned should be produced.	0.52%	This should be achievable so has been included in the targets.	Client	
Sub-Total	**21**	**15**	**One management credit equals 0.52%**				
Weighted Sub-Total	**11**	**7.86**					

Credit Title	CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
	Credits Available	Base Target					
HEALTH & WELLBEING							
Hea 01	**Visual comfort**		**To encourage best practice in visual performance and comfort by ensuring daylighting, artificial lighting and occupant controls are considered.**				
Control of glare from sunlight (1-3)	1	1	Credit awarded where areas at risk of glare have been identified using a glare control assessment, this also needs to justify any areas deemed not at risk of glare. The potential for glare needs to be designed out through building layout (e.g. low eaves) or building design (e.g. brise soleil, bioclimatic design or blinds) in all relevant building areas via a glare control strategy. Include rooflights in the assessment. The glare control strategy should avoid increasing lighting energy consumption by maximising daylight levels whilst avoiding disabling glare. System should not inhibit daylight entering the space under cloudy conditions, and the location of shading should not conflict with operating lighting controls. Occupant controlled devices such as blinds should have a transmittance value of <0.1 (10%).	0.78%	This should be achievable for the top two floors so has been included in the targets. This only applies to areas where glare could be problematic for users (e.g. where there are workstations/desks). If there are no applicable areas located on the new build floors, then the credit can be achieved by default.	Arch	
Daylighting (4)	1	1	One credit awarded where calculations have been carried out which demonstrate that at least 80% of floor area in occupied spaces is adequately daylit AND complete the criteria outlined in Table 5.2 or 5.3 (refer to guidance for details).	0.78%	This should be achievable so has been included in the targets.	M&E/Arch	
View Out (5-6)	1	1	Credit awarded where 95% of the floor area in 95% of spaces for each relevant building area (inc. workstations, close work areas or areas where a view out is deemed beneficial to occupants of the space) provides an adequate view out. E.g. if a project had 20 spaces in a relevant building area, 19 of these spaces would need to demonstrate that, independently, 95% of their floor area has an adequate view out. A window / opening area that is equal to, or greater than, 20% of the surrounding wall area would be considered an adequate view out for spaces with a room depth of less than 8m. Where the room depth is greater than 8m, compliance is only possible where the % of window/opening is ≥ the values in table 1.0 of BS 8206.	0.78%	This should be achievable for the top two floors so has been included in the targets. This only applies to areas where close work will be undertaken or there are workstations/desks. This does not apply to meeting rooms/areas with no permanent workstations. Commercial kitchen spaces can also be excluded. If there are no applicable areas located on the new build floors, then the credit can be achieved by default.	Arch	
Internal and External Lighting Levels, Zoning and Control (7-13)	1	1	Credit awarded where all internal and external lighting is designed to provide illuminance levels appropriate to tasks undertaken, recommended by SLL Code for Lighting 2012, CIBSE LG 7 or other relevant industry standard for internal lighting, and BS 5489-1:2013 and BS EN 12464-2:2014 for external lighting. AND Lighting must be appropriately zoned and allow for occupant control. Areas used for teaching, seminar or lecture purposes must have controls specified in accordance with CIBSE LG5. Workstations adjacent to windows or atria and other building areas to be separately zoned and controlled.	0.78%	This should be achievable so has been included in the targets.	M&E	
Hea 02	**Indoor air quality**		**To encourage and support healthy internal environments with good indoor air quality.**				
Indoor Air Quality Plan (Pre-requisite) (1)	0	Y	Pre-requisite awarded where a site-specific indoor air quality plan is undertaken in line with GN06. The plan must consider the following: a) Removal of contaminant sources b) Dilution and control of contaminant sources (where present, consider air quality requirements of specialist areas such as labs) c) Procedures for pre-occupancy flush out d) Third party testing and analysis e) Maintaining good indoor air quality in-use.	0.00%	This should be achievable so has been included in the targets.	Arch/M&E	

Credit Title	CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
	Credits Available	Base Target					
Ventilation (2)	1	0	Credit awarded where the building has been designed to minimise the concentration and recirculation of pollutants in the building by providing fresh air into the building in accordance with the relevant standards for ventilation. Ventilation pathways are designed to minimise the ingress and build-up of air pollutants inside the building using the Methodology outlined in the guidance (e.g. intake and exhaust location). Any HVAC systems must incorporate suitable filtration to minimise pollution, in line with BS EN 16798-3:2017. Filters should achieve supply air classification of at least SUP 2. Areas of the building subject to large and unpredictable/variable occupancy patterns need to have CO_2 or air quality sensors specified and meet the detailed requirements relating to natural, mechanical or mixed mode ventilated spaces (refer to guidance for details). CIBSE AM10 compliance required for natural and mixed mode buildings.	0.78%	This credit is not expected to be achievable as there are strict distance requirements for air intakes and exhausts. Credit not targeted.	-	
Emissions from Construction Products (3-4)	2	0	**One credit:** 3 out of 5 product types meet the emission limits, testing requirements and any additional requirements listed in Table 5.11 (refer to guidance for details). All wood-based products used for internal fixtures and fittings must be tested and classified as formaldehyde E1 class as a minimum. **Two credits:** All of the product types listed meet the emission limits, testing requirements and any additional requirements listed in Table 5.11. Product types are: Interior paints and coatings; Wood-based products (including wood flooring); Flooring materials (including floor levelling compounds and resin flooring); Ceiling, wall, and acoustic and thermal insulation materials; Interior adhesives and sealants (including flooring adhesives).	1.56%	This has not been included in the base target for now. This requires further investigation to see if achievable, as the BRE do not provide a list of compliant manufacturers and products. The criteria has changed significantly from the BREEAM 2014 scheme so it is not possible to judge if BREEAM 2014 compliant products would still be compliant under BREEAM 2018 without detailed investigation. Compliance against the new BREEAM 2018 criteria will be reviewed as the design progresses to see if this credit is achievable. Low VOC products will be encouraged where possible, to promote a healthy indoor environment.	Arch	
Post-construction indoor air quality measurement (5-10)	1	1	Credit awarded where indoor formaldehyde concentration is measured post construction (but pre-occupancy) and does not exceed 100 µg/ m^3 averaged over 30 minutes (sampling and analysis to be performed in accordance with ISO 16000-2 & -3. AND The total volatile organic compound (TVOC) concentration does not exceed 500 µg/ m^3 over 8 hours (sampling and analysis performed in accordance with ISO 16000-5 and ISO 16000-6 or ISO 16017-1). Formaldehyde and TVOCs levels should be provided to the assessor. Where the limits above are exceeded, measures need to be undertaken in accordance with the IAQ plan to reduce the TVOC and formaldehyde levels to within the above limits.	0.78%	This should be achievable so has been included in the targets.	QS	
Hea 04	**Thermal comfort**		**To ensure the building is capable of providing an appropriate level of thermal comfort.**				
Thermal Modelling (1-4)	1	1	Credit awarded when thermal modelling has been carried out using software in accordance with CIBSE AM11, and provides full dynamic thermal analysis. The modelling should show the building design and services strategy can deliver thermal comfort levels in occupied spaces as follows: **a) In air-conditioned buildings:** Summer and Winter operative temperatures in accordance with the CIBSE Guide A Table 1.5 or meet the Category B requirements for PPD, PMV and local discomfort from Table A.1 of Annex A of ISO 7730:2005. **b) Naturally ventilated/free running buildings:** Winter operative temperature ranges in accordance with CIBSE Guide A AND the building is designed to limit the risk of overheating in accordance with CIBSE TM52 or TM59. For air-conditioned buildings, the PMV and PPD indices should be provided.	0.78%	This should be achievable for the top two floors so has been included in the targets. It is understood that mechanical cooling will be provided.	M&E	

