GJ2-HAK-XX-XX-RP-Z-XX-0001

Project Number	21432
Project Name	Golden Jubilee_Project 2

BREEAM Scheme	BREEAM NC 2018 (Fully Fitted)
Project Registration	Not Registered
Reg Number	

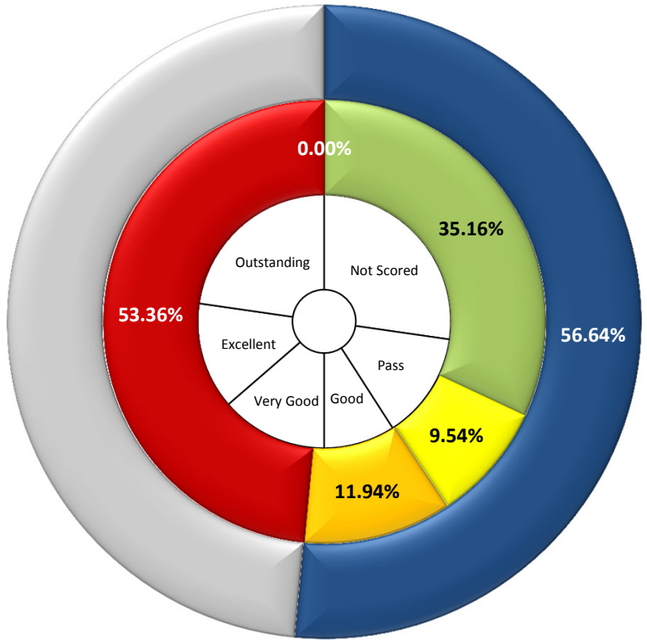
BREEAM Assessor	**Jonathan McMillan - AP**
Prepared by	**Jonathan McMillan - AP**

Issue Number	1
Revision	Revision Note
First Issue	**Desk-top pre-assessment issued following initial project workshop. 15/08/2019**

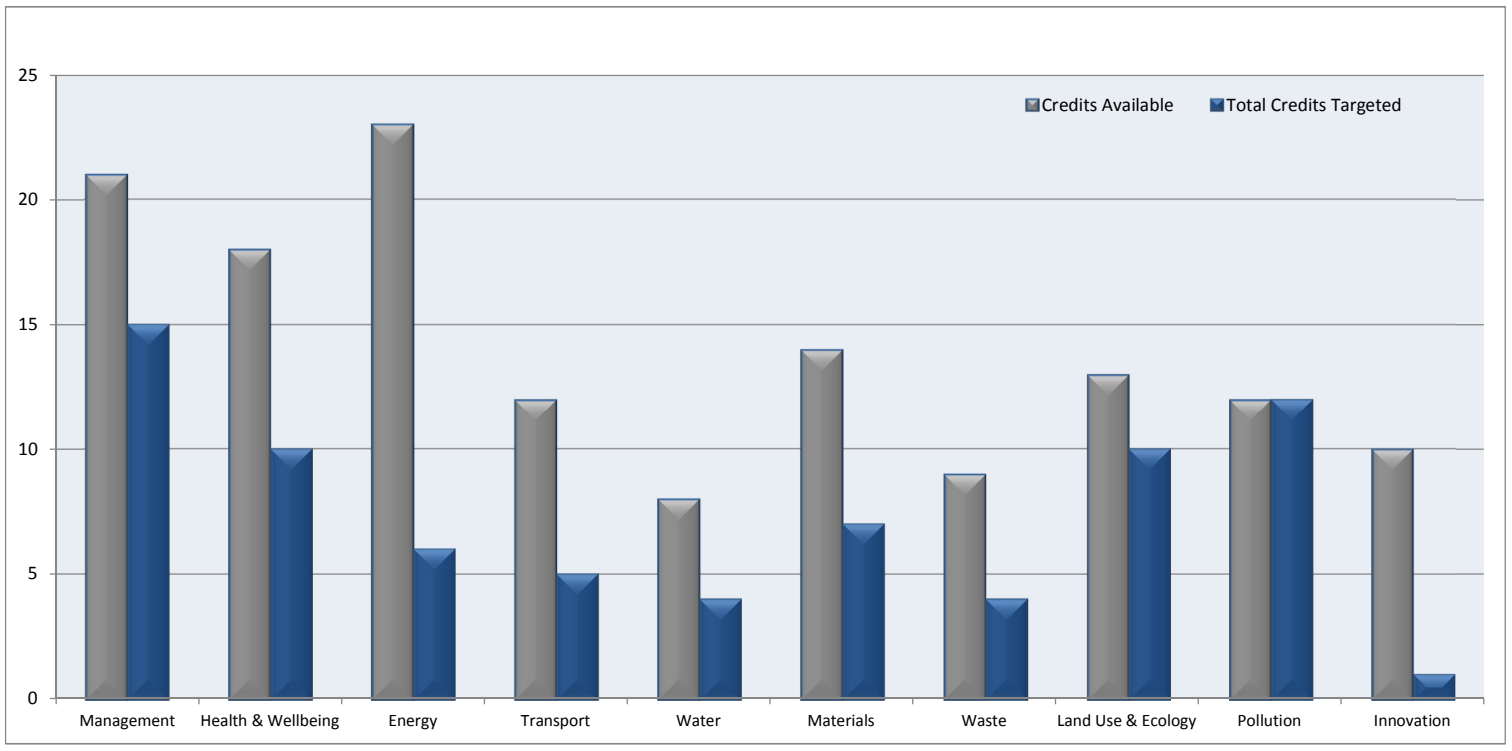
BREEAM Bandings	
Not Scored	<30%
Pass	30%
Good	45%
Very Good	55%
Excellent	70%
Outstanding	85%

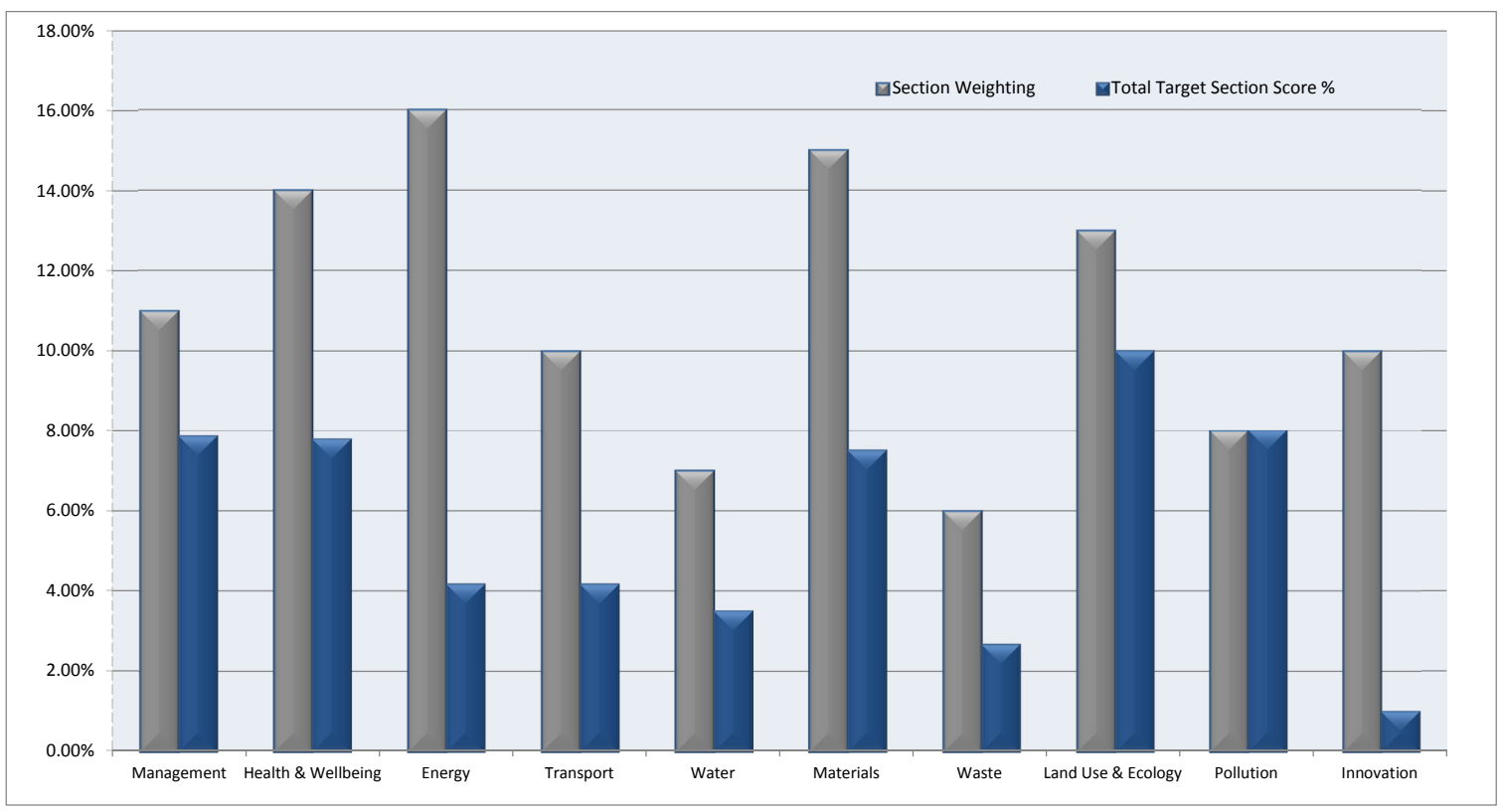
BREEAM Scoring	
Maximum Target Score	56.64%
Awarded Credits	
Maximum Target Rating	Very Good

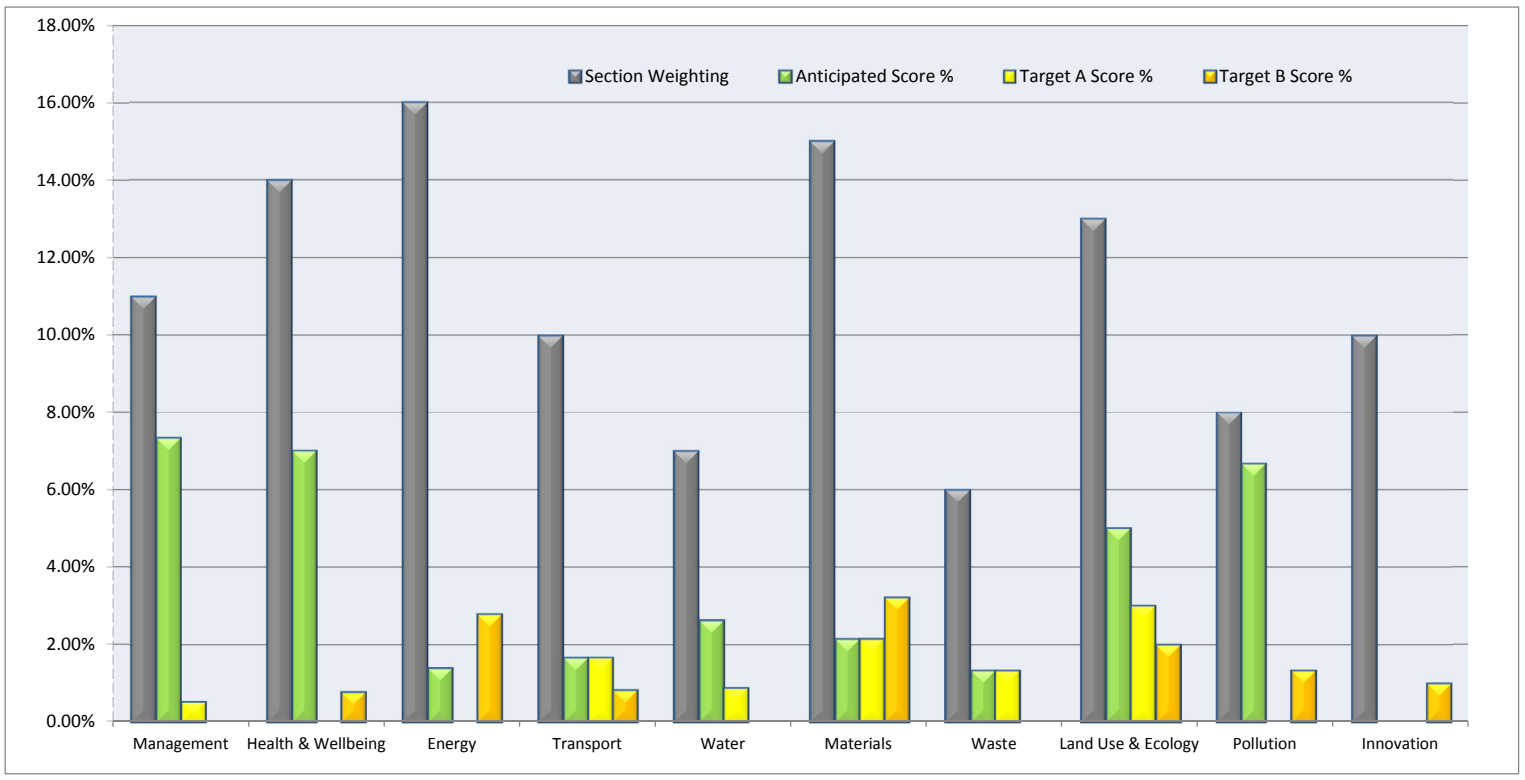
BREEAM Scoring Breakdown		
Anticipated credits	Low risk, best value credits	**35.16%**
Target A credits	Medium risk with design/cost implications to be tested	**9.54%**
Target B credits	High risk with design/cost implications to be tested	**11.94%**
Unlikely credits	Deemed unlikely and/or unachievable by design team	**53.36%**
Awarded Credits	Credit awarded by the assessor	**0.00%**
Target Score	Building Target Score as agreed with the Project Team	**56.64%**



	Credits Available	Total Credits Targeted	Section Weighting	Total Target Section Score %	Anticipated Score %	Target A Score %	Target B Score %	Unlikely
Management	21	15	11.00%	7.86%	7.33%	0.52%	0.00%	3.14%
Health & Wellbeing	18	10	14.00%	7.78%	7.00%	0.00%	0.78%	6.22%
Energy	23	6	16.00%	4.17%	1.39%	0.00%	2.78%	11.83%
Transport	12	5	10.00%	4.17%	1.67%	1.67%	0.83%	5.83%
Water	8	4	7.00%	3.50%	2.63%	0.88%	0.00%	3.50%
Materials	14	7	15.00%	7.50%	2.14%	2.14%	3.21%	7.50%
Waste	9	4	6.00%	2.67%	1.33%	1.33%	0.00%	3.33%
Land Use & Ecology	13	10	13.00%	10.00%	5.00%	3.00%	2.00%	3.00%
Pollution	12	12	8.00%	8.00%	6.67%	0.00%	1.33%	0.00%
Innovation	10	1	10.00%	1.00%	0.00%	0.00%	1.00%	9.00%
Totals	140.00	74.00	110.00%	56.64%	35.16%	9.54%	11.94%	







