BREEAM UK New Construction 2014 Pre- Assessment Tracker

Project name: Office and R&B building, Newquay Aero hub Development
Project number: P0348
BREEAM assessor: EK
Checked by: JMcM
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Revision: B

Assessment information
Building name: Office and R&B building, Newquay Aero hub Development
Country: England
Building type (main description): Offices
Building type (syb-group): Office with research & development areas
Building floor area (GIA) m2: 617
BREEAM scheme: New Construction
BREEAM version: 2014 (SD5076)
BREEAM UK 2014 technical manual issue number: SD5076 Issue 5.0
Project type: New Construction (Fully fitted)
Assessment stage: Pre- Assessment
Location type: Rural (< 3000 population)

This tracker is to be read in conjunction and cross referenced with the SD5076 BREEAM UK New Construction 2014 Technical Manual - England. This includes for each assessed credit's assessment criteria, checklists and tables, compliance notes, methodology and evidence. Types of evidence required to demonstrate compliance with BREEAM issues are explained in the 'BREEAM evidential requirements' section on pages 29-35 of the guide.

				Credits Summary						
				Available	Anticipated	Target A	Target B	Unlikely		
	Man 01 Project Brief and Design	Credit Clause	Owner	4	4	0	0	0	Criteria requirements	Assessor Comment
Management	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: Man 01-01 requirements to be completed prior to RIBA Stage 2.
		MAN 01-02	Project Manager						In defining the roles and responsibilities for each key phase of the project, the following must be considered: a. End user requirements b. Aims of the design and design strategy c. Particular installation and construction requirements/limitations d. Occupiers' budget and technical expertise in maintaining any proposed systems e. Maintainability and adaptability of the proposals f. Requirements for the production of project and end user documentation g. Requirements for commissioning, training and aftercare support.	
		MAN 01-03	Project Manager						The project team demonstrates how the project delivery stakeholder contributions and the outcomes of the consultation process have influenced or changed the Initial Project Brief, including if appropriate, the Project Execution Plan, Communication Strategy, and the Concept Design.	
	Will stakeholder consultation (third party) take place?	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. The minimum consultation content of the consultation plan will be dependent on the building but would typically include the following: 1. Functionality, build quality and impact (including aesthetics). 2. Provision of appropriate internal and external facilities (for future building occupants and visitors/users). 3. Management and operational implications. 4. Maintenance resources implications. 5. Impacts on the local community, e.g. local traffic/transport impact. 6. Opportunities for shared use of facilities and infrastructure with the community/appropriate stakeholders, if relevant/appropriate to building type. 7. Compliance with statutory (national/local) consultation requirements. 8. Inclusive and accessible design.	Early Action Credit: Man 01-04 requirements to be completed prior to RIBA Stage 2.
		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. See Relevant definitions.	Not applicable to building type.
	Will a sustainability champion (design) be assigned?	MAN 01-08	Sustainability Champion	1	1				A Sustainability Champion has been appointed to facilitate the setting and achievement of BREEAM performance targets for the project. The design stage Sustainability Champion is appointed to perform this role during the feasibility stage **(Stage 1, Preparation and Brief stage, as defined by the RIBA Plan of Work 2013 or equivalent).**	Early Action Credit
		MAN 01-09	Project Manager						The defined BREEAM performance target(s) has been formally agreed (see Relevant definitions) between the client and design/project team no later than the Concept Design stage **(RIBA Stage 2 or equivalent).**	
		MAN 01-10	BREEAM assessor						To achieve this credit at the interim design stage assessment, the agreed BREEAM performance target(s) must be demonstrably achieved by the project design. This must be demonstrated via the BREEAM assessor's design stage assessment report.	
	Will a sustainability champion (monitoring progress) be assigned?	MAN 01-11	Sustainability Champion	1	1				The Sustainability Champion criteria 8, 9 and 10 have been achieved.	
		MAN 01-12	Sustainability Champion						A Sustainability Champion is appointed to monitor progress against the agreed BREEAM performance target(s) throughout the design process and formally report progress to the client and design team.	

	Man 02 Life Cycle Cost and Service Life Planning	Credit Clause	Owner	4	1	0	3	0	Criteria requirements	Assessor Comment
	Will an elemental life cycle cost (LCC)analysis be carried out?	MAN 02-01	Cost Consultant	2			2		An outline, entire asset elemental life cycle cost (LCC) plan has been carried out at **Process Stage 2 (equivalent to Concept Design - RIBA Stage 2)** in line with 'Standardised method of life cycle costing for construction procurement' PD 156865:2008.	Early Action Credit: Ed Crossley to provide costs.
		MAN 02-02	Cost Consultant						The elemental LCC plan: 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); b. Includes service life, maintenance and operation cost estimates.	
		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/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 component level LCC plan has been developed by the end of **Process Stage 4 (equivalent to Technical Design – RIBA Stage 4)** in line with PD 156865:2008 and includes the following component types (where present): a. Envelope, e.g. cladding, windows, and/or roofing b. Services, e.g. heat source cooling source, and/or controls c. Finishes, e.g. walls, floors and/or ceilings d. External spaces, e.g. alternative hard landscaping, boundary protection.	Ed Crossley to provide costs.
		MAN 02-05	Cost Consultant						Demonstrate, using appropriate examples provided by the design team, how the component level LCC cycle appraisal has been used to influence building and systems design/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 refurbishment/fit-out works in pounds per square metre (£k/m2 via the BREEAM Assessment Scoring and Reporting tool).	
	Man 03 Responsible Construction Practices	**Credit Clause**	**Owner**	**6**	**6**	**0**	**0**	**0**	**Criteria requirements**	**Assessor Comment**
	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' (see Relevant definitions).	Mandatory criteria
	Will/does the principal contractor operate a compliant Environmental Management System?	MAN 03-02	Contractor	1	1				The principal contractor operates an environmental management system (EMS) covering their main operations. The EMS must be either: a. Third party certified, to ISO 14001/EMAS or equivalent standard; or b. Have a structure that is in compliance with BS 8555: 2003 and has reached phase four of the implementation stage, 'implementation and operation of the environmental management system', and has completed phase audits 1 to 4, as defined in BS 8555:2003.	
		MAN 03-03	Contractor						The principal contractor implements best practice pollution prevention policies and procedures on-site in accordance with Pollution Prevention Guidelines, Working at construction and demolition-sites: PPG6.	
	Will a construction stage sustainability champion be assigned?	MAN 03-04	Sustainability Champion	1	1				A Sustainability Champion is appointed to monitor the project to ensure ongoing compliance with the relevant sustainability performance/process criteria, and therefore BREEAM target(s), during the Construction, Handover and Close Out stages (as defined by the **RIBA Plan of Works 2013, Stages 5 and 6**).To do this the Sustainability Champion will ideally be site based or will visit the site regularly to carry out spot checks, with the relevant authority to do so, and will require action to be taken to address shortcomings in compliance. The Sustainability Champion will monitor site activities with sufficient frequency (see compliance note CN3.3) to ensure that risks of non-compliance are minimised. They will report on progress at relevant project team meetings including identifying potential areas of non-compliance and any action needed to mitigate.	
		MAN 03-05	Contractor						The defined BREEAM performance target forms a requirement of the principal contractor's contract.	
		MAN 03-06	BREEAM assessor						To achieve this credit at the final post construction stage of assessment, the BREEAM-related performance target for the project must be demonstrably achieved by the project. This is demonstrated via the BREEAM assessor's final post construction stage assessment report.	
	Will a considerate construction scheme be used by the principal contractor? (One credit where 'compliance' has been achieved. Two credits where 'compliance' is significantly exceeded.)	MAN 03-07	Contractor	2	2				The principal contractor has used a 'compliant' organisational, local or national considerate construction scheme and their performance against the scheme has been confirmed by independent assessment and verification. The BREEAM credits can be awarded as follows: a. One credit where the contractor achieves 'compliance' with the criteria of a compliant scheme. b. Two credits where the contractor significantly exceeds 'compliance' with the criteria of the scheme. Refer to the Relevant definitions section for a list of compliant schemes and therefore how performance, as determined by a compliant scheme, translates into BREEAM credits.	One credit required as a minimum standard for achieving a BREEAM Excellent rating.
	Will construction site impacts be metered/monitored?	MAN 03-08	Contractor	1	1				Responsibility has been assigned to an individual(s) for monitoring, recording and reporting energy use, water consumption and transport data (where measured) resulting from all on-site construction processes (and dedicated off-site monitoring) throughout the build programme. To ensure the robust collection of information, this individual(s) must have the appropriate authority and responsibility to request and access the data required. Where appointed, the Sustainability Champion could perform this role.	
	Will site utility consumption be metered/monitored?	MAN 03-09	Contractor						Criterion 8 is achieved.	
		MAN 03-10	Contractor						Monitor and record data on principal constructor's and subcontractors' 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 03-11	Contractor						Report the total carbon dioxide emissions (total kgCO2/project value) from the construction process via the BREEAM Assessment Scoring and Reporting tool.	
		MAN 03-12	Contractor						Criterion 8 is achieved.	
		MAN 03-13	Contractor						Monitor and record data on principal constructor's and subcontractors' potable water consumption (m^3) arising from the use of construction plant, equipment (mobile and fixed) and site accommodation.	
		MAN 03-14	Contractor/ BREEAM Assessor						Using the collated data report the total net water consumption (m^3), i.e. consumption minus any recycled water use from the construction process via the BREEAM Assessment Scoring and Reporting tool.	
	Will transport of construction materials and waste be metered/monitored?	MAN 03-15	Contractor	1	1				Criterion 8 is achieved.	
		MAN 03-16	Contractor						Monitor and record data on transport movements and impacts resulting from delivery of the majority of construction materials to site and construction waste from site. As a minimum this must cover: a. Transport of materials from the factory gate to the building site, including any transport, intermediate storage and distribution, (see Relevant definitions). b. Scope of this monitoring must cover the following as a minimum: i. Materials used in major building elements (i.e. those defined in BREEAM issue Mat 01 Life cycle impacts), including insulation materials. ii. Ground works and landscaping materials. c. Transport of construction waste from the construction gate to waste disposal processing/recovery centre gate. Scope of this monitoring must cover the construction waste groups outlined in the project's waste management plan.	
		MAN 03-17	Contractor/ BREEAM Assessor						Using the collated data, report separately for materials and waste, the total fuel consumption (litres) and total carbon dioxide emissions (kgCO2 eq), plus total distance travelled (km) via the BREEAM Assessment Scoring and Reporting tool.	
	Will exemplary level criteria be met?									

