



Alexander House

BREEAM Pre-Assessment Summary Report

Pre-assessment

Uncontrolled revision

23 Jan 2019

Dewpoint Energy Services Ltd

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1.0 Introduction

This report is intended as a summary of the BREEAM pre-assessment review for the following project:

Project Name	Alexander House
BREEAM Version	BREEAM 2018 NC
Assessment Stage	Pre-Assessment Stage
Lead Assessor	Chris Luke
Target Rating	Excellent (70%)
Downloaded By	Chris Luke
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2.0 Scoring scenarios

It should be noted that the pre-assessment scores have been based on the following scoring scenarios;

- Current - The number currently achieved.
- Scenario 1 - Current, plus credits which can be easily gained.
- Scenario 2 - Scenario 1, plus credits which can be won but not so easily.

On this basis, the following scores are considered achievable under each scenario;

Scenario	Score	BREEAM Rating
Current	68.01	Very Good
Scenario 1	73.73	Excellent
Scenario 2	0	Unclassified

2.1 Minimum Standards

In addition performance against the minimum standards (required for the specified target rating) under each scenario is summarised below;

Issue	Current	Scenario 1	Scenario 2
Man 03 - Responsible construction practices	✓	✓	✗
Man 04 - Commissioning and handover	✓	✓	✗
Man 04 - Commissioning and handover	✓	✓	✗
Man 05 - Aftercare	✓	✓	✗
Ene 01 - Reduction of energy use and carbon emissions	✓	✓	✗
Ene 02 - Energy monitoring	✓	✓	✗
Wat 01 - Water consumption	✓	✓	✗
Wat 02 - Water monitoring	✓	✓	✗
Mat 03 - Responsible sourcing of construction products	✓	✓	✗
Wst 01 - Construction waste management	✓	✓	✓
Wst 03 - Operational waste	✓	✓	✗

If the required minimum standards are not met then the target rating will not be achieved regardless of overall score.

3.0 - Credits and Comments Table

		Available	Current	Scenario 1	Scenario 2	Comments
Management						
Man 01	Project brief and design	4	2	2	0	Project delivery planning - credit requirements 1, 2 and 3 to be implemented. Stakeholder consultation (interested parties) - credit requirements 4, 5 and 6 to be implemented.
Man 02	Life cycle cost and service planning	4	4	4	0	Elemental LCC - credit requirements 1, 2 and 3 to be implemented. Component LCC - credit requirements 4 and 5 to be implemented. Capital cost reporting - credit requirement 6 to be implemented.
Man 03	Responsible construction practices	6	5	5	0	Legally harvested and traded timber - credit pre-requisite to be implemented. Environmental management - credit requirement 3, 3a and 4 to be implemented. Responsible construction management - credit requirements 8 and 9 to be implemented. (Two credits are required under this criterion). Monitoring of construction site impacts - credit requirements 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21 and 22 to be implemented.
Man 04	Commissioning and handover	4	4	4	0	Commissioning testing schedule and responsibilities - credit requirements 1, 2, 3, 4 and 5 to be implemented. Commissioning design and preparation - credit requirements 6 and 7 to be implemented. Testing and inspecting building fabric - credit requirements 8, 9 and 10 to be implemented. Handover - credit requirements 11 and 12 to be implemented.
Man 05	Aftercare	3	3	3	0	Aftercare support - credit requirements 1 and 2 to be implemented. Commissioning implementation - credit requirement 3 to be implemented. Post-occupancy evaluation - credit requirements 4, 5, 6 and 7 to be implemented.
Management Totals: (+exemplary)		21 (+1)	18	18	0	
Management score totals:		11	9.429	9.429	0	
Health & Wellbeing						

Hea 01	Visual comfort	5	3	3	0	Control of glare from sunlight - credit requirements 1, 2 and 3 to be implemented. View out - credit requirements 5 and 6 to be implemented. Internal and external lighting levels, zoning and control - credit requirements 7, 8, 9, 10, 11, 12 and 13 to be implemented.
Hea 02	Indoor air quality	4	2	4	0	Indoor air quality (IAQ) plan - credit requirement 1 to be implemented. Ventilation - credit requirement 2 to be implemented. Emissions from construction products - credit requirement 3 to be implemented (for 1 credit). In order to achieve the additional 2 credits under Scenario 1, the following will need to be implemented - Emissions from construction products - all of the products listed in the VOC emission table meet the relevant testing requirements. Post-construction indoor air quality measurement - credit requirements 5, 6, 7, 8, 9 and 10 to be implemented.
Hea 04	Thermal comfort	3	3	3	0	Thermal modelling - credit requirements 1, 2, 3 and 4 to be implemented. Design for future thermal comfort - credit requirements 5, 6, 7 and 8 to be implemented. Thermal zoning and controls - credit requirements 9, 10 and 11 to be implemented.
Hea 05	Acoustic performance	4	3	3	0	Acoustic performance for residential institutions (short term and long term stay) - credit requirement 3 to be implemented. One credit is being sought under the sound insulation requirement. This is based on a 3 dB improvement in sound insulation requirements. A further two credits are being sought under the indoor ambient noise level and room acoustic requirements, respectively.
Hea 06	Security	1	1	1	0	Security of site and building - credit requirements 1, 2, and 3 to be implemented.
Hea 07	Safe and healthy surroundings	2	2	2	0	Safe access - credit requirements 1, 2, 3, 4, 5 and 6 to be implemented. Outside space - credit requirement 7 to be implemented.
Health & Wellbeing Totals: (+exemplary)		19 (+4)	14	16	0	
Health & Wellbeing score totals:		14	10.316	11.789	0	
Energy						