BREEAM 2018 UK New Construction Pre-Assessment Tracker

Project name: Golden Jubilee Project 2
Project number: 21432
BREEAM assessor: JMcM
Checked by: JMcM
Date: 14/08/2019
Revision: Pre-Assessment

Assessment information

Building name: Golden Jubilee Project 2
Country: Scotland
Building type (main description): Healthcare
Building type (sub-group):
Building floor area (GIA) m2: TBC
BREEAM scheme: New Construction
BREEAM version: 2018 (SD5078, 1.2)
BREEAM UK 2014 technical manual issue number: SD5076 Issue 5.0
Project type: Fully Fitted
Assessment stage: Design

Section 01 Management Credit Summary

Credit Issue			Available	Anticipated	Target A	Target B	Unlikely	Credit Criteria	Comments
Man01 Project Brief and Design	**Credit Clause**	**Owner**	**4**	**2**	**0**	**0**	**2**	**Criteria requirements**	**Assessor's comments**
Will stakeholder consultation (project delivery) take place?	**Man 01 -01**	**Project Manager**	1	1				Prior to completion of the Concept Design **(RIBA Stage 2 or equivalent)**, the project delivery stakeholders have met to identify and define their roles, responsibilities and contributions for each of the key phases of project delivery.	Early Action Credit (RIBA Stage 1/2). Project Execution Plan – Report including strategy for design team co-ordination, key targets, deliverables & design considerations.
	Man 01 -02	**Project Manager**						In defining the roles and responsibilities for each key phase of the project, the following must be considered: **2.a** End user requirements **2.b** Aims of the design and design strategy **2.c** Particular installation and construction requirements or limitations **2.d** Occupiers' budget and technical expertise in maintaining any proposed systems **2.e** Maintainability and adaptability of the proposals **2.f** Operational energy **2.g** Requirements for the production of project and end user documentation **2.h** Requirements for commissioning, training and aftercare support.	
	Man 01 -03	**Project Manager**						The project team demonstrates how the project delivery stakeholders' contributions and the consultation process outcomes influence the following: **3.a** Initial Project Brief **3.b** Project Execution Plan **3.c** Communication Strategy **3.d** Concept Design.	
Will stakeholder consultation interested parties take place? Will the Client and the Contractor formally agree performance targets?	**Man 01 -04**	**Project Manager**	1	1				**Prior to completion of the Concept Design stage,** all relevant third party stakeholders have been consulted by the design team and this covers the minimum consultation content (compliance note CN3).	Early Action Credit (RIBA Stage 1/2). Use of relevant stakeholders & bodies consulted with feedback reported.
	Man 01 -05	**Project Manager**						The project must demonstrate how the stakeholder contributions and outcomes of the consultation exercise have influenced or changed the Initial Project Brief and Concept Design.	
	Man 01 -06	**Project Manager**						Prior to completion of the detailed design (RIBA Stage 4, Technical Design or equivalent), consultation feedback has been given to, and received by, all relevant parties.	
	Man 01 -07							The consultation exercise used a method carried out by an independent party. (Education, Health Care, Law Courts and Major Transport Hub only).	Not applicable to building type.
Will a BREEAM AP (concept design) be assigned?	**Prerequisite Man 01 -08**	**Sustainability Champion**	1				1	Pre-requisite. The project team, including client, formally agree strategic performance targets early in the design process.	Prerequisite.
	Man 01 -09	**Sustainability Champion**						Involve a BREEAM AP in the project at an appropriate time and level to: **9.a** Work with the project team, including the client, to consider the links between BREEAM issues and assist them in maximising the project's overall performance against BREEAM, from their appointment and throughout Concept Design. **9.b** Monitor progress against the performance targets agreed under criterion 8 above throughout all stages after their appointment where decisions critically impact BREEAM performance. **9.c** Proactively identify risks and opportunities related to the achievement of the targets agreed under criterion 8 **9.d** Provide feedback to the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets. **9.e** Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team.	Early Action Credit (RIBA Stage 1/2). Requirement of BREEAM AP Appointment to facilitate the setting and achievement of BREEAM performance targets for the project. Confirm if a BREEAM AP will be appointed.
	Man 01 -10	**Project Manager**						Criteria **8 & 9** are achieved	
Will a BREEAM AP (developed design) be assigned?	**Man 01 -11**	**Sustainability Champion**	1				1	Involve the BREEAM AP in the project at an appropriate time and level to: **11.a** Work with the project team, including the client, to consider the links between BREEAM issues and to assist them in maximising the project's overall performance against BREEAM throughout Developed Design. **11.b** Monitor progress against the performance targets agreed under criterion 8 on the previous page throughout all stages where decisions critically impact the specification and tendering process and the BREEAM performance. **11.c** Proactively identify risks and opportunities related to the achievement of the targets agreed under criterion 8 on the previous page. **11.d** Provide feedback to the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets. **11.e** Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team.	
Man02 Life Cycle Cost and Service Life Planning	**Credit Clause**	**Owner**	**4**	**1**	**0**	**0**	**3**	**Criteria requirements**	**Assessor's comments**
Will an elemental life cycle cost (LCC)analysis be carried out?	**Man 02 - 01**	**Cost Consultant**	2				2	A competent person (see Definitions on the facing page) carries out an outline, entire asset LCC plan at Process Stage 2 (equivalent to Concept Design - RIBA Stage 2) together with any design options appraisals in line with 'Standardised method of life cycle costing for construction procurement' PD 156865: 2008.	Early Action Credit (RIBA Stage 2). Elemental LCC- A competent person carries out an outline, entire asset LCC plan together with any design options appraisals in line with 'Standardised method of life cycle costing for construction procurement'. Confirm if an elemental level LCC will be completed.
	Man 02 - 02	**Cost Consultant**						The elemental LCC plan: **2.a** Provides an indication of future replacement costs over a period of analysis as required by the client (e.g. 20, 30, 50 or 60 years); **2.b** Includes service life, maintenance and operation cost estimates. The study period should ideally be agreed by the client, in line with the design life expectancy of the building. However, where the life expectancy of the building is not yet formally agreed (due to being at very early design.	
	Man 02 - 03	**Cost Consultant**						Demonstrate, using appropriate examples provided by the design team, 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.	
Will a component level LCC plan be developed?	**Man 02 - 04**	**Cost Consultant**	1				1	A competent person develops a component level LCC options appraisal by the end of Process Stage 4 (equivalent to Technical Design – RIBA Stage 4) in line with PD 156865: 2008. The component level LCC includes (where present): **4.a** Envelope, e.g. cladding, windows, or roofing **4.b** Services, e.g. heat source, cooling source, or controls **4.c** Finishes, e.g. walls, floors or ceilings **4.d** External spaces, e.g. alternative hard landscaping, boundary protection. The Component level LCC option appraisal should review all of the above component types (where present). However, you do not need to consider every single example cited under each component; only a selection of those most likely to draw valued comparisons. This is to ensure that a wide range of options are considered and help focus the analysis on components which would benefit the most from appraisal.	Confirm if a component level LCC will be completed.
	Man 02 - 05	**Cost Consultant**						Demonstrate, using appropriate examples provided by the design team, 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.	
Will the predicted capital cost be reported?	**Man 02 - 06**	**Cost Consultant**	1	1				Report the capital cost for the building in pounds per square metre of gross internal floor area (£k/ m²)	

BREEAM 2018 UK New Construction Pre-Assessment Tracker

Management

Man03 Responsible Construction Practices	Credit Clause	Owner	6	5	0	0	1	Criteria requirements	Assessor's comments
Is all site timber used in the project 'legally harvested and traded timber'?	**Pre-requisite Man 03 - 01**	**Contractor**						All timber and timber-based products used on the project is 'Legally harvested and traded timber'.	Prerequisite. 1 credit required under Man 03 for BREEAM Excellent rating
Health Care NHS Buildings Only	**Pre-requisite Man 03 - 02**							To award any of the available credits for this issue, any party who at any stage manages the construction site (e.g. the principal contractor, the demolition contractor) operates an Environmental Management System.	Not applicable to building type.
Will all parties who at any stage manage the construction site operate compliant Environmental Management?	**Man 03 - 03**	**Contractor**	1	1				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. The EMS must: **3.a** Be third party certified, to ISO 14001: 2015(10), EMAS (EU Eco-Management and Audit Scheme) or equivalent standard; **OR** **3.b** In compliance with BS 8555: 2016(11) have: **3.b.i** Appropriate structure **3.b.ii** Reached implementation stage phase four 'implementation and operation of the environmental management system' **3.b.iii** Completed defined phase audits one to four.	
	Man 03 - 04	**Contractor**						All parties who at any point manage the construction site (e.g. the principal contractor, the demolition contractor) implement best practice pollution prevention policies and procedures on site in accordance with Working at construction and demolition sites: PPG6, Pollution Prevention Guidelines.	
Will a BREEAM AP (site) be assigned?	**Prerequisite MAN 03-05**	**Sustainability Champion**	1				1	The client and the contractor formally agree performance targets.	Prerequisite.
	Man 03 - 06	**Contractor**						Involve a BREEAM AP in the project at an appropriate time and level to: **6.a** Work with the project team, including the client, to consider the links between BREEAM issues and assist them in achieving and if possible going beyond the design intent, to maximise the project's performance against the agreed performance targets throughout the Construction, Handover and Close Out stages. **6.b** Monitor construction progress against the performance targets agreed under criterion 5 above throughout all stages where decisions critically impact BREEAM performance. **6.c** Proactively identify risks and opportunities related to the procurement and construction process and the achievement of the targets agreed under criterion 5. **6.d** Provide feedback to the constructors and the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets. **6.e** Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team and the provision to the assessor.	Appointment of BREEAM AP will be required before RIBA Stage 5.
Will the principal contractor achieve items required under responsible construction management credit requirements?	**Man 03-07**	**Contractor**	1	1				Achieve Ticked Items listed as required for one credit in this table 4.1. This concerns *'Risk Evaluation and Implementation'* , '*Timing Awareness and Feedback*', '*Monitoring and Reporting*'.	
Will additional items on the responsible construction management be achieved?	**Man 03-08**	**Contractor**	1	1				Criterion 7 is achieved	
	Man 03-09	**Contractor**						Six items (in addition to those for Criterion 07) are achieved.	
Will site utility consumption be metered/monitored? Energy and Water,	**Pre-requisite Man 03-10**	**Contractor**	1	1				Assign responsibility to an individual for monitoring, recording and reporting energy use, water consumption and transportation data (where measured) resulting from all on-site construction processes (and dedicated off-site manufacturing) throughout the build programme. To ensure the robust collection of information, this individual must have the appropriate authority and responsibility to request and access the data required. Where appointed, the BREEAM AP could perform this role.	
	Man 03-11	**Contractor**						Achieve criterion 10.	
	Man 03-12	**Contractor**						Set targets for the site energy consumption in kWh (and where relevant, litres of fuel used) as a result of the use of construction plant, equipment (mobile and fixed) and site accommodation.	
	Man 03-13	**Contractor**						Monitor and record data for the energy consumption described in criterion 12.	
	Man 03-14	**Contractor**						Report the total carbon dioxide emissions (total $kgCO_2$/project value) from the construction process.	
	Man 03-15	**Contractor**						Achieve criterion 10.	
	Man 03-16	**Contractor**						Set targets for the potable water consumption (m^3) arising from the use of construction plant, equipment (mobile and fixed) and site accommodation.	
	Man 03-17	**Contractor**						Monitor and record data for the potable water consumption described in criterion 16.	
	Man 03-18	**Contractor**						Use the collated data to report the total net water consumption (m^3), i.e. consumption minus any recycled water use from the construction process.	
Will transport of construction materials and waste be metered/monitored?	**Man 03-19**	**Contractor**	1	1				Achieve criterion 10.	
	Man 03-20	**Contractor**						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 cover: **20.a** transportation of materials from the point of supply to the building site, including any transport, intermediate storage and point of supply Monitor as a minimum: **20.a.i** Materials used in major building elements (i.e. those defined in BREEAM issue Mat 01 Environmental impacts from construction products - Building life cycle assessment (LCA) on page 209). **20.a.ii** Ground works and landscaping materials. **20.b** transportation of construction waste from the construction gate to waste disposal processing or recovery centre gate. This monitoring must cover the construction waste groups outlined in the project's resource management plan.	
	Man 03-21	**Contractor**						Monitor and record data for the transportation movements as defined in (20) above	
	Man 03-22	**Contractor**						Using the collated data, report separately for materials and waste, the total transport-related carbon dioxide emissions ($kgCO_2$-eq), plus total distance travelled (km)	
Exemplary level Criteria	**Man 03-23**	**Contractor**	1			1		Achieve all items in Table 4.1	
Man04 Commissioning and Handover	**Credit Clause**	**Owner**	**4**	**4**	**0**	**0**	**0**	**Criteria requirements**	**Assessor's comments**
Will commissioning schedule and responsibilities be developed & accounted for?	**Man 04 - 01**	**Contractor**	1	1				Prepare a schedule of commissioning and testing. The schedule identifies 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.	Minimum Mandatory Standard for Very Good Rating and above.
	Man 04 - 02	**Contractor**						The schedule identifies the appropriate standards for all commissioning activities to be conducted, where applicable, in accordance with: **2.a** Current Building Regulations **2.b** BSRIA guidelines **2.c** CIBSE guidelines **2.d** Other appropriate standards	
	Man 04 - 03	**Contractor**						Where a building management system (BMS) is specified: **3.a** Carry out commissioning of air and water systems when all control devices are installed, wired and functional **3.b** Include physical measurements of room temperatures, off-coil temperatures and other key parameters, as appropriate, in commissioning results **3.c** The BMS or controls installation should be running in auto with satisfactory internal conditions prior to handover **3.d** All BMS schematics and graphics (if BMS is present) are fully installed and functional to user interface prior to handover **3.e** Fully train the occupier or facilities team in the operation of the system.	
	Man 04 - 04	**Contractor**						Appoint an appropriate project team member to monitor and programme pre-commissioning, commissioning and testing. Where necessary include re-commissioning activities on behalf of the client.	
	Man 04 - 05	**Contractor**						The principal contractor accounts for the commissioning and testing programme, responsibilities and criteria within their budget and the main programme of works. Allow the required time to complete all commissioning and testing activities prior to handover.	
Design and Preparation	**Man 04 - 06**	**Contractor**	1	1				Achieve criteria 1 to 5.	
	Man 04 - 07	**Contractor**						During the design stage, the client or the principal contractor appoints an appropriate project team member (see criterion 4), provided they are not involved in the general installation works for the building services systems, with responsibility for: **7.a** Undertaking design reviews and giving advice on suitability for ease of commissioning. **7.b** Providing commissioning management input to construction programming and during installation stages. **7.c** Management of commissioning, performance testing and handover or post-handover stages. For buildings with complex building services and systems, this role needs to be carried out by a specialist commissioning manager.	
Will the building fabric be commissioned?	**Man 04 - 08**	**Contractor**	1	1				Achieve criteria 1 to 5.	Based on specification and workmanship on site.
	Man 04 - 09	**Contractor**						Complete post-construction testing and inspection to quality-assure the integrity of the building fabric, including continuity of insulation, avoidance of thermal bridging and air leakage paths (this is through airtightness testing and a thermographic survey). A suitably qualified professional undertakes the survey and testing in accordance with the appropriate standard.	
	Man 04 - 10	**Contractor**						Rectify any defects identified during post-construction testing and inspection prior to building handover and close out. Any remedial work must meet the required performance characteristics for the building or element as defined at the design stage.	
Will a building user guide be developed prior to handover?	**Man 04 -11**	**Contractor**	1	1				Prior to handover, develop two building user guides for the following users: **11.a** A non-technical user guide for distribution to the building occupiers. **11.b** A technical user guide for the premises facilities managers. A draft copy is developed and discussed with users first (where the building occupants are known) to ensure the guide is most appropriate and useful to potential users.	Minimum Mandatory Standard for Very Good Rating and above.
Will a training schedule for building occupiers/managers be prepared at Handover?	**Man 04 -12**	**Contractor**						Prepare two training schedules timed appropriately around handover and proposed occupation plans for the following users: **12.a** A non-technical training schedule for the building occupiers. **12.b** A technical training schedule for the premises facilities managers	