Management

	Man 04 Commissioning and Handover	Credit Clause	Owner	4	3	1	0	0	Criteria requirements	Assessor Comment
	Will commissioning schedule and responsibilities be developed & accounted for?	MAN 04-01	Contractor	1	1				A schedule of commissioning and testing that identifies and includes a suitable timescale for commissioning and re-commissioning of all complex and non-complex building services and control systems and testing and inspecting building fabric.	
		MAN 04-02	Contractor						The schedule will identify the appropriate standards that all commissioning activities will be conducted in accordance with, such as current Building Regulations, BSRIA 1 and CIBSE2 guidelines and/or other appropriate standards, where applicable. Where a building management system (BMS) is specified, refer to compliance note CN3.2 on BMS commissioning procedures.	
		MAN 04-03	Contractor						An appropriate project team member(s) is appointed to monitor and programme pre-commissioning, commissioning, testing and, where necessary, re-commissioning activities on behalf of the Client.	
		MAN 04-04	Contractor						The principal contractor accounts for the commissioning and testing programme, responsibilities and criteria within their budget and main programme of works, allowing for the required time to complete all commissioning and testing activities prior to handover.	
	Will a specialist commissioning manager be appointed?	MAN 04-05	Contractor	1	1				The commissioning and testing schedule and responsibilities credit is achieved.	
		MAN 04-06	Contractor						For buildings with complex building services and systems, a specialist commissioning manager is appointed during the design stage (by either the client or the principal contractor) with responsibility for: a. Undertaking design reviews and giving advice on suitability for ease of commissioning. b. Providing commissioning management input to construction programming and during installation stages. c. Management of commissioning, performance testing and handover/post-handover stages. Where there are simple building services, this role can be carried out by an appropriate project team member (see criterion 3), provided they are not involved in the general installation works for the building services system(s).	Commissioning manager to be appointed at design stages.
	Will the building fabric be commissioned?	MAN 04-07	Contractor	1		1			The commissioning and testing schedule and responsibilities credit is achieved.	Based on specification and workmanship on site.
		MAN 04-08	Contractor						The integrity of the building fabric, including continuity of insulation, avoidance of thermal bridging and air leakage paths is quality assured through completion of post construction testing and inspection (see compliance notes CN3.3, CN3.4 and Man 04 Commissioning and handover). The survey and testing is undertaken by a Suitably Qualified Professional in accordance with the appropriate standard.	
		MAN 04-09	Contractor						Any defects identified in the thermographic survey or the airtightness testing reports are rectified prior to building handover and close out. Any remedial work must meet the required performance characteristics for the building/element.	
	Will a building user guide be developed prior to handover?	MAN 04-10	Contractor	1	1				A Building User Guide (BUG) is developed prior to handover, for distribution to the building occupiers and premises managers	Man 04-10 criterion required as a minimum standard for achieving a BREEAM Excellent rating.
	Will a training schedule for building occupiers/managers at Handover?	MAN 04-11	Contractor						A training schedule is prepared for building occupiers/premises managers, timed appropriately around handover and proposed occupation plans, which includes the following content as a minimum: a. The building's design intent b. The available aftercare provision and aftercare team main contact(s), including any scheduled seasonal commissioning and post occupancy evaluation c. Introduction to, and demonstration of, installed systems and key features, particularly building management systems, controls and their interfaces d. Introduction to the Building User Guide and other relevant building documentation, e.g. design data, technical guides, maintenance strategy, operations and maintenance (O&M) manual, commissioning records, log book etc. e. Maintenance requirements, including any maintenance contracts and regimes in place.	
Management	**Man 05 Aftercare**	**Credit Clause**	**Owner**	**3**	**2**	**1**	**0**	**0**	**Criteria requirements**	**Assessor Comment**
	Will aftercare support be provided to building occupiers?	MAN 05-01	Contractor	1	1				There is (or will be) operational infrastructure and resources in place to provide aftercare support to the building occupier(s), which includes the following as a minimum: a. A meeting programmed to occur between the aftercare team/individual and the building occupier/management (prior to initial occupation, or as soon as possible thereafter) to: i. Introduce the aftercare team or individual to the aftercare support available, including the Building User Guide (where existing) and training schedule/content. ii. Present key information about the building including the design intent and how to use the building to ensure it operates as efficiently and effectively as possible. b. On-site facilities management training, to include a walkabout of the building and introduction to and familiarisation with the building systems, their controls and how to operate them in accordance with the design intent and operational demands. c. Initial aftercare support provision for at least the first month of building occupation, e.g. on-site attendance on a weekly basis to support building users and management (this could be more or less frequent depending on the complexity of the building and building operations). d. Longer term aftercare support provision for occupants for at least the first 12 months from occupation, e.g. a helpline, nominated individual or other appropriate system to support building users/management.	
		MAN 05-02	Contractor						There is (or will be) operational infrastructure and resources in place to coordinate the collection and monitoring of energy and water consumption data for a minimum of 12 months, once the building is occupied. This is done to facilitate analysis of discrepancies between actual and predicted performance, with a view to adjusting systems and/or user behaviours accordingly.	
	Will seasonal commissioning occur over 12months once substantially occupied?	MAN 05-03	Contractor	1	1				The following seasonal commissioning activities will be completed over a minimum 12-month period, once the building becomes substantially occupied: a. Complex systems - Specialist Commissioning Manager: i. Testing of all building services under full load conditions, i.e. heating equipment in mid-winter, cooling/ventilation equipment in mid-summer, and under part load conditions (spring/autumn). ii. Where applicable, testing should also be carried out during periods of extreme (high or low) occupancy. iii. Interviews with building occupants (where they are affected by the complex services) to identify problems or concerns regarding the effectiveness of the systems. iv. Re-commissioning of systems (following any work needed to serve revised loads), and incorporating any revisions in operating procedures into the operations and maintenance (O&M) manuals.	Credit required as a minimum standard for achieving a BREEAM Excellent rating.
	Will a post occupancy evaluation be carried out 1 year after occupation?	MAN 05-04	Client	1		1			The client or building occupier makes a commitment to carry out a post occupancy evaluation (POE) exercise one year after initial building occupation. This is done to gain in-use performance feedback from building users to inform operational processes, including re-commissioning activities, and maintain or improve productivity, health, safety and comfort. The POE is carried out by an independent third party (see Man 01 Project brief and design – Relevant definitions) and needs to cover: a. A review of the design intent and construction process (review of design, procurement, construction and handover processes). b. Feedback from a wide range of building users including Facilities Management on the design and environmental conditions of the building covering: i. Internal environmental conditions (light, noise, temperature, air quality) ii. Control, operation and maintenance iii. Facilities and amenities iv. Access and layout v. Other relevant issues vi. Sustainability performance (energy/water consumption, performance of any sustainable features or technologies e.g. materials, renewable energy, rainwater harvesting etc.).	Credit achievable based on Client's willingness to commit. Will require design team collaboration to assist with the review of the design intent and construction process. For Offices: The BCO guide to Post Occupancy Evaluation (POE), British Council for Offices, 2007
		MAN 05-05	Client						The Client or building occupier makes a commitment to carry out the appropriate dissemination of information on the building's post occupancy performance. This is done to share good practice and lessons learned and inform changes in user behaviour, building operational processes and procedures, and system controls. Refer to compliance notes CN3.1 and CN3.2 for a definition of appropriate dissemination. This also provides advice on appropriate dissemination where the building or building information is commercially or security sensitive.	
	Will exemplary level criteria be met?	MAN 05-06								
	Section %			21	16	2	3	0		
	12.000%			0.571%	9.143%	1.143%	1.714%	0.000%		

				Credits Summary						
				Available	Anticipated	Target A	Target B	Unlikely		
	Hea 01 Visual Comfort	Credit Clause	Owner	4	3	1	0	0	Criteria requirements	Assessor Comment
	Will the design provide adequate glare control for building users?	HEA 01-01	Architect	1	1				The potential for disabling glare has been designed out of all relevant building areas using a glare control strategy, either through building form and layout and/or building design measures (see compliance note CN7).	Glare is to be controlled by means of blinds that can be manually adjusted by users. Curtains do not meet the criteria for the glare control credit, as they do not provide sufficient control to optimise daylight in to the space.
		HEA 01-02	Architect						The glare control strategy avoids increasing lighting energy consumption, by ensuring that: a. The glare control system is designed to maximise daylight levels under all conditions while avoiding disabling glare in the workplace or other sensitive areas. The system should not inhibit daylight from entering the space under cloudy conditions, or when sunlight is not on the façade: AND b. The use or location of shading does not conflict with the operation of lighting control systems.	
	Will relevant building areas be designed to achieve appropriate daylight factor(s)?	HEA 01-03	Architect	1		1			Daylighting criteria have been met using either of the following options: a. The relevant building areas meet good practice daylight factor(s) and other criterion as outlined in Table 10 and Table 11. b. The relevant building areas meet good practice average and minimum point daylight illuminance criteria as outlined in Table 12 .	a) For all occupied spaces the average daylight factor required is 2% for a minimum area of 80% and a uniformity ratio of at least 0.3 or a minimum point daylight factor of at least 0.3 times the relevant average daylight factor (2%) OR the room depth criterion d/w +d/HW < 2/(1-RB) is satisfied. OR b) The average daylight illuminance and minimum daylight illuminance are according to table 12 for Offices. Dennis Carter to carry out daylight calculations and confirm if achievable.
	Will the design comply with the view out criteria for building users?	HEA 01-04	Architect	1	1				95% of the floor area in each relevant building areas is within 7m of a wall which has a window or permanent opening that provides an adequate view out.	
		HEA 01-05	Architect						The window/opening must be ≥ 20% of the surrounding wall area (refer to Hea 01 Visual comfort in the Additional information section). Where the room depth is greater than 7m, compliance is only possible where the percentage of window/opening is the same as, or greater than, the values in table 1.0 of BS 8206. The window/opening must be ≥ 20% of the surrounding wall area (refer to Relevant definitions in the Additional information section). Where the room depth is greater than 7m, compliance is only possible where the percentage of window/opening is the same as, or greater than, the values in Table 1.0 of BS 8206.	
	Will internal/external lighting levels, zoning and controls be specified in accordance with the relevant CIBSE Guides/British Standards?	HEA 01-07	M&E Engineer	1	1				All fluorescent and compact fluorescent lamps are fitted with high frequency ballasts.	Internal lighting is zoned to allow for occupant control: In office areas, zones of no more than four workplaces. Workstations adjacent to windows/ areas and other building areas separately zoned and controlled.
		HEA 01-08	M&E Engineer						Internal lighting in all relevant areas of the building is designed to provide an illuminance (lux) level appropriate to the tasks undertaken, accounting for building user concentration and comfort levels. This can be demonstrated through a lighting design strategy that provides illuminance levels in accordance with the SLL Code for Lighting 2012 and any other relevant industry standard.	
		HEA 01-09	M&E Engineer						For areas where computer screens are regularly used, the lighting design complies with CIBSE Lighting Guide 72 sections 2.4, 2.20, and 6.10 to 6.20. This gives recommendations highlighting: a. Limits to the luminance of the luminaires to avoid screen reflections. (Manufacturers' data for the luminaires should be sought to confirm this.) b. For 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. c. Recommendations for direct lighting, ceiling illuminance, and average wall illuminance.	
		HEA 01-10	M&E Engineer						All external lighting located within the construction zone is designed to provide illuminance levels that enable users to perform outdoor visual tasks efficiently and accurately, especially during the night. To demonstrate this, external lighting provided is specified in accordance with BS 5489-1:2013 Lighting of roads and public amenity areas3 and BS EN 12464-2:2014 Light and lighting - Lighting of work places - Part 2: Outdoor work places.	
		HEA 01-11	M&E Engineer						Internal lighting is zoned to allow for occupant control (see Relevant definitions) in accordance with the criteria below for relevant areas present within the building: a. In office areas, zones of no more than four workplaces b. Workstations adjacent to windows/atria and other building areas separately zoned and controlled.	
		HEA 01-12							Areas used for teaching, seminar or lecture purposes have lighting controls provided in accordance with CIBSE Lighting Guide 5.	Not applicable to building type.
		HEA 01-13							In addition the building type criteria in Table - 14 (where relevant) are met.	Not applicable to building type.
	Will exemplary level criteria be met?	HEA 01 - 14								
Health and Well-being	Hea 02 Indoor Air Quality	Credit Clause	Owner	5	1	2	2	0	Criteria requirements	Assessor Comment
	Will an air quality plan be produced and building designed to minimise air pollution?	HEA 02-01	Architect/Mech Eng	1		1			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	
	Will building be designed to minimise the concentration and recirculation of pollutants in the building?	HEA 02-02	Architect/Mech Eng	1			1		Provide fresh air into the building in accordance with the criteria of the relevant standard for ventilation.	Cost implications to be considered.
		HEA 02-03	M&E Engineer						Design ventilation pathways to minimise the build-up of air pollutants in the building, as follows: a. In air conditioned and mixed mode buildings/spaces: i. The building's air intakes and exhausts are over 10m apart and intakes are over 20m from sources of external pollution; OR ii. The location of the building's air intakes and exhausts, in relation to each other and external sources of pollution, is designed in accordance with BS EN 13779:2007 Annex A2. b. In naturally ventilated buildings/spaces: openable windows/ventilators are over 10m from sources of external pollution.	
		HEA 02-04	M&E Engineer						Where present, HVAC systems must incorporate suitable filtration to minimise external air pollution, as defined in BS EN 13779:2007 Annex A3.	
		HEA 02-05	M&E Engineer						Areas of the building subject to large and unpredictable or variable occupancy patterns have carbon dioxide (CO2) or air quality sensors specified and: a. In mechanical ventilated buildings/spaces: sensor(s) are linked to the mechanical ventilation system and provide demand-controlled ventilation to the space. b. In naturally ventilated buildings/spaces: sensors either have the ability to alert the building owner or manager when CO2 levels exceed the recommended set point, or are linked to controls with the ability to adjust the quantity of fresh air, i.e. automatic opening windows/roof vents.	
	Will the relevant products be specified to meet the VOC testing and emission levels required?	HEA 02-06	Architect	1		1			All decorative paints and varnishes specified meet the criteria in Table - 18.	Cost implications to be considered.
		HEA 02-07	Architect						At least five of the seven remaining product categories listed in Table 18 meet the testing requirements and emission levels criteria for volatile organic compound (VOC) emissions (listed in the table).	