Ene 01	Reduction of energy use and carbon emissions	13	4	5	0	Energy performance - credit requirement 1 to be implemented. Please note - we are aiming for 4 credits under this criterion, which is a mandatory requirement for a BREEAM Excellent scheme. The credits are based on the performance of the building, measured against the target carbon emission rate (BER vs TER). In order to achieve the additional credit under Scenario 1, the following will need to be implemented - An Energy Performance Ratio for New Construction (EPRnc) of 0.5 is achieved. This will be determined from the outcome of the design stage energy modelling. Renewable technologies will most likely need to be implemented, in order to achieve this figure.
Ene 02	Energy monitoring	1	1	1	0	Sub-metering of end-use categories - credit requirements 1, 2 and 3 to be implemented.
Ene 03	External Lighting	1	1	1	0	External lighting - credit requirement 2 to be implemented.
Ene 04	Low carbon design	3	2	2	0	Passive design analysis - credit requirements 1, 2, 3 and 4 to be implemented. Low and zero carbon feasibility study - credit requirements 9, 10, 11 and 12 to be implemented.
Ene 06	Energy efficient transportation systems	2	2	2	0	Energy consumption - credit requirement 1 to be implemented. Energy efficient features (lifts) - credit requirements 2, 3 and 4 to be implemented.
Ene 08	Energy efficient equipment	2	2	2	0	Energy efficient equipment - credit requirements 1, 2 and 3 to be implemented.
Energy Totals: (+exemplary)		22 (+5)	12	13	0	
Energy score totals:		16	8.727	9.455	0	
Transport						
Tra 01	Transport assessment and travel plan	2	2	2	0	Travel plan - credit requirements 1, 2, 3, 4 and 5 to be implemented.
Tra 02	Sustainable transport measures	10	5	7	0	Transport options implementation - credit requirements 1, 2 and 3 to be implemented. Please note - Assuming that the development achieves a calculated Accessibility Index (AI) of <25 points, a minimum of 5 BREEAM specific sustainable transport options will need to be implemented. This results in 5 credits being awarded. In order to achieve the additional 2 credits under Scenario 1, the following will need to be implemented - Transport options implementation - a minimum of 7 BREEAM specific sustainable transport options will need to be implemented.
Transport Totals: (+exemplary)		12	7	9	0	
Transport score totals:		10	5.833	7.5	0	
Water						

Wat 01	Water consumption	5	2	3	0	Water consumption - credit requirements 1 and 2 to be implemented. Please note - we are aiming for 2 credits under this criterion. This requires a 25% improvement over the baseline building water consumption. In order to achieve the additional credit under Scenario 1, the following will need to be implemented - A 40% improvement over the baseline building water consumption is achieved, via the specification of low water use fittings. At least 25% of the total WC or urinal flushing demand is met using recycled non-potable water.
Wat 02	Water monitoring	1	1	1	0	Water monitoring - credit requirements 1, 2 and 3 to be implemented.
Wat 03	Water leak detection	2	2	2	0	Leak detection system - credit requirements 1 and 2 to be implemented. Flow control devices - credit requirement 3 to be implemented.
Wat 04	Water efficient equipment	1	1	1	0	Water efficient equipment - credit requirements 1 and 2 to be implemented.
Water Totals: (+exemplary)		9 (+1)	6	7	0	
Water score totals:		7	4.667	5.444	0	
Materials						
Mat 01	Environmental impacts from construction products - Building life cycle assessment (LCA)	7	4	4	0	Superstructure Life Cycle Assessment (LCA) option appraisal during concept design - credit requirements 4 and 5 to be implemented. Substructure and hard landscaping LCA option appraisal during concept design - credit requirement 7 to be implemented. Please note - a minimum of 3 credits are being sought under the superstructure LCA requirements.
Mat 02	Mat 02 Environmental impacts from construction products - Environmental Product Declarations (EPD)	1	0	1	0	Credit not sought. In order to achieve the additional credit under Scenario 1, the following will need to be implemented - Specification of products with a recognised environmental product declaration (EPD) - credit requirements 1 and 2 to be implemented.

Mat 03	Responsible sourcing of construction products	4	2	2	0	Legally harvested and traded timber - pre-requisite requirement 1 to be implemented. Enabling sustainable procurement - credit requirement 2 to be implemented. Measuring responsible sourcing - credit requirement 3 to be implemented. Please note - in order to gain 1 credit under the responsible sourcing requirement, at least 10% of the superstructure points need to be achieved. a fair amount of superstructure materials will need to be responsibly sourced, via relevant environmental management certification. (ISO14001, BES6001, FCS, PEFC etc).
Mat 05	Designing for durability and resilience	1	1	1	0	Protecting vulnerable parts of the building from damage - credit requirement 1 to be implemented. Protecting exposed parts of the building from material degradation - credit requirements 2 OR 3 and 4 to be implemented.
Mat 06	Material efficiency	1	1	1	0	Material efficiency - credit requirements 1, 2 and 3 to be implemented.
Materials Totals: (+exemplary)		14 (+4)	8	9	0	
Materials score totals:		15	8.571	9.643	0	
Waste						
Wst 01	Construction waste management	5	4	4	0	Pre-demolition audit - credit requirements 1 and 2 to be implemented. Construction resource efficiency - credit requirements 3 and 4 to be implemented. Diversion of resources from landfill - credit requirements 5 and 6 to be implemented. Please note - 2 credits are being sought under the construction resource efficiency heading. This places a requirement of no more than 7.5 m³ or 6.5 tonnes of non-hazardous construction waste generated per 100m² of GIFA. At least 70% (volume) or 80% (tonnage) of non-demolition waste and 80% (volume) or 90% (tonnage) of demolition waste will need to be diverted from landfill.
Wst 02	Use of recycled and sustainably sourced aggregates	1	1	1	0	Demolition credit pre-requisite to be implemented. Project sustainable aggregate points - credit requirements 2, 3, 4, 5 and 6 to be implemented. Please note - between 3.5 and 6 project sustainable aggregate points need to be achieved, in order to award 1 credit.
Wst 03	Operational waste	1	1	1	0	Operational waste - credit requirements 1, 2, 4 and 5 to be implemented.
Wst 05	Adaptation to climate change	1	0	0	0	Credit not sought.
Wst 06	Design for disassembly and adaptability	2	2	2	0	Designing for disassembly and functional adaptability (recommendations) - credit requirements 1 and 2 to be implemented. Disassembly and functional adaptability (implementation) - credit requirements 3, 4 and 5 to be implemented.