BREEAM 2018 UK New Construction Pre-Assessment Tracker

Man05 Aftercare	Credit Clause	Owner	3	2	1	0	0	Criteria requirements	Assessor's comments
Aftercare Support	**Man 05 - 01**	**Contractor**	1	1				Provide aftercare support to the building occupiers through having in place operational infrastructure and resources. This includes as a minimum: **1.a** A meeting between the aftercare support team or individual, and the building occupier or management team (prior to initial occupation, or as soon as possible thereafter) to: **1.a**.i Introduce the aftercare support available, including the content of the building user guide (where it exists) and training schedule. **1.a.ii** Present key information on the building including the design intent and how to use the building to ensure it operates as efficiently and effectively as possible. **1.b** On-site facilities management training including: **1.b.i** a walkabout of the building **AND** **1.b.ii** introduction to and familiarisation with the building systems, their controls and how to operate them in accordance with the design intent and operational demands. **1.c** Provide initial aftercare support for at least the first month of building occupation, e.g. weekly attendance on-site, to support building users and management (the level of frequency will depend on the complexity of the building and building operations). **1.d** Provide longer term aftercare support for occupiers for at least the first 12 months from occupation, e.g. a helpline, nominated individual or other appropriate system to support building users and management.	
	Man 05 - 02	**Contractor**						Establish operational infrastructure and resources to coordinate the collection and monitoring of energy and water consumption data for a minimum of 12 months, once the building is substantially occupied. This facilitates analysis of discrepancies between actual and predicted performance, with a view to adjusting systems and user behaviours accordingly.	
Commissioning Implementation	**Man 05 - 03**	**Client**	1	1				Complete the following commissioning activities over a minimum 12-month period, once the building becomes substantially occupied: **3.a** Complex systems: The specialist commissioning manager will: **3.a.i** Identify changes made by the owner or operator that might have caused impaired or improved performance. **3.a.ii** Test all building services under full load conditions, i.e. heating equipment in mid-winter, cooling and ventilation equipment in mid-summer and under part load conditions (spring and autumn). **3.a.iii** Where applicable, carry out testing during periods of extreme (high or low) occupancy. **3.a.iv** Interview building occupants (where they are affected by the complex services) to identify problems or concerns regarding the effectiveness of the systems. **3.a.v** Produce monthly reports comparing sub-metered energy performance to the predicted one **3.a.vi** Identify inefficiencies and areas in need of improvement. **3.a.vii** Re-commission systems (following any work needed to serve revised loads), and incorporate any revisions in operating procedures into the operations and maintenance (O&M) manuals. **3.b** Simple systems (naturally ventilated): The external consultant, aftercare team or facilities manager will: **3.b.i** Review thermal comfort, ventilation, and lighting, at three, six and nine month intervals after initial occupation, either by measurement or occupant feedback. **3.b.ii** Identify deficiencies and areas in need of improvement. **3.b.iii** Re-commission systems and incorporate any relevant revisions in operating procedures into the O&M manuals.	Credit required for BREEAM Excellent
Post Occupancy Evaluation	**Man 05 - 04**	**Client**	1		1			The client or building occupier commits to carry out a POE exercise one year after the building is substantially occupied. This gains comprehensive in-use performance feedback	
	Man 05 - 05	**Client**						An independent party (see Definitions on the facing page) carries out the POE covering: **5.a** A review of the design intent and construction process (review of design, procurement, construction and handover processes). **5.b** Feedback from a wide range of building users including facilities management on the design and environmental conditions of the building covering: **5.b.i** Internal environmental conditions (light, noise, temperature, air quality) **5.b.ii** Control, operation and maintenance **5.b.iii** Facilities and amenities **5.b.iv** Access and layout **5.b.v** Energy and water consumption (see criterion 2 and Methodology **5.b.vi** Other relevant issues, where appropriate (see Definitions on the facing page)	
	Man 05 - 06	**Client**						The independent party provides a report with lessons learned to the client and building occupiers.	
	Man 05 - 07	**Client**						The client or building occupier commits funds to pay for the POE in advance.	
Section %			21	14	1	0	6		
11.000%			0.524%	7.333%	0.524%	0.000%	3.143%		

BREEAM 2018 UK New Construction Pre-Assessment Tracker

Section 02 Health and Wellbeing Credit Summary

Credit Issue			Available	Anticipated	Target A	Target B	Unlikely	Credit Criteria	Comments
Hea01 Visual Comfort	**Credit Clause**	**Owner**	**5**	**2**	**0**	**0**	**3**	**Criteria requirements**	**Assessor's comments**
Glare Control - Sunlight	**Hea 01 - 01**	**Architect**	1	1				Identify areas at risk of glare using a glare control assessment. The glare control assessment also justifies any areas deemed not at risk of glare.	
	Hea 01 - 02	**Architect**						A glare control strategy designs out potential glare in all relevant building areas where risk has been identified. This should be achieved through building form and layout or building design measures.	
	Hea 01 - 03	**Architect**						The glare control strategy does not increase energy consumption used for lighting. This is achieved by: **3.a** Maximising daylight levels in all weather, cloudy or sunny AND **3.b** Ensuring the use or location of shading does not conflict with the operation of lighting control systems.	
Daylighting	**Hea 01 - 04**	**Architect**	2				2	Daylighting criteria have been met using either of the following options: **4.a** The relevant building areas meet good practice daylight factors and other criteria as outlined in Table **5.1** and Table **5.2** on the next page **OR** **4.b** The relevant building areas meet good practice average and minimum point daylight illuminance criteria as outlined in **Table 5.3** on the next page. Additional alternative route for healthcare building types only: **4.c** The relevant building areas meet the median daylight factors and minimum daylight factors in **Table 5.4**	Assuming adequate provision of daylighting.
View Out	**Hea 01 - 05**	**Architect**	1				1	95% of the floor area in 95% of spaces for each relevant building area is within 8 m of an external wall. The external wall has a window or permanent opening that provides an adequate view out.	Assuming adequate view out for occupied areas.
	Hea 01 - 06	**Architect**						The window or opening must be ≥ 20% of the surrounding wall area. Where the room depth is greater than 8 m, compliance is only possible where the percentage of window or opening is the same as, or greater than, the values in Table 1.0 of BS 8206: part 2	
	Hea 01 - 07	**Architect**						In addition, the building type criteria in Table 5.6 are applicable to view out criteria.	
Internal Lighting	**Hea 01 - 08**	**M&E Engineer**	1	1				Internal lighting in all relevant areas of the building is designed to provide illuminance (lux) levels and colouring rendering index in accordance with the SLL Code for Lighting 2012 and any other relevant industry standard. Internal lighting should be appropriate to the tasks undertaken, accounting for building user concentration and comfort levels.	
	Hea 01 - 09	**M&E Engineer**						For areas where computer screens are regularly used, the lighting design complies with CIBSE Lighting Guide 7 sections 2.4, 2.13 to 2.15, 2.20, and 6.10 to 6.20. This gives recommendations highlighting: **9.a** Limits to the luminance of the luminaires to avoid screen reflections. (Manufacturers' data for the luminaires should be sought to confirm this.) **9.b** Any area where a surface is used to reflect light in to a space, such as up lighting, the recommendations refer to the luminance of the lit ceiling rather than the luminaire; a design team calculation is usually required to demonstrate this. **9.c** Recommendations for direct lighting, ceiling illuminance, and average wall illuminance.	
External Lighting	**Hea 01 - 10**	**M&E Engineer**						All external lighting located within the construction zone is specified in accordance with BS 5489-1:2013 Code for the practice for the design of road lighting. Lighting of roads and public amenity areas and BS EN 12464-2:2014 Light and lighting - Lighting of work places - Part 2: Outdoor work places. External lighting should provide illuminance levels that enable users to perform outdoor visual tasks efficiently and accurately, especially during the night.	
	Hea 01 - 11	**M&E Engineer**						Where no external light fittings are specified (either separate from or mounted on the external building façade or roof), the criteria relating to external lighting do not apply and the credit can be awarded on the basis of compliance with criteria 8 and 9.c	
Zoning and Control	**Hea 01 - 12**	**M&E Engineer**						Internal lighting is zoned to allow for occupant control. Zoning is in accordance with the criteria below for relevant areas present within the building: **12.a** In office areas, zones of no more than four workplaces **12.b** Workstations adjacent to windows or atria and other building areas separately zoned and controlled **12.c** Seminar and lecture rooms: zoned for presentation and audience areas **12.d** Library spaces: separate zoning of stacks, reading and counter areas **12.e** Teaching space or demonstration area **12.f** Whiteboard or display screen **12.g** Auditoria: zoning of seating areas, circulation space and lectern area **12.h** Dining, restaurant, café areas: separate zoning of servery and seating or dining areas **12.i** Retail: separate zoning of display and counter areas **12.j** Bar areas: separate zoning of bar and seating areas **12.k** Wards or bedded areas: zoned lighting control for individual bed spaces and control for staff over groups of bed spaces 12.l Treatment areas, dayrooms, waiting areas: zoning of seating and activity areas and circulation space with controls accessible to staff.	
	Hea 01 - 13	**M&E Engineer**						Areas used for teaching, seminar or lecture purposes have lighting controls provided in accordance with CIBSE Lighting Guide 5	
	Hea 01 - 14	**M&E Engineer**						In addition, the building type criteria in **Table 5.7**	
Exemplary level Criteria	**Hea 01 - 15**	**Architect**	1				1	Daylighting criteria have been met using either of the following options: **15.a** Relevant building areas meet exemplary daylight factors and the relevant criteria in Table 5.8 on the facing page. **15.b** Relevant building areas meet exemplary average and minimum point daylight illuminance criteria in Table 5.9 on the facing page	
	Hea 01 - 16	**Architect**						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.	
Hea02 Indoor Air Quality	**Credit Clause**	**Owner**	**4**	**0**	**0**	**0**	**4**	**Criteria requirements**	**Assessor's comments**
Will an air quality plan be produced and building designed to minimise air pollution?	**Pre-requisite Hea 02 - 01**	**Design Team**						An indoor air quality plan has been produced , with the objective of facilitating a process that leads to design, specification and installation decisions and actions that minimise indoor air pollution during occupation of the building. The indoor air quality plan must consider the following: a.Removal of contaminant sources b.Dilution and control of contaminant sources c.Procedures for pre-occupancy flush out d.Third party testing and analysis e.Maintaining indoor air quality in-use	Prerequisite. Early Action Credit (RIBA Stage 2). Indoor Air Quality Plan (IAQ) - Strategy for minimising indoor air pollution during occupation.
Will building be designed to minimise the concentration and recirculation of pollutants in the building?	**Hea 02 -02**	**Architect/Mech Eng**	1				1	The building has been designed to minimise the indoor concentration and recirculation of pollutants in the building as follows: **2.a** Provide fresh air into the building in accordance with the criteria of the relevant standard for ventilation **2.b** Ventilation pathways are designed to minimise the ingress and build-up of air pollutants inside the building **2.c** Where present, HVAC systems must incorporate suitable filtration to minimise external air pollution, as defined in BS EN 13779:2007 Annex A3(46). The specified filters should achieve a minimum Indoor Air Quality of IDA2 **2.d** Areas of the building subject to large and unpredictable or variable occupancy patterns have carbon dioxide (CO_2) or air quality sensors specified and: **2.d.i** In mechanically ventilated buildings or spaces: sensors are linked to the mechanical ventilation system and provide demand-controlled ventilation to the space **2.d.ii** In naturally ventilated buildings or spaces: sensors either have the ability to alert the building owner or manager when CO_2 levels exceed the recommended set point, or are linked to controls with the ability to adjust the quantity of fresh air, i.e. automatic opening windows or roof vents **2.e** For naturally ventilated or mixed mode buildings, the design demonstrates that the ventilation strategy provides adequate cross flow of air to maintain the required thermal comfort conditions and ventilation rates in accordance with CIBSE AM10	
Emission from Construction Products	**Hea 02 -03**	**Architect**	1				1	Three out of the five product types meet the emission limits, testing requirements and any additional requirements listed in Table 5.11 on the facing page. Where wood-based products are not one of three selected product types, all wood-based products used for internal fixtures and fittings must be tested and classified as formaldehyde E1 class as a minimum.	
	Hea 02 -04	**Architect**	1				1	All of the product types listed meet the emission limits, testing requirements and any additional requirements listed in Table 5.11.	
Post Construction Air Quality Management	**Hea 02 -05**		1				1	The formaldehyde concentration in indoor air is measured post construction (but pre-occupancy) and does not exceed 100 µg/ m^3 averaged over 30 minutes (World Health Organization guidelines for indoor air quality: Selected pollutants, 2010.	
	Hea 02 -06							The formaldehyde sampling and analysis is performed in accordance with ISO 16000-2 and ISO 16000-3	
	Hea 02 -07							The total volatile organic compound (TVOC) concentration in indoor air is measured post construction (but pre-occupancy) and does not exceed 500 µg/ m^3over 8 hours.	
	Hea 02 -08							The TVOC sampling and analysis is performed in accordance with ISO 16000-5 and ISO 16000-6 or ISO 16017-1	
	Hea 02 -09							Where levels are found to exceed these limits, the project team confirms the measures that have, or will be, undertaken in accordance with the IAQ plan, to reduce the TVOC and formaldehyde levels to within the above limits.	
	Hea 02 -10							The measured concentration levels of formaldehyde (µg/ m^3) and TVOC (µg/ m^3) are reported, via the BREEAM Scoring and Reporting Tool.	
Exemplary Level Criteria	**Hea 02 -11**		1				1	Three of the product types listed meet the emission limits, testing requirements and any additional requirements listed in Table 5.12. Where wood-based products are not one of the three selected product types, all wood-based products used for internal fixtures and fittings must be tested and classified as formaldehyde E1 class as a minimum.	