	Will formaldehyde and total VOC levels be measured post construction?	HEA 02-08	Contractor	1			1		The formaldehyde concentration level is measured post construction (but pre-occupancy) and is found to be less than or equal to 100µg/m3 averaged over 30 minutes (WHO guidelines for indoor air quality: Selected pollutants, 2010).	Cost implications to be considered. Onerous criteria requirements post construction.
		HEA 02-09	Contractor						The total volatile organic compound (TVOC) concentration level is measured post construction (but pre-occupancy) and found to be less than 300µg/m3 over 8 hours, in line with the Building Regulation requirements.	
		HEA 02-10	Design Team						Where VOC and formaldehyde levels are found to exceed the limits defined in criteria 8 and 9, the project team confirms the measures that have, or will be taken, in accordance with the IAQ plan, to reduce the levels to within these limits.	
		HEA 02-11	Contractor						The testing and measurement of the above pollutants are in accordance with the following standards where relevant: a. BS ISO 16000-4: 2011 Diffusive sampling of formaldehyde in air b. BS ISO 16000-6: 2011 VOCs in air by active sampling c. BS EN ISO 16017-2: 2003 VOCs - Indoor, ambient and workplace air by diffusive sampling d. BS ISO 16000-3: 2011 Formaldehyde and other carbonyls in air by active sampling.	
		HEA 02-12	Contractor						The measured concentration levels of formaldehyde (µg/m3) and TVOC (µg/m3) are reported, via the BREEAM Assessment Scoring and Reporting Tool.	
	Will the building be designed to, or have the potential to provide, natural ventilation?	HEA 02-13	Architect/Mech Eng	1	1				The building ventilation strategy is designed to be flexible and adaptable to potential building occupant needs and climatic scenarios. This can be demonstrated as follows: a. Occupied spaces of the building are designed to be capable of providing fresh air entirely via a natural ventilation strategy. The following are methods deemed to satisfy this criterion dependent upon the complexity of the proposed system: i. Room depths are designed in accordance with CIBSE AM10 (section 2.4) to ensure effectiveness of any natural ventilation system. The openable window area in each occupied space is equivalent to 5% of the gross internal floor area of that room/floor plate; OR ii. The design demonstrates that the natural ventilation strategy provides adequate cross flow of air to maintain the required thermal comfort conditions and ventilation rates. This is demonstrated using ventilation design tool types that meet the requirements of CIBSE AM107 (or for education buildings by using the ClassVent tool). b. For a strategy which does not rely on openable windows, or which has occupied spaces with a plan depth greater than 15m, the design must demonstrate (in accordance with criterion 13.a.ii. above) that the ventilation strategy can provide adequate cross flow of air to maintain the required thermal comfort conditions and ventilation rates.	Assuming mixed mode ventilation strategy. Cost implications to be considered for user control levels.
		HEA 02-14	Architect/Mech Eng						The natural ventilation strategy is capable of providing at least two levels of user-control on the supply of fresh air to the occupied space (see compliance note CN3.3 for further details).	
	Will exemplary level VOCs (products)criteria be met?	HEA 02-15-20								
	Hea 04 Thermal Comfort	**Credit Clause**	**Owner**	**3**	**1**	**1**	**1**	**0**	**Criteria requirements**	**Assessor Comment**
	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 Environmental Modelling.	Early Action Credit: detailed design stages. Compliance with CIBSE Guide A and CIBSE TM52 is required for this credit. Compliance may require additional window opening area.
		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 (such methodologies must still be in accordance with CIBSE AM11).	
		HEA 04-03	M&E Engineer						The modelling demonstrates that: 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/level for the building type). b. For naturally ventilated/free running buildings: 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/level for the building type). ii. The building is designed to limit the risk of overheating, in accordance with the adaptive comfort methodology outlined in CIBSE TM52: The limits of thermal comfort: avoiding overheating in European buildings.	
		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.	Credit compliance based on thermal modelling output result.
		HEA 04-06	M&E Engineer						The thermal modelling demonstrates that the relevant requirements set out in criterion 3 are achieved for a projected climate change environment.	
		HEA 04-07	M&E Engineer						Where thermal comfort criteria are not met for the projected climate change environment, the project team demonstrates how the building has been adapted, or designed to be easily adapted in the future using passive design solutions in order to subsequently meet the requirements under criterion 7.	
		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.	
	Will the modelling inform the development of a thermal zoning and control strategy?	HEA 04-09	M&E Engineer	1	1				**Criteria 1 to 4 are achieved.**	
		HEA 04-10	M&E Engineer						The thermal modelling analysis (undertaken for compliance with criteria 1 to 4) has informed the temperature control strategy for the building and its users.	
		HEA 04-11	M&E Engineer						The strategy for proposed heating/cooling system(s) demonstrates that it has addressed the following: a. Zones within the building and how the building services could efficiently and appropriately heat or cool these areas. For example consider the different requirements for the central core of a building compared with the external perimeter adjacent to the windows. b. The degree of occupant control required for these zones, based on discussions with the end user (or alternatively building type or use specific design guidance, case studies, feedback) considers: i. User knowledge of building services ii. Occupancy type, patterns and room functions (and therefore appropriate level of control required) iii. How the user is likely to operate or interact with the system(s), e.g. are they likely to open windows, access thermostatic radiator valves (TRV) on radiators, change air-conditioning settings etc. iv. The user expectations (this may differ in the summer and winter) and degree of individual control (i.e. obtaining the balance between occupant preferences, for example some occupants like fresh air and others dislike draughts). c. How the proposed systems will interact with each other (where there is more than one system) and how this may affect the thermal comfort of the building occupants. d. The need or otherwise for an accessible building user actuated manual override for any automatic systems.	

Health and Well-being

Hea 05 Acoustic Performance	Credit Clause	Owner	3	0	3	0	0	Criteria requirements	Assessor Comment
Will the building meet the appropriate acoustic performance standards and testing requirements?	HEA 05 - 01-01	Acoustician	3		3			The building meets the appropriate acoustic performance standards and testing requirements defined in the checklists and tables section which defines criteria for the acoustic principles of: a. Sound insulation b. Indoor ambient noise level c.Reverberation times First credit: Sound insulation Criteria: The sound insulation between acoustically sensitive rooms and other occupied areas complies with the performance criteria given in Section 7 of BS 8233:2014. Testing requirement: A programme of pre-completion acoustic testing is carried out by a compliant test body in accordance with the acoustic testing and measurement procedures outlined in the Additional information section of this BREEAM issue. Second credit: Internal indoor ambient noise levels	Roger Green to confirm Acoustician Appointment.
	HEA 05 - 01-02	Acoustician						Criteria: Achieve indoor ambient noise levels that comply with the design ranges given in Section 7 of BS 8233:2014. Testing requirement: A programme of acoustic measurements is carried out by a compliant test body in accordance with the acoustic testing and measurement procedures outlines in the Additional information section of this BREEAM issue. Third credit: Reverberation Criteria: Acoustic environment (control of reverberation, sound absorption and speech transmission index): Achieve the requirements relating to sound absorption and reverberation times, where applicable, set out in Section 7 of BS 8233:2014. Testing requirement: A programme of acoustic measurements is carried out by a compliant test body in accordance with the acoustic testing and measurement procedures outlined in the Additional information section of this BREEAM issue.	