Waste Totals: (+exemplary)		10 (+3)	8	8	0	
Waste score totals:		6	4.8	4.8	0	
Land Use & Ecology						
LE 01	Site selection	2	1	1	0	Previously occupied land - credit requirement 1 to be implemented.
LE 02	Identifying and understanding the risks and opportunities for the site	2	2	2	0	Assessment route selection credit pre-requisite 1 and 2 to be implemented. Ecologist route 2 is to be followed. Survey and evaluation (route 2) - credit requirements 4, 5 and 6 to be implemented. Determining the ecological outcomes for the site (route 2) - credit requirements 7, 8 and 9 to be implemented.
LE 03	Managing negative impacts on ecology	3	2	2	0	Identification and understanding the risks and opportunities for the site - credit pre-requisite 1 to be implemented. Planning, liaison, implementation and data - credit requirements 2, 3, and 4 to be implemented. Managing negative impacts of the project (route 2) - credit requirements 7, 8 and 8b to be implemented. Please note - 1 credit is being sought under 'managing the negative impacts of the project'. This requires a minimal loss of ecological value. In-line with the LE03 requirements.
LE 04	Enhancement of Ecological value	4	2	2	0	Managing negative impacts on ecology credit pre-requisite's 1 and 2 to be implemented. Liaison, implementation and data collection (route 2) - credit requirements 4 and 5 to be implemented. Change and enhancement of ecology (route 2) - credit requirement 6 to be implemented. Please note - 1 credit is being sought under 'change and enhancement of ecology'. This requires a minimal loss of ecological value.
LE 05	Long term management and maintenance	2	2	2	0	Roles and responsibilities, implementation, statutory obligations credit pre-requisite requirements 1 and 2 to be implemented. Planning, liaison, data, monitoring and review management and maintenance (route 2) - credit requirements 3, 4, 5 and 6 to be implemented. Landscape and ecology management plan (or similar) development - credit requirement 7 to be implemented.
Land Use & Ecology Totals: (+exemplary)		13 (+2)	9	9	0	
Land Use & Ecology score totals:		13	9	9	0	
Pollution						

Pol 01	Impact of refrigerants	3	1	1	0	Credit pre-requisite 2 to be implemented. Impact of refrigerant - credit requirement 5 to be implemented.
Pol 02	Local air quality	2	2	2	0	Local air quality - credit requirement 2 to be implemented. Please note - this requires gas fired boilers to have a dry NOx emission level of no more than 24 mg/kWh (for 2 credits).
Pol 03	Flood and surface water management	5	5	5	0	Credit pre-requisite 1 to be implemented. Flood resilience - credit requirement 2 to be implemented. Surface water run-off (rate) - credit requirements 5, 6, 7, 8 and 9 to be implemented. Surface water run-off (volume) - credit requirements 10 AND EITHER 11 and 12 OR 13, 14, 15 and 16 are to be implemented. Minimising watercourse pollution - credit requirements 17, 18, 19, 20, 21, 22, 23 and 24 are implemented. Please note - 2 credits have been sought under the Flood Resilience heading. This requires the development site to be located in a flood zone 1 (low annual probability of flooding from all sources). This will need to be confirmed in due course, via the production of a site-specific Flood Risk Assessment (FRA).
Pol 04	Reduction of night time light pollution	1	1	1	0	Reduction of night time light pollution - credit requirement 1 OR 2, 3, 4 and 5 to be implemented.
Pol 05	Reduction of noise pollution	1	1	1	0	Reduction of noise pollution - credit requirements 2, 3, 4 and 5 to be implemented.
Pollution Totals: (+exemplary)		12	10	10	0	
Pollution score totals:		8	6.667	6.667	0	
Innovation						
AI	Approved Innovation	1	0	0	0	Credits not sought.
Innovation Totals: (+exemplary)		1	0	0	0	
Innovation score totals:		1	0	0	0	
OVERALL SCORE TOTALS:		101	68.01	73.73	0	



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BREEAM Requirements Table

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1.0 - Requirements Table

Management		
Man 01 - Project brief and design:		
Requirement 1	Prior to completion of the Concept Design, the project delivery stakeholders (see Definitions) meet to identify and define for each key phase of project delivery: 1. Roles 2. Responsibilities 3. Contributions.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	Consider each one of the following items when defining roles, responsibilities and contributions for each key phase of the project: 1. End user requirements 2. Aims of the design and design strategy 3. Particular installation and construction requirements or limitations 4. Occupiers' budget and technical expertise in maintaining any proposed systems 5. Maintainability and adaptability of the proposals 6. Operational energy (see Assessment scope) 7. Requirements for the production of project and end user documentation 8. Requirements for commissioning, training and aftercare support. Where the building occupants are not known, the list of considerations above still applies. The appropriate project delivery stakeholder considers each item, based on likely scenarios of building occupancy.	As per requirement 1.
Requirement 3	The project team demonstrates how the project delivery stakeholders' contributions and the consultation process outcomes influence the following: 1. Initial Project Brief 2. Project Execution Plan (see Definitions) 3. Communication Strategy (see Definitions) 4. Concept Design.	As per requirement 1.

Requirement 4	Prior to completion of the Concept Design, the design team consult with all interested parties (see Definitions) on matters that cover the minimum consultation content (see Methodology).	Consultation plan setting out the process and scope of the consultation. One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 5	Demonstrate how the stakeholder contributions and consultation exercise outcomes influence the Initial Project Brief and Concept Design.	As per requirement 4.
Requirement 6	Prior to completion of the detailed design (RIBA Stage 4, Technical Design or equivalent), all interested parties (see Definitions) give and receive consultation feedback.	As per requirement 4.
Requirement 7	Additionally for Education, Healthcare, Law courts and Major transportation hub building types only: An independent party (see Definitions) carries out the consultation exercise. The Design Quality Indicator (DQI) and the Achieving Excellence Design Evaluation Toolkit (AEDET) could be used as methods to assess the design quality of buildings.	As per requirement 1.
Requirement 8	Prerequisite for BREEAM Advisory Professional credits (Concept and Developed Design): The project team, including the client, formally agree strategic performance targets (see Definitions) early in the design process (with the support of the BREEAM AP where appointed).	See Additional information. One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.

Requirement 9	Involve a BREEAM AP in the project at an appropriate time and level to: 1. Work with the project team, including the client, to consider the links between BREEAM issues and assist them in maximising the project's overall performance against BREEAM, from their appointment and throughout Concept Design 2. Monitor progress against the performance targets (see Definitions) agreed under criterion 8 throughout all stages after their appointment where decisions critically impact BREEAM performance 3. Proactively identify risks and opportunities related to the achievement of the targets agreed under criterion 8 4. Provide feedback to the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets 5. Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team.	As per requirement 8.
Requirement 10	Criteria 8 and 9 are achieved.	
Requirement 11	Involve the BREEAM AP in the project at an appropriate time and level to: 1. Work with the project team, including the client, to consider the links between BREEAM issues and to assist them in maximising the project's overall performance against BREEAM throughout Developed Design 2. Monitor progress against the performance targets agreed under criterion 8 throughout all stages where decisions critically impact the specification and tendering process and the BREEAM performance 3. Proactively identify risks and opportunities related to the achievement of the targets agreed under criterion 8 4. Provide feedback to the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets. 5. Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team.	As per requirement 8.
Man 02 - Life cycle cost and service planning:		