Health and Well-being

BREEAM 2018 UK New Construction Pre-Assessment Tracker

Health and Well-being

Hea04 Thermal Comfort	Credit Clause	Owner	3	3	0	0	0	Criteria requirements	Assessor's comments
Will thermal modelling of the design be carried out?	Hea 04 - 01	M&E Engineer	1	1				Thermal modelling has been carried out using software in accordance with CIBSE AM11 Building Energy and Performance Modelling.	Compliance with CIBSE Guide A and CIBSE TM52 is required for this credit. Compliance may require additional window/opening areas.
	Hea 04 - 02	M&E Engineer						The software used to carry out the simulation at the detailed design stage provides full dynamic thermal analysis. For smaller and more basic building designs with less complex heating or cooling systems, an alternative less complex means of analysis may be appropriate.	
	Hea 04 - 03	M&E Engineer						The modelling demonstrates that: **3.a** For air-conditioned buildings, summer and winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental design, **Table 1.5**; or other appropriate industry standard (where this sets a higher or more appropriate requirement or level for the building type) **3.b** For naturally ventilated buildings: **3.b.i** Winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental design, **Table 1.5**. Or other appropriate industry standard (where this sets a higher or more appropriate requirement or level for the building type) **3.b.ii** The building is designed to limit the risk of overheating, in accordance with the adaptive comfort methodology outlined in either of the following standards as appropriate; CIBSE TM52: The limits of thermal comfort: avoiding overheating in European buildings **or** CIBSE TM59: Design methodology for the assessment of overheating risk in homes	
	Hea 04 - 04	M&E Engineer						For air-conditioned buildings, the PMV (predicted mean vote) and PPD (predicted percentage of dissatisfied) indices based on the above modelling are reported via the BREEAM assessment scoring and reporting tool.	
Will the building design be adapted for a projected climate change scenario?	Hea 04 - 05	M&E Engineer	1	1				Criteria 1 to 4 are achieved.	
	Hea 04 - 06	M&E Engineer						The thermal modelling demonstrates that the relevant requirements set out in criterion 3 above are achieved for a projected climate change environment	
	Hea 04 - 07	M&E Engineer						Where criterion 6 above is not met, the project team demonstrates how the building has been adapted, or designed to be easily adapted in future using passive design solutions in order to subsequently meet the requirements under criterion 6 above	
	Hea 04 - 08	M&E Engineer						For air-conditioned buildings, the PMV and PPD indices based on the above modelling are reported via the BREEAM assessment scoring and reporting tool.	
Thermal Zoning and Controls	Hea 04 - 09	M&E Engineer	1	1				Criteria 1 above to 4 above are achieved.	
	Hea 04 - 10	M&E Engineer						The thermal modelling analysis (criteria1 on the previous page to 4 on the previous page) has informed the temperature control strategy for the building and its users.	
	Hea 04 - 11	M&E Engineer						The strategy for proposed heating or cooling systems demonstrates that it has addressed the following: **11.a** Zones within the building, and how the building services could efficiently and appropriately heat or cool these areas. For example consider the different requirements for the central core of a building compared with the external perimeter adjacent to the windows. **11.b** The degree of occupant control required for these zones. This is based on discussions with the end user (or alternatively building type or use specific design guidance, case studies, feedback) and considers: **11.b.i** User knowledge of building services **11.b.ii** Occupancy type, patterns and room functions (and therefore appropriate level of control required) **11.b.iii** How the user is likely to operate or interact with the systems, e.g. are they likely to open windows, access thermostatic radiator valves (TRV) on radiators, change air-conditioning settings etc. **11.b.iv** The user expectations (this may differ in the summer and winter) and degree of individual control (i.e. obtaining the balance between occupant preferences, for example some occupants like fresh air and others dislike draughts) **11.c** How the proposed systems will interact with each other (where there is more than one system) and how this may affect the thermal comfort of the building occupants **11.d** The need or otherwise for an accessible building user actuated manual override for any automatic systems.	
Hea05 Acoustic Performance	**Credit Clause**	**Owner**	**3**	**3**	**0**	**0**	**0**	**Criteria requirements**	**Assessor's comments**
Will the building meet the appropriate acoustic performance standards and testing requirements?	Hea 05-01	Acoustician	3	3				The building meets the appropriate acoustic performance standards and testing requirements defined in the relevant table below. These tables define criteria for the acoustic principles of: **1.a** Sound insulation **1.b** Indoor ambient noise level **1.c** Room acoustics.	
	Hea 05-02	Acoustician						A suitably qualified acoustician (SQA) is appointed to define a bespoke set of performance requirements for all function areas in the building. The bespoke performance requirements use the three acoustic principles defined in criterion Hea 05 Acoustic performance - Criterion 1 above, setting out the performance requirements for each and the testing regime required.	
Hea06 Security	**Credit Clause**	**Owner**	**1**	**0**	**0**	**1**	**0**	**Criteria requirements**	**Assessor's comments**
Will a suitably qualified security consultant be appointed and security considerations accounted for?	Hea 06 - 01	Security Consultant	1			1		A Suitably Qualified Security Specialist (SQSS) conducts an evidence-based Security Needs Assessment (SNA) during or prior to Concept Design (RIBA Stage 2 or equivalent). The purpose of the SNA will be to identify attributes of the proposal, site and surroundings which may influence the approach to security for the development .	Early Action Credit: Security Consultant appointment before or during RIBA Stage 2. Security Needs Assessment (SNA) – To be undertaken by a suitably qualified Security Specialist (SQSS). Confirmation that a Security Specialist will be appointed.
	Hea 06 - 02	Security Consultant						The SQSS develops 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.	
	Hea 06 - 03	Security Consultant						The controls and recommendations shall be incorporated into proposals and implemented in the as-built development. Any deviation from those controls and recommendations shall be justified and agreed with the SQSS.	
Exemplary Level Criteria	Hea 06 - 04	Security Consultant	1				1	A compliant risk based security rating scheme has been used. The performance against the scheme has been confirmed by independent assessment and verification	
Hea07 Safe and Healthy Surroundings	**Credit Clause**	**Owner**	**2**	**1**	**0**	**0**	**1**	**Criteria requirements**	**Assessor's comments**
Will there be safe access to and safe movement around the site?	Hea 06 - 01	Architect	1				1	Dedicated and safe cycle paths are provided from the site entrance to any cycle storage, and connect to offsite cycle paths where applicable.	
	Hea 06 - 02	Architect						Dedicated and safe footpaths are provided on and around the site providing suitable links for the following: **2.a** The site entrance to the building entrance, **2.b** Car parks (where present) to the building entrance **2.c** The building to outdoor space **2.d** Connecting to off-site paths where applicable.	
	Hea 06 - 03	Architect						Pedestrian drop-off areas are designed off, or adjoining to, the access road and should provide direct access to other footpaths.	
	Hea 06 - 04	Architect						Delivery areas are not accessed through general parking areas and do not cross or share the following: **4.a** pedestrian and cyclist paths **4.b** outside amenity areas accessible to building users and general public.	
	Hea 06 - 05	Architect						There is a dedicated parking or waiting area for goods vehicles with appropriate separation from the manoeuvring area and staff and visitor car parking.	
	Hea 06 - 06	Architect						Parking and turning areas are designed for simple manoeuvring according to the type of delivery vehicle likely to access the site, thus avoiding the need for repeated shunting.	
Will there be an outside space providing building users with an external amenity area?	Hea 06 - 07	Architect	1	1				There is an outside space providing building users with an external amenity area.	Assuming no external amenity area for users. Please advise otherwise.
Section %			18	9	0	1	8		
14.00%			0.778%	7.000%	0.000%	0.778%	6.222%		

BREEAM 2018 UK New Construction Pre-Assessment Tracker

Section 03 Energy Credit Summary

	Credit Issue			Available	Anticipated	Target A	Target B	Unlikely	Credit Criteria	Comments
Energy	**Ene01 Reduction of Energy Use and Carbon Emissions**	**Credit Clause**	**Owner**	**13**	**0**	**0**	**4**	**9**	**Criteria requirements**	**Assessor's comments**
	Energy performance	**Ene 01 - 01**	**M&E Engineer**	9				9	Calculate an Energy Performance Ratio for New Construction (EPR NC). Compare the EPR NC achieved with the benchmarks in Table 6.1 below and award the corresponding number of BREEAM credits.	4 credits required for BREEAM Excellent rating
	Prediction of operational energy consumption	**Pre-requisite Ene 01 - 02**	**M&E Engineer**	4			4		Prior to completion of the Concept Design, relevant members of the design team hold a preliminary design workshop focusing on operational energy performance.	Early Action Credit (RIBA Stage 2). Prediction of operational energy consumption – The design team to hold a preliminary design workshop focusing on operational energy performance.
		Ene 01 - 03	**M&E Engineer**						Undertake additional energy modelling during the design and post-construction stage to generate predicted operational energy consumption figures	
		Ene 01 - 04	**M&E Engineer**						Report predicted energy consumption targets by end use, design assumptions and input data	
		Ene 01 - 05	**M&E Engineer**						Carry out a risk assessment to highlight any significant design, technical, and process risks that should be monitored and managed throughout the construction and commissioning process.	
	Exemplary Level Criteria - Energy Performance	**Ene 01 - 06**	**M&E Engineer**	2				2	The building achieves an EPR NC ≥ 0.9 and zero net regulated CO_2 emissions	
		Ene 01 - 07	**M&E Engineer**						Energy generation from on-site and near-site LZC sources is sufficient to offset carbon emissions from regulated energy use plus a percentage of emissions from unregulated energy use.	
		Ene 01 - 08	**M&E Engineer**						Award the exemplary credits based on the percentage of additional emissions from unregulated energy that are offset by LZC sources	
		Ene 01 - 09	**M&E Engineer**	1				1	The building is deemed carbon negative where > 100% (see Table 6.2 below) of carbon emissions from unregulated (and regulated) energy use are offset by energy generated from on-site and near-site LZC sources (Include credits for 6,7,&8)	
	Exemplary Level Criteria - Post Occupancy	**Ene 01 - 10**	**M&E Engineer**	2				2	Achieve maximum available credits in Ene 02 Energy monitoring on page 132. In addition, preschools, primary schools, law courts, prisons and multi-residential buildings must separately monitor relevant function areas or departments	
		Ene 01 - 11	**M&E Engineer**						The client or building occupier commits funds to pay for the post occupancy stage. This requires an assessor to be appointed and to report on the actual energy consumption compared with the targets set in criterion 4 above	
		Ene 01 - 12	**M&E Engineer**						The energy model (criterion 3 above) is: **12.a** Submitted to BRE and **12.b** Retained by the building owner	
	Ene02 Energy Monitoring	**Credit Clause**	**Owner**	**2**	**1**	**0**	**0**	**1**	**Criteria requirements**	**Assessor's comments**
	Will a BMS or sub-meters be specified to monitor energy use from major building services systems?	**Ene 02 - 01**	**M&E Engineer**	1	1				Install energy metering systems so that at least 90% of the estimated annual energy consumption of each fuel is assigned to the end-use categories	Minimum Mandatory Standard for Very Good Rating and above.
		Ene 02 - 02	**M&E Engineer**						Meter the energy consumption in buildings according to the total useful floor area: **2.a** If the area is greater than 1,000 m², by end-use category with an appropriate energy monitoring and management system. **2.b** If the area is less than 1,000 m², use either: **2.b.i** an energy monitoring and management system or **2.b.ii** separate accessible energy sub-meters with pulsed or other open protocol communication outputs, for future connection to an energy monitoring and management system.	
		Ene 02 - 03	**M&E Engineer**						Building users can identify the energy consuming end uses, for example through labelling or data outputs.	
	Will a BMS or sub-meters be specified to monitor energy use by tenant/building function areas?	**Ene 02 - 04**	**M&E Engineer**	1				1	Monitor a significant majority of the energy supply with: **4.a** An accessible energy monitoring and management system for: **4.a.i** tenanted areas or **4.a.ii** relevant function areas or departments in single occupancy buildings. **OR** **4.b** Separate accessible energy sub-meters with pulsed or other open protocol communication outputs for future connection to an energy monitoring and management system for: **4.b.i** tenanted areas or **4.b.ii** relevant function areas or departments in single occupancy buildings.	
		Ene 02 - 05	**M&E Engineer**						Sub-meter per floor plate in large single occupancy or single-tenancy buildings with one homogeneous function, for example hotel bedrooms, offices.	
	Ene03 External Lighting	**Credit Clause**	**Owner**	**1**	**1**	**0**	**0**	**0**	**Criteria requirements**	**Assessor's comments**
	Will external light fittings and controls be specified in accordance with the BREEAM criteria?	**Ene 03 -01**	**M&E Engineer**	1	1				No external lighting (which includes lighting on the building, at entrances and signs).	It is assumed that external lighting is included in the project hence criterion 2 is applicable. Please advise otherwise.
		Ene 03 -02	**M&E Engineer**						**OR** **2** External light fittings within the construction zone with: **2.a** Average initial luminous efficacy of not less than 70 luminaire lumens per circuit Watt **2.b** Automatic control to prevent operation during daylight hours **2.c** Presence detection in areas of intermittent pedestrian traffic.	
	Ene04 Low Carbon Design	**Credit Clause**	**Owner**	**3**	**0**	**0**	**0**	**3**	**Criteria requirements**	**Assessor's comments**
	Will passive design measures be used in line with an analysis be carried out during concept design stage (RIBA stage 2 or equivalent)?	**Ene 04 - 01**	**M&E Engineer**	1				1	Achieve the first credit Assessment scope - One credit - Thermal modelling to demonstrate that the building design delivers appropriate thermal comfort levels in occupied spaces.	Early Action Credit (RIBA Stage 2). Passive Design Analysis Report.
		Ene 04 - 02	**Architect/Mech Eng**						The project team analyses the proposed building design and development during Concept Design to identify opportunities for the implementation of passive design measures	
		Ene 04 - 03	**Architect/Mech Eng**						Implement passive design measures to reduce the total heating, cooling, mechanical ventilation, lighting loads and energy consumption in line with the passive design analysis findings.	
		Ene 04 - 04	**Architect/Mech Eng**						Quantify the reduced total energy demand and carbon dioxide (CO_2) emissions resulting from the passive design measures.	
	Will free cooling measures be implemented in the whole building in line with the passive design analysis?	**Ene 04 - 05**	**Architect/Mech Eng**	1				1	Achieve the passive design analysis credit. (1-4 above)	Assuming free cooling measures included in the project (i.e. night time cooling, ground coupled air cooling, displacement ventilation, etc.)
		Ene 04 - 06	**Architect/Mech Eng**						Include a free cooling analysis in the passive design analysis carried out under criterion 2.	
		Ene 04 - 07	**Architect/Mech Eng**						Identify opportunities for the implementation of free cooling solutions	
		Ene 04 - 08	**Architect/Mech Eng**						The building is naturally ventilated or uses any combination of the free cooling strategies	
	Will a LZC technology be specified in line with a feasibility study carried out by the completion of the Concept Design stage (RIBA Stage 2 or equivalent)?	**Ene 04 - 09**	**M&E Engineer**	1				1	An energy specialist completes a feasibility study by the end of Concept Design.	Early Action Credit (RIBA Stage 2). Low/ Zero Carbon (LZC) Feasibility Report - Appraisal of LZC Energy options to be undertaken by relevant specialist to ensure efficient specification of LZC technologies (if required). Please advise if the installation of LZC technologies is desired.
		Ene 04 - 10	**M&E Engineer**						Establish the most appropriate recognised local (on-site or near-site) low or zero carbon (LZC) energy sources for the building or development based on the feasibility study	
		Ene 04 - 11	**M&E Engineer**						Specify local LZC technologies for the building or development in line with the feasibility study recommendations.	
		Ene 04 - 12	**M&E Engineer**						Quantify the reduced regulated carbon dioxide (CO_2) emissions resulting from the feasibility study.	
	Ene06 Energy Efficient Transportation Systems	**Credit Clause**	**Owner**	**2**	**0**	**0**	**0**	**2**	**Criteria requirements**	**Assessor's comments**
	Energy Consumption	**Ene 06 - 01**	**Lift manufacturer/Elec Eng**	1				1	For specified lifts, escalators or moving walks (transportation types): **1.a** Analyse the transportation demand and usage patterns for the building to determine the optimum number and size of lifts, escalators or moving walks **1.b** Calculate the energy consumption in accordance with BS EN ISO 25745 Part 2(124) or Part 3(125) for one of the following:**1.b.i** At least two types of system for each transportation type required **OR 1.b.ii** An arrangement of systems, for example for lift systems, hydraulic, traction, machine room-less lift (MRL) **OR 1.b.iii** A system strategy that is 'fit for purpose' **1.c** Consider the use of regenerative drives, subject to the requirements in Regenerative drives below **1.d** Specify the transportation system with the lowest energy consumption.	Assuming installation of lifts. Please advise otherwise.
	Energy Efficient Features **All**	**Pre-requisite Ene 06 02**	**Lift manufacturer/Elec Eng**	1				1	Achieve criterion 1 (Applies to credits for criteria 3,4,5)	
	Energy efficient features - Lifts	**Ene 06 - 03**	**Lift manufacturer/Elec Eng**						Specify the following three energy efficient features for each lift: **3.a** A standby condition for off-peak periods **3.b** The lift car lighting and display lighting provides an average luminous efficacy across all fittings in the car of > 70 luminaire lumens per circuit Watt **3.c** Use of a drive controller capable of variable speed, variable-voltage, and variable-frequency (VVVF) control of the drive motor.	
		Ene 06 - 04	**Lift manufacturer/Elec Eng**						Specify regenerative drives where their use is demonstrated to save energy.	