Hea 06 Safety and Security	Credit Clause	Owner	2	2	0	0	0	Criteria requirements	Assessor Comment
Where external site areas are present will safe access be designed for pedestrians and cyclists?	HEA 06-01	Architect/ Security Consultant	1	1				***Where external site areas form part of the assessed development the following apply:*** Dedicated cycle paths provide direct access from the site entrance(s) to any cycle storage provided, without the need to deviate from the cycle path and, if relevant, connect to off-site cycle paths (or other appropriate safe route) where these run adjacent to the development's site boundary.	
	HEA 06-02	Architect/ Security Consultant						Footpaths on-site provide direct access from the site entrance(s) to the building entrance(s) and connect to public footpaths off-site (where existing), providing practical and convenient access to local transport nodes and other off-site amenities (where existing).	
	HEA 06-03	Architect/ Security Consultant						Where provided, drop-off areas are designed off/adjoining to the access road and provide direct access to pedestrian footpaths, therefore avoiding the need for the pedestrian to cross vehicle access routes.	
	HEA 06-04	Architect/ Security Consultant						Dedicated pedestrian crossings are provided where pedestrian routes cross vehicle access routes, and appropriate traffic calming measures are in place to slow traffic down at these crossing points.	
	HEA 06-05	Architect/ Security Consultant						For large developments with a high number of public users or visitors, pedestrian footpaths must be signposted to other local amenities and public transport nodes off-site (where existing).	
	HEA 06-06	Architect/ Security Consultant						The lighting for access roads, pedestrian routes and cycle lanes is compliant with the external lighting criteria defined in Hea 01 Visual comfort, i.e. in accordance with BS 5489-1:2013 Lighting of roads and public amenity areas.	
	HEA 06-07	Architect/ Security Consultant						***Where vehicle delivery access and drop-off areas form part of the assessed development, the following apply:*** Delivery areas are not directly accessed through general parking areas and do not cross or share pedestrian and cyclist routes and other outside amenity areas accessible to building users and general public.	
	HEA 06-08	Architect/ Security Consultant						There is a dedicated parking/waiting area for goods vehicles with appropriate separation from the manoeuvring area and staff and visitor car parking.	
	HEA 06-09	Architect/ Security Consultant						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.	
	HEA 06-10	Architect/ Security Consultant						There is a dedicated space for the storage of refuse skips and pallets away from the delivery vehicle manoeuvring area and staff/visitor car parking (if appropriate given the building type/function).	
Will a suitably qualified security consultant be appointed and security considerations accounted for?	HEA 06-11	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).**	Early Action Credit: Security Consultant appointment before or during RIBA Stage 2. Roger Green to confirm SQSS Appointment.
	HEA 06-12	Security Consultant						The SQSS develops a set of recommendations or solutions during or prior to Concept Design (RIBA Stage 2 or equivalent). These recommendations or solutions aim to ensure that the design of buildings, public and private car parks and public or amenity space are planned, designed and specified to address the issues identified in the preceding SNA.	
	HEA 06-13	Security Consultant						The recommendations or solutions proposed by the SQSS are implemented (see CN3.6. Any deviation from those recommendations or solutions will need to be justified, documented and agreed in advance with a suitably qualified security specialist.	
Section %			17	7	7	3	0		
15.00%			0.882%	6.176%	6.176%	2.647%	0.000%		

Credits Summary

Available	Anticipated	Target A	Target B	Unlikely
12	5	1	0	6

Ene 01 Reduction of Energy Use and Carbon Emissions	Credit Clause	Owner	12	5	1	0	6	Criteria requirements	Assessor Comment
Energy performance	ENE 01-01	M&E Engineer	12	5	1		6	Calculate an Energy Performance Ratio for New Constructions (EPR NC). Compare the EPR NC achieved with the benchmarks in Table - 25 and award the corresponding number of BREEAM credits.	5 credits required (equivalent to an EPR of at least 0.375) as a minimum standard for achieving a BREEAM Excellent rating.
Will exemplary level criteria be met?									

Ene 02 Energy Monitoring	Credit Clause	Owner	2	2	0	0	0	Criteria requirements	Assessor Comment
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				Energy metering systems are installed that enable at least 90% of the estimated annual energy consumption of each fuel to be assigned to the various end-use categories of energy consuming systems.	Credit required as a minimum standard for achieving a BREEAM Excellent rating. For Office buildings: metering by floor plate
	ENE 02-02	M&E Engineer						The energy consuming systems in buildings with a total useful floor area greater than 1,000m² are metered using an appropriate energy monitoring and management system.	
	ENE 02-03	M&E Engineer						The systems in smaller buildings are metered either with an energy monitoring and management system or with separate accessible energy sub-meters with pulsed or other open protocol communication outputs, to enable future connection to an energy monitoring and management system (see Relevant definitions).	
	ENE 02-04	M&E Engineer						The energy consuming end uses are identifiable to the building users, 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 02-05	M&E Engineer	1	1				An accessible energy monitoring and management system or separate accessible energy sub-meters with pulsed or other open protocol communication outputs to enable future connection to an energy monitoring and management system are provided, covering a significant majority of the energy supply to tenanted areas or, in the case of single occupancy buildings, relevant function areas or departments within the building/unit.	Sufficient sub-metering to allow for monitoring of the relevant function areas or departments within the unit must be specified, in addition to metering of the unit as a whole.

Energy

Ene 03 External Lighting	Credit Clause	Owner	1	1	0	0	0	Criteria requirements	Assessor Comment
Will external light fittings and controls be specified in accordance with the BREEAM criteria?	ENE 03-01		1	1				The building has been designed to operate without the need for external lighting (which includes on the building, signs and at entrances). OR alternatively, where the building does have external lighting, one credit can be awarded as follows:	External lighting forms part of the works, therefore criteria Ene 03 - 02 - 03 apply.
	ENE 03-02	M&E Engineer						The average initial luminous efficacy of the external light fittings within the construction zone is not less than 60 luminaire lumens per circuit Watt.	
	ENE 03-03	M&E Engineer						All external light fittings are automatically controlled for prevention of operation during daylight hours and presence detection in areas of intermittent pedestrian traffic.	

Ene 04 Low Carbon Design	Credit Clause	Owner	3	3	0	0	0	Criteria requirements	Assessor Comment
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				The first credit within issue Hea 04 Thermal comfort has been achieved to demonstrate the building design can deliver appropriate thermal comfort levels in occupied spaces.	Early Action Credit
	ENE 04-02	Architect/Mech Eng						The project team carries out an analysis of the existing building fabric, form, site location and outline scheme design to influence decisions made during the **Concept Design stage (RIBA Stage 2 or equivalent)** and identifies opportunities for the implementation of passive design solutions and retrofit measures that reduce demands for energy consuming building services.	
	ENE 04-03	Architect/Mech Eng						The building uses passive design measures to reduce the total heating, cooling, mechanical ventilation and lighting loads and energy consumption in line with the findings of the passive design analysis and the analysis demonstrates a meaningful reduction in the total energy demand as a result.	
Will free cooling measures be implemented in the whole building in line with the passive design analysis?	ENE 04-04	Architect/Mech Eng	1	1				The passive design analysis credit is achieved.	
	ENE 04-05	Architect/Mech Eng						The passive design analysis carried out under criterion 2 includes an analysis of free cooling and identifies opportunities for the implementation of free cooling solutions.	
	ENE 04-06	Architect/Mech Eng						The building uses ANY of the free cooling strategies listed in compliance note CN8 to reduce the cooling energy demand.	
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 04-07	M&E Engineer	1	1				A feasibility study has been carried out by the completion of the Concept Design stage **(RIBA Stage 2 or equivalent)** by an energy specialist to establish the most appropriate recognised local (on-site or near-site) low or zero carbon (LZC) energy source(s) for the building/development.	Early Action Credit: Also requires the specification of LZCTs.
	ENE 04-08	Contractor						A local LZC technology/technologies has/have been specified for the building/development in line with the recommendations of this feasibility study and this method of supply results in a meaningful reduction in regulated carbon dioxide (CO2) emissions.	

Ene 06 Energy Efficient Transportation Systems	Credit Clause	Owner	3	3	0	0	0	Criteria requirements	Assessor Comment
Will a transportation system analysis be carried out to determine and specify the optimum number, size and type of lifts that is most energy efficient?	ENE 06-01	Lift Manufacturer/ Elec Engineer	1	1				Where lifts, escalators and/or moving walks (transportation types) are specified: a. An analysis of the transportation demand and usage patterns for the building has been carried out to determine the optimum number and size of lifts, escalators and/or moving walks. b. The energy consumption has been calculated in accordance with BS EN ISO 25745 Energy performance of lifts, escalators and moving walks, Part 2 : Energy calculation and classification for lifts (elevators) and/or Part 3: Energy calculation and classification for escalators and moving walks, for one of the following: i. At least two types of system (for each transportation type required); OR ii. An arrangement of systems (e.g. for lifts, hydraulic, traction, machine room-less lift (MRL)); OR iii. A system strategy which is 'fit for purpose'. c. The use of regenerative drives should be considered, subject to the requirements in CN3.3. d. The transportation system with the lowest energy consumption is specified.	
Will the relevant energy-efficient features criteria be met?	ENE 06-02	Lift Manufacturer/ Elec Engineer	2	2				Criterion 1 is achieved.	
	ENE 06-03							For each lift, the following three energy efficient features are specified: a. The lifts operate in a standby condition during off-peak periods. For example the power side of the lift controller and other operating equipment such as lift car lighting, user displays and ventilation fans switch off when the lift has been idle for a prescribed length of time. b. The lift car lighting and display lighting provides an average lamp efficacy, (across all fittings in the car) of > 55 lamp lumens/circuit Watt. c. The lift uses a drive controller capable of variable speed, variable-voltage, and variable-frequency (VVVF) control of the drive motor.	
	ENE 06-04	Lift Manufacturer/ Elec Engineer						Where the use of regenerative drives is demonstrated to save energy, they are specified.	
	ENE 06-05							Each escalator and/or moving walk complies with at least one of the following: It is fitted with a load-sensing device that synchronises motor output to passenger demand through a variable speed drive; OR	Not applicable to building type.
	ENE 06-06							It is fitted with a passenger-sensing device for automated operation (auto walk), so the escalator operates in standby mode when there is no passenger demand.	Not applicable to building type.

Ene 08 Energy Efficient Equipment	Credit Clause	Owner	2	2	0	0	0	Criteria requirements	Assessor Comment
Will the significant majority contributors to 'unregulated' energy use meet the BREEAM criteria?	ENE 08-01	Contractor/Client	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.	The following equipment will be awarded an Energy Star1 rating OR will be procured in accordance with the Government Buying Standards: 1. Office equipment (computer monitors, desktop monitors, scanners, photocopiers, printers, workstations, etc. 2. Other small powered equipment 3. Supplementary electric heating.
	ENE 08-02	Contractor/Client						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	Contractor/Client						Demonstrate a meaningful reduction in the total annual unregulated energy consumption of the building.	