Credit Title	CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
	Credits Available	Base Target					
Design for future thermal comfort (5-8)	1	1	Credit awarded where the first Hea 04 credit has been achieved, and the thermal modelling demonstrates that the building design and services strategy can deliver the same thermal comfort levels in occupied spaces under a projected climate change environment. **Naturally ventilated buildings:** Time period: 2050s; Emissions scenario: Medium (A1B); 50th percentile DSY 2 and DSY 3. **Mechanically ventilated or mixed mode buildings:** Time period: 2020s; Emissions scenario: High (A1F1); 50th percentile DSY 2 and DSY 3. Where thermal comfort criteria are not met for the projected climate change environment, the project team should demonstrate how the building has been adapted, or is adaptable in future using passive design solutions to achieve above criteria. For air-conditioned buildings, provide the PMV and PPD indices.	0.78%	This should be achievable for the top two floors so has been included in the targets. It is understood that mechanical cooling will be provided.	M&E	
Thermal Zoning and Controls (9-11)	1	1	Credit awarded where the first Hea 04 credit has been achieved, and the thermal modelling analysis has informed the temperature control strategy for the building and its users. Refer to Technology Guide CTG065 Heating Control for examples. The strategy for proposed heating/cooling system(s) demonstrates that it has addressed the following: a. Zones within the building and how to effectively heat or cool these areas. b. The level of user control required, based on discussions with the end user. c. How systems will interact and how this may affect the building users. d. Whether a manual override is required for any automatic systems.	0.78%	This should be achievable for the top two floors so has been included in the targets. It is understood that mechanical cooling will be provided.	M&E	
Hea 05	**Acoustic performance**		**To ensure the building is capable of providing an appropriate acoustic environment to provide comfort for building users.**				
Acoustic Performance (1-2)	4	4	Credits awarded where the contractor programmes in pre-completion acoustic testing, by a compliant test body to ensure the building areas meet the appropriate acoustic performance standards and testing requirements and the relevant standards are achieved (refer to guidance for further details). Up to two credits: Sound Insulation - Achieve airborne sound insulation values that are at least 3 dB higher and impact sound insulation values that are at least 3 dB lower than the performance standards in the relevant building regulations for one credit. For two credits, airborne sound insulation values are to be at least 5 dB higher and impact sound insulation values are to be at least 5 dB lower than the performance standards in the relevant building regulations. One credit: Internal Ambient Noise Levels - Achieve the standards in Section 7 of BS 8233:2014. One credit - Room Acoustics - Achieve the requirements relating to sound absorption within residential spaces and within the common spaces of the building described in the relevant building regulations or building standards national guidance.	3.11%	Four credits have been targeted for now. This should be reviewed with the acoustician to ensure the requirements are achievable.	Aco	
Hea 06	**Security**		**To encourage the planning and implementation of effective measures that provide an appropriate level of security to the building and site.**				
Security of Site and Building (1-3) **RIBA STAGE 2 ACTION**	1	1	Credit awarded where a Suitably Qualified Security Specialist (SQSS) conducts an evidence-based Security Needs Assessment (SNA) during or prior to RIBA Stage 2. The SQSS needs to develop a set of security controls and recommendations for incorporation into the proposals. Those controls and recommendations shall directly relate to the threats and assets identified in the preceding SNA. The controls and recommendations will be incorporated into proposals and implemented in the as-built development. Any deviation from these recommendations need to be justified and agreed with the SQSS.	0.78%	This should be achievable so has been included in the targets.	Client/ Security Specialist/Arch	

Credit Title	CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
	Credits Available	Base Target					
Hea 07	**Safe and healthy surroundings**		**To encourage the provision of safe access around the site and outdoor space that enhances the wellbeing of building users.**				
Safe Access (1-6)	1	0	Credit awarded where the site is designed to allow for safe access for pedestrians and cyclists. Level of detail is comprehensive - refer to guidance for details. Points to consider include: cycle paths and footpaths connecting to any off site paths, paths connecting the building to the outdoor space and drop off areas to be located off/adjoining access road with direct access to footpath. Where delivery access areas and drop off areas exist: delivery areas are not directly accessed through general parking areas and do not cross or share pedestrian and cyclist routes and other outside amenity areas, provide a separate parking/waiting area for goods vehicles, ensure parking/turning areas are designed for simple manoeuvring.	0.78%	This has not been included in the base target for now and should be reviewed further to see if it can be targeted.	-	
Outside space (7)	1	1	There is an outside space providing building users with an external amenity area. When determining the appropriate size of the outside space, the building type, function, shift patterns and occupancy numbers should be considered. The outside space must: a) be an outdoor landscaped area, for example a garden, balcony or terrace; the majority of the space should be open to the sky b) have appropriate seating areas and be non-smoking, c) be located to ensure it is accessible to all building users and avoids areas that will have disturbances from sources of noise (e.g.car parks, busy roads, delivery areas etc.).	0.78%	This should be achievable so has been included in the targets. The design includes external terrace areas with seating.	Arch	
Sub-Total	**18**	**14**	**One health & wellbeing credit equals 0.78%**				
Weighted Sub-Total	**14**	**10.89**					
ENERGY							
Ene 01	**Reduction of energy use and carbon emissions**		**To minimise operational energy demand, primary energy consumption and CO_2 emissions.**		**Mandatory minimum requirements: 4 credits from Energy Performance for Excellent. 6 credits from Energy Performance and 4 from Energy Modelling and Reporting for Outstanding.**		
Energy Performance (1)	9	4	Up to 9 credits can be awarded where there is an improvement in the building operational related CO_2 emissions. The number of credits is based on the Energy Performance Ratio for New Constructions (using the BREEAM calculator). Note that negative improvement on notional figures will result in lower scores - aim to show improvement on each of the three parameters in the BRUKL (energy demand, primary energy, total CO_2 emissions). **FOUR CREDITS MANDATORY FOR EXCELLENT, SIX CREDITS MANDATORY FOR OUTSTANDING.**	5.76%	The initial BRUKL for the top two floors demonstrates that fours credits are achievable, which meets the mandatory requirement for an Excellent rating.	M&E	
Prediction of operational energy consumption (2-5)	4	4	Credit awarded where relevant members of the design team are involved in an energy design workshop focusing on operational energy performance, and additional energy modelling is undertaken during the design and post-construction stage to generate predicted operational energy consumption figures (refer to guidance for details). Predicted energy consumption targets are reported by end use, design assumptions and input data (with justifications). A risk assessment needs to be carried out highlighting any significant design, technical, and process risks that should be monitored and managed throughout the construction and commissioning process.	2.56%	These credits should be achievable so have been included in the targets. This will require additional energy modelling.	M&E	

Credit Title	CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
	Credits Available	Base Target					
Ene 02	**Energy monitoring**		**To encourage the installation of energy sub-metering to facilitate the monitoring of operational energy consumption. To enable managers and consultants post-handover to compare actual performance with targets in order to inform ongoing management and help in reducing the performance gap.**		**Mandatory minimum requirements: One credit (sub-metering of end-use categories) for Very Good, Excellent and Outstanding.**		
Sub-metering of end-use categories (1-3)	1	1	**MANDATORY FOR VERY GOOD AND ABOVE:** Credit awarded where 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. This includes the following: space heating; domestic hot water; humidification; cooling; ventilation; pumps; lighting; small power; renewable or low carbon systems (separately); controls; and other major energy-consuming systems/plant (e.g. lifts, cold storage, pools, kitchen plant, drama studio rigs etc.). The energy consuming systems in buildings with a total useful floor area >1000m^2 are metered using an appropriate energy monitoring and management system. For smaller buildings, separate accessible sub-meters with pulsed outputs are acceptable. The energy consuming end uses should be identifiable to the building user, for example through labelling or data outputs.	0.64%	This is mandatory for Very Good ratings and above, so has been included in the targets.	M&E	
Sub-metering of High Energy Load and Tenancy Areas (5)	1	1	Credit awarded where an accessible energy monitoring and management system or separate accessible energy sub-meters with pulsed outputs or other protocol communication outputs which enable future connection to an energy monitoring and management system are provided, covering a significant majority of the energy supply to all relevant function areas or departments within the building/unit.	0.64%	This should be achievable for the top two floors so has been included in the targets.	M&E	
Ene 03	**External lighting**		**To reduce energy consumption through the specification of energy efficient light fittings for external areas of the development.**				
External Lighting (1-2)	1	1	Credit awarded where the average luminaire efficacy of the external light fittings within the construction zone is not less than 70 luminaire lumens per circuit Watt. AND All external light fittings are automatically controlled to prevent daytime operation and have presence detection in areas of intermittent use. Intermittent pedestrian traffic is where a pedestrian is in or approaching the space less than two-thirds of the time during the period when the lighting, without presence detection, would be switched on.	0.64%	This should be achievable so has been included in the targets.	M&E	
Ene 04	**Low carbon design**		**To encourage the adoption of design measures, which reduce building energy consumption and associated carbon emissions and minimise reliance on active building services systems.**				
Passive Design (Passive Design Analysis) (1-4) **RIBA STAGE 2 ACTION**	1	0	Credit awarded where the first Hea 04 credit has been achieved and a building services engineer who is a member of CIBSE or an energy assessor conducts an analysis of the proposed building design (during Concept Design) to identify opportunities to implement passive design solutions. AND Passive design measures are implemented to reduce the total heating, cooling, mechanical ventilation, lighting loads and energy consumption in line with the passive design analysis findings, and the reduced energy demand and CO_2 emissions are quantified.	0.64%	This credit is not expected to be achievable as it required action at RIBA Stage 2. Credit not targeted.	Arch/M&E	
Passive Design (Free Cooling) (5-8) **RIBA STAGE 2 ACTION**	1	0	Credit awarded where the first Ene 04 credit is achieved, and the passive design analysis includes an analysis of free cooling solutions and the feasibility of implementing them. AND The building is naturally ventilated or uses any combination of the free cooling strategies e.g: night-time cooling, ground coupled air cooling, displacement ventilation (not linked to any active cooling), ground water cooling, surface water cooling, evaporative cooling, desiccant dehumidification and evaporative cooling using waste heat, and absorption cooling using waste heat.	0.64%	This credit is not expected to be achievable. Credit not targeted.	Arch/M&E	