BREEAM 2018 UK New Construction Pre-Assessment Tracker

Ene08 Energy Efficient Equipment	Credit Clause	Owner	2	0	0	0	2	Criteria requirements	Assessor's comments
Will the significant majority contributors to 'unregulated' energy use meet the BREEAM criteria?	**Ene 08 - 01**		2				2	Identify the building's unregulated energy consuming loads and estimate their contribution to the total annual unregulated energy consumption of the building, assuming a typical/standard specification.	
	Ene 08 - 02							Identify the systems and/or processes that use a significant proportion of the total annual unregulated energy consumption of the development and its operation.	
	Ene 08 - 03							Demonstrate a meaningful reduction in the total annual unregulated energy consumption of the building. Table 6.5 lists some examples of significant contributors to unregulated energy consumption, and the associated criteria. If additional significant contributors, not listed in the table, will be specified, the design team should justify how a meaningful reduction will be achieved for these contributors	
Section %			23	2	0	4	17		
16.00%			0.696%	1.391%	0.000%	2.783%	11.826%		

BREEAM 2018 UK New Construction Pre-Assessment Tracker

Section 04 Transport Credit Summary

	Credit Issue			Available	Anticipated	Target A	Target B	Unlikely	Credit Criteria	Comments
Transport	**Tra01 Transport Assessment and Travel Plan**	**Credit Clause**	**Owner**	**2**	**2**	**0**	**0**	**0**	**Criteria requirements**	**Assessor's comments**
	Will a travel plan based on site specific be developed?	**Tra 01-01**	**Project Manager**	2	2				During the feasibility and design stages, develop a travel plan based on a site-specific travel assessment or statement.	Early Action Credit (RIBA Stage 2). Site specific Transport Assessment – Including provision of a travel plan demonstrating a range of measures to encourage the use of sustainable modes of transport and movement of people during operational use. Confirm appointment of Transport Consultant.
		Tra 01-02	**Project Manager**						The site-specific travel assessment or statement covers as a minimum: **2.a** Existing travel patterns and opinions of existing building or site users towards cycling and walking, identifying constraints and opportunities, if relevant **2.b** Travel patterns and transport impact of future building users **2.c** Current local environment for walkers and cyclists (accounting for visitors who may be accompanied by young children) **2.d** Reporting of the number and type of existing accessible amenities, see Table 7.1, within 500m of the site **2.e** Disabled access (accounting for varying levels of disability and visual impairment) **2.f** Calculation of the existing public transport Accessibility Index (AI), see Methodology on the facing page **2.g** Current facilities for cyclists	
		Tra 01-03	**Project Manager**						The travel plan includes proposals to increase or improve sustainable modes of transport and movement of people and goods during the building's operation and use, see Methodology on the facing page.	
		Tra 01-04	**Project Manager**						If the occupier is known, involve them in the development of the travel plan.	
		Tra 01-05	**Project Manager**						Demonstrate that the travel plan will be implemented post construction and be supported by the building's management in operation.	
	Tra02 Sustainable Transport Measures	**Credit Clause**	**Owner**	**10**	**0**	**2**	**1**	**7**	**Criteria requirements**	**Assessor's comments**
	Will there be provision of sustainable transport measures to maximise the potential for local public, private and active transport?	**Prerequisite Tra 02-01**	**Project Manager**	10		2	1	7	Achieve the Tra 01 Transport assessment and travel plan credits.	Prerequisite.
		Tra 02-02	**Project Manager**						Identify the sustainable transport measures, see Table 7.4	
		Tra 02-03	**Project Manager**						Award credits according to the Accessible Index (AI) of the project, and the total number of points achieved for the options implemented, see Table 7.3	
	Section %			12	2	2	1	7		
	10.00%			0.833%	1.667%	1.667%	0.833%	5.833%		

BREEAM 2018 UK New Construction Pre-Assessment Tracker

Section 05 Water Credit Summary

	Credit Issue			Available	Anticipated	Target A	Target B	Unlikely	Credit Criteria	Comments
Water	**Wat01 Water Consumption**	**Credit Clause**	**Owner**	**5**	**2**	**0**	**0**	**3**	**Criteria requirements**	**Assessor's comments**
	What is the target for % reduction in potable water consumption for sanitary use in the building?	**Wat 01-01**	**Architect**	5	2			3	Use the BREEAM Wat 01 calculator to assess the efficiency of the domestic water-consuming components.	Minimum Mandatory Standard for Very Good Rating and above (1 credit i.e. 12.5% reduction).
		Wat 01-02	**Architect**						Use the standard Wat 01 method (see Methodology on the next page) to compare the water consumption (litres/person/day) for the assessed building against a baseline performance. Award BREEAM credits based upon Table 8.1	
		Wat 01-03	**Architect**						If a greywater or rainwater system (see Definitions on page 196) is specified, use its yield in L/person/day to offset potable water demand from components.	Assuming no greywater system is specified. Please advise otherwise.
		Wat 01-04	**Architect or Civil/Structural**						If a greywater or rainwater system is specified and installed: **4.a** Greywater systems in compliance with BS 8525-1:2010 Greywater systems - Part 1 Code of Practice. **4.b** Rainwater systems in compliance with BS 8515:2009+A1:2013 Rainwater harvesting systems - Code of practice.	
		Wat 01-05	**Architect**						**Health Care Only** - If applicable, the flushing control for each WC or urinal must be suitable for operation by patients with frail or infirm hands or activated by electronic sensors.	
		Wat 01-06	**Architect**						**Prison Buildings Only** - Sanitary components specified within a prison cell have a volume controller specified on the individual fittings or water supply to each cell.	
		Wat 01-07	**Architect**						Achieve criteria 1 to 4 on the previous page.	
	Exemplary Level Criteria	**Wat 01-08**	**Architect**	1				1	The water consumption (litres/person/day) for the assessed building achieves the 65% improvement described as exemplary performance in Table 8.1.	
	Wat02 Water Monitoring	**Credit Clause**	**Owner**	**1**	**1**	**0**	**0**	**0**	**Criteria requirements**	**Assessor's comments**
	Will there be a water meter on the mains water supply to the building?	**Wat 02-01**	**M&E Engineer**	1	1				Specify a water meter on the mains water supply to each building. This includes instances where water is supplied via a borehole or other private source.	Minimum Mandatory Standard for Very Good Rating and above.
	Will metering/monitoring equipment be specified on the water supply to any relevant plant/building areas?	**Wat 02-02**	**M&E Engineer**						For water-consuming plant or building areas consuming 10% or more of the building's total water demand: **2.a** Fit easily accessible sub-meters **OR** **2.b** Install water monitoring equipment integral to the plant or area.	
	Will all specified water meters have a pulsed output?	**Wat 02-03**	**M&E Engineer**						For each meter (main and sub): **3.a** Install a pulsed or other open protocol communication output **AND** **3.b** Connect it to an appropriate utility monitoring and management system, e.g. a building management system (BMS), for the monitoring of water consumption. If there is no BMS system in operation at Post-Construction stage, award credits provided that the system used enables connection when the BMS becomes operational.	
		Wat 02-04	**M&E Engineer**						In buildings with swimming pools, or large water tanks and aquariums, fit separate sub-meters on the water supply of the above and any associated changing facilities (toilets, showers etc.) irrespective of their water consumption levels.	
		Wat 02-05	**M&E Engineer**						In buildings containing laboratories, fit a separate water meter on the water supply to any process or cooling loop for 'plumbed-in' laboratory process equipment, irrespective of their water consumption levels.	
	Additionally for those pursuing a post occupancy stage certification:	**Wat 02-06**	**M&E Engineer**						**At Post Occupancy** - The water monitoring strategy used enables the identification of all water consumption for sanitary uses as assessed under Wat 01 (litres/person/day), if a post occupancy stage certification is sought.	
	Wat03 Water leak detection	**Credit Clause**	**Owner**	**2**	**0**	**1**	**0**	**1**	**Criteria requirements**	**Assessor's comments**
	Will a mains water leak detection system be installed on the building's mains water supply?	**Wat 03-01**	**M&E Engineer**	1				1	Install a leak detection system capable of detecting a major water leak: **1.a** On the utilities water supply within the buildings, to detect any major leaks within the buildings **AND** **1.b** Between the buildings and the utilities water supply, to detect any major leaks between the utilities supply and the buildings under assessment.	
		Wat 03-02	**M&E Engineer**						**2.a** A permanent automated water leak detection system that alerts the building occupants to the leak **OR** an inbuilt automated diagnostic procedure for detecting leaks **2.b** Activated when the flow of water passing through the water meter or data logger is at a flow rate above a pre-set maximum for a pre-set period of time. This usually involves installing a system which detects higher than normal flow rates at meters or sub-meters. It does not necessarily require a system that directly detects water leakage along part or the whole length of the water supply system **2.c** Able to identify different flow and therefore leakage rates, e.g. continuous, high or low level, over set time periods. Although high and low level leakage rates are not specified, the leak detection equipment installed must have the flexibility to distinguish between different flow rates to enable it to be programmed to suit the building type and owner's or occupier's usage patterns. **2.d** Programmable to suit the owner's or occupier's water consumption criteria **2.e** Where applicable, designed to avoid false alarms caused by normal operation of large water consuming plant such as chillers. **Where there is physically no space for a leak detection system between the utilities water meter and the building, alternative solutions can be used, provided that a major leak can still be detected**	
	Will flow control devices be installed in each sanitary area/facility?	**Wat 03-03**	**M&E Engineer**	1		1			Install flow control devices that regulate the water supply to each WC area or sanitary facility according to demand, in order to minimise undetected wastage and leaks from sanitary fittings and supply pipework.	
	Section %			8.0	3.0	1.0	0.0	4.0		
	7.00%			0.875%	2.625%	0.875%	0.000%	3.500%		