Requirement 1	A competent person (see Definitions) carries out an outline, entire asset LCC plan at Process Stage 2 (equivalent to Concept Design - RIBA Stage 2) together with any design options appraisals in line with 'Standardised method of life cycle costing for construction procurement' PD 156865: 2008.	Elemental LCC plan. One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	The elemental LCC plan: 1. Provides an indication of future replacement costs over a period of analysis as required by the client (e.g. 20, 30, 50 or 60 years); 2. Includes service life, maintenance and operation cost estimates. The study period should ideally be agreed by the client, in line with the design life expectancy of the building. However, where the life expectancy of the building is not yet formally agreed (due to being at very early design stages), the default design life of 60 years should be used for modelling purposes (in line with the UK default).	As per requirement 1.
Requirement 3	Demonstrate, using appropriate examples provided by the design team, how the elemental LCC plan has been used to influence building and systems design and specification to minimise life cycle costs and maximise critical value.	As per requirement 1.
Requirement 4	A competent person develops a component level LCC options appraisal by the end of Process Stage 4 (equivalent to Technical Design - RIBA Stage 4) in line with PD 156865: 2008. The component level LCC includes (where present): 1. Envelope, e.g. cladding, windows, or roofing 2. Services, e.g. heat source cooling source, or controls 3. Finishes, e.g. walls, floors or ceilings 4. External spaces, e.g. alternative hard landscaping, boundary protection. The Component level LCC option appraisal should review all of the above component types (where present). However, you do not need to consider every single example cited under each component; only a selection of those most likely to draw valued comparisons. This is to ensure that a wide range of options are considered and help focus the analysis on components which would benefit the most from appraisal.	Component level LCC options appraisal plan. One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 5	Demonstrate, using appropriate examples provided by the design team, how the component level LCC options appraisal has been used to influence building and systems design and specification to minimise life cycle costs and maximise critical value.	As per requirement 4.

Requirement 6	Report the capital cost for the building in pounds per square metre of gross internal floor area (£k/m ²) as part of the submission to BRE. See also Methodology and Additional information.	Predicted capital costs via BREEAM Projects. One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Man 03 - Responsible construction practices:		
Requirement 1	All timber and timber-based products used during the construction process of the project are 'legally harvested and traded timber' (see Definitions). For other materials there are no prerequisite requirements at this stage.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 3	All parties who at any stage manage the construction site (e.g. the principal contractor, the demolition contractor) operate an EMS covering their main operations. The EMS must: 1. Be third party certified, to ISO 14001: 2015, EMAS (EU Eco-Management and Audit Scheme) or equivalent standard; OR 1. In compliance with BS 8555: 2016 have: 1. Appropriate structure 2. Reached implementation stage phase four 'implementation and operation of the environmental management system' 3. Completed defined phase audits one to four.	As per requirement 1.
Requirement 4	All parties who at any point manage the construction site (e.g. the principal contractor, the demolition contractor) implement best practice pollution prevention policies and procedures on-site in accordance with Working at construction and demolition sites: PPG6, Pollution Prevention Guidelines.	As per requirement 1.
Requirement 5	Prerequisite for the BREEAM AP credit: The client and the contractor formally agree performance targets.	See Additional information. One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.

Requirement 6	Involve a BREEAM AP in the project at an appropriate time and level to: 1. Work with the project team, including the client, to consider the links between BREEAM issues and assist them in achieving and if possible going beyond the design intent, to maximise the project's performance against the agreed performance targets throughout the Construction, Handover and Close Out stages 2. Monitor construction progress against the performance targets agreed under criterion 5 throughout all stages where decisions critically impact BREEAM performance 3. Proactively identify risks and opportunities related to the procurement and construction process and the achievement of the targets agreed under criterion 5 4. Provide feedback to the constructors and the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets 5. Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team and the provision to the assessor.	As per requirement 5.
Requirement 7	Achieve items listed as required for one credit in Table 4.1 Responsible construction management items.	As per requirement 5.
Requirement 8	Achieve criterion 7.	As per requirement 5.
Requirement 9	Achieve six additional items in Table 4.1 Responsible construction management items.	As per requirement 5.
Requirement 10	Assign responsibility to an individual for monitoring, recording and reporting energy use, water consumption and transportation data (where measured) resulting from all on-site construction processes (and dedicated off-site manufacturing) throughout the build programme. To ensure the robust collection of information, this individual must have the appropriate authority and responsibility to request and access the data required. Where appointed, the BREEAM AP could perform this role.	As per requirement 5.
Requirement 11	First monitoring credit - Utility consumption Energy consumption Achieve criterion 10.	As per requirement 2.
Requirement 12	Set targets for the site energy consumption in kWh (and where relevant, litres of fuel used) as a result of the use of construction plant, equipment (mobile and fixed) and site accommodation.	As per requirement 2.

Requirement 13	Monitor and record data for the energy consumption described in criterion 12.	As per requirement 2.
Requirement 14	Report the total carbon dioxide emissions (total kgCO ₂ /project value) from the construction process via BREEAM Projects (for the purposes of potential future BREEAM performance benchmarking).	As per requirement 2.
Requirement 15	Water consumption Achieve criterion 10.	As per requirement 2.
Requirement 16	Set targets for the potable water consumption (m ³) arising from the use of construction plant, equipment (mobile and fixed) and site accommodation.	As per requirement 2.
Requirement 17	Monitor and record data for the potable water consumption described in criterion 16.	As per requirement 2.
Requirement 18	Use the collated data to report the total net water consumption (m ³), i.e. consumption minus any recycled water use from the construction process via BREEAM Projects (for the purposes of potential future BREEAM performance benchmarking).	As per requirement 2.
Requirement 19	Second monitoring credit - transportation of construction materials and waste Achieve criterion 10.	As per requirement 2.
Requirement 20	Set targets for transportation movements and impacts resulting from delivery of the majority of construction materials to site and construction waste from site. As a minimum cover: 1. Transportation of materials from the point of supply to the building site, including any transport, intermediate storage and point of supply (see Definitions). Monitor as a minimum: 1. Materials used in major building elements (i.e. those defined in BREEAM issue Mat 01 Environmental impacts from construction products - Building life cycle assessment (LCA)). 2. Ground works and landscaping materials. 2. Transportation of construction waste from the construction gate to waste disposal processing or recovery centre gate. This monitoring must cover the construction waste groups outlined in the project's resource management plan.	As per requirement 2.