Credit Title	CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
	Credits Available	Base Target					
Low and Zero Carbon Technologies (LZC Feasibility Study) (9-12) **RIBA STAGE 2 ACTION**	1	1	Credit awarded where an energy specialist completes a feasibility study by the end of RIBA Stage 2 to establish the most appropriate recognised local (on-site or near-site) LZC energy sources for the development based on the feasibility study. A local LZC energy technology/technologies must be specified for the building/development in line with the recommendations of this feasibility study and the resulting reduced regulated carbon dioxide (CO_2) emissions need to be quantified.	0.64%	This should be achievable so has been included in the targets. The design includes a PV array.	M&E	
Ene 05	**Energy efficient cold storage**		**To encourage the installation of energy efficient refrigeration systems, in order to reduce operational greenhouse gas emissions resulting from the system's energy use.**				
Refrigeration Energy Consumption (1-2)	1	0	Credit awarded where the refrigeration system has been designed, installed and commissioned in accordance with the "Code of conduct for carbon reduction in the refrigeration retail sector" and BS EN 378-2: 2016 "Refrigeration systems and heat pumps - safety and environmental requirements". The system should use robust and tested refrigeration systems/components, normally those included in the Enhanced Capital Allowance (ECA) Energy Technology Product List (ETPL) or equivalent list. The refrigeration plant should be commissioned to comply with the commissioning criteria in Man 04. The criteria do not apply to domestic-scale refrigeration or refrigeration for kitchen and catering facilities where these are self-contained units not connected to building cooling systems.	0.64%	This has not been included in the base target for now and should be reviewed further to see if it can be targeted. This only relates to freezers/cold rooms that are integral to the building. Commercial-sized, self-contained units are not assessed for this credit. If there are no integral freezers/cold rooms, this issue is removed from the assessment.	M&E / Kitchen Specialist	
Indirect Greenhouse Gas Emissions (3-4)	1	0	Credit awarded where criteria 1 and 2 above are achieved and the installed refrigeration system should demonstrate a saving in indirect greenhouse gas emissions (CO_2 eq.) over the course of its operational life. This can be demonstrated through specification of technologies described in the Carbon Trust Refrigeration Road Map CO_2 emissions savings, in comparison with the baseline building.	0.64%	This has not been included in the base target for now and should be reviewed further to see if it can be targeted. This only relates to freezers/cold rooms that are integral to the building. Commercial-sized, self-contained units are not assessed for this credit. If there are no integral freezers/cold rooms, this issue is removed from the assessment.	M&E / Kitchen Specialist	
Ene 06	**Energy efficient transport systems**		**To encourage the specification of energy efficient transportation systems within buildings.**				
Energy Consumption (1)	1	1	Where either lifts, escalators or moving walks (transportation types) are specified, credit awarded where: a) An analysis of the transportation demand and usage patterns for the building has been carried out to determine the optimum number and size of lifts (including counter-balancing ratio), escalators and/or moving walks. b) The energy consumption has been estimated in accordance with ISO BS EN 25745 Part 2 - Lifts and/or Part 3 - Escalators and Travelling Walkways for one of the following: i) At least two options for each transportation type (e.g. for lifts: hydraulic, traction or machine room-less (MRL)); OR ii) At least two options considering different system arrangements and control strategies. c) The use of regeneration drives should be considered, where it produces an energy saving greater than the additional standby energy used to support the drives (typically for lifts with high travel and intensity use). d) The transportation system with the lowest energy consumption is specified.	0.64%	This should be achievable so has been included in the targets.	M&E	
Energy Efficient Features (2-5)	1	1	**2 credits applicable if both moving walks and lifts included. 1 credit if just one present.** Credit awarded where the first Ene 06 credit has been achieved and the following is met: For lifts, energy efficient features are incorporated including a stand-by mode, energy efficient lighting (>70 luminaire lumens per circuit Watt) and a drive controller capable of variable-speed, variable-voltage, and variable-frequency (VVVF). A regeneration drive must be specified where this will save energy. For escalators/moving walkways, these must be fitted with a load sensing device that synchronises motor output to passenger demand through a variable speed drive OR a passenger sensing device for automated operation, so it operates in stand-by mode when there is no demand.	0.64%	This should be achievable so has been included in the targets.	M&E	

Credit Title	CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
	Credits Available	Base Target					
Ene 08	**Energy efficient equipment**		**To encourage installation of energy efficient equipment to ensure optimum performance and energy savings in operation.**				
Energy Efficient Equipment (1-3)	2	2	Credit awarded where the building's unregulated energy consuming loads are identified and their contribution to the total annual unregulated energy consumption of the building is estimated, assuming a typical/standard specification. Identify which of the following systems/process that will be responsible for a significant proportion of total annual unregulated energy consumption of the building and demonstrate a meaningful reduction in energy consumption. Swimming pool; Laundry facilities with commercial-sized appliances; Data centres incl server rooms; IT-intensive operating areas; Domestic-scale appliances (individual and communal facilities); Healthcare; Kitchen and catering facilities. If there are no systems/processes from the above list then this is not applicable.	1.28%	This should be achievable so has been included in the targets.	Client/M&E/ Kitchen Specialist	
Sub-Total	**25**	**16**	**One energy credit equals 0.64%**				
Weighted Sub-Total	**16**	**10.24**					
TRANSPORT							
Tra 01	**Transport assessment and travel plan**		**To reward awareness of existing local transport and identify improvements to make it more sustainable.**				
Travel Plan (1-5) **RIBA STAGE 2 ACTION**	2	2	Credit awarded where a site-specific transport assessment/statement and draft travel plan is developed no later than concept design stage (to influence site layout and built form). The assessment must cover: a) Travel patterns and attitudes of existing building or site users towards cycling, walking and public transport; b) Predicted travel patterns and transport impact of future building/site users; c) Current local environment for pedestrians and cyclists (accounting for any age-related requirements of occupants and visitors); d) Reporting of the number and type of existing accessible amenities within 500m of the site; e) Disabled access (accounting for varying levels and types of disability and visual impairment); f) Calculation of the existing public transport Accessibility Index (AI) (refer to 'methodology' in BREEAM manual for further details); g) Current facilities for cyclists. A travel plan should be developed to provide a long term management strategy to encourage more sustainable travel. If the occupier is known, they should be involved in the development of the travel plan. The travel plan needs to include proposals to increase or improve sustainable modes of transport and movement of people and goods during the building's operation (refer to BREEAM guidance for further details). It should be confirmed that the plan will be implemented and supported by the building's management in operation.	1.67%	A transport assessment has been developed so it is expected that this is achievable and therefore has been included in the targets.	Transport consultant	
Tra 02	**Sustainable transport measures**		**To maximise the potential for local public, private and active transport through provision of sustainable transport measures appropriate to the site.**				
Pre-requisite (1)	0	Y	Achieve criteria 3-5 for the Tra 01 credits above (i.e. achieve the travel plan criteria).	0%	This should be achievable so has been included in the targets.	Transport consultant	

Credit Title	CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
	Credits Available	Base Target					
Transport options implementation (2-3)	10	5	Identify and implement sustainable public, private and active transport measures from Table 7.4 of the BREEAM guidance to earn points. Examples of some of these measures include: - Divert a bus route to the development or introduce a new or enhanced bus stop (3 points); - Provide electric recharging stations (1 point); - Set up a car sharing group/facility and provide priority parking spaces for car sharers (1 point); - Provide compliant cycle storage spaces and cyclist facilities (refer to guidance for further details) (1-2 points); - Demonstrate at least three existing amenities are present (refer to guidance for further details) (1 point). Up to 10 credits can be awarded based on the number of points earnt - number of points required is affected by the Accessible Index (AI) of the project as follows: • AI < 25: 10 points are needed to gain 10 credits • 25 ≤ AI < 40: 8 points are needed to gain 10 credits • AI of ≥ 40: 6 points are needed to gain 10 credits	8.33%	The PTAL report confirms AI > 40, and there are at least three existing amenities (food shop, outdoor space, post box) close by, which achieves four credits. At least one additional credit is expected to be achievable by implementing measures such as cycle storage and cyclist facilities (changing room, lockers). This should be reviewed further to determine how many additional credits can be targeted.	Arch / M&E / PM	
Sub-Total	**12**	**7**	**One transport credit equals 0.83%**				
Weighted Sub-Total	**10**	**5.83**					
WATER							
Wat 01	**Water consumption**		**To reduce the consumption of potable water for sanitary use in new buildings through the use of water efficient components and water recycling systems.**		**Mandatory minimum requirement: One credit for Good, Very Good and Excellent. Two credits for Outstanding.**		
Water consumption (1-5)	5	2	Up to five credits awarded depending on the efficiency of the specified water consuming components compared to a baseline. This includes the following components where specified, and the figures noted are standard level 3 options: WCs 3.75l, urinals 1.5l, taps (wash hand basins 5l/min, kitchen taps 6l/min, pre-rinse nozzles 7.3l, waste disposal 0l/min), showers 6l/min, baths 140l, dishwashers and washing machines (domestic/commercial/industrial sized - various figures). Greywater and/or rainwater systems can help offset the potable water consumption where these are used to supply water consuming components - please refer to the technical guidance. **ONE CREDIT MANDATORY FOR GOOD AND ABOVE. TWO CREDITS MANDATORY FOR OUTSTANDING.**	3.89%	At least two credits should be achievable so have been included in the targets.	Arch/M&E	
Wat 02	**Water monitoring**		**To reduce the consumption of potable water in new buildings through the effective management and monitoring of water consumption.**		**Mandatory minimum requirement: Criterion 1 (water meter on mains supply) for Good, Very Good, Excellent and Outstanding.**		
Pre-requisite (1)	0	Y	**MANDATORY FOR GOOD AND ABOVE - A water meter is specified on the mains water supply to each building, including where water is supplied via a borehole or other private source.**	0.00%	This should be achievable so has been included in the targets.	M&E	
Water Monitoring (1-6)	1	1	Credit awarded where water consuming plant or areas, consuming 10% or more of the buildings total water demand, should be fitted with easily accessible sub meters or have water monitoring equipment integral to the plant or area. Each main and sub meter should have a pulsed output or other open protocol communication output enabling connection to a Building Management System (BMS) for monitoring consumption. If the site has an existing BMS managed by the same occupier/owner, the pulsed/digital water meter(s) for the new building should be connected to existing BMS. If present, swimming pools, changing rooms, aquariums, large water tanks and laboratories need to be sub-metered irrespective of their water consumption.	0.78%	This should be achievable so has been included in the targets.	M&E	