BREEAM 2018 UK New Construction Pre-Assessment Tracker

Section 06 Materials Credit Summary

Credit Issue			Available	Anticipated	Target A	Target B	Unlikely	Credit Criteria	Comments
Mat01 Life cycle impacts	**Credit Clause**	**Owner**	**7**	**0**	**2**	**2**	**3**	**Criteria requirements**	**Assessor's comments**
Superstructure	**Mat 01-01**	**Architect**	6		2	1	3	**1** During the Concept Design, demonstrate the environmental performance of the building as follows: **1.a** Carry out a building LCA on of the superstructure design using either the BREEAM Simplified Building LCA tool or an IMPACT Compliant LCA tool according to the methodology. **1.b** Submit the Mat 01/02 Results Submission Tool to BRE at the end of Concept Design, and before planning permission is applied for (that includes external material or product specifications).	Early Action Credit (RIBA Stage 2). Carry out LCA for comparison with the BREEAM benchmarks. As part of the design process, the design team needs to consider the use of construction elements that will achieve the highest possible ratings in the Green Guide to Specification (specify products and materials which achieve Green Guide ratings A or A+ ratings where possible). Mat 01 points anticipated to be achieved >=5 giving 2 credits.
	Mat 01-02	**Architect**						**2** During Technical Design, demonstrate the environmental performance of the building as follows: **2.a** As criterion 1.a **2.b** Submit the Mat 01/02 Results Submission Tool to BRE at the end of Technical Design. Where a project has not achieved criterion 1, criterion 2 may still be achieved.	
	Mat 01-03	**Architect**						For offices, industrial and retail building types, achieve criterion 1	
	Mat 01-04	**Architect**						During Concept Design, identify opportunities for reducing environmental impacts as follows: **4.a** Carry out building LCA options appraisal of 2 to 4 significantly different superstructure design options (applicable to the Concept Design stage, see Methodology on page 212). **4.b** Use a building LCA tool that is recognised by BREEAM (as suitable for assessing superstructure during Concept Design) according to the methodology (see Methodology on page 212). **4.c** For each design option, fulfil the same functional requirements specified by the client and all statutory requirements (to ensure functional equivalency). **4.d** Integrate the LCA options appraisal activity within the wider design decision-making process. Record this in an options appraisal summary document. **4.e** Record the following in the Mat 01/02 Results Submission Tool: The differences between the design options; the design option selected by the client to be progressed beyond Concept Design; the reasons for selecting it and the reasons for not selecting the other design options. **4.f** Submit the Mat 01/02 Results Submission Tool to BRE at the end of Concept Design, and before planning permission is applied for.	
	Mat 01-05	**Architect**						During Technical Design identify opportunities for reducing environmental impacts as follows: **5.a** Carry out building LCA options appraisal of 2 to 3 significantly different superstructure design options (based on the selected Concept Design option and as applicable to the Technical Design stage **5.b** Use a building LCA tool that is recognised by BREEAM (as suitable for assessing superstructure during Technical Design) according to the methodology **5.c** As criteria4.c to 4.e above. . Where an options appraisal summary document was produced during Concept Design, update it to include the Technical Design options. **5.d** Submit the Mat 01/02 Results Submission Tool to BRE at the end of Technical Design. Where a project has not achieved criteria 3 and 4, criterion 5 may still be achieved.	
Substructure and hard landscaping options appraisal during Concept Design	**Mat 01-06**	**Architect**	1			1		Criteria 3 and 4 are achieved	
	Mat 01-07	**Architect**						During Concept Design identify opportunities for reducing environmental impacts as follows: **7.a** Carry out building LCA options appraisal of a combined total of at least six significantly different substructure or hard landscaping design options (at least two shall be substructure and at least two shall be hard landscaping). **7.b** Using a building LCA tool that is recognised by BREEAM (as suitable for assessing substructure and hard landscaping during Concept Design) according to the methodology **7.c** As criteria 4.c to 4.f above	
Exemplary Level Criteria - Core building services options appraisal during Concept Design	**Mat 01-08**	**Architect**	1				1	Criteria 3 to 4 are achieved.	
	Mat 01-09	**Architect**						During Concept Design identify opportunities for reducing environmental impacts as follows: **9.a** Carry out building LCA options appraisal of at least 3 significantly different core building services design options. **9.b** Use a building LCA tool that is recognised by BREEAM (as suitable for assessing core building services during Concept Design) according to the methodology. **9.c** As criteria 4.c to 4.f above.	
Exemplary Level Criteria - LCA and LCC alignment	**Mat 01-10**	**Architect**	1				1	Achieve criteria 3 to 5.	
	Mat 01-11	**Architect**						Achieve Elemental LCC plan and Component Level LCC options appraisal credits.	
	Mat 01-12	**Architect**						Include design options appraised for criteria 3 to 4 (and 6 to 7 and 8 to 9, if pursued) during Concept Design in Assessment scope - The elemental LCC plan.	
	Mat 01-13	**Architect**						Include the design options appraised for criterion 5 during Concept Design in the 'Component level LCC option appraisal'.	
	Mat 01-14	**Architect**						Integrate the aligned LCA and LCC options appraisal activity within the wider design decision-making process. Record this in an options appraisal summary document including the relevant cost information from the 'elemental LCC plan' and 'Component level LCC option appraisal'.	
Exemplary Level Criteria - Third party verification	**Mat 01-15**	**Architect**	1				1	Criteria 1 to 7 (as applicable to the building type) are achieved.	
	Mat 01-16	**Architect**						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 with reference to the requirements of criteria 1 to 7 (and 8 to 14 if pursued).	
	Mat 01-17	**Architect**						For each LCA option, itemise the findings of the verification checks made by the suitably qualified third party in the report including, as a minimum, the quality requirements show in Table 9.4	
	Mat 01-18	**Architect**						Include details of the suitably qualified third party's relevant skills and experience and a declaration of their third party independence from the project client and design team in the report.	
Mat02 Environmental Impacts from Construction Products	**Credit Clause**	**Owner**	**1**	**0**	**0**	**0**	**1**	**Criteria requirements**	**Assessor's comments**
Environmental Product Declaration (EPD)	**Mat 02-01**	**Architect**	1				1	Specify construction products with EPD that achieve a total EPD points score of at least 20, according to Table 9,8 and 9.9.	
	Mat 02-02	**Architect**						Enter the details of each EPD 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 credit award.	
Mat03 Responsible Sourcing of Materials	**Credit Clause**	**Owner**	**4**	**0**	**0**	**1**	**3**	**Criteria requirements**	**Assessor's comments**
All timber and timber-based products are 'Legally harvested and traded timber'	**Prerequisite Mat 03-01**	**Architect**						All timber and timber-based products used on the project are legally harvested and traded timber as per the UK Government's Timber Procurement Policy (TPP). **Compliance with criterion 1 is a minimum requirement for achieving any BREEAM rating.**	Prerequisite. Minimum Mandatory Standard for BREEAM certification
Is there a documented sustainable procurement plan?	**Mat 03-02**	**Contractor**	1				1	A sustainable procurement plan must be used by the design team to guide specification towards sustainable construction products. The plan must: **2.a** Be in place before Concept Design. **2.b** Include sustainability aims, objectives and strategic targets to guide procurement activities. Note: targets do not need to be achieved for the credit to be awarded but justification must be provided for targets that are not achieved. **2.c** Include a requirement for assessing the potential to procure construction products locally. There must be a policy to procure construction products locally where possible. **2.d** Include details of procedures in place to check and verify the effective implementation of the sustainable procurement plan. In addition, if the plan is applied to several sites or adopted at an organisational level it must: **2.e** Identify the risks and opportunities of procurement against a broad range of social, environmental and economic issues following the process set out in BS ISO 20400:2017.	Early Action Credit (RIBA Stage 2). Sustainable Procurement Plan – Must be used by the design team to guide specification towards sustainable construction products.
Percentage of available responsible sourcing of materials points achieved.	**Mat 03-03**	**Architect**	3			1	2	Use the Mat 03 calculator tool and methodology to determine the number of credits achieved for the construction products specified or procured. Credits are awarded in proportion to the scope of the assessment and the number of points achieved, as set out in Table 9.10.	Possible restrictions on the sourcing of materials (Responsible Sourcing Scheme providers) and additional document control to maintain a chain of custody of the evidence/path for products.
Will exemplary criteria be achieved?	**Mat 03-04**		1				1		
Mat04 Insulation	**Credit Clause**	**Owner**	**0**	**0**	**0**	**0**	**0**	**Criteria requirements**	**Assessor's comments**
								This is no longer assessed as a separate issue within BREEAM UK New Construction 2018.	

Materials

BREEAM 2018 UK New Construction Pre-Assessment Tracker

Mat05 Designing for Durability and Resilience	Credit Clause	Owner	1	1	0	0	0	Criteria requirements	Assessor's comments
Protecting vulnerable parts of the building from damage		Architect	1	1				Protection measures are incorporated into the building's design and construction to reduce damage to the building's fabric or materials in case of accidental or malicious damage occurring. These measures must provide protection against: **1.a** Negative impacts of high user numbers in relevant areas of the building (e.g. corridors, lifts, stairs, doors etc.). **1.b** Damage from any vehicle or trolley movements within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas. **1.c** External building fabric damage by a vehicle. Protection where parking or manoeuvring areas are within 1 metre of the building façade and where delivery areas or routes are within 2 metres of the façade, i.e. specifying bollards or protection rails. **1.d** Potential malicious damage to building materials and finishes, in public and common areas where appropriate.	
Protecting exposed parts of the building from material degradation		Architect						Key exposed building elements have been designed and specified to limit long and short term degradation due to environmental factors. This can be demonstrated through one of the following: **2.a** The element or product achieving an appropriate quality or durability standard or design guide, see Table 9.14 on the facing page. If none are available, use BS 7543:2015(165) as the default appropriate standard **OR** **2.b** A detailed assessment of the element's resilience when exposed to the applicable material degradation and environmental factors.	
		Architect						Include convenient access to the roof and façade for cost-effective cleaning, replacement and repair in the building's design.	
		Architect						Design the roof and façade to prevent water damage, ingress and detrimental ponding. See Table 9.14 on the facing page for an example list of relevant industry durability and quality standards.	
Mat06 Material efficiency	**Credit Clause**	**Owner**	**1**	**1**	**0**	**0**	**0**	**Criteria requirements**	**Assessor's comments**
Will material efficiency measures be identified and implemented during all RIBA stages?	**Mat 06-01**	**ALL**	1	1				At the Preparation and Brief and Concept Design stages, set targets and report on opportunities and methods to optimise the use of materials. These must be done for each of the following stages. See Table 9.15: **1.a** Preparation and Brief **1.b** Concept Design **1.c** Developed Design **1.d** Technical Design **1.e** Construction	Early Action Credit (RIBA Stage 2). Material Efficiency Report – Investigation and identification of measures to optimize the use of materials in building design, construction, maintenance and end of life.
	Mat 06-02	**ALL**						Develop and record the implementation of material efficiency, see Table 9.15 below, during: **2.a** Developed Design **2.b** Technical Design **2.c** Construction	
	Mat 06-03	**ALL**						Report the targets and actual material efficiencies achieved.	
Section %			14.0	2.0	2.0	3.0	7.0		
15.00%			1.071%	2.143%	2.143%	3.214%	7.500%		

Section 07 Waste Credit Summary

Credit Issue			Available	Anticipated	Target A	Target B	Unlikely	Credit Criteria	Comments
Wst01 Construction Waste Management	**Credit Clause**	**Owner**	**4**	**1**	**2**	**0**	**1**	**Criteria requirements**	**Assessor's comments**
Pre-Demolition Audit	**Wst 01 - 01**	**Contractor**	0					Complete a **pre-demolition audit** of any existing buildings, structures or hard surfaces being considered for demolition. This must be used to determine whether refurbishment or reuse is feasible and, in the case of demolition, to maximise the recovery of material for subsequent high grade or value applications. The audit must cover the content of Pre-demolition audit scope on the next page and: **1.a** Be carried out at Concept Design stage **(RIBA Stage 2)** by a competent person prior to strip-out or demolition works **1.b** Guide the design, consider materials for reuse and set targets for waste management **1.c** Engage all contractors in the process of maximising high grade reuse and recycling opportunities **1.d** Compare actual waste arisings and waste management routes used with those forecast and investigate significant deviations from planned targets.	Early Action Credit (RIBA Stage 2). Pre-Demolition Audit – A competent person to complete a pre-demolition audit of any existing buildings, structures or hard surfaces being considered for demolition. This must be used to determine whether refurbishment or reuse is feasible and, in the case of demolition, to maximise the recovery of material for subsequent high grade or value applications. Confirm appointment of Demolition Contractor to carry out the pre-demolition audit.
	Wst 01 - 02	**Contractor**						Make reference to the audit in the resource management plan (RMP)	
Construction resource efficiency	**Wst 01 - 03**	**Contractor**	3	1	1		1	Prepare a compliant Resource Management Plan (RMP) covering: **3.a** Non-hazardous waste materials (from on-site construction and dedicated off-site manufacture or fabrication, see Definitions on page 246), including demolition and excavation waste **3.b** Accurate data records on waste arisings and waste management routes.	
	Wst 01 - 04	**Contractor**						Meet or improve upon the benchmarks in Table 10.1 for non-hazardous construction waste, excluding demolition and excavation waste.	
Diversion of Resources from Landfill	**Wst 01 - 05**	**Contractor**	1		1			Meet, where applicable, the diversion from landfill benchmarks in Table 10.2 for non-hazardous construction waste and demolition and excavation waste generated.	
	Wst 01 - 06	**Contractor**						Sort waste materials into separate key waste groups as per Table 10.3, either on-site or through a licensed contractor for recovery.	
Exemplary Level Criteria	**Wst 01 - 07**	**Contractor**	1				1	Non-hazardous construction waste generated, excluding demolition and excavation waste, is less than or equal to the exemplary level resource efficiency benchmarks (see Table 10.1).	
	Wst 01 - 08	**Contractor**						The percentage of non-hazardous construction, demolition and excavation waste (if relevant) diverted from landfill meets or exceeds the exemplary level percentage benchmarks in Table 10.2.	
	Wst 01 - 09	**Contractor**						All key waste groups in Table 10.3 for diversion from landfill are covered in the RMP.	
	Wst 01 - 10	**Contractor**						Waste data obtained from licensed external waste contractors is reliable and verifiable, by using data from EA/SEPA/EA Wales/NIEA Waste Return Forms or from a PAS 402:2013 compliant company.	
Wst02 Recycled Aggregates	**Credit Clause**	**Owner**	**1**	**0**	**0**	**0**	**1**	**Criteria requirements**	**Assessor's comments**
What is the target total % if high-grade aggregate that will be recycled/secondary aggregate?	**Pre-Requisite Wst 02-01**	**Contractor**	1				1	If demolition occurs on site, to encourage the reuse of site-won material on site, complete a pre-demolition audit of any existing buildings, structures or hard surfaces in accordance with Assessment scope - **Wst 01 Criterion 1**	
	Wst 02-02	**Contractor**						Identify all aggregate uses and types set out in Table 10.5 and Table 10.6	
	Wst 02-03	**Contractor**						Determine the quantity in tonnes for each identified use and aggregate type.	
	Wst 02-04	**Contractor**						Identify the region in which the aggregate source is located.	
	Wst 02-05	**Contractor**						Calculate the distance in kilometres travelled by all aggregates by transport type	
	Wst 02-06	**Contractor**						Enter the information into the BREEAM Wst 02 calculator to calculate the Project Sustainable Aggregate points. The corresponding number of BREEAM credits will be awarded as shown in Table 10.4	
Exemplary Level Criteria	**Wst 02-07**	**Contractor**	1				1	The Project Sustainable Aggregate Points score meets or exceeds the exemplary level performance benchmark in Table 10.4	
Wst03 Operational Waste	**Credit Clause**	**Owner**	**1**	**1**	**0**	**0**	**0**	**Criteria requirements**	**Assessor's comments**
Operational Waste	**Wst03 - 01**	**Architect**	1	1				Provide a dedicated space for the segregation and storage of operational recyclable waste generated. The space is: **1.a** Clearly labelled, to assist with segregation, storage and collection of the recyclable waste streams **1.b** Accessible to building occupants or facilities operators for the deposit of materials and collections by waste management contractors **1.c** Of a capacity appropriate to the building type, size, number of units (if relevant) and predicted volumes of waste that will arise from daily or weekly operational activities and occupancy rates.	1 credit required for BREEAM Excellent rating.
	Wst03 - 02	**Architect**						For consistent and large amounts of operational waste generated, provide: **2.a** Static waste compactors or balers; situated in a service area or dedicated waste management space **2.b** Vessels for composting suitable organic waste OR adequate spaces for storing segregated food waste and compostable organic material for collection and delivery to an alternative composting facility **2.c** A water outlet provided adjacent to or within the facility	
Additional for Healthcare Only	**Wst03 - 03**	**Client**						The specified or installed operational waste facilities are compliant with the relevant NHS guidelines for that part of the UK.	