Requirement 21	Monitor and record data for the transportation movements as described in criterion 20.	As per requirement 2.
Requirement 22	Using the collated data, report separately for materials and waste, the total transport-related carbon dioxide emissions (kgCO ₂ eq), plus total distance travelled (km) via BREEAM Projects (for the purposes of potential future BREEAM performance benchmarking).	As per requirement 2.
Requirement 23	Achieve all items in Table 4.1.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements on page 27 can be used to demonstrate compliance with these criteria.
Man 04 - Commissioning and handover:		
Requirement 0	Prior to handover, develop two building user guides (see Methodology) for the following users: 1. A non-technical user guide for distribution to the building occupiers 2. A technical user guide for the premises facilities managers. A draft copy is developed and discussed with users first (where the building occupants are known) to ensure the guide is most appropriate and useful to potential users.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 1	Prepare a schedule of commissioning and testing. The schedule identifies and includes a suitable timescale for commissioning and re-commissioning of all complex and non-complex building services and control systems and for testing and inspecting building fabric.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	The schedule identifies the appropriate standards for all commissioning activities to be conducted, where applicable, in accordance with: 1. Current Building Regulations 2. BSRIA guidelines 3. CIBSE guidelines 4. Other appropriate standards (see Methodology) Exclude from the assessment any process or manufacture-related equipment specified as part of the project. However, include such equipment in cases where they form an integral part of the building HVAC services, such as some heat recovery systems.	As per requirement 1.

Requirement 3	Where a building management system (BMS) is specified: 1. Carry out commissioning of air and water systems when all control devices are installed, wired and functional 2. Include physical measurements of room temperatures, off-coil temperatures and other key parameters, as appropriate, in commissioning results 3. The BMS or controls installation should be running in auto with satisfactory internal conditions prior to handover 4. All BMS schematics and graphics (if BMS is present) are fully installed and functional to user interface prior to handover 5. Fully train the occupier or facilities team in the operation of the system.	As per requirement 1.
Requirement 4	Appoint an appropriate project team member to monitor and programme pre-commissioning, commissioning and testing. Where necessary include re-commissioning activities on behalf of the client.	As per requirement 1.
Requirement 5	The principal contractor accounts for the commissioning and testing programme, responsibilities and criteria within their budget and the main programme of works. Allow the required time to complete all commissioning and testing activities prior to handover.	As per requirement 1.
Requirement 6	Achieve criteria 1-5.	As per requirement 1.
Requirement 7	During the design stage, the client or the principal contractor appoints an appropriate project team member (see criterion 4), provided they are not involved in the general installation works for the building services systems, with responsibility for: 1. Undertaking design reviews and giving advice on suitability for ease of commissioning 2. Providing commissioning management input to construction programming and during installation stages 3. Management of commissioning, performance testing and handover or post-handover stages. For buildings with complex building services and systems, this role needs to be carried out by a specialist commissioning manager (see Definitions).	As per requirement 1.
Requirement 8	Achieve criteria 1-5.	As per requirement 1.

Requirement 9	Complete post-construction testing and inspection to quality-assure the integrity of the building fabric, including continuity of insulation, avoidance of thermal bridging and air leakage paths (this is through air tightness testing and a thermographic survey). A suitably qualified professional (see Definitions) undertakes the survey and testing in accordance with the appropriate standard.	As per requirement 1.
Requirement 10	Rectify any defects identified during post-construction testing and inspection prior to building handover and close out. Any remedial work meets the required performance characteristics for the building or element as defined at the design stage (see Methodology).	As per requirement 1.
Requirement 11	Prior to handover, develop two building user guides (see Methodology) for the following users: 1. A non-technical user guide for distribution to the building occupiers 2. A technical user guide for the premises facilities managers. A draft copy is developed and discussed with users first (where the building occupants are known) to ensure the guide is most appropriate and useful to potential users.	As per requirement 1.
Requirement 12	Prepare two training schedules timed appropriately around handover and proposed occupation plans for the following users: 1. A non-technical training schedule for the building occupiers 2. A technical training schedule for the premises facilities managers.	As per requirement 1.
Man 05 - Aftercare:		

Requirement 1	Provide aftercare support to the building occupiers through having in place operational infrastructure and resources. This includes as a minimum: 1. A meeting between the aftercare support team or individual and the building occupier or management team (prior to initial occupation, or as soon as possible thereafter) to: 1. Introduce the aftercare support available, including the building user guide (where existing) and training schedule and their content. 2. Present key information on the building including the design intent and how to use the building to ensure it operates as efficiently and effectively as possible. 2. On-site facilities management training including: 1. A walkabout of the building AND 1. Introduction to and familiarisation with the building systems, their controls and how to operate them in accordance with the design intent and operational demands. 1. Provide initial aftercare support for at least the first month of building occupation, e.g. weekly attendance on-site, to support building users and management (the level of frequency will depend on the complexity of the building and building operations). 2. Provide longer term aftercare support for occupiers for at least the first 12 months from occupation, e.g. a helpline, nominated individual or other appropriate system to support building users and management.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	Establish operational infrastructure and resources to coordinate the collection and monitoring of energy and water consumption data for a minimum of 12 months, once the building is substantially occupied. This facilitates analysis of discrepancies between actual and predicted performance, with a view to adjusting systems and user behaviours accordingly.	As per requirement 1.

Requirement 3	Complete the following commissioning activities over a minimum 12-month period, once the building becomes substantially occupied: 1. Complex systems: The specialist commissioning manager will: 1. Identify changes made by the owner or operator that might have caused impaired or improved performance 2. Test all building services under full load conditions, i.e. heating equipment in mid-winter, cooling and ventilation equipment in mid-summer and under part load conditions (spring and autumn) 3. Where applicable, carry out testing during periods of extreme (high or low) occupancy 4. Interview building occupants (where they are affected by the complex services) to identify problems or concerns regarding the effectiveness of the systems 5. Produce monthly reports comparing sub-metered energy performance to the predicted one (see Ene 01 Reduction of energy use and carbon emissions) 6. Identify inefficiencies and areas in need of improvement 7. Re-commission systems (following any work needed to serve revised loads), and incorporate any revisions in operating procedures into the operations and maintenance (O&M) manuals. 2. Simple systems (naturally ventilated): The external consultant, aftercare team or facilities manager will: 1. Review thermal comfort, ventilation, and lighting, at three, six and nine month intervals after initial occupation, either by measurement or occupant feedback 2. Identify deficiencies and areas in need of improvement 3. Re-commission systems and incorporate any relevant revisions in operating procedures into the O&M manuals.	As per requirement 1.
Requirement 4	The client or building occupier commits to carry out a POE exercise (see Definitions) one year after the building is substantially occupied. This gains comprehensive in-use performance feedback (see criterion 5.b.v) and identifies gaps between design intent and in-use performance. The aim is to highlight any improvements or interventions that need to be made and to inform operational processes.	As per requirement 1.