Credit Title	CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
	Credits Available	Base Target					
Wat 03	**Water leak detection**		**To reduce the consumption of potable water in new buildings through minimising wastage due to water leaks.**				
Leak Detection System (1-2)	1	1	Credit awarded where a leak detection system, capable of detecting a major leak on the mains supply within the building and between the building and the utilities water meter, is installed. It must be a permanent automated water leak detection system capable of alerting occupants to a leak OR an in-built automated diagnostic procedure for detecting leaks. It must be programmable by the occupier, avoid false alarms and be capable of identifying different flow/leakage rates. Activation should occur when flow through the meter is at a rate above a pre-set maximum over a pre-set period of time.	0.78%	This should be achievable so has been included in the targets.	M&E	
Flow Control Devices (3)	1	1	Credit awarded where flow control devices that regulate the supply of water to each WC area and sanitary facility according to demand are installed (and therefore minimise water leaks and wastage from sanitary fittings). This applies to the cold water supply to taps, WCs and urinals. An example of a flow control device is a presence detector and controller (i.e. PIR linked to a solenoid valve).	0.78%	This should be achievable so has been included in the targets.	M&E	
Wat 04	**Water efficient equipment**		**To reduce water consumption for uses not assessed under Wat 01 by encouraging specification of water efficient equipment.**				
Water Efficient Equipment (1-2)	1	1	Credit awarded when the project team identify the building's unregulated water demands that could be realistically mitigated or reduced (e.g. for irrigation, vehicle wash plant/equipment, swimming pools, project specific industrial processes, water filtration and treatment, cooling towers and humidification). The project team should then identify the system(s) or processes to reduce the unregulated water demand of the development and its operation, and demonstrate through either good practice design or specification a meaningful reduction in the total water demand of the building.	0.78%	This should be achievable so has been included in the targets.	LA	
Sub-Total	**9**	**6**	**One water credit equals 0.78%**				
Weighted Sub-Total	**7**	**4.67**					
MATERIALS							
Mat 01	**Environmental impacts from construction products - Building life cycle assessment (LCA)**		**To reduce the burden on the environment from construction products by recognising and encouraging measures to optimise construction product consumption efficiency and the selection of products with a low environmental impact (including embodied carbon), over the life cycle of the building.**				
Superstructure (Option appraisal during Concept / Technical Design) (3-5) **RIBA STAGE 2 ACTION**	6	2	Up to six credits are awarded where opportunities for reducing environmental impacts of materials have been identified via options appraisals of the proposed superstructure design at Concept Stage and Technical Design. At Concept Stage, carry out an LCA options appraisal of 2 to 4 significantly different superstructure design options, using an LCA tool recognised by BREEAM (criterion 4). Note: the design options should fulfil the function requirements specified by the client and all statutory requirements. Demonstrate how the appraisal has been used to inform the design and present the results in an options appraisal summary document. Results need to be submitted to BRE at the end of Concept Design. At Technical Design, carry out an LCA options appraisal of 2 to 3 significantly different superstructure design options, based on the selected Concept Design option. Update the summary document from Concept Design, if one is available. Record and submit results via the submission tool. Note: the Technical Design credits can be achieved independently of the Concept Design. Credits are awarded based on the number of options included in the appraisal.	6.43%	The concept design stage credits were not completed at RIBA Stage 2 so are not achievable. The technical design stage credits should be achievable so have been included in the targets. This will involve an additional cost for a full life cycle analysis to be completed at technical design stage.	Arch	

Credit Title	CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
	Credits Available	Base Target					
Substructure and hard landscaping options appraisal during Concept Design (6-7) **RIBA STAGE 2 ACTION**	1	0	One credit awarded where criterion 4 for the superstructure concept design (see above) has been achieved AND opportunities for reducing environmental impacts of materials have been identified via an options appraisal of the proposed substructure and hard landscaping design at Concept Stage. The LCA options appraisal must include a combined total of at least 6 significantly different substructure or hard landscaping design options (at least two shall be substructure and at least two shall be hard landscaping). Note: the design options should fulfil the function requirements specified by the client and all statutory requirements. Demonstrate how the appraisal has been used to inform the design and present the results in an options appraisal summary document. Results need to be submitted to BRE at the end of Concept Design.	1.07%	This required life cycle analysis at RIBA stage 2, which was not completed. Credit not achievable.	-	
Mat 02	**Environmental impacts from construction products – EPDs**		**To encourage availability of robust and comparable data on the impacts of construction products through the provision of EPD.**				
Specification of products with a recognised Environmental Product Declaration (EPD) (1-2)	1	0	Credit awarded for an EPD points score of ≥20. Construction products to be specified with EPDs (please refer to guidance for Methodology). Details of each EPD are inputted into the Mat 01/02 Results Submission Tool, including the material category classification. The Mat 01/02 Results Submission Tool will verify the EPD points score and award credits accordingly.	1.07%	This has not been included in the target for now, as it can only be achieved where there is a sufficient number of different material types and products. This will be reviewed as the design progresses to see if it can be achieved.	Arch/SE	
Mat 03	**Responsible sourcing of construction products**		**To facilitate the selection of products that involve lower levels of negative environmental, economic and social impact across their supply chain including extraction, processing and manufacture.**		**Mandatory minimum requirement: All timber used on the project is 'Legally harvested and traded timber' for Pass, Good, Very Good, Excellent and Outstanding.**		
Pre-requisite (1)	0	Y	**MANDATORY FOR ALL RATINGS: Pre-requisite - 100% of timber and timber-based products used on the project are 'Legal' and 'Sustainable' as per the UK Government's Timber Procurement Policy (TPP) - records of materials and certificates required to prove this.**	0.00%	This should be achievable so has been included in the targets.	QS / Arch / SE	
Enabling sustainable procurement (2) **RIBA STAGE 2 ACTION**	1	0	Credit awarded where a sustainable procurement plan is used by the design team to guide specification towards sustainable construction products. The plan must: a) Be in place before Concept Design. b) Include sustainability aims, objectives and strategic targets to guide procurement activities. c) Include a requirement for assessing the potential to procure construction products locally and there must be a policy to procure construction products locally where possible. d) Include details of procedures in place to check and verify the effective implementation of the sustainable procurement plan. If the plan is applied to several sites or adopted at an organisational level it must identify the opportunities and risks of procurement against a broad range of social, environmental and economic issues following BS ISO 20400:2017.	1.07%	A sustainable procurement plan has not been put in place by RIBA Stage 2 so this credit is not achievable. However, the design team should still consider opportunities for sustainable procurement and incorporate these into the specifications where possible.	Client	