Section %			23	16	1	0	6		
15.00%			0.652%	10.435%	0.652%	0.000%	3.913%		

Transport

			Credits Summary						
			Available	Anticipated	Target A	Target B	Unlikely		
Tra 01 Public Transport Accessibility	**Credit Clause**	**Owner**	**3**	**1**	**0**	**0**	**2**	**Criteria requirements**	**Assessor Comment**
Indicative Public Transport Accessibility Index	**TRA 01-01**	**Architect**	**3**	1			2	The public transport Accessibility Index (AI) for the assessed building is calculated and BREEAM credits awarded in accordance with the table of building types, AI benchmarks and BREEAM credits in Table 29 (see checklists and tables).	AI>2 for 1 credits, >4 for 2 credits, >8 for 3 credits. Some BREEAM compliant transport public nodes. Dennis Carter to check.
	TRA 02-02	**Architect**						The Accessibility Index is determined by entering the following information in to the BREEAM Tra 01 calculator: a. The distance (m) from the main building entrance to each compliant public transport node b. The public transport type(s) serving the compliant node e.g. bus or rail c. The average number of services stopping per hour at each compliant node during the operating hours of the building for a typical day (see compliance notes and Table 30 in the Additional Information section).	
	TRA 02-03	**Architect**						OR For buildings with a fixed shift pattern, i.e. where building users will predominantly arrive/depart at set times, one credit can be awarded where the building occupier provides, or commits to providing a dedicated bus service to and from the building at the beginning and end of each shift/ day.	A credit for a dedicated bus service is only available where the building has not achieved any credits for public transport AI.
Tra 02 Proximity to Amenities	**Credit Clause**	**Owner**	**1**	**0**	**0**	**0**	**1**	**Criteria requirements**	**Assessor Comment**
Will building be within close proximity of, and accessible to, applicable amenities?	**TRA 02-01**	**Architect**	**1**				1	Where the building is located within close proximity of, and accessible to, local amenities which are likely to be frequently required and used by building occupants, as outlined in Table 31 .	Core amenities in 500 m proximity: Appropriate food outlet, Access to cash, Access to a recreation facility for fitness sports. Relevant amenities: Access to an outdoor open space (public or private, provided suitably sized and accessible to building users), Publicly available postal facility, Community facility, Over the counter services associated with a pharmacy, Child care facility or school.
	TRA 02-02	**Architect**						Where a building type is indicated to have core amenities ('C' in Table 31) at least two of these must be provided as a part of the total number required. The remaining number of amenities required can be met using any other applicable amenities (including any remaining core amenities).	
Tra 03 Cyclist Facilities	**Credit Clause**	**Owner**	**2**	**2**	**0**	**0**	**0**	**Criteria requirements**	**Assessor Comment**
Will compliant cycle storage spaces be provided?	**TRA 03-01**	**Architect**	**1**	1				Compliant cycle storage spaces that meet the minimum levels set out in Table 32 (see Checklists and tables) are installed.	1 space per 10 building users is required. Occupancy number to be confirmed.
Will compliant cyclist facilities be provided?	**TRA 03-02**	**Architect**	**1**	1				Criterion 1 has been achieved.	
	TRA 03-03	**Architect**						At least two of the following types of compliant cyclist facilities have been provided for all building users (including pupils where appropriate to the building type) - see Relevant definitions for the scope of each compliant cyclist facility: a. Showers b. Changing facilities c. Lockers d. Drying spaces .	
Tra 04 Maximum Car Parking Capacity	**Credit Clause**	**Owner**	**2**	**0**	**0**	**0**	**2**	**Criteria requirements**	**Assessor Comment**
Will BREEAM's maximum car parking criteria for the building type/AI be met?	**TRA 04-01**	**Architect**	**2**				2	The building's car parking capacity is compared to the maximum car parking capacity benchmarks in Table 33 and the relevant number of BREEAM credits awarded.	For an AI <4 as assumed in Tra 01, 1 credit can be achieved if the maximum parking capacity is 1 space per 3 building users for 2 credits if the maximum parking capacity is 1 space per 4 building users. Not achievable based on the proposed car parking spaces.
	TRA 04-02	**Architect**						For most building types, except those where stated, the benchmarks vary according to the building's public transport Accessibility Index (AI determined in accordance with BREEAM issue Tra 01 Public transport accessibility). Therefore, for these building types the AI must be determined prior to assessing this issue. This is required to ensure that the building's car parking capacity is relative to the development's accessibility to the public transport network.	
Tra 05 Travel Plan	**Credit Clause**	**Owner**	**1**	**1**	**0**	**0**	**0**	**Criteria requirements**	**Assessor Comment**
Will a transport plan based on site specific travel/survey assessment be developed?	**TRA 05-01**	**Transport Consultant**	**1**	1				A travel plan has been developed as part of the **feasibility and design stages.**	Early Action Credit: Travel plan to be completed as part of the feasibility and design stages. Roger Green to confirm Transport Consultant Appointment.
	TRA 05-02	**Transport Consultant**						A site specific travel assessment/statement has been undertaken to ensure the travel plan is structured to meet the needs of the particular site and covers the following (as a minimum): a. Where relevant, existing travel patterns and opinions of existing building or site users towards cycling and walking so that constraints and opportunities can be identified. b. Travel patterns and transport impact of future building users. c. Current local environment for walkers and cyclists (accounting for visitors who may be accompanied by young children). d. Disabled access (accounting for varying levels of disability and visual impairment). e. Public transport links serving the site. f. Current facilities for cyclists.	
	TRA 05-03	**Transport Consultant**						The travel plan includes a package of measures to encourage the use of sustainable modes of transport and movement of people and goods during the building's operation and use.	
	TRA 05-04	**Client**						If the occupier is known, they must be involved in the development of the travel plan and they must confirm that the travel plan will be implemented post refurbishment or fit-out and be supported by the building's management in operation.	
Section %			9	4	0	0	5		
9.00%			1.000%	4.000%	0.000%	0.000%	5.000%		

				Credits Summary						
				Available	Anticipated	Target A	Target B	Unlikely		
Water	**Wat 01 Water Consumption**	**Credit Clause**	**Owner**	**5**	**3**	**0**	**1**	**1**	**Criteria requirements**	**Assessor Comment**
	What is the target for % reduction in potable water consumption for sanitary use in the building?	**WAT 01-01**	**Architect**	**5**	3		1	1	An assessment of the efficiency of the building's domestic water-consuming components is undertaken using the BREEAM Wat 01 calculator.	One credit required as a minimum standard for achieving a BREEAM Excellent rating. - Associated cost of installation of increased quality of low flow fittings. Improvement can be achieved with the specification of low flow taps, low volume dual flush WCs, low flow showers. Targetted credits based on the specification of rainwater system.
		WAT 01-02	**Architect**						The water consumption (L/person/day) for the assessed building is compared against a baseline performance and BREEAM credits awarded based upon Table 35 .	
		WAT 01-03	**Architect**						The efficiency of the following 'domestic scale' water-consuming components must be included in the assessment (where specified): a. WCs b. Urinals c. Taps (wash hand basins and where specified kitchen taps and waste disposal unit) d. Showers e. Baths f. Dishwashers (domestic and commercial sized) g. Washing machine (domestic and commercial or industrial sized)	
		WAT 01-04	**Architect or Civil/Structural**						Where a greywater and/or rainwater system is specified, its yield (l/person/day) is used to off-set non-potable water demand from components that would otherwise be supplied using potable water.	
		WAT 01-05	**Architect or Civil/Structural**						Any greywater systems must be specified and installed in compliance with BS 8525-1:2010 Greywater Systems - Part 1 Code of Practice1. Any rainwater systems must be specified and installed in compliance with BS 8515:2009 Rainwater Harvesting Systems - Code of practice.	
									Healthcare and prison buildings: refer to the relevant Compliance note for additional criteria regarding the specification of particular water-consuming component controls.	Not applicable to building type.
	Will exemplary level be met? 65% improvement over baseline									
	Wat 02 Water Monitoring	**Credit Clause**	**Owner**	**1**	**1**	**0**	**0**	**0**	**Criteria requirements**	**Assessor Comment**
	Will there be a water meter on the mains water supply to the building?	**WAT 02-01**	**M&E Engineer**	**1**	1				The specification of 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.	Wat 02 - 01 criteria required as a minimum standard for achieving a BREEAM Excellent rating.
	Will metering/monitoring equipment be specified on the water supply to any relevant plant/building areas?	**WAT 02-02**	**M&E Engineer**						Water-consuming plant or building areas, consuming 10% or more of the building's total water demand, are either fitted with easily accessible sub-meters or have water monitoring equipment integral to the plant or area (see Compliance notes).	
	Will all specified water meters have a pulsed output?	**WAT 02-03**	**M&E Engineer**						Each meter (main and sub) has a pulsed or other open protocol communication output to enable connection to an appropriate utility monitoring and management system, e.g. a building management system (BMS), for the monitoring of water consumption.	
	Where there is an existing BMS connection, will all pulsed meters be connected to the BMS?								If the site on which the building is located has an existing BMS, managed by the same occupier/owner (as the new building), the pulsed/digital water meter(s) for the new building must be connected to the existing BMS.	Not applicable to building type.
	Wat 03 Water Leak Detection	**Credit Clause**	**Owner**	**2**	**2**	**0**	**0**	**0**	**Criteria requirements**	**Assessor Comment**
	Will a mains water leak detection system be installed on the building's mains water supply?	**WAT 03-01**	**M&E Engineer**	**1**	1				A leak detection system which is capable of detecting a major water leak on the mains water supply within the building and between the building and the utilities water meter is installed. The leak detection system must be: 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 is installed. b. Activated when the flow of water passing through the water meter/data logger is at a flow rate above a pre-set maximum for a pre-set period of time. c. Able to identify different flow and therefore leakage rates, e.g. continuous, high and/or low level, over set time periods. d. Programmable to suit the owner/occupiers' water consumption criteria. e. Where applicable, designed to avoid false alarms caused by normal operation of large water-consuming plant such as chillers.	
	Will flow control devices be installed in each sanitary area/facility?	**WAT 03-02**	**M&E Engineer**	**1**	1				Flow control devices that regulate the supply of water to each WC area/facility according to demand are installed (and therefore minimise water leaks and wastage from sanitary fittings).	
	Wat 04 Water Efficient Equipment	**Credit Clause**	**Owner**	**1**	**1**	**0**	**0**	**0**	**Criteria requirements**	**Assessor Comment**
	Has a meaningful reduction in unregulated water demand been achieved?	**WAT 04-01**	**Design Team**	**1**	1				The design team has identified all unregulated water demands that could be realistically mitigated or reduced.	
		WAT 04-02	**Design Team**						System(s) or processes have been identified to reduce the unregulated water demand, and demonstrate, through either good practice design or specification, a meaningful reduction in the total water demand of the building.	
	Section %			9.0	7.0	0.0	1.0	1.0		
	7.00%			0.778%	5.444%	0.000%	0.778%	0.778%		