Requirement 5	An independent party (see Definitions) carries out the POE covering: 1. A review of the design intent and construction process (review of design, procurement, construction and handover processes) 2. Feedback from a wide range of building users including facilities management on the design and environmental conditions of the building covering: 1. Internal environmental conditions (light, noise, temperature, air quality) 2. Control, operation and maintenance 3. Facilities and amenities 4. Access and layout 5. Energy and water consumption (see criterion 2 and Methodology) 6. Other relevant issues, where appropriate (see Definitions).	As per requirement 1.
Requirement 6	The independent party provides a report with lessons learnt to the client and building occupiers.	As per requirement 1.
Requirement 7	The client or building occupier commits funds to pay for the POE in advance. This requires an independent party to be appointed to carry out the POE as described in criterion 5. Evidence of the appointment of the independent party and schedule of responsibilities which fulfils the BREEAM criteria are acceptable to demonstrate compliance.	As per requirement 1.
Health & Wellbeing		
Hea 01 - Visual comfort:		
Requirement 1	Identify areas at risk of glare using a glare control assessment. The glare control assessment also justifies any areas deemed not at risk of glare.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	Where risk has been identified within a relevant building area (Definitions on page 85 of BREEAM 2018 Guidance), a glare control strategy is used to design out the potential for glare.	As per requirement 1.

Requirement 3	The glare control strategy does not increase energy consumption used for lighting. This is achieved by: 1. Maximising daylight levels in all weather, cloudy or sunny AND 1. Ensuring the use or location of shading does not conflict with the operation of lighting control systems.	As per requirement 1.
Requirement 4	Daylighting criteria have been met using either of the following options: 1. The relevant building areas meet good practice daylight factors and other criterion as outlined in Table 5.1 and Table 5.2, OR 1. The relevant building areas meet good practice average and minimum point daylight illuminance criteria as outlined in Table 5.3. Additional alternative route for healthcare building types only: 1. The relevant building areas meet the median daylight factors and minimum daylight factors in Table 5.4 (see Methodology).	Daylighting calculations. One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 5	95% of the floor area in 95% of spaces for each relevant building area provides an adequate view out (see Adequate view out).	As per requirement 1.
Requirement 6	In addition, the building type criteria in Table 5.6 below are applicable to view out criteria.	As per requirement 1.
Requirement 8	Internal lighting Internal lighting in all relevant areas of the building is designed to provide illuminance (lux) levels and colouring rendering index in accordance with the SLL Code for Lighting 2012 and any other relevant industry standard. Internal lighting should be appropriate to the tasks undertaken, accounting for building user concentration and comfort levels.	As per requirement 1.

Requirement 9	For areas where computer screens are regularly used, the lighting design complies with CIBSE Lighting Guide 7 sections 2.4, 2.13 to 2.15, 2.20, and 6.10 to 6.20. This gives recommendations highlighting: 1. Limits to the luminance of the luminaires to avoid screen reflections. (Manufacturers' data for the luminaires should be sought to confirm this) 2. Any area where a surface is used to reflect light in to a space, such as uplighting, the recommendations refer to the luminance of the lit ceiling rather than the luminaire; a design team calculation is usually required to demonstrate this 3. Recommendations for direct lighting, ceiling illuminance, and average wall illuminance.	As per requirement 1.
Requirement 10	External lighting All external lighting located within the construction zone is specified in accordance with BS 5489-1:2013 Lighting of roads and public amenity areas and BS EN 12464-2:2014 Light and lighting - Lighting of work places - Part 2: Outdoor work places. External lighting should provide illuminance levels that enable users to perform outdoor visual tasks efficiently and accurately, especially during the night.	As per requirement 1.
Requirement 11	Where no external light fittings are specified (either separate from or mounted on the external building façade or roof), the criteria relating to external lighting do not apply and the credit can be awarded on the basis of compliance with criteria 8-9.c.	As per requirement 1.

Requirement 12	Zoning and occupant control Internal lighting is zoned to allow for occupant control. Zoning is in accordance with the criteria below for relevant areas present within the building: 1. In office areas, zones of no more than four workplaces 2. Workstations adjacent to windows or atria and other building areas separately zoned and controlled 3. Seminar and lecture rooms: zoned for presentation and audience areas 4. Library spaces: separate zoning of stacks, reading and counter areas 5. Teaching space or demonstration area 6. Whiteboard or display screen 7. Auditoria: zoning of seating areas, circulation space and lectern area 8. Dining, restaurant, café areas: separate zoning of servery and seating or dining areas 9. Retail: separate zoning of display and counter areas 10. Bar areas: separate zoning of bar and seating areas 11. Wards or bedded areas: zoned lighting control for individual bed spaces and control for staff over groups of bed spaces 12. Treatment areas, dayrooms, waiting areas: zoning of seating and activity areas and circulation space with controls accessible to staff.	As per requirement 1.
Requirement 13	Areas used for teaching, seminar or lecture purposes have lighting controls provided in accordance with CIBSE Lighting Guide 5.	As per requirement 1.
Requirement 14	In addition the building type criteria in Table 5.7 (where relevant).	As per requirement 1.
Requirement 15	Daylighting criteria have been met using either of the following options: 1. Relevant building areas meet exemplary daylight factors and the relevant criteria in Table 5.8. 2. Relevant building areas meet exemplary average and minimum point daylight illuminance criteria in Table 5.9.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 16	Lighting in each zone can be manually dimmed by occupants down to 20% of the maximum light output using dimmer switches positioned in accessible locations. Dimming and control gear should avoid flicker and noise.	As per requirement 15.
Hea 02 - Indoor air quality:		

Requirement 1	A site-specific indoor air quality plan has been produced and implemented in accordance with the guidance in Guidance Note GN06. The plan must be produced no later than the end Concept Design. The objective of the plan is to facilitate 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: 1. Removal of contaminant sources 2. Dilution and control of contaminant sources 1. Where present, consideration is given for the air quality requirements of specialist areas such as laboratories 3. Procedures for pre-occupancy flush out 4. Third party testing and analysis 5. Maintaining good indoor air quality in-use.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	The building has been designed to minimise the indoor concentration and recirculation of pollutants in the building as follows: 1. Provide fresh air into the building in accordance with the criteria of the relevant standard for ventilation 2. Ventilation pathways are designed to minimise the ingress and build-up of air pollutants inside the building (see Methodology) 3. Where present, HVAC systems must incorporate suitable filtration to minimise external air pollution, as defined in BS EN 13779:2007 Annex A3. The specified filters should achieve a minimum Indoor Air Quality of IDA2 4. Areas of the building subject to large and unpredictable or variable occupancy patterns have carbon dioxide (CO₂) or air quality sensors specified and: 1. In mechanically ventilated buildings or spaces: sensors are linked to the mechanical ventilation system and provide demand-controlled ventilation to the space 2. In naturally ventilated buildings or 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 or roof vents 5. For naturally ventilated or mixed mode buildings, the design demonstrates that the ventilation strategy provides adequate cross flow of air to maintain the required thermal comfort conditions and ventilation rates in accordance with CIBSE AM10.	As per requirement 1.