Credit Title	CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
	Credits Available	Base Target					
Measuring responsible sourcing (3)	3	1	Up to 3 credits can be awarded where construction products procured or specified are responsibly sourced. Responsible sourcing accreditations include PEFC, FSC, ISO 14001 and BES 6001 (Refer to GN18 for others). Applicable materials categories include: Timber/timber-based products; concrete/cementitious; metal; stone/aggregate; clay-based; gypsum; glass; plastic, polymer, resin, paint, chemicals and bituminous; animal fibre/skin, cellulose fibre; other. Each product is entered into the Mat 03 Calculator using either Route 1 or 2 (refer to methodology in guidance) and credits awarded accordingly. Credits are awarded in proportion to the scope of the assessment. 1 credit where ≥ 10% of available points are achieved (2 credits for ≥ 20%, and 3 credits for ≥ 30%).	3.21%	These credits are awarded based on a calculation of materials used for the development and their level of responsible sourcing certification. ISO 14001 certification only achieves one point, while materials reused on site can achieve 10 points. It can be challenging to achieve more than one credit without any re-use of materials on site. One credit is being targeted as a minimum, as it is expected that the majority of materials will have responsible sourcing certification. The contractor will be encouraged to source materials/products with higher levels of responsible sourcing certification (e.g. BES 6001, FSC 100%).	Arch/QS	
Mat 05	**Designing for durability and resilience**		**To reduce the need to repair and replace materials resulting from damage to exposed elements of the building and landscape.**				
Designing for Durability and Resilience (1-4)	1	1	Credit awarded where the following is demonstrated: Part One: Protection is given to vulnerable parts of the building and landscaping against accidental or malicious damage (both internal and external), including areas exposed to high pedestrian traffic, vehicular and trolley movements. Part Two: Protection is given to exposed parts of the building against material degradation due to environmental factors. Each element or product needs to achieve an appropriate quality or durability standard (e.g. BS 7543:2015 - see guidance for other appropriate standards) OR a detailed assessment of the element's resilience when exposed to the applicable material degradation and environmental factors is required. The roof and façade also need to be designed for cost-effective cleaning, replacement and repair and to prevent water damage, ingress and detrimental ponding. Please refer to the technical guidance for further details of the methodology to follow.	1.07%	This should be achievable so has been included in the targets.	Arch	
Mat 06	**Material efficiency**		**To avoid unnecessary materials use arising from over specification without compromising structural stability, durability or the service life of the building.**				
Material Efficiency (1-3) **RIBA STAGE 2 ACTION**	1	0	Credit awarded where at the Preparation and Brief and Concept Design stages, the team sets targets and reports on opportunities and methods to optimise the use of materials. These must be done for each of the following stages: Preparation and Brief, Concept Design, Developed Design, Technical Design and Construction. In addition, the implementation of material efficiency must be developed and recorded during: Developed Design, Technical Design and Construction stages. Targets and actual material efficiencies achieved also need to be reported.	1.07%	This credit requires initial consideration at RIBA Stage 1 (Preparation and Brief stage), followed by further consideration at each subsequent stage. Sufficient consideration has not been documented at RIBA Stage 1, therefore this credit is not achievable.	-	
Sub-Total	**14**	**4**	**One materials credit equals 1.07%**				
Weighted Sub-Total	**15**	**4.29**					

Credit Title	CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
	Credits Available	Base Target					
WASTE							
Wst 01	**Construction waste management**		**To reduce construction waste by encouraging reuse, recovery and best practice waste management practices to minimise waste going to landfill.**		**Mandatory minimum requirement: One credit for Outstanding.**		
Pre-demolition audit (1-2) **RIBA STAGE 2 ACTION**	1	1	Credit awarded where a pre-demolition audit is completed for any existing buildings, structures or hard surfaces being considered for demolition. This must be used to determine whether refurbishment, reuse or recycling is feasible and to set targets for waste management and maximise the recovery of material. The audit must be carried out at RIBA Stage 2 by a competent person prior to strip-out or demolition works and be referenced in the resource management plan (RMP). It must compare actual waste arisings and waste management routes used with those forecast and investigate significant deviations from planned targets.	0.60%	This should be achievable so has been included in the targets. This requires a pre-demolition audit to have been completed at RIBA Stage 2, or later if the timing has not compromised its ability to influence the design, consideration of materials re-use and the setting of targets for waste management.	Client	
Construction Resource Efficiency (3-4)	3	2	Up to three credits awarded where a Resource Management Plan (RMP) has been developed covering the non-hazardous waste related to onsite construction and dedicated offsite manufacture or fabrication (including demolition and excavation waste) generated by the building's design and construction. Where construction waste related to on-site construction and off-site manufacture/fabrication (excluding demolition and excavation waste) meets or is lower than the benchmarks as follows (per 100m2 GIFA): One credit = 13.3m^3 / 11.1 tonnes, Two credits = 7.5m^3 / 6.5 tonnes, Three credits = 3.4m^3 / 3.2 tonnes. Accurate data records on waste arisings and waste management routes must also be provided. **ONE CREDIT MANDATORY FOR OUTSTANDING.**	1.80%	At least two credits should be achievable so have been included in the targets. The contractor will be encouraged to minimise the amount of construction waste produced.	QS	
Diversion of Resources from Landfill (5-6)	1	1	One credit awarded where 70% by volume /80% by tonnage of non-hazardous construction waste and 80% by volume/ 90% by tonnage of non-hazardous demolition waste generated by the development will be diverted from landfill and reused or recycled. Materials should be sorted into separate key waste groups, according to the waste streams generated by the scope of the works, either on or off-site.	0.60%	This should be achievable so has been included in the targets.	QS	
Wst 02	**Use of recycled and sustainably sourced aggregates**		**To encourage the use of more sustainably sourced aggregates, encourage reuse where appropriate and avoid waste and pollution arising from disposal of demolition and other forms of waste.**				
Pre-requisite (1)	0	0	Where demolition occurs on site a pre-demolition audit needs to be completed for any existing buildings, structures or hard surfaces, in accordance with Wst 01.	0%	This has not been included in the base target for now and should be reviewed to see if it can be targeted. This requires a pre-demolition audit to have been completed at an early stage (see credit above).	Client	
Project Sustainable Aggregate Points (2-6)	1	0	Credit awarded where all aggregate types and uses for the project are identified (refer to guidance for different types and uses). The quantity (in tonnes), source region and distance travelled also needs to be determined for each aggregate type/use. This is inputted into the Wst 02 calculator to generate points and number of credits earned. 3.5-6 points are needed to gain 1 credit.	0.60%	This credit has not been included in the targets for now, as it could be difficult to achieve. This is a new calculation based credit for BREEAM 2018, therefore it is uncertain if the required number of points can be achieved for this location and size/scope of development. This should be reviewed with the Contractor to see if it can be targeted.	-	

Credit Title	CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
	Credits Available	Base Target					
Wst 03	**Operational waste**		**To encourage the recycling of operational waste through the provision of dedicated storage facilities and space.**		**Mandatory minimum requirement: One credit for Excellent and Outstanding.**		
Operational Waste (1-2)	1	1	**MANDATORY FOR EXCELLENT AND ABOVE:** Credit awarded where there is dedicated space(s) to cater for the segregation and storage of operational recyclable waste generated by the assessed building. The space must be clearly labelled, accessible and of a capacity appropriate to the building type, size, number of units and predicted volumes of waste. Where the building occupier is not known, a default size of $2m^2$ per $1000m^2$ GIFA, with an additional $2m^2$ per $1000m^2$ where there is catering (subject to a maximum size of $20m^2$) can be used to size the recycling storage area. General waste provision is in addition. Where appropriate, the following facilities are provided as part of its waste management strategy: a) Static waste compactor(s) or baler(s); b) Vessel(s) for composting suitable organic waste OR adequate space(s) for storing segregated food waste and compostable organic material prior to collection and delivery to an alternative composting facility; c) A water outlet where compostable food waste and organic material will be stored.	0.60%	This should be achievable so has been included in the targets.	Arch/Client	
Wst 05	**Adaptation to climate change**		**To minimise the future need of carrying out works to adapt the building to take account of more extreme weather changes resulting from climate change and changing weather patterns.**				
Resilience of structure, fabric, building services and renewables installation (1-3) **RIBA STAGE 2 ACTION**	1	0	Credit awarded where a climate change adaptation strategy appraisal is conducted using a systematic risk assessment which identifies the impact of extreme weather conditions arising from climate change on the building over its projected life cycle. This needs to cover installation of building services and renewable systems, as well as structural and fabric resilience aspects and include: • Hazard identification and assessment • Risk estimation, evaluation and management. Recommendations or solutions based on strategy appraisal also needs to be developed before or during Concept Design, that aim to mitigate the identified impact and an update during Technical Design needs to be provided demonstrating how the recommendations or solutions have been implemented.	0.60%	This has not been included in the target as it required action at RIBA Stage 2.	Arch	
Wst 06	**Design for disassembly and adaptability**		**To avoid unnecessary materials use, cost and disruption arising from the need for future adaptation works as a result of changing functional demands and to maximise the ability to reclaim and reuse materials at final demolition in line with the principles of a circular economy.**				
Design for disassembly and functional adaptability - recommendations (1-2) **RIBA STAGE 2 ACTION**	1	0	Credit awarded where a study is conducted exploring the ease of disassembly and the functional adaptation potential of different design scenarios by the end of Concept Design (refer to Methodology in guidance). Recommendations or solutions also need to be developed based on the study during or prior to Concept Design.	0.60%	This has not been included in the target as it required action at RIBA Stage 2.	Arch/M&E	
Disassembly and functional adaptability – implementation (3-5)	1	0	Credit awarded where the first Wst 06 credit has been achieved and updates and changes are provided during Technical Design, on how the recommendations or solutions have been implemented where practical and cost effective. A building adaptability and disassembly guide also needs to be provided to communicate the characteristics allowing functional adaptability and disassembly to prospective tenants.	0.60%	This has not been included in the target as it required action at RIBA Stage 2.	Arch/M&E	
Sub-Total	**10**	**5**	**One waste credit equals 0.6%**				
Weighted Sub-Total	**6**	**3.00**					