Waste

BREEAM 2018 UK New Construction Pre-Assessment Tracker

Wst05 Adaptation to climate change	Credit Clause	Owner	1	0	0	0	1	Criteria requirements	Assessor's comments
Resilience of structure, fabric, building services and renewables installation	Wst 05-01	Architect	1				1	Conduct a climate change adaptation strategy appraisal using: **1.a** A systematic risk assessment to identify the impact of expected extreme weather conditions arising from climate change on the building over its projected life cycle. The assessment covers the installation of building services and renewable systems, as well as structural and fabric resilience aspects and includes (see Methodology below): **1.a.i** Hazard identification **1.a.ii** Hazard assessment **1.a.iii** Risk estimation **1.a.iv** Risk evaluation **1.a.v** Risk management.	Early Action Credit (RIBA Stage 2). Climate Change Adaption Report Strategy/ Appraisal.
	Wst 05-02	ALL						Develop recommendations or solutions based on the climate change adaptation strategy appraisal, before or during Concept Design, that aim to mitigate the identified impact.	
	Wst 05-03	ALL						Provide an update during Technical Design demonstrating how the recommendations or solutions proposed at Concept Design have been implemented where practical and cost effective. Omissions have been justified in writing by the assessor.	
Exemplary Level Criteria	Wst 05-04	ALL	1				1	Meet criteria 1 to 3 above.	
	Wst 05-05	ALL						Meet the criteria or achieve credits of the assessment issues given in Table 10.11	
Wst06 Design for Disassembly and adaptability	**Credit Clause**	**Owner**	**2**	**0**	**0**	**0**	**2**	**Criteria requirements**	**Assessor's comments**
Design for disassembly and functional adaptability - recommendations	Wst 06-01	ALL	1				1	Conduct a study to explore the ease of disassembly and the functional adaptation potential of different design scenarios by the end of Concept Design.	Early Action Credit (RIBA Stage 2). Functional Adaption Strategy Report – Recommendations for measures to be incorporated to facilitate future adaptation
	Wst 06-02	ALL						Develop recommendations or solutions (see Methodology below) based on the study (criterion 1 above), during or prior to Concept Design, that aim to enable and facilitate disassembly and functional adaptation.	
Disassembly and functional adaptability – implementation	Wst 06-03	ALL	1				1	Achieve criteria 1 and 2.	
	Wst 06-04	ALL						Provide an update, during Technical Design, on: 4.a How the recommendations or solutions proposed by Concept Design have been implemented where practical and cost effective. Omissions have been justified in writing to the assessor. 4.b Changes to the recommendations and solutions during the development of the Technical Design.	
	Wst 06-05	ALL						Produce a building adaptability and disassembly guide to communicate the characteristics allowing functional adaptability and disassembly to prospective tenants.	
Section %			9.0	2.0	2.0	0.0	5.0		
6.000%			0.667%	1.333%	1.333%	0.000%	3.333%		

BREEAM 2018 UK New Construction Pre-Assessment Tracker

Section 08 Land Use and Ecology Credit Summary

Credit Issue			Available	Anticipated	Target A	Target B	Unlikely	Credit Criteria	Comments
LE01 Site Selection	**Credit Clause**	**Owner**	**2**	**1**	**0**	**0**	**1**	**Criteria requirements**	**Assessor's comments**
Previously Occupied land	**LE 01-01**	**Project Manager**	1	1				At least 75% of the proposed development's footprint is on an area of land which has previously been occupied	Please confirm if at least 75% of the proposed development's footprint is on an area of land which has previously been occupied by industrial, commercial or domestic buildings or fixed surface infrastructure.
Contaminated Land	**LE 01-02**	**Ecologist**	1				1	A contaminated land professional's site investigation, risk assessment and appraisal has deemed land within the site to be affected by contamination. The site investigation, risk assessment and appraisal have identified: **2.a** The degree of contamination **2.b** The contaminant sources or types **2.c** The options for remediating sources of contamination which present an unacceptable risk.	Credits can only be awarded if contaminated land is discovered and subsequently remediated. This is a recognition of extra effort required to redevelop a brownfield site (old industrial type land). It is assumed that the land is contaminated.
	LE 01-03	**Contractor**						The client or principal contractor confirms that remediation of the site will be carried out in accordance with the remediation strategy and its implementation plan as recommended by the contaminated land professional.	
LE02 Identifying and understanding the risks and opportunities for the project	**Credit Clause**	**Owner**	**2**	**2**	**0**	**0**	**0**	**Criteria requirements**	**Assessor's comments**
Prerequisite - Assessment route selection	**Prerequisite LE 02-01**	**Ecologist**	1	1				An assessment route for the project has been determined using BREEAM Guidance Note GN34 BREEAM Ecological Risk Evaluation Checklist.	Prerequisite.
	Prerequisite LE02-02	**Contractor**						The client or contractor confirms compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site.	
Route 1	**LE 02-03**	**Ecologist**						Completion of the BREEAM Ecological Risk Evaluation Checklist indicates Assessment **route 1** can be used as the assessment.	Early Action Credit (RIBA Stage 1/2). Appointment of Suitably Qualified Ecologist to carry out Ecological Appraisal Report in accordance with BREEAM requirements. Confirm appointment of Ecologist.
Route 2	**LE 02-04**	**Ecologist**						An appropriate individual is appointed at a project stage that ensures early involvement in site configuration and, where necessary, can influence strategic planning decisions.	
	LE 02-05	**Ecologist**						Prior to the completion of the preparation and brief, an appropriate level of survey and evaluation (see Assessment route 2: For sites where complex ecological systems are likely to be present) has been carried out to determine the ecological baseline of the site, taking account of the zone of influence to establish: 5.a Current and potential ecological value and condition of the site, and related areas within the zone of influence. 5.b Direct and indirect risks to current ecological value 5.c Capacity and feasibility for enhancement of the ecological value of the site and, where relevant, areas within the zone of influence.	
	LE 02-06	**Ecologist**						Data are collated and shared with project team to inform the site preparation, design or construction works.	
Determining the ecological outcomes for the site	**LE 02-07**	**Ecologist**						Survey and evaluation criteria (criteria 3–6 above) relevant to the chosen route have been achieved.	
	LE 02-08	**Ecologist**						During Concept Design, the project team liaise and collaborate with representative stakeholders to identify and consider ecological outcome for the sites (appropriate to the scale and type of development) for the project.	
	LE 02-09	**Ecologist**						When determining the ecological outcome for the site, this must involve the identification, appraisal and selection of specific solutions and measures sufficiently early to influence key project planning decisions. This must be done in accordance with the following hierarchy of action: 9.a avoidance 9.b protection 9.c reduction or limitation of negative impacts 9.d on site compensation and, 9.e enhancement, considering the capacity and feasibility within the site, or where viable, off-site.	
	LE 02-10	**Ecologist**						Following this the optimal ecological outcome for the site is selected after liaising with representative stakeholders and the project team.	
Exemplary level Criteria	**LE 02-11**	**Ecologist**	1				1	Achieve criteria 8 to 10 above	
	LE 02-12	**Ecologist**						When determining the optimal ecological outcome for the site consider, in addition to those outlined in criteria 8 to 10 on the previous page, the wider site sustainability-related activities and the potential for ecosystem service related benefits. See Methodology below for a list of the minimum areas for consideration.	
	LE 02-13	**Ecologist**						Achieve the credits of the assessment issues outlined in the current manual.	
LE03 Managing negative impacts on ecology	**Credit Clause**	**Owner**	**3**	**2**	**1**	**0**	**0**	**Criteria requirements**	**Assessor's comments**
Prerequisite	**Prerequisite LE 03-01**	**Client**						**LE 02 has been achieved.**	Prerequisite.
Planning, liaison, implementation and data	**LE 03-02**	**Ecologist**	1	1				Roles and responsibilities have been clearly defined, allocated and implemented to support successful delivery of project outcomes at an early enough stage to influence the concept design or design brief.	
	LE 03-03	**Ecologist**						Site preparation and construction works have been planned for and are implemented at an early project stage to optimise benefits and outputs.	
	LE 03-04	**Ecologist**						The project team liaising and collaborating with representative stakeholders, taking into consideration data collated and shared, have implemented solutions, and measures have been selected during site preparation and construction works.	
Managing negative impacts of the project	**LE 03-05-06**	**Ecologist**	2	1	1			**Route 1 - 1 Credit only.** Negative impacts from site preparation and construction works have been managed according to the hierarchy (see Methodology) and no net impact has resulted.	
	LE 03-07-08	**Ecologist**						**Route 2 - up to 2 credits.** Negative impacts from site preparation and construction works have been managed according to the hierarchy (see Assessment route 2: For sites where complex ecological systems are likely to be present) and either: **7.a** No overall loss of ecological value has occurred (2 credits) **OR** **7.b** The loss of ecological value has been limited as far as possible (1 credit)	
LE04 Change and enhancement of ecological value	**Credit Clause**	**Owner**	**4**	**0**	**2**	**0**	**2**	**Criteria requirements**	**Assessor's comments**
Prerequisite - Identifying and understanding the risks and opportunities for the project	**Prerequisite LE 04-01**	**Client**						**LE 03 has been achieved.** Including the following, specific to the aims of this issue: **1.a** Roles and responsibilities have been clearly defined, allocated and implemented to support successful delivery of project outcomes **1.b** Site preparation and construction works have been planned for and implemented at a stage that is sufficiently early in the project to optimise benefits and outputs.	Prerequisite.
	Prerequisite LE 04-02	**Contractor**						The client or contractor confirms compliance is monitored against all relevant UK, EU or international legislation relating to the ecology of the site.	
Enhancement of ecology - **Route 1**	**LE 04-03**	**Ecologist**	0					The project team liaising and collaborating with representative stakeholders, taking into consideration data collated and shared, have implemented solutions and measures based on recommendations from recognised 'local' ecological expertise, specialist input and guidance to inform the adoption of locally relevant ecological solutions and measures which enhance the site.	Early Action Credit (RIBA Stage 1/2). Appointment of Suitably Qualified Ecologist to carry out Ecological Appraisal Report in accordance with BREEAM requirements. Assuming Route 2 is taken.
	LE 04-04	**Ecologist**						Data collated is provided to the local environmental records centres nearest to, or relevant for, the site.	
Liaison, implementation and data collation - **Route 2**	**LE 04-05**	**Ecologist**	1		1			The project team liaising and collaborating with representative stakeholders, taking into consideration data collated and shared, have implemented the solutions and measures selected in a way that enhances ecological value in the following order: **5.a** On site, and where this is not feasible, **5.b** Off site within the zone of influence.	
Enhancement of ecology - **Route 2**	**LE 04-06**	**Ecologist**	3		1		2	Credits are awarded on a scale of 1 to 3, based on the calculation of the change in ecological value occurring as a result of the project. This must be calculated in accordance with the process set out in either GN 35 - BREEAM, CEEQUAL, HQM Ecology Assessment Issues – Route 1 or GN 36 - BREEAM, CEEQUAL, HQM Ecology Assessment Issues – Route 2	
Exemplary level Criteria	**LE 04-07**	**Ecologist**	1				1	The change in ecological value occurring is calculated in accordance with the process set out in GN36 - BREEAM, CEEQUAL and HQM Ecology Calculation Methodology – Route 2. The credit is awarded as follows: 7.a Significant net gain of ecological value (percentage score of 110 or above)	

Land Use and Ecology

BREEAM 2018 UK New Construction Pre-Assessment Tracker

Land Use and Ecology

LE05 Long term ecology management and maintenance	Credit Clause	Owner	2	0	0	2	0	Criteria requirements	Assessor's comments
Pre-requisite - Roles and responsibilities, implementation, statutory obligations	**LE 05-01**	**Client**	0					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.	Early Action Credit (RIBA Stage 1/2). Appointment of Suitably Qualified Ecologist to carry out Ecological Appraisal Report in accordance with BREEAM requirements.
	LE 05-02	**Client**						Where pursued, **LE 04 has been achieved**, including the following specific aims of this issue: **2.a** Roles and responsibilities have been clearly defined, allocated and implemented to support successful delivery of project outcomes. **2.b** Site preparation and construction works have been planned for and implemented at a stage that is sufficiently early in the project to optimise benefits and outputs.	
Planning, liaison, data, monitoring and review management and maintenance	**LE 05-03**	**Contractor**	1			1		The project team liaise and collaborate with representative stakeholders, taking into consideration data collated and shared, on solutions and measures implemented to: **3.a** monitor and review implementation and the effectiveness **3.b** develop and review management and maintenance solutions, actions or measures.	
	LE 05-04	**Contractor**						In support of the above and to help ensure their continued relevance over the period of the project the following should be considered: **4.a** Monitoring and reporting of on the ecological outcomes for site implemented at the design and construction stage **4.b** Monitoring and reporting of outcomes and successes from the project **4.c** Arrangements for the ongoing management of landscape and habitat connected to the project (on and, where relevant, off site) **4.d** Maintaining the ecological value of the site and its relationship or connection to its zone of influence **4.e** Maintaining the site in line with the any sustainability linked activities, e.g. ecosystems benefits (LE 02). **4.f** Remedial or other management actions are carried out which relate to those identified in LE 02, LE 03 and LE 04.	
	LE 05-05	**Contractor**						As part of the tenant or building owner information supplied, include a section on Ecology and Biodiversity to inform the owner or occupant of local ecological features, value and biodiversity on or near the site.	
Landscape and ecology management plan (or similar) development	**LE 05-06**	**Contractor**	1			1		Landscape and ecology management plan, or similar, is developed in accordance with BS 42020:2013(203) covering as a minimum the first five years after project completion and includes: **6.a** Actions and responsibilities, prior to handover, to give to relevant individuals **6.b** The ecological value and condition of the site over the development life. **6.c** Identification of opportunities for ongoing alignment with activities external to the development project and which supports the aims of BREEAM's Strategic Ecology Framework **6.d** Identification and guidance s to trigger appropriate remedial actions to address previously unforeseen impacts **6.e** Clearly defined and allocated roles and responsibilities	
	LE 05-07	**Contractor**						The landscape and management plan or similar is updated as appropriate to support maintenance of the ecological value of the site.	
Section %			13.0	5.0	3.0	2.0	3.0		
13.000%			1.000%	5.000%	3.000%	2.000%	3.000%		