Requirement 3	One credit Three out of the five product types meet the emission limits, testing requirements and any additional requirements listed in Table 5.11. Where wood-based products are not one of three selected product types, all wood-based products used for internal fixtures and fittings must be tested and classified as formaldehyde E1 class as a minimum.	As per requirement 1.
Requirement 4	Two credits All of the product types listed meet the emission limits, testing requirements and any additional requirements listed in Table 5.11.	As per requirement 1.
Requirement 5	The formaldehyde concentration in indoor air is measured post construction (but pre-occupancy) and does not exceed 100µg/m ³ averaged over 30 minutes (World Health Organisation guidelines for indoor air quality: Selected pollutants, 2010).	As per requirement 1.
Requirement 6	The formaldehyde sampling and analysis is performed in accordance with ISO 16000-2 and ISO 16000-3.	As per requirement 1.
Requirement 7	The total volatile organic compound (TVOC) concentration in indoor air is measured post construction (but pre-occupancy) and does not exceed 500µg/m ³ over 8 hours.	As per requirement 1.
Requirement 8	The TVOC sampling and analysis is performed in accordance with ISO 16000-5 and ISO 16000-6 or ISO 16017-1.	As per requirement 1.
Requirement 9	Where levels are found to exceed these limits, the project team confirms the measures that have, or will be, undertaken in accordance with the IAQ plan, to reduce the TVOC and formaldehyde levels to within the above limits.	As per requirement 1.
Requirement 10	The measured concentration levels of formaldehyde (µg/m ³) and TVOC (µg/m ³) are reported, via the BREEAM Scoring and Reporting Tool.	As per requirement 1.
Requirement 11	Three of the product types listed meet the emission limits, testing requirements and any additional requirements listed in Table 5.12. Where wood-based products are not one of the three selected product types, all wood-based products used for internal fixtures and fittings must be tested and classified as formaldehyde E1 class as a minimum.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.

Hea 04 - Thermal comfort:		
Requirement 1	Thermal modelling has been carried out using software in accordance with CIBSE AM11 Building Energy and Performance Modelling.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	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).	As per requirement 1.
Requirement 3	The modelling demonstrates that: 1. For air-conditioned buildings, summer and winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental Design, Table 1.5; or other appropriate industry standard (where this sets a higher or more appropriate requirement or level for the building type) 2. For naturally ventilated buildings: 1. Winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental design, Table 1.5. Or other appropriate industry standard (where this sets a higher or more appropriate requirement or level for the building type) 2. The building is designed to limit the risk of overheating, in accordance with the adaptive comfort methodology outlined in either of the following standards as appropriate; CIBSE TM52: The limits of thermal comfort: avoiding overheating in European buildings or CIBSE TM59: Design methodology for the assessment of overheating risk in homes,.	As per requirement 1.
Requirement 4	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.	As per requirement 1.
Requirement 5	Criteria 1-4 are achieved.	As per requirement 1.

Requirement 6	The thermal modelling demonstrates that the relevant requirements set out in criterion 3 are achieved for a projected climate change environment (see Definitions).	As per requirement 1.
Requirement 7	Where criterion 6 above is not met, the project team demonstrates how the building has been adapted, or designed to be easily adapted in future using passive design solutions in order to subsequently meet the requirements under criterion 6.	As per requirement 1.
Requirement 8	For air-conditioned buildings, the PMV and PPD indices based on the above modelling are reported via the BREEAM assessment scoring and reporting tool.	As per requirement 1.
Requirement 9	Criteria 1-4 are achieved.	As per requirement 1.
Requirement 10	The thermal modelling analysis (criteria1-4) has informed the temperature control strategy for the building and its users.	As per requirement 1.

Requirement 11	The strategy for proposed heating or cooling systems demonstrates that it has addressed the following: 1. 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 2. The degree of occupant control required for these zones. This is based on discussions with the end user (or alternatively building type or use specific design guidance, case studies, feedback) and considers: 1. User knowledge of building services 2. Occupancy type, patterns and room functions (and therefore appropriate level of control required) 3. How the user is likely to operate or interact with the systems, e.g. are they likely to open windows, access thermostatic radiator valves (TRV) on radiators, change air-conditioning settings etc. 4. 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) 3. 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 4. The need or otherwise for an accessible building user actuated manual override for any automatic systems.	As per requirement 1.
Hea 05 - Acoustic performance:		
Requirement 3	The building meets the appropriate acoustic performance standards and testing requirements defined in the relevant table below. These tables define criteria for the acoustic principles of: 1. Sound insulation 2. Indoor ambient noise level 3. Room acoustics.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Hea 06 - Security:		

Requirement 1	A Suitably Qualified Security Specialist (SQSS) conducts an evidence based Security Needs Assessment (SNA) during or prior to Concept Design (RIBA Stage 2 or equivalent). The purpose of the SNA will be to identify attributes of the proposal, site and surroundings which may influence the approach to security for the development.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	The SQSS develops a set of security controls and recommendations for incorporation in to the proposals. Those controls shall directly relate to the threats and assets identified in the preceding SNA.	As per requirement 1.
Requirement 3	The recommendations shall be incorporated into proposals and implemented in the as-built development. Any deviation from those recommendations shall be justified and agreed with the SQSS.	As per requirement 1.
Requirement 4	A compliant risk based security rating scheme has been used. The performance against the scheme has been confirmed by independent assessment and verification.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Hea 07 - Safe and healthy surroundings:		
Requirement 1	Where external site areas form part of the assessed development the following apply: Dedicated and safe cycle paths are provided from the site entrance to any cycle storage, and connect to offsite cycle paths where applicable.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	Dedicated and safe footpaths are provided on and around the site providing suitable links for the following: 1. The site entrance to the building entrance 2. Car parks (where present) to the building entrance 3. The building to outdoor space, and 4. Connecting to off-site paths where applicable.	As per requirement 1.
Requirement 3	Pedestrian drop off areas are designed off of, or adjoining to, the access road and should provide direct access to other footpaths.	As per requirement 1.