Credit Title	CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
	Credits Available	Base Target					
LAND USE & ECOLOGY							
LE 01	**Site selection**		**To encourage the use of previously occupied or contaminated land and avoid land which has not been previously disturbed.**				
Previously Occupied Land (1)	1	1	Credit awarded where at least 75% of the footprint of the proposed development (including temporary site works) has been previously occupied by industrial, commercial or domestic buildings or fixed surface infrastructure.	1.00%	This should be achievable so has been included in the targets.	Arch	
Contaminated Land (2-3)	1	0	Credit awarded where the land within the site is deemed to be significantly contaminated by a contaminated land professional, who identifies the degree of contamination, sources/types of contamination and remediation options. AND The client/principal contractor commits to undertaking all remediation in line with the remediation strategy recommended by the specialist and this is carried out prior to development.	1.00%	It has been assumed that there is no contaminated land requiring remediation, therefore this credit is not expected to be achievable.	-	
LE 02	**Ecological risks and opportunities**		**To determine the ecological baseline and zone of influence of the site and identify risks and opportunities for achieving optimum outcomes.**				
Pre-requisite (Statutory obligations) (1)	0	Y	**Pre-requisite achieved where the client or contractor confirms compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site.**	0%	This should be achievable so has been included in the targets.	PM / Eco	
Survey and evaluation (2-5) **RIBA STAGE 2 ACTION**	1	-	**Route 1 (Project team member)** - The site has been evaluated using the Ecological Risk Evaluation Checklist (GN34) to confirm that the Foundation route can be used (refer to guidance for methodology). **Route 2 (Ecologist)** - A Suitably Qualified Ecologist (SQE) carries out a survey and evaluation (see Methodology) for the site early enough to influence site preparation works, layout and, where necessary, strategic planning decisions. The survey determines the ecological baseline of the site including: a) Current and potential ecological value and condition of the site, and related areas within the zone of influence; b) Direct and indirect risks to current ecological value; c) Capacity and feasibility for enhancement of the site's ecological value and, where relevant, areas within the zone of influence. Recommendations and data collected from the survey are shared with appropriate project team members to influence decisions made for activities during site preparation, design and construction works.	1.00%	This should be achievable so has been included in the targets. It is assumed that route 1 will be followed, instead of appointing an ecologist. When following route 1, these requirements must be met as part of achieving the credit for the issue below. However, a separate credit is only achieved when following route 2.	Eco/Project member	
Determining ecological outcomes (6-7) **RIBA STAGE 2 ACTION**	1	1	**For both Route 1 and 2:** Pre-requisite and first credit achieved AND The project team liaise and collaborate with stakeholders early enough to influence key planning decisions (typically Concept Design stage), to: a: Identify the optimal ecological outcomes for the site. b: Identify, appraise and select measures to meet the optimal ecological outcomes for the site, in line with the mitigation hierarchy of action: 1) avoidance; 2) protection; 3) reduction or limitation of negative impacts; 4) on site compensation; and 5) enhancement, considering the capacity and feasibility within the site, or where viable, off-site.	1.00%	This should be achievable so has been included in the targets.	Eco/PM	

Credit Title	CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
	Credits Available	Base Target					
LE 03	**Managing impacts on ecology**		**To avoid, or limit as far as possible, negative impacts on the ecology of the site and its zone of influence arising as a result of the project.**				
Pre-requisite (Ecological risks and opportunities) (1)	0	Y	**Pre-requisite awarded where LE 02's 'Survey and evaluation and Determining ecological outcomes' criteria have been achieved using the Foundation route (Route 1) or the Comprehensive route (Route 2).**	0.00%	This should be achievable so has been included in the targets.	PM/Eco/Client	
Planning and measures on-site (2-4)	1	1	**All routes:** Credit awarded where further planning to avoid and manage negative ecological impacts on-site is carried out early enough to influence the concept design and design brief as well as site preparation planning (typically Concept Design stage). Please refer to the BREEAM Methodology for further details. On-site measures for managing negative ecological impacts during site preparation and construction are implemented based on input from the project team in collaboration with representative stakeholders and data collated as part of LE 02.	1.00%	This should be achievable so has been included in the targets.	PM/Eco	
Managing negative impacts (5-8)	2	1	**Route 1 (Project team member) (one credit)** - Credit awarded where criteria 2 and 3 have been achieved and where negative impacts from site preparation and construction works have been managed in accordance with the mitigation hierarchy (please refer to guidance for Methodology) and no overall loss of ecological value has occurred. **Route 2 (Ecologist) (up to two credits)** - Criteria 2-4 have been achieved. Negative impacts from site preparation and construction works have been managed according to the hierarchy, in line with the SQE's recommendations AND either: a) No overall loss of ecological value has occurred (2 credits) b) The loss of ecological value has been minimised (1 credit).	2.00%	No overall loss of ecological value is expected, so one credit has been included in the targets.	PM/Eco	
LE 04	**Ecological change and enhancement**		**To enhance the ecological value of the site and areas within its zone of influence in support of local, regional and national priorities.**				
Pre-requisite (Managing negative impacts on ecology) (1-2)	0	Y	**Pre-requisite awarded where criterion 6 for Route 1 or 8 for Route 2 in LE 03 have been achieved AND the client or contractor confirms compliance is monitored against all relevant UK, EU or international legislation relating to the ecology of the site.**	0.00%	This should be achievable so has been included in the targets.	Eco/Client	
Ecological enhancement (4-5)	1	0	**Route 1 (Project team member)** - N/A, credit for route 2 only. **Route 2 (Ecologist)** - Credit awarded where measures have been implemented that enhance ecological value based on input from the project team and SQE (in liaison and collaboration with representative stakeholders and with consideration of data shared and collated). Measures are implemented in the following order: a) On site; and where this is not feasible, b) Off site within the zone of influence. Collated data is analysed and where potentially valuable, is provided to local environmental records centres nearest to, or relevant for, the site.	1.00%	It is assumed that route 1 will be followed, instead of appointing an ecologist. Therefore this credit is not achievable.	-	

Credit Title	CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
	Credits Available	Base Target					
Change and enhancement of ecology (3 & 6)	3	1	**Route 1 (Project team member)** - One credit awarded where locally relevant ecological measures have been implemented that enhance the site's ecological value. The measures adopted are based on recommendations from recognised 'local' ecological expertise and specialist input and guidance and input from the project team in collaboration with representative stakeholders and data collated as part of LE 02. **Route 2 (Ecologist)** - Up to 3 credits awarded based on the change in ecological value calculation occurring as a result of the project. This must be calculated in accordance with Guidance Note 36. Credits are awarded as follows: - Minimising loss of ecological value (one credit - percentage score of 75-94) - No net loss of ecological value (two credits - percentage score of 95-104) - Net gain of ecological value (three credits - percentage score of 105-109).	3.00%	One credit should be achievable so has been included in the targets.	Project member/Eco/LA	
LE05	**Long term ecology management and maintenance**		**To secure ongoing monitoring, management and maintenance of the site and its habitats and ecological features, to ensure intended outcomes are realised for the long term.**				
Pre-requisite (Statutory obligations, planning and site implementation) (1-2)	0	Y	**Pre-requisite achieved where the client or contractor has confirmed that compliance is being monitored against all relevant UK, EU and international standards relating to the ecology of the site, AND the following:** **Route 1 (Project team member): Criteria 6 in LE 03 have been achieved;** **Route 2 (Ecologist): Criteria 8 in LE 03 have been achieved, and at least one LE 04 'enhancement of ecology' credit has been achieved.**	0.00%	This should be achievable so has been included in the targets.	PM/Eco/Client	
Management and maintenance throughout the project (3-6)	1	-	Credit awarded where measures have been implemented based on input from the project team in collaboration with representative stakeholders and data collated as part of LE 02 to manage and maintain ecology throughout the project. To ensure the optimal ecological outcomes agreed in LE 02 are met in-practice, these measures must monitor and review the effectiveness of the mitigation and enhancement measures in place for LE 03 & LE 04 to ensure they are implemented. A section on Ecology and Biodiversity needs to be included in tenant/building owner information to inform the owner/occupant of local ecological features, value and biodiversity on or near the site.	1.00%	It is assumed that route 1 will be followed, instead of appointing an ecologist. When following route 1, these requirements must be met as part of achieving the credit for the issue below. However, a separate credit is only achieved when following route 2.	Eco/Project member	
Landscape and ecology management plan (7)	1	1	Credit awarded where a landscape and ecology management plan is developed (in accordance with BS 42020:2013 Section 11.1), covering the first five years after project completion and including: a) Actions and responsibilities of relevant individuals prior to handover; b) The ecological value and condition of the site at handover and how this is expected to change; c) Identification of opportunities for ongoing alignment with activities beyond the development project which support the aims of BREEAM; d) Identification and guidance to trigger appropriate remedial actions to address previously unforeseen impacts. e) Clearly defined and allocated roles and responsibilities for delivering the plan. The landscape and management plan is updated to support maintenance of the ecological value of the site.	1.00%	This should be achievable so has been included in the targets.	PM/Eco	
Sub-Total	**13**	**6**	**One land use and ecology credit equals 1%**				
Weighted Sub-Total	**13**	**6.00**					