				Credits Summary						
				Available	Anticipated	Target A	Target B	Unlikely		
Materials	**Mat 01 Life Cycle Impacts**	**Credit Clause**	**Owner**	**5**	**5**	**0**	**0**	**0**	**Criteria requirements**	**Assessor Comment**
	Green Guide Rating points and Life cycle greenhouse gas emissions	**MAT 01-01**	**Architect**	**5**	5				BREEAM awards credits on the basis of the building's quantified environmental life cycle impact through assessment of the main building elements including external walls, windows, roof, upper floor slab, internal walls and floor finishes/coverings.	5 credits based on initial PDP 'Mat 01 Calculations' report (12 points + 6 anticipated)
		MAT 01-02	**Architect**						Credits are awarded on the basis of the total number of points achieved, as set out in Table - 39, and calculated using the BREEAM Mat 01 calculator. This point's score is based on the Green Guide rating(s) achieved for the specifications that make-up the main building elements (external walls, windows, roof, upper floor slab, internal walls and floor finishes/coverings.).	
		MAT 01-03	**Architect**						Life cycle greenhouse gas emissions (kgCO2eq.) for each element are also required to be reported based on a 60-year building life. Where specific data is not available for a product or element, generic data should be used. Generic data can be obtained from the online Green Guide for each element and must be entered in to the BREEAM Mat 01 calculator.	
	Will exemplary level criteria be met?		Architect			1				At least two points in addition to the total points required to achieve maximum credits under the standard BREEAM criteria (i.e 14 points in total)
	Mat 02 Hard Landscaping & Boundary Protection	**Credit Clause**	**Owner**	**1**	**1**	**0**	**0**	**0**	**Criteria requirements**	**Assessor Comment**
	Will >=80% of all external hard landscaping and boundary protection achieve a Green Guide A or A+ rating?	**MAT 02-01**	**Architect**	**1**	1				Where at least 80% of all external hard landscaping and 80% of all boundary protection (by area) in the construction zone achieves an A or A+ rating, as defined in the Green Guide to Specification. Green Guide ratings for the specification(s) of each element can be found at www.thegreenguide.org.uk.	
	Mat 03 Responsible Sourcing of Materials	**Credit Clause**	**Owner**	**4**	**2**	**0**	**0**	**2**	**Criteria requirements**	**Assessor Comment**
	All timber and timber-based products are 'Legally harvested and traded timber'.	**Pre-requisite MAT 03-01**	**Contractor**						All timber and timber-based products used on the project is Legally harvested and traded timber.	Criteria Mat 03-01 required as a minimum standard for achieving a BREEAM Excellent rating.
	Is there a documented sustainable procurement plan?	**MAT 03-02**	**Contractor**	**1**	1				The principal contractor sources materials for the project in accordance with a documented sustainable procurement plan.	
	Percentage of available responsible sourcing of materials points achieved.	**MAT 03-03**	**Contractor**	**3**	1			2	The available RSM credits (refer to Table 43) can be awarded where the applicable building materials (refer to Mat 03 Responsible sourcing of materials) are responsibly sourced in accordance with the BREEAM methodology, as defined in steps 1 to 2 in the Mat 03 Responsible sourcing of materials section. 1 RSM credit >= 18% of available RSM points achieved, 2 >= 36%, 3 >= 54%	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 level criteria be met?									
	Mat 04 Insulation	**Credit Clause**	**Owner**	**1**	**1**	**0**	**0**	**0**	**Criteria requirements**	**Assessor Comment**
	Will all new insulation specified for use within external walls, ground floor, roof and building services be assessed?	**MAT 04-01**	**Architect/ Contractor**	**1**	1				Any new insulation specified for use within the following building elements must be assessed: a. External walls b. Ground floor c. Roof d. Building services.	
	Will the Insulation Index for the insulation is the same or greater than 2.5?	**MAT 04-02**	**Architect/ Contractor**						The Insulation Index for the building fabric and services insulation is the same as or greater than 2.5.	
	Mat 05 Designing for Durability and Resilience	**Credit Clause**	**Owner**	**1**	**1**	**0**	**0**	**0**	**Criteria requirements**	**Assessor Comment**
	Will suitable durability/protection measures be specified and installed to vulnerable areas of the building?	**MAT 05-01**	**Architect/ Civil/ Structural**	**1**	1				The building incorporates suitable durability and protection measures or designed features/solutions to prevent damage to vulnerable parts of the internal and external building and landscaping elements. This must include, but is not necessarily limited to: a. Protection from the effects of high pedestrian traffic in main entrances, public areas and thoroughfares (corridors, lifts, stairs, doors etc.). b. Protection against any internal vehicular/trolley movement within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas. c. Protection against, or prevention from, any potential vehicular collision where vehicular parking and manoeuvring occurs within 1m of the external building façade for all car parking areas and within 2m for all delivery areas.	
	Will suitable durability/protection measures be incorporated to exposed parts of the building form?	**MAT 05-02**	**Architect/ Civil/ Structural**						The relevant building elements incorporate appropriate design and specification measures to limit material degradation due to environmental factors.	
	Mat 06 Material Efficiency	**Credit Clause**	**Owner**	**1**	**0**	**0**	**1**	**0**	**Criteria requirements**	**Assessor Comment**
	Will material efficiency be identified and implemented during all RIBA stages?	**Mat 06-01**	**Design Team**	**1**			1		Opportunities have been identified, and appropriate measures investigated and implemented within the scope of refurbishment or fit-out works, to optimise the use of materials through building design, procurement, refurbishment, maintenance and end of life.	Early Action Credit . BRE has avoided being overly prescriptive with the evidence requirements for this issue, recognising that this is a complex environmental and design issue, where solutions and approaches are largely influenced by building specific factors. The evidence required to demonstrate compliance will vary according to RIBA stage.
		Mat 06-02	**Design Team**						The above is carried out by the design/construction team in consultation with the relevant parties (see CN3) at each of the following RIBA stages: a. Preparation and Brief b. Concept Design c. Developed Design d. Technical Design e. Construction.	
	Section %			13.0	10.0	0.0	1.0	2.0		
	13.50%			1.038%	10.385%	0.000%	1.038%	2.077%		

				Credits Summary						
				Available	Anticipated	Target A	Target B	Unlikely		
Waste	**Wst 01 Construction Waste Management**	**Credit Clause**	**Owner**	**4**	**3**	**0**	**1**	**0**	**Criteria requirements**	**Evidence Status / Assessor Comment**
	Will a compliant resource management plan be developed and implemented ?	**WST 01-01**	**Client**	**3**	2		1		Where a Resource Management Plan (RMP) has been developed covering the non-hazardous waste related to on-site construction and dedicated off-site manufacture or fabrication (including demolition and excavation waste) generated by the building's design and construction.	
	Will the waste resource efficiency benchmarks be achieved?	**WST 01-02**	**Contractor**						Where construction waste related to on-site construction and dedicated off-site manufacture/fabrication (excluding demolition and excavation waste) meets or is lower than volumes shown on Table - 51.	
	Will a pre-demolition audit for any existing buildings be completed?	**WST 01-03**	**Contractor**						Where existing buildings on the site will be demolished a pre-demolition audit of any existing buildings, structures or hard surfaces is completed to determine if, in the case of demolition, refurbishment/reuse is feasible and, if not, to maximise the recovery of material from demolition for subsequent high grade/value applications. The audit must be referenced in the RMP and cover: a.Identification of the key refurbishment/demolition materials. b.Potential applications and any related issues for the reuse and recycling of the key refurbishment and demolition materials in accordance with the waste hierarchy.	
	What percentage of non-hazardous construction and demolition waste (where applicable) will be diverted from landfill?	**WST 01-04**	**Contractor**	**1**	1				The percentages in Table 52 of non-hazardous construction (on-site and off-site manufacture/fabrication in a dedicated facility), demolition and excavation waste (where applicable) generated by the project have been diverted from landfill.	
		WST 01-05	**Contractor**						Waste materials will be sorted into separate key waste groups as per Table - 53 (according to the waste streams generated by the scope of the works) either on-site or through a licensed contractor for recovery.	
	Will exemplary criteria be achieved?									
	Wst 02 Recycled Aggregates	**Credit Clause**	**Owner**	**1**	**0**	**0**	**1**	**0**	**Criteria requirements**	**Assessor Comment**
	What is the target total % if high-grade aggregate that will be recycled/secondary aggregate?	**WST 02-01**	**Architect**	**1**			1		The percentage of high grade aggregate that is recycled or secondary aggregate, specified in each application (present) must meet the following minimum % levels (by weight or volume) to contribute to the total amount of recycled or secondary aggregate, as specified in Table 54.	
		WST 02-02	**Contractor**						The total amount of recycled or secondary aggregate specified, and meeting criterion 1, is greater than 25% (by weight or volume) of the total high grade aggregate specified for the project. Where the minimum level in criterion 1 is not met for an application, all the aggregate in that application must be considered as primary aggregate when calculating the total high grade aggregate specified.	
		WST 02-04	**Contractor**						The recycled or secondary aggregates are EITHER: a.Construction, demolition and excavation waste obtained on-site or off-site; OR b.Secondary aggregates obtained from a non-construction post-consumer industrial by product source.	
	Will exemplary criteria be achieved?									
	Wst 03 Operational Waste	**Credit Clause**	**Owner**	**1**	**1**	**0**	**0**	**0**	**Criteria requirements**	**Assessor Comment**
	Will operational recyclable waste be segregated and stored?	**WST 03-01**	**Architect**	**1**	1				Dedicated space(s) is provided for the segregation and storage of operational recyclable waste volumes generated by the assessed building/unit, its occupant(s) and activities. This space must be: a. Clearly labelled, to assist with segregation, storage and collection of the recyclable waste streams b. Accessible to building occupants or facilities operators for the deposit of materials and collections by waste management contractors c. Of a capacity appropriate to the building type, size, number of units (if relevant) and predicted volumes of waste that will arise from daily/weekly operational activities and occupancy rates.	Minimum standard for achieving a BREEAM Excellent rating.
	Will static waste compactor(s) or vessel(s) be specified where appropriate?	**WST 03-02**	**Architect**						Where the consistent generation in volume of the appropriate operational waste streams is likely to exist, e.g. large amounts of packaging or compostable waste generated by the building's use and operation, the following facilities are provided: a. Static waste compactor(s) or baler(s); situated in a service area or dedicated waste management space. b. Vessel(s) for composting suitable organic waste resulting from the building's daily operation and use; OR adequate space(s) for storing segregated food waste and compostable organic material prior to collection and delivery to an alternative composting facility. c. Where organic waste is to be stored/composted on-site, a water outlet is provided adjacent to or within the facility for cleaning and hygiene purposes.	
	Wst 04 Speculative Finishes	**Credit Clause**	**Owner**	**1**	**1**	**0**	**0**	**0**	**Criteria requirements**	**Assessor Comment**
	Will the building's occupant(s)/ tenant(s) specify floor/ ceiling finishes?	**WST 04-01**		**1**	1				For tenanted areas (where the future occupant is not known), prior to full fit-out works, carpets, other floor finishes and ceiling finishes have been installed in a show area only.	
		WST 04-02	**Client**						In a building developed for a specific occupant, that occupant has selected (or agreed to) the specified floor and ceiling finishes.	
	Wst 05 Adaptation to Climate Change	**Credit Clause**	**Owner**	**1**	**1**	**0**	**0**	**0**	**Criteria requirements**	**Assessor Comment**
	Will a climate change adaptation strategy appraisal for structural and fabric resilience be conducted by the end of Concept Design (RIBA Stage 2 or equivalent)?	**WST 05-01**	**Architect/ Civil/ Structural**	**1**	1				Conduct a climate change adaptation strategy appraisal for structural and fabric resilience by the end of Concept Design **(RIBA Stage 2 or equivalent)**, in accordance with the following approach: a. Carry out a systematic (structural and fabric resilience specific) risk assessment to identify and evaluate the impact on the building over its projected life cycle from expected extreme weather conditions arising from climate change and, where feasible, mitigate against these impacts. The assessment should cover the following stages: i. Hazard identification ii. Hazard assessment iii. Risk estimation iv. Risk evaluation v. Risk management.	Early Action Credit
	Will exemplary criteria be achieved?									
	Wst 06 Functional Adaptability	**Credit Clause**	**Owner**	**1**	**1**	**0**	**0**	**0**	**Criteria requirements**	**Assessor Comment**
	Will a building-specific functional adaptation strategy study be undertaken by the client and design team by Concept Design (RIBA Stage 2 or equivalent)?	**WST 06-01**	**Architect/ Civil/ Structural**	**1**	1				A building-specific functional adaptation strategy study has been undertaken by the client and design team by Concept Design **(RIBA Stage 2 or equivalent)**, which includes recommendations for measures to be incorporated to facilitate future adaptation.	Early Action Credit
	Will functional adaptation measures be adopted?	**WST 06-02**							Functional adaptation measures have been adopted in the design by Technical Design stage **(RIBA Stage 4 or equivalent)** in accordance with the functional adaptation strategy recommendations, where practical and cost effective. Omissions have been justified in writing to the assessor.	
	Section %			9.0	7.0	0.0	2.0	0.0		
	8.500%			0.944%	6.611%	0.000%	1.889%	0.000%		