BREEAM 2018 UK New Construction Pre-Assessment Tracker

Section 09 Pollution Credit Summary

	Credit Issue			Available	Anticipated	Target A	Target B	Unlikely	Credit Criteria	Comments
Pollution	**Pol01 Impact of Refrigerants**		**Owner**	**3**	**3**	**0**	**0**	**0**	**Criteria requirements**	**Assessor's comments**
	No refrigerant Present (**3 credits default**)	**Pol 01 -01**	**M&E Engineer**	3	3				No refrigerant use within the installed plant or systems. **(3 credits)**	
	Refrigerant Present - Pre-requisite	**Pol 01 -02**	**M&E Engineer**						**OR** All systems with electric compressors comply with the requirements of BS EN 378:2016(204) (parts 2 and 3). Refrigeration systems containing ammonia comply with the Institute of Refrigeration Ammonia Refrigeration Systems code of practice **AND**	Prerequisite, if refrigerant systems are present.
	Impact of Refrigerant (**Up to 2 credits**)	**Pol 01 -03**	**M&E Engineer**						The direct effect life cycle CO_2 equivalent emissions (DELC) of ≤ 100 CO_2-eq/kW. For systems which provide cooling and heating, the worst performing output based on the lower of kW cooling output and kW heating output is used to complete the calculation **(2 credits)**	
		Pol 01 -04	**M&E Engineer**						**OR** All refrigerants used have a global warming potential (GWP) ≤ 10. **(2 Credits)**	
		Pol 01 -05	**M&E Engineer**						**OR** Systems using refrigerants have a DELC of ≤ 1000 kgCO_2-eq/kW cooling and heating capacity. **(1 Credit)**	
	Leak detection **(1 credit)**	**Pol 01 -06**	**M&E Engineer**						All systems are hermetically sealed or only use environmentally benign refrigerants	
		Pol 01 -07	**M&E Engineer**						**OR** Where the systems are not hermetically sealed: **7.a** Systems have: **7.a**.i A permanent automated refrigerant leak detection system, that is robust and tested, and capable of continuously monitoring for leaks. **OR** **7.a.ii** An inbuilt automated diagnostic procedure for detecting leakage is enabled. **7.b** In the event of a leak, the system must be capable of automatically responding and managing the remaining refrigerant charge to limit loss of refrigerant	
	Pol02 Local Air Quality		**Owner**	**2**	**0**	**0**	**2**	**0**	**Criteria requirements**	**Assessor's comments**
	Levels of Nox, (mg.kWh), VOC emissions and PM10 emissions	**Pol 02-01**	**M&E Engineer**	2			2		All heating and hot water is supplied by non-combustion systems. For example, only powered by electricity **OR**	Depending on heating/ hot water strategy.
		Pol 02-02	**M&E Engineer**						Emissions from all installed combustion plant that provide space heating and domestic hot water do not exceed the levels set in Table 12.4 and Table 12.5. The measurements must be provided by manufacturers, following the labelling requirements of the European directive 2009/125/EC. No credits can be awarded for Pol 02 if any of the combustion appliances are not covered in Table 12.4 below and Table 12.5.	
		Pol 02-03	**M&E Engineer**						Emissions from all installed combustion plant that provide space heating and domestic hot water do not exceed the levels set in Table 1.21 and Table 1.22	
	Pol03 Flood and surface water management		**Owner**	**5**	**5**	**0**	**0**	**0**	**Criteria requirements**	**Assessor's comments**
	Prerequisite	**Prerequisite POL 03-01**	**Civil / Structural**	0					An appropriate consultant is appointed to carry out and demonstrate the development's compliance with all criteria.	Early Action Credit (RIBA Stage 2/3). Site Specific Flood Risk Assessment (FRA) - Undertaken by an appropriate consultant, confirming: The flood zone in which the development is situated, the specification of SuDS/ pollution prevention. Given the location of the site, there is a possibility that the site will be deemed low flood zone. Therefore 2 credits have been assumed and it is anticipated that all necessary studies are carried out to meet BREEAM requirements in such a case. Please confirm appointment of Civil/ Structural Engineer to carry out Floor Risk Assessment.
	Flood resilience	**POL 03-02**	**Civil / Structural**	2	2				**LOW FLOOD RISK 2 Credits -** A site-specific flood risk assessment (FRA) confirms the development is in a flood zone that is defined as having a low annual probability of flooding. The FRA takes all current and future sources of flooding into consideration.	Assuming low flood zone - 2 credits.
		POL 03-03	**Civil / Structural**						**MEDIUM / HIGH FLOOD RISK - 1 Credit**. A site-specific FRA confirms the development is in a flood zone that is defined as having a medium or high annual probability of flooding and is not in a functional floodplain. The FRA must take all current and future sources of flooding into consideration. **For smaller sites refer to Level of detail required in the FRA for smaller sites which overrides criterion 2 above.**	
		POL 03-04	**Civil / Structural**						**AND** To increase the resilience and resistance of the development to flooding, one of the following must be achieved: **4.a** The ground level of the building and access to both the building and the site, are designed (or zoned) so they are at least 600 mm above the design flood level of the site's flood zone. **4.b** The final design of the building and the wider site reflects the recommendations made by an appropriate consultant in accordance with the hierarchy approach outlined in section 5 of BS 8533:2017.	
	Surface water run-off	**Prerequisite POL 03-05**	**Civil / Structural**						**Prerequisite for surface water run-off credits** - Surface water run-off design solutions must be bespoke, i.e. they must take account of the specific site requirements and natural or man-made environment of and surrounding the site. The priority levels detailed in the Methodology must be followed, with justification given by the appropriate consultant where water is allowed to leave the site.	
		POL 03-06	**Civil / Structural**	1	1				Drainage measures are specified so that the peak rate of run-off from the site to the watercourses (natural or municipal) shows a 30% improvement for the developed site compared with the pre-developed site. This should comply at the 1-year and 100-year return period events.	
		POL 03-07	**Civil / Structural**						Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified Sustainable Drainage Systems (SuDS) are in place.	
		POL 03-08	**Civil / Structural**						Calculations include an allowance for climate change. This should be made in accordance with current best practice planning guidance	
		POL 03-09	**Civil / Structural**	1	1				Flooding of property will not occur in the event of local drainage system failure (caused either by extreme rainfall or a lack of maintenance); **AND**	Early Action Credit (RIBA Stage 2/3). Site Specific Flood Risk Assessment (FRA) - Undertaken by an appropriate consultant, confirming: The flood zone in which the development is situated, the specification of SuDS/ pollution prevention. These credits often require a more onerous calculation study to be undertaken and often require the installation of rainwater attenuation / SUDs measures that might not otherwise be required.
		POL 03-10	**Civil / Structural**						Drainage design measures are specified so that the post-development run-off volume, over the development lifetime, is no greater than it would have been prior to the assessed site's development. This must be for the 100-year 6-hour event, including an allowance for climate change	
		POL 03-11	**Civil / Structural**						Any additional predicted volume of run-off for this event is prevented from leaving the site by using infiltration or other SuDS techniques **OR**	
		POL 03-12	**Civil / Structural**						Justification from the appropriate consultant indicating why the above criteria cannot be achieved, i.e. where infiltration or other SuDS techniques are not technically viable options	
		POL 03-13	**Civil / Structural**						Drainage design measures are specified so that the post-development peak rate of run-off is reduced to the limiting discharge. The limiting discharge is defined as the highest flow rate from the following options: **13.a** The pre-development one-year peak flow rate **13.b** The mean annual flow rate (Qbar) **13.c** 2L/s/ha.	
		POL 03-14	**Civil / Structural**						Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS are in place.	
		POL 03-15	**Civil / Structural**						For either option, above calculations must include an allowance for climate change; this should be made in accordance with current best practice planning guidance.	
	Minimising watercourse pollution	**POL 03-16**	**Civil / Structural**	1	1				There is no discharge from the developed site for rainfall up to 5 mm.	
		POL 03-17	**Civil / Structural**						Areas with a low risk source of watercourse pollution, an appropriate level of pollution prevention treatment is provided, using appropriate SuDS techniques.	
		POL 03-18	**Civil / Structural**						Areas with a high risk of contamination or spillage of substances, such as petrol and oil, have separators (or an equivalent system) are installed in surface water drainage systems.	
		POL 03-19	**Civil / Structural**						Chemical or liquid gas storage areas have a means of containment fitted to the site drainage system (i.e. shutoff valves). This is to prevent the escape of chemicals to natural watercourses in the event of a spillage or bunding failure.	
		POL 03-20	**Civil / Structural**						All water pollution prevention systems have been designed and installed in accordance with the recommendations of documents such as the SuDS manual and other relevant industry best practice. They must be bespoke solutions taking account of the specific site requirements and natural or man-made environment of and surrounding the site.	
		POL 03-21	**Civil / Structural**						A comprehensive and up to date drainage plan of the site will be made available for the building or site occupiers.	
		POL 03-22	**Civil / Structural**						Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS must be in place.	
		POL 03-23	**Civil / Structural**						All external storage and delivery areas are designed and detailed in accordance with the current best practice planning guidance.	
	Pol04 Reduction of Night Time Light Pollution		**Owner**	**1**	**1**	**0**	**0**	**0**	**Criteria requirements**	**Assessor's comments**
	Will the external lighting specification be designed to reduce light pollution?	**POL 04-01**	**M&E Engineer**	1	1				External lighting pollution has been eliminated through effective design that removes the need for external lighting. This does not adversely affect the safety and security of the site and its users.	
		POL 04-02	**M&E Engineer**						**OR** The external lighting strategy has been designed in compliance with Table 2 (and its accompanying notes) of the Institution of Lighting Professionals (ILP) Guidance notes for the reduction of obtrusive light, 2011.	
		POL 04-03	**M&E Engineer**						All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00.	
		POL 04-04	**M&E Engineer**						If safety or security lighting is provided and will be used between 23:00 and 07:00, this part of the lighting system complies with the lower levels of lighting recommended during these hours in Table 2 of the ILP guidance notes.	
		POL 04-05	**M&E Engineer**						Illuminated advertisements are designed in compliance with ILP PLG05 The Brightness of Illuminated Advertisements.	

BREEAM 2018 UK New Construction Pre-Assessment Tracker

Pol05 Reduction of Noise Pollution		Owner	1	1	0	0	0	Criteria requirements	Assessor's comments
Will there be noise-sensitive areas/buildings within 800m radius of the development?	POL 05-01	Project Manager	1	1				There are no noise-sensitive areas within the assessed building or within 800 m radius of the assessed site.	Please confirm there are no noise-sensitive areas or buildings within 800 m radius of the assessed site. Landscapes or buildings where the occupiers are likely to be sensitive to noise created by the new plant installed in the assessed building, including: 1. Residential areas 2. Hospitals, health centres, care homes, doctor's surgeries etc.3. Schools, colleges and other teaching establishments 4. Libraries 5. Places of worship 6. Wildlife areas, historic landscapes, parks and gardens 7. Located in an Area of Outstanding Natural Beauty (AONB) or near a Site of Special Scientific Interest (SSSI) 8. Any other development that can be considered noise-sensitive.
Will a noise impact assessment be carried out and, if applicable, noise attenuation measures specified?	POL 05-02	Acoustician						**OR** Where there are noise-sensitive areas within the assessed building or noise-sensitive areas within 800 m radius of the assessed site, a noise impact assessment compliant with BS 4142:2014(220) is commissioned. Noise levels must be measured or determined for: **2.a** Existing background noise levels: **2.a.i** at the nearest or most exposed noise-sensitive development to the proposed assessed site. **2.a.ii** including existing plant on a building, where the assessed development is an extension to the building **2.b** Noise rating level from the assessed building.	
	POL 05-03	Acoustician						The noise impact assessment must be carried out by a suitably qualified acoustic consultant.	
	POL 05-04	Acoustician						The noise level from the assessed building, as measured in the locality of the nearest or most exposed noise sensitive development, must be at least 5dB lower than the background noise throughout the day and night.	
	POL 05-05	Acoustician						If the noise sources from the assessed building are greater than the levels described in criterion 4, measures have been installed to attenuate the noise at its source to a level where it will comply with the criterion.	
Section %			12.0	10.0	0.0	2.0	0.0		
8.00%			0.667%	6.667%	0.000%	1.333%	0.000%		

Section 10 Exemplary Level Performance

	Credit Issue	Available	Anticipated	Target A	Target B	Unlikely	Comments
	Innovation	16	**0.00**	**0.00**	**1.00**	**15.00**	
Innovation	Man 03 Responsible Construction Practices	1	0	0	1	0	**Note that only a maximum of 10 Innovation / Exemplary level credits can be claimed. These are scored at 1% per credit rather than under individual section weightings. Manual Check Required to confirm only 10 credits are claimed.**
	Hea 01 Visual Comfort	1	0	0	0	1	
	Hea 02 Indoor Air Quality	1	0	0	0	1	
	Ene 01 Reduction of energy use and CO2 emissions 1	2	0	0	0	2	
	Ene 01 Reduction of energy use and CO2 emissions 2	1	0	0	0	1	
	Ene 01 Reduction of energy use and CO2 emissions 3	2	0	0	0	2	
	Wat 01 Water Consumption	1	0	0	0	1	
	Mat 01 Environmental impacts from construction products - Building life cycle 1assessment (LCA) - 1	1	0	0	0	1	
	Mat 01 Environmental impacts from construction products - Building life cycle 1assessment (LCA) - 2	1	0	0	0	1	
	Mat 01 Environmental impacts from construction products - Building life cycle 1assessment (LCA) - 3	1	0	0	0	1	
	Mat 03 Responsible sourcing of construction products	1	0	0	0	1	
	Wst 01 Construction waste management	1	0	0	0	1	
	Wst 02 Use of recycled and sustainably sourced aggregates	1	0	0	0	1	
	Wst 05 Adaptation to climate change	1	0	0	0	1	
	LE02 Identifying and understanding the risks and opportunities for the project	1	0	0	0	1	
	LE04 Change and enhancement of ecological value	1	0	0	0	1	
	Total	18	0	0	1	17	
	Section %	10	0	0	1	9	
	10.00%	1.000%	0.000%	0.000%	1.000%	9.000%	

	Anticipated	Target A	Target B	Unlikely
Total Credits Summary	49	11	14	66
Total Percentages Summary	35.16%	9.54%	11.94%	53.36%
Anticipated Only	35.16%			
Anticipated plus Target A credits	44.70%			
Anticipated plus Target A and B credits	56.64%			