Credit Title	CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
	Credits Available	Base Target					
POLLUTION							
Pol 01	**Impact of refrigerants**		**To reduce the level of greenhouse gas emissions arising from the leakage of refrigerants from building systems.**				
Pre-requisite (2)	0	Y	Where there are refrigerants specified within the installed plant/systems: All systems with electric compressors must comply with the requirements of BS EN 378:2016 (Parts 2 and 3) and, if they contain ammonia, the Institute of Refrigeration Ammonia Refrigeration Systems Code of Practice. This is not applicable where there are no refrigerants.	0.00%	This should be achievable so has been included in the targets.	M&E	
Impact of Refrigerants (1-7)	3	1	One credit is awarded where the systems using refrigerants have Direct Effect Life Cycle CO_2 equivalent emissions of ≤ 1000kgCO_2e/kW cooling/heating capacity; two credits if ≤ 100kgCO_2e/kW cooling/heating capacity OR all refrigerants have a GWP of <10. An additional credit is awarded where all systems are hermetically sealed or only use environmentally benign refrigerants, OR, if not sealed, systems have an automated refrigerant leak detection system capable of continuously monitoring for leaks and automatically respond and manage the remaining refrigerant in the event of a leak. All three credits awarded where there are no refrigerants within the installed plant/systems.	2.00%	One credit should be achievable so has been included in the targets.	M&E	
Pol 02	**Local air quality**		**To contribute to a reduction in local air pollution through the use of low emission combustion appliances in the building.**				
Local air quality (1-3)	2	0	Credit awarded where EITHER all heating and hot water is supplied by non-combustion systems (e.g. powered by electricity) OR Emissions from all installed combustion plant providing space heating and hot water do not exceed the levels set in Table 12.4 and 12.5 (please refer to guidance for these set levels and method for determining pollution location). Manufacturer's labelling needs to be provided in compliance with European directive 2009/125/EC.	1.33%	Heating will be based on existing CHP and gas boilers. The NOx emissions for the existing CHP will need to be checked to determine if any credits are achievable.	M&E	
Pol 03	**Flood and surface water management**		**To avoid, reduce and delay the discharge of rainfall to public sewers and watercourses, thereby minimising the risk and impact of localised flooding on-site and off-site, watercourse pollution and other environmental damage.**				
Pre-requisite (1)	0	Y	**An appropriate consultant is appointed to carry out and demonstrate the development's compliance with all criteria.**	0.00%	This should be achievable so has been included in the targets.	PM	
Flood Resilience (2-4)	2	2	One credit is awarded where the assessed development is located in a zone defined as having a medium or high annual probability of flooding and is not in a functional floodplain; AND the ground level of the building and access to the building and site are 600mm above the design flood level for the site's location, OR, where final building and site design reflects recommendations made by appropriate consultant, in accordance with BS 8533: 2017. Two credits are awarded where the assessed development is located in a zone defined as having a low annual probability of flooding and there is a low risk of flooding from all sources: fluvial, tidal, surface water, groundwater, sewers, reservoirs, canals and other artificial sources. All current and future sources of flooding must be taken into account.	1.33%	The site is in Flood Zone 1 according to the EA's Flood Map for Planning. An FRA will be required to determine the level of flood risk from sources other than rivers and sea to achieve the credits.	CE	
Pre-requisite (Surface Water Run-Off) (5)	0	Y	**Pre-requisite met where the design for Surface water run-off is bespoke, i.e. specific to site and the environment surrounding the site (natural and man-made). Priority levels detailed in the guidance need to be followed.**	0.00%	This should be achievable so has been included in the targets.	CE	

Credit Title	CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
	Credits Available	Base Target					
Surface Water Run-Off (6-16)	2	1	One credit is awarded where surface water drainage measures are specified to ensure the peak run-off rate shows a 30% improvement (for brownfield sites) or is no greater (for greenfield sites) for the developed site compared to pre-development, in line with 1 year and 100 year return period events. A second credit is awarded where flooding of property will not occur in the event of local drainage system failure. In addition, the drainage strategy must meet certain other requirements from one of two options detailed in the BREEAM guidance. Maintenance agreements should be in place for the ownership, operation and maintenance of all specified SuDs. All calculations must include an allowance for climate change, in accordance with current best practice guidelines.	1.33%	It is expected that there will be no increase in impermeable surfaces so one credit (the second credit) should be achievable. It would also need to be confirmed that no flooding of property would be expected in the event of local drainage system failure.	CE	
Minimising Watercourse Pollution (16-23)	1	0	Credit awarded where there is no discharge from the developed site for rainfall up to 5mm AND Effective on site treatment has been specified in areas that could be a source of watercourse pollution, including low and high risk (oil/petrol interceptors required) areas. All systems must be designed and installed in line with PPG3 and the SUDS manual and with PPG13 for vehicle wash areas. A comprehensive up-to-date drainage plan should be handed over to building/site occupiers at the end of the project.	0.67%	This is not expected to be achieved. Credit not targeted.	CE	
Pol 04	**Reduction of night time light pollution**		**To ensure that external lighting is concentrated in the appropriate areas and that upward lighting is minimised, thereby reducing unnecessary light pollution, energy consumption and nuisance to neighbouring properties.**				
Reduction of Night Time Light Pollution (1-5)	1	1	Credit awarded where the external lighting design is in compliance with the Institution of Lighting Professionals (ILP) Guidance Notes for the Reduction of Obtrusive Light (2011) and all external lighting (except security lighting) is automatically switched off between 2300-0700. If safety or security lighting is provided, these dim down to the lower levels in Table 2 of the ILP's guidance notes. Illuminated advertisements must comply with ILP PLG05. 'External lighting' includes both lighting mounted externally, and lighting mounted inside a building that is primarily intended to enhance its external appearance, or light external spaces, after dark.	0.67%	This should be achievable so has been included in the targets.	M&E	
Pol 05	**Reduction of noise pollution**		**To reduce the likelihood of noise arising from fixed installations on the new development affecting nearby noise-sensitive buildings.**				
Reduction of Noise Pollution (1-5)	1	1	A noise impact assessment is carried out by a suitably qualified acoustic consultant in compliance with BS 4142:2014 and measures: a) Existing background noise levels at the nearest or most exposed noise-sensitive development to the proposed building; b) The rating noise level resulting from the new noise source. The noise levels from the proposed development, when measured at the nearest/most exposed noise sensitive development, should be at least 5dB lower than the background noise throughout the day and night. Where changes in noise level exceed this, measures should be installed to attenuate noise at its source in order to comply with these levels. OR Credit awarded where there are, or will be, no noise-sensitive areas/buildings within 800m of the or in the development.	0.67%	This should be achievable so has been included in the targets.	Aco/M&E	
Sub-Total	**12**	**6**	**One pollution credit equals 0.67%**				
Weighted Sub-Total	**8**	**4.00**					