Land Use and Ecology

	Credits Summary				
	Available	Anticipated	Target A	Target B	Unlikely
	2	0	0	0	2

LE 01 Site Selection	**Credit Clause**	**Owner**	**2**	**0**	**0**	**0**	**2**	**Criteria requirements**	**Assessor Comment**
Will at least 75% of the proposed development's footprint be located on 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 (see definition in the Additional information section).	Land not previously occupied therefore credit cannot be claimed.
Is the site deemed to be significantly contaminated?	**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: a. The degree of contamination b. The contaminant sources/types 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 anticipated that the land is not contaminated.
	LE 01-03	**Ecologist**						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.	
LE 02 Ecological Value of Site and Protection of Ecological Features	**Credit Clause**	**Owner**	**2**	**2**	**0**	**0**	**0**	**Criteria requirements**	**Assessor Comment**
Can the land within the construction zone be defined as 'land of low ecological value'?	**LE 02-01**	**Ecologist**	**1**	1				Land within the assessment zone is defined as 'land of low ecological value' using either: a. The BREEAM checklist for defining land of low ecological value (see Checklists and tables below); OR b. A Suitably Qualified Ecologist (SQE) who has identified the land as being of 'low ecological value' within an ecological assessment report, based on a site survey.	It is anticipated that the site is likely to be of low ecological value. This is to be confirmed by either a BREEAM checklist or a report from a Suitably Qualified Ecologist based on a site survey.
Will all features of ecological value surrounding the construction zone/site boundary be protected?	**LE 02-02**	**Contractor**	**1**	1				All existing features of ecological value within the assessment zone are adequately protected from damage during clearance, site preparation and construction activities in line with BS42020: 2013.	If a Suitably Qualified Ecologist has confirmed that a feature present on the site has little or no ecological value, or where a tree is deemed to create a significant danger to the public or occupants by a statutory body, then that feature may be exempt from the 'protection of ecological features' requirement of this issue. Roger Green to confirm Ecologist Appointment.
	LE 02-03	**Contractor**						In all cases, the principal contractor is required to construct ecological protection recommended by the Suitably Qualified Ecologist (SQE), prior to any preliminary site construction or preparation works (e.g. clearing of the site or erection of temporary site facilities).	
LE 03 Minimising Impact on Existing Site Ecology	**Credit Clause**	**Owner**	**2**	**2**	**0**	**0**	**0**	**Criteria requirements**	**Assessor Comment**
What is the likely change in ecological value as a result of the site's development?	**LE 03-01**	**Ecologist**	**1**	1				The change in ecological value of the site is equal to or greater than zero plant species, i.e. no negative change, using the methods outlined in either (a) or (b) below: a. Determine the following information and input this data in to the BREEAM LE 03/LE 04 calculator: i. The broad habitat type(s) that define the landscape of the assessed site in its existing pre-developed state and proposed state (see Table 56). ii. Area (m²) of the existing and proposed broad habitat types. OR Where a Suitably Qualified Ecologist (SQE) has been appointed and, based on their site survey, they confirm the following and either the assessor or ecologist inputs this data in to the BREEAM LE 03/LE 04 calculator: i. The broad habitat types that define the landscape of the assessed site in its existing pre-developed state and proposed state. ii. Area (m²) of the existing and proposed broad habitat plot types. iii. Average total taxon (plant species) richness within each habitat type.	One credit required as a minimum standard for achieving a BREEAM Excellent rating. To offset any negative change in ecological value, it shall be intended to specify plant species, to create a change in ecological value of the site that is at least zero (i.e. neutral). If possible a small increase in species shall be targeted. Roger Green to confirm Ecologist Appointment.
	LE 03-02	**Ecologist**	**1**	1				Where the change in ecological value of the site is less than zero but equal to or greater than minus nine plant species i.e. a minimal change, use the methods outlined in either 1(a) or (b) above.	
LE 04 Enhancing Site Ecology	**Credit Clause**	**Owner**	**2**	**2**	**0**	**0**	**0**	**Criteria requirements**	**Assessor Comment**
Will a suitably qualified ecologist be appointed to report on enhancing and protecting site ecology?	**LE 04-01**	**Ecologist**	**1**	1				A suitably qualified ecologist (SQE) has been appointed by the client or their project representative by the end of the Preparation and Brief stage **(RIBA Stage 1 or equivalent)** to advise on enhancing the ecology of the site at an early stage.	Early Action Credit: Suitably Qualified Ecologist appointment at RIBA Stage 1 to provide an Ecology Report with appropriate recommendations for the enhancement of the site's ecology at Concept Design stage (RIBA Stage 2 or equivalent). Roger Green to confirm Ecologist Appointment.
	LE 04-02	**Ecologist**						The SQE has provided an Ecology Report with appropriate recommendations for the enhancement of the site's ecology at Concept Design stage **(RIBA Stage 2 or equivalent)**. The report is based on a site visit/survey by the SQE (see also CN3.1).	
Will the suitably qualified ecologist's general recommendations be implemented?	**LE 04-03**	**Contractor**						The early stage advice and recommendations of the Ecology Report for the enhancement of site ecology have been, or will be, implemented in the final design and build.	
What is the targeted/intended improvement in ecological value as a result of enhancement actions?	**LE 04-04**	**Ecologist**	**1**	1				The criteria of the first credit are met.	
	LE 04-05	**Ecologist**						The recommendations of the Ecology Report for the enhancement of site ecology have been implemented in the final design and build, and the SQE confirms that this will result in an increase in ecological value of the site, with an increase of six plant species or greater (refer also to Compliance note CN3.5 for alternative means of compliance).	
	LE 04-06	**Ecologist**						The increase in plant species has been calculated using the BREEAM LE 03/LE 04 calculator, using actual plant species numbers.	
LE 05 Long Term Impact on Biodiversity	**Credit Clause**	**Owner**	**2**	**2**	**0**	**0**	**0**	**Criteria requirements**	**Assessor Comment**
Will a Suitably Qualified Ecologist be appointed to monitor/minimise impacts of site activities on biodiversity?	**LE 05-01**	**Ecologist**	**2**	2				Where a Suitably Qualified Ecologist (SQE) is appointed prior to commencement of activities on-site and they confirm that all relevant UK and EU legislation relating to the protection and enhancement of ecology has been complied with during the design and construction process.	Early Action Credit: Appointment of Suitably Qualified Ecologist (SQE) prior to commencement of activities on-site is required. Roger Green to confirm Ecologist Appointment.
Will a landscape and habitat management plan be produced covering at least the first five years after project completion in accordance with British Standards?	**LE 05-02**	**Ecologist**						Where a landscape and habitat management plan, appropriate to the site, is produced covering at least the first five years after project completion in accordance with BS 42020:2013 Section 11.1. This is to be handed over to the building owner/occupants for use by the grounds maintenance staff.	
Number of applicable measures to improve biodiversity confirmed by SQE. Number of applicable measures implemented.	**LE 05-03**	**Ecologist**						Where additional measures to improve the assessed site's long term biodiversity are adopted, according to Table 58.	
Section %			10.0	8.0	0.0	0.0	2.0		
10.000%			1.000%	8.000%	0.000%	0.000%	2.000%	.	