Credit Title		CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
		Credits Available	Base Target					
INNOVATION CREDITS / EXEMPLARY LEVEL CREDITS - A maximum of 10 credits are available in aggregate from any combination of the following:								
Man 03	**Responsible Construction Practices (23)**	1	0	Achieve all items in Table 4.1.	1.00%	The two standard credits are being targeted for this issue, however the exemplary level credit is not included in the targets for now, as it requires further review with the contractor. All items must be met to achieve the exemplary credit, including requirements relating to fleet operators. The contractor will be encouraged to meet all requirements to achieve this exemplary credit.	-	
Hea 01	**Visual Comfort (14-15)**	2	1	Up to two credits awarded independently as follows: One credit awarded where a higher level of daylighting is achieved. Please refer to the technical guidance for details. One credit awarded where lighting in each zone can be manually dimmed by occupants down to 20% of the maximum light output using dimmer switches positioned in accessible locations. Dimming and control gear should avoid flicker and noise.	1.00%	The lighting exemplary level credit is included in the targets. This is achievable by providing lighting that can be manually dimmed. The daylighting exemplary level credit will be reviewed once the daylighting calculations are completed to see if achievable.	M&E	
Hea 02	**Indoor Air Quality (11)**	1	0	Credit awarded where three of the products are specified to comply with lower levels of formaldehyde and VOCs, as per the relevant table. Please refer to the technical guidance for details.	1.00%	This has not been included in the base target for now. This requires further investigation to see if achievable, as the BRE do not provide a list of compliant manufacturers and products. The criteria has changed significantly from the BREEAM 2014 scheme so it is not possible to judge if BREEAM 2014 compliant products would still be compliant under BREEAM 2018 without detailed investigation. Compliance against the new BREEAM 2018 criteria will be reviewed as the design progresses to see if this credit is achievable. Low VOC products will be encouraged where possible, to promote a healthy indoor environment.	-	
Hea 06	**Security (4)**	1	0	Credit awarded where a compliant risk based security rating scheme (e.g. SABRE) has been used and the performance against the scheme has been confirmed by independent assessment and verification.	1.00%	This has not been included in the target for now and should be reviewed further to see if it should be targeted.	-	
Ene 01	**Reduction of Energy Use and Carbon Emissions (6-12)**	5	0	Up to three credits can be achieved where the building achieves an EPR NC ≥ 0.9 and zero net regulated CO_2 emissions. Energy generation from on-site and near-site LZC sources must be sufficient to offset all carbon emissions from regulated energy use plus a percentage of emissions from unregulated energy use (one credit achieved for offsetting 10% of CO_2 emissions from unregulated energy use; two credits for offsetting 50%). Three credits where the building is deemed to be carbon negative (where > 100% of carbon emissions from unregulated (and regulated) energy use are offset by energy generated from on-site and near-site LZC sources. Up to two credits can be achieved where all Ene 02 Energy monitoring credits have been awarded, and the client/building occupier commits funds to pay for the post occupancy stage, which requires an energy assessor to report on actual energy consumption compared to the targets. The energy model must be submitted to the BRE and retained by the building owner.	1.00%	The energy modelling demonstrates that these exemplary level credits are not achievable.	-	
Wat 01	**Water Consumption (7-8)**	1	0	Credit awarded where the water consumption (litres/person/day) for the assessed building achieves a 65% improvement when assessed via the standard approach. Where the standard approach cannot be used, credit awarded where level 5 is achieved and > 95% of WC or urinal flushing demand is met using recycled non-potable water. Refer to 'Methodology' in guidance.	1.00%	Achieving this exemplary level, beyond the five standard Wat 01 credits, would typically require rainwater or greywater systems, which have not been proposed.	-	

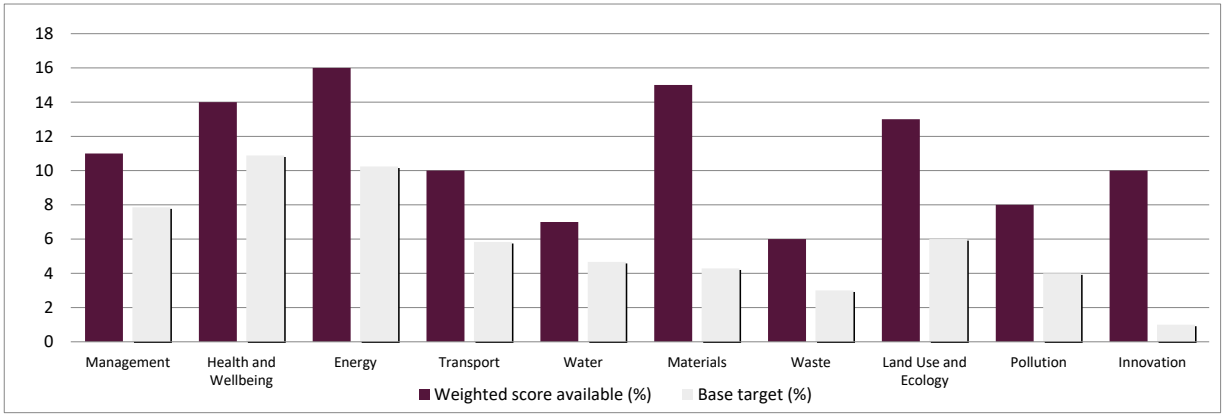
Credit Title		CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
		Credits Available	Base Target					
Mat 01	**Environmental Impacts - Building LCA (8-18)** **RIBA STAGE 2 ACTION**	3	0	Up to three credits awarded independently as follows: One credit where an LCA options appraisal of at least 3 significantly different core building services design options is undertaken at Concept Design. See BREEAM manual and Mat 01 above for further details. One credit where the Life Cycle Cost analysis credits under Man 02 are achieved and the LCC and LCA analyses are aligned. Please see BREEAM manual for further details. One credit where a suitably qualified third party carries out the building LCAs or produces a report verifying the building LCAs accurately represent the designs under consideration during Concept Design and Technical Design. Itemise the findings of the verification checks including, as a minimum, the quality requirements as per the BREEAM manual.	1.00%	These exemplary level credits are not achievable as they require the standard Mat 01 credits for superstructure to be achieved at concept design stage. Refer to Mat 01 above.	-	
Mat 03	**Responsible sourcing of construction products (4)**	1	0	Credit awarded where at least 50% of the available responsible sourcing points have been achieved, and the calculation includes building services.	1.00%	This exemplary level credit is available for exceeding the responsible sourcing requirements for the standard Mat 03 credits. These credits are awarded based on a calculation of materials used for the development and their level of responsible sourcing certification. ISO 14001 certification only achieves one point, while materials reused on site can achieve 10 points. It is unlikely this exemplary credit can be achieved unless there is a significant amount of materials that are re-used on site. It is expected that the majority, if not all, of the construction materials/products will have responsible sourcing certification. The contractor will be encouraged to source materials/products with the higher levels of responsible sourcing certification (e.g. BES 6001, FSC 100%). Compliance with this credit will be reviewed with the contractor to see if achievable.	-	
Wst 01	**Construction Waste Management (7-10)**	1	0	Credit awarded where the total non-hazardous construction waste and final diversion of resources from landfill figures exceed the benchmarks: ≤ 1.6m^3 / 1.9 tonnes non-hazardous construction waste generated by the development per 100sqm GIFA; and at least 85% by volume / 90% by tonnage of non-hazardous construction waste, 85% by volume / 95% by tonnage of non-hazardous demolition waste, and 95% by volume / 95% by tonnage of excavation waste is diverted from landfill.	1.00%	This exemplary level credit is available for exceeding the requirements for the standard Wst 01 credits. The contractor will be encouraged to minimise the amount of construction waste produced and sent to landfill. Compliance with this credit will be reviewed with the contractor to see if achievable.	-	
Wst 02	**Use of recycled and sustainably sourced aggregates (7)**	1	0	Credit awarded where the Project Sustainable Aggregate Points score is more than 6.	1.00%	This credit has not been included in the targets for now, as it could be difficult to achieve. This is a new calculation based credit for BREEAM 2018, therefore it is uncertain if the required number of points can be achieved for this location and size/scope of development. This should be reviewed with the Contractor to see if it can be targeted.	-	
Wst 05	**Adaptation to climate change (4-5)**	1	0	Credit awarded where the criteria for Wst 05 have been achieved plus certain criteria from Hea 04, Ene 01, Ene 04, Wat 01, Mat 05 and Pol 03.	1.00%	The standard Wst 05 credit has not been included in the target as it required action at RIBA Stage 2, therefore this exemplary level credit is not achievable.	-	
LE 02	**Wider site sustainability (8-10)**	1	0	Credit awarded where the team considers wider site sustainability-related activities and the potential for ecosystem service related benefits when determining the optimal ecological outcome (refer to guidance methodology) AND Hea 07, Pol 03 (Surface water run off & Minimising watercourse pollution) and Pol 05 credits have been achieved.	1.00%	This exemplary credit is not achievable as the Hea 07 'Safe Access' credit and Pol 03 'Minimising Watercourse Pollution' credit are not expected to be achieved.	-	
LE 04	**Change and enhancement of ecological value (7)**	1	0	Credit awarded where a significant net gain of ecological value (percentage score of 110 or above) has been achieved.	1.00%	This is not expected to be achieved.	-	

Credit Title		CREDITS		Summary of Requirements (refer to the BREEAM Guidance Notes for the full credit requirements)	Total Value (%)	Comments/Actions	Actionee	Action deadline
		Credits Available	Base Target					
Inn 01	Special Innovative Feature (2)	10	0	Up to ten credits can be awarded if a successful application is made to the BRE to have any particular building feature, technology, system or process associated with the project recognised as 'innovative'. One credit available per successful application.	10.00%	This is not targeted as it requires a feature/process associated with the development to be recognised and approved by the BRE as innovative. This is not expected to be the case for this development.	-	
Sub-Total		10	1	One Innovation credit = 1%. A maximum of 10% can be awarded in this section.				
Weighted Sub-Total		10	1.00					

TOTALS

Base Target	57.77

Total required for 'Pass'	30
Total Required for 'Good'	45
Total required for 'Very Good'	55
Total required for 'Excellent'	70
Total required for 'Outstanding'	85



Completed by: CEW Date: 21/08/19

Checked by: CEW Date: 21/08/19

PROJECT TEAM KEY:	
PM = Project Manager	CE = Civil Engineer
Arch = Architect	TP = Transport Planner
QS = Quantity Surveyor	Eco = Ecologist
M&E = Mechanical and Electrical Engineer	Aco = Acoustician
LA = Landscape Architect	AP = BREEAM Accredited Professional
SE = Structural Engineer	**BREEAM ASSESSOR/AP (Method):** Method Consulting LLP