				Credits Summary						
				Available	Anticipated	Target A	Target B	Unlikely		
	Pol 01 Impact of Refrigerants	**Credit Clause**	**Owner**	**3**	**0**	**3**	**0**	**0**	**Criteria requirements**	**Assessor Comment**
	Where the building does not require the use of refrigerants within its installed plant/systems 3 credits are achieved	**POL 01-01**	**M&E Engineer**						Where the building does not require the use of refrigerants within its installed plant/systems.	Assuming ground/air heat pump present.
	OR when use of refrigerants is required:									
	Do all systems (with electric compressors) comply with the requirements of BS EN 378:2008 (parts 2 and 3) and where refrigeration systems containing ammonia are installed, the Institute of Refrigeration Ammonia Refrigeration Systems Code of Practice?	**Pre-requisite POL 01-02**	**M&E Engineer**	**2**		2			All systems (with electric compressors) must comply with the requirements of BS EN 378:2008 (parts 2 and 3) and where refrigeration systems containing ammonia are installed, the Institute of Refrigeration Ammonia Refrigeration Systems Code of Practice.	
	Where the systems using refrigerants have Direct Effect Life Cycle CO2 equivalent emissions of <=100 kgCO2e/kW cooling/heating capacity	**POL 01-03**	**M&E Engineer**						Where the systems using refrigerants have Direct Effect Life Cycle CO2 equivalent emissions of <=100 kgCO2e/kW cooling/heating capacity.	
	OR									
	Is the Global Warming Potential of the specified refrigerant(s) 10 or less?	**POL 01-04**	**M&E Engineer**						Where air-conditioning or refrigeration systems are installed the refrigerants used have a Global Warming Potential (GWP)≤10.	
	OR									
	What is the target range Direct Effect Life Cycle CO2 equivalent emissions for the system?	**POL 01-05**	**M&E Engineer**						Where the systems using refrigerants have Direct Effect Life Cycle CO2 equivalent emissions (DELC CO2e) of≤1000 kgCO2e/kW cooling/heating capacity.	
	Will a refrigerant leak detection and containment system be specified/installed?	**POL 01-06**	**M&E Engineer**	**1**		1			Where systems using refrigerants have a permanent automated refrigerant leak detection system installed; OR where an inbuilt automated diagnostic procedure for detecting leakage is installed. In all instances a robust and tested refrigerant leak detection system must be installed and must be capable of continuously monitoring for leaks.	
		POL 01-07	**M&E Engineer**						The system must be capable of automatically isolating and containing the remaining refrigerant(s) charge in response to a leak detection incident.	
	Pol 02 NOx emissions	**Credit Clause**	**Owner**	**3**	**0**	**0**	**0**	**3**	**Criteria requirements**	**Assessor Comment**
	What will the NOx emissions levels for heating and hot water be (mg/kWh)? <=100 mg/kWh: 1 credit, <=70 mg/kWh: 2 credits, <=40 mg/kWh: 3 credits	**POL 02-01**	**M&E Engineer**	**3**				3	Credits according to NOx emission level (measured on a dry basis at 0% excess O2) from installed plant.	Assuming ground/air heat pump present.
		POL 02-02	**M&E Engineer**						Report via the BREEAM scoring and reporting tool the direct and indirect NOx emissions in mg/kWh and energy consumption in kWh/m²/yr arising from systems installed to meet the building's space heating, cooling and hot water demands.	
	Pol 03 Surface Water Run-off	**Credit Clause**	**Owner**	**5**	**4**	**1**	**0**	**0**	**Criteria requirements**	**Assessor Comment**
	What is the actual/likely probability of flooding for the assessed site? Will a flood risk assessment be undertaken?	**POL 03-01**	**Civil / Structural**	**2**	2				Where a site-specific flood risk assessment (FRA) confirms the development is situated in a flood zone that is defined as having a low annual probability of flooding (in accordance with current best practice national planning guidance). The FRA must take all current and future sources of flooding into consideration (see CN3.2).	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.
		POL 03-02							Where a site-specific FRA confirms the development is situated in a flood zone that is defined as having a medium or high annual probability of flooding and is not in a functional floodplain (in accordance with current best practice national planning guidance). The FRA must take all current and future sources of flooding into consideration.	
		POL 03-03							To increase the resilience and resistance of the development to flooding, one of the following must be achieved: a.The ground level of the building and access to both the building and the site, are designed (or zoned) so they are at least 600mm above the design flood level of the flood zone in which the assessed development is located (see CN3.5); OR b.The final design of the building and the wider site reflects the recommendations made by an appropriate consultant in accordance with the hierarchy approach outlined in section 5 of BS 8533:2011.	
	Will the site meet the BREEAM criteria for peak rate surface water run-off?	**Pre-requisite POL 03-04**	**Civil / Structural**	**1**	1				An Appropriate Consultant is appointed to carry out, demonstrate and/or confirm the development's compliance with the following criteria:	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 03-05	**Civil / Structural**						Where drainage measures are specified to ensure that the peak rate of run-off from the site to the watercourses (natural or municipal) is no greater for the developed site than it was for the pre-development site. This should comply at the 1-year and 100-year return period events.	
		POL 03-06	**Civil / Structural**						Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS are in place.	
		POL 03-07	**Civil / Structural**						Calculations include an allowance for climate change; this should be made in accordance with current best practice planning guidance (see definitions).	
	Will the site meet the criteria for surface water run-off volume, attenuation and/or limiting discharge?	**POL 03-08**	**Civil / Structural**	**1**	1				Where flooding of property will not occur in the event of local drainage system failure (caused either by extreme rainfall or a lack of maintenance); AND	
		POL 03-09	**Civil / Structural**						EITHER: Drainage design measures are specified to ensure that the post development run-off volume, over the development lifetime, is no greater than it would have been prior to the assessed site's development for the 100-year 6-hour event, including an allowance for climate change (see criterion 14).	
		POL 03-10	**Civil / Structural**						Any additional predicted volume of run-off for this event is prevented from leaving the site by using infiltration or other Sustainable Drainage System (SuDS) techniques.	
		POL 03-11	**Civil / Structural**						OR (only where criteria 9 and 10 for this credit cannot be achieved): Justification from the Appropriate Consultant indicating why the above criteria cannot be achieved, i.e. where infiltration or other SuDS techniques are not technically viable options.	
		POL 03-12	**Civil / Structural**						Drainage design measures are specified to ensure that the post development peak rate of run-off is reduced to the limiting discharge. The limiting discharge is defined as the highest flow rate from the following options: a.The pre-development 1-year peak flow rate; OR b.The mean annual flow rate Qbar; OR c.2L/s/ha.	
		POL 03-13	**Civil / Structural**						Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS are in place.	
		POL 03-14	**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.	

Pollution

Pollution	Will the site be designed to minimise watercourse pollution in accordance with the BREEAM criteria?	POL 03-15	Civil / Structural	1		1			There is no discharge from the developed site for rainfall up to 5mm (confirmed by the Appropriate Consultant).	
		POL 03-16	Civil / Structural						In areas with a low risk source of watercourse pollution, an appropriate level of pollution prevention treatment is provided, using appropriate SuDS techniques.	
		POL 03-17	Civil / Structural						Where there is a high risk of contamination or spillage of substances such as petrol and oil (see Compliance notes for a list of areas), separators (or an equivalent system) are installed in surface water drainage systems.	
		POL 03-18	Civil / Structural						Where the building has chemical/liquid gas storage areas, a means of containment is fitted to the site drainage system (i.e. shut-off valves) to prevent the escape of chemicals to natural watercourses (in the event of a spillage or bunding failure).	
		POL 03-19	Civil / Structural						All water pollution prevention systems have been designed and installed in accordance with the recommendations of documents such as Pollution Prevention Guideline 3 (PPG 3) and/or where applicable the SuDS manual. For areas where vehicle washing will be taking place, pollution prevention systems must be in accordance with Pollution Prevention Guidelines 13.	
		POL 03-20	Civil / Structural						A comprehensive and up to date drainage plan of the site will be made available for the building/site occupiers.	
		POL 03-21	Civil / Structural						Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS must be in place.	
		POL 03-22	Civil / Structural						Where present, all external storage and delivery areas designed and detailed in accordance with the current best practice planning guidance.	
	Will exemplary criteria be achieved?									
	Pol 04 Reduction of Night Time Light Pollution	**Credit Clause**	**Owner**	**1**	**1**	**0**	**0**	**0**	**Criteria requirements**	**Assessor Comment**
	Will the external lighting specification be designed to reduce light pollution?	POL 04-01		1	1				Where external lighting pollution has been eliminated through effective design that removes the need for external lighting without adversely affecting the safety and security of the site and its users. OR	
		POL 04-02	M&E Engineer						The external lighting strategy has been designed in compliance with Table 2 (and its accompanying notes) of the ILP Guidance notes for the reduction of obtrusive light, 2011.	
		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's Guidance notes.	
		POL 04-05							Illuminated advertisements, where specified, must be designed in compliance with ILE Technical Report 5 – The Brightness of Illuminated Advertisements.	
	Pol 05 Reduction of Noise Pollution	**Credit Clause**	**Owner**	**1**	**0**	**1**	**0**	**0**	**Criteria requirements**	**Assessor Comment**
	Will there be noise-sensitive areas/buildings within 800m radius of the development?	POL 05-01	Acoustician	1		1			Where there are, or will be, no noise-sensitive areas or buildings within 800m radius of the assessed site.	Project Manager to 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. Roger Green to confirm Acoustician Appointment.
	Will a noise impact assessment be carried out and, if applicable, noise attenuation measures specified?	POL 05-02	Acoustician						Alternatively, where the building does have noise-sensitive areas or buildings within 800m radius of the site, one credit can be awarded as follows: a. Where a noise impact assessment in compliance with BS 7445 has been carried out and the following noise levels measured/determined: i. Existing background noise levels at the nearest or most exposed noise-sensitive development to the proposed development or at a location where background conditions can be argued to be similar. ii. The rating noise level resulting from the new noise source (see CN4).	
		POL 05-03	Acoustician						The noise impact assessment must be carried out by a suitably qualified acoustic consultant holding a recognised acoustic qualification and membership of an appropriate professional body (see Relevant definitions in the Additional information section).	
		POL 05-04	Acoustician						The noise level from the proposed site/building, as measured in the locality of the nearest or most exposed noise-sensitive development, is a difference no greater than +5dB during the day (07:00 to 23:00) and +3dB at night (23:00 to 07:00) compared to the background noise level.	
		POL 05-05	Acoustician						Where the noise source(s) from the proposed site/building is greater than the levels described in criterion 4, measures have been installed to attenuate the noise at its source to a level where it will comply with criterion 4.	
	Section %			13.0	5.0	5.0	0.0	3.0		
	10.00%			0.769%	3.846%	3.846%	0.000%	2.308%		

Credits Summary

Innovation				Available	Anticipated	Target A	Target B	Unlikely		
	Innovation			10	**0**	**1**	**0**	**9**		
	Man 03 Responsible construction practices			1				1		
	Man 05 Aftercare			1				1		
	Hea 01 Visual comfort			1				1		
	Hea 02 Indoor air quality			1				1		
	Ene 01 Reduction of energy use and carbon emissions			1				1		
	Wat 01 Water consumption			1				1		
	Mat 01 Life cycle impacts			1		1		1		
	Mat 03 Responsible sourcing of materials			1				1		
	Wst 01 Construction waste management			1				1		
	Wst 02 Recycled aggregates			1				1		
	Wst 05 Adaptation to climate change			1				1		
	Pol 03 Flood risk management and reducing surface water run-off			1				1		
	Section %			10	0	1	0	9		
	0.1			0.01	0	0.01	0	0.09		

Scoring		Anticipated	Target A	Target B	Unlikely
	Total Credits Summary	**80**	**16**	**10**	**28**
	Total Percentages Summary	**64.04%**	**12.82%**	**8.07%**	**25.08%**
	Anticipated Only	**64.04%**	**VERY GOOD**		
	Anticipated plus Target A credits	**76.86%**		**EXCELLENT**	
	Anticipated plus Target A and B credits	**84.92%**			**EXCELLENT**