Requirement 4	Where vehicle delivery access and drop-off areas form part of the assessed development, the following apply: Delivery areas are not accessed through general parking areas and do not cross or share the following: 1. Pedestrian and cyclist paths 2. Outside amenity areas accessible to building users and general public.	As per requirement 1.
Requirement 5	There is a dedicated parking or waiting area for goods vehicles with appropriate separation from the manoeuvring area and staff and visitor car parking.	As per requirement 1.
Requirement 6	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.	As per requirement 1.
Requirement 7	There is an outside space providing building users with an external amenity area.	As per requirement 1.
Energy		
Ene 01 - Reduction of energy use and carbon emissions:		
Requirement 1	Calculate an Energy Performance Ratio for New Constructions (EPR NC). Compare the EPR NC achieved with the benchmarks in Table 6.1 and award the corresponding number of BREEAM credits.	A copy of the building regulations output document from the approved software. The output documents must be based on the design stage of analysis. A copy of the building regulations output document from the design stage SAP calculations (where relevant for multiresidential buildings).
Requirement 2	Pre-requisite Prior to completion of the Concept Design, relevant members of the design team hold a preliminary design workshop focusing on operational energy performance.	Workshop minutes, agreed outcomes. One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.

Requirement 3	Undertake additional energy modelling during the design and post construction stage to generate predicted operational energy consumption figures (see Prediction of operational energy consumption).	Predicted energy consumption values, design assumptions, input data and risk assessments reported as detailed in the Energy Prediction and Post-occupancy guidance available from the BREEAM website. Confirmation of energy modeller's qualifications and experience. One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 4	Report predicted energy consumption targets by end use, design assumptions and input data (with justifications).	As per requirement 3.
Requirement 5	Carry out a risk assessment to highlight any significant design, technical, and process risks that should be monitored and managed throughout the construction and commissioning process.	As per requirement 3.
Requirement 6	The building achieves an $EPR_{NC} \geq 0.9$ and zero net regulated CO_2 emissions (see Definitions).	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria. As above, plus evidence confirming: 1. The total carbon neutral energy generation (kWh/yr) 2. The source of the carbon neutral energy 3. Calculated estimate of energy consumption from unregulated systems or process (kWh/yr) (only required if confirming zero regulated carbon or carbon negative exemplary credits) 4. Calculated estimate of exported energy surplus (only required if confirming carbon negative status).

Requirement 7	Energy generation from on-site and near-site LZO sources is sufficient to offset carbon emissions from regulated energy use plus a percentage of emissions from unregulated energy use.	As per requirement 6.
Requirement 8	Award the exemplary credits based on the percentage of additional emissions from unregulated energy that are offset by LZO sources (see Table 6.2).	As per requirement 6.
Requirement 9	The building is deemed carbon negative where > 100% (see Table 6.2) of carbon emissions from unregulated (and regulated) energy use are offset by energy generated from on-site and near-site LZO sources (see Definitions).	As per requirement 6.
Requirement 10	Achieve maximum available credits in Ene 02 Energy monitoring. In addition, preschools, primary schools, law courts, prisons and multi-residential buildings must meet the requirements of the second credit for sub-metering of high energy load and tenancy areas.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria. The client's commitment to proceed to the Post-occupancy stage and report the energy consumption.
Requirement 11	The client or building occupier commits funds to pay for the post occupancy stage. This requires an assessor to be appointed and to report on the actual energy consumption compared with the targets set in 4 above.	As per requirement 10.
Requirement 12	The energy model (requirement 3) is: 1. Submitted to BRE and 2. Retained by the building owner.	As per requirement 10.
Ene 02 - Energy monitoring:		
Requirement 1	Install energy metering systems so that at least 90% of the estimated annual energy consumption of each fuel is assigned to the end-use categories (see Methodology).	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.

Requirement 2	Meter the energy consumption in buildings according to the total useful floor area: 1. If the area is greater than 1,000m ² , by end-use category with an appropriate energy monitoring and management system 2. If the area is less than 1,000m ² , use either: 1. an energy monitoring and management system or 2. separate accessible energy sub-meters with pulsed or other open protocol communication outputs, for future connection to an energy monitoring and management system (see Definitions).	As per requirement 1.
Requirement 3	Building users can identify the energy consuming end uses, for example through labelling or data outputs.	As per requirement 1.
Ene 03 - External Lighting:		
Requirement 1	No external lighting (which includes lighting on the building, at entrances and signs).	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	External light fittings within the construction zone with: 1. Average initial luminous efficacy of no less than 70 luminaire lumens per circuit Watt 2. Automatic control to prevent operation during daylight hours 3. Presence detection in areas of intermittent pedestrian traffic.	As per requirement 1.
Ene 04 - Low carbon design:		
Requirement 1	One credit - Passive design analysis Achieve credit Hea04 Thermal Modelling to demonstrate that the building design delivers appropriate thermal comfort levels in occupied spaces.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	The project team analyses the proposed building design and development during Concept Design to identify opportunities for the implementation of passive design measures (see Passive design analysis).	As per requirement 1.

Requirement 3	Implement passive design measures to reduce the total heating, cooling, mechanical ventilation, lighting loads and energy consumption in line with the passive design analysis findings.	As per requirement 1.
Requirement 4	Quantify the reduced total energy demand and carbon dioxide (CO ₂) emissions resulting from the passive design measures.	Results from a dynamic simulation model demonstrating the reduced energy demand and CO ₂ emissions from the specified passive design measures. One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 5	One credit - Free cooling Achieve the passive design analysis credit.	As per requirement 1.
Requirement 6	Include a free cooling analysis (see Free cooling analysis) in the passive design analysis carried out under criterion 2.	As per requirement 1.
Requirement 7	Identify opportunities for the implementation of free cooling solutions.	As per requirement 1.
Requirement 8	The building is naturally ventilated or uses any combination of the free cooling strategies listed in Free cooling analysis.	Results from a dynamic simulation model and other used methods demonstrating that the free cooling strategy can meet the building's cooling demand.
Requirement 9	An energy specialist (see Definitions) completes a feasibility study (see Low and zero carbon feasibility study) by the end of the Concept Design.	As per requirement 1.
Requirement 10	Establish the most appropriate recognised local (on site or near site) low or zero carbon (LZC) energy sources for the building or development (see Scope of LZC systems and how they are assessed), based on the feasibility study.	As per requirement 1.
Requirement 11	Specify local LZC technologies for the building or development in line with the feasibility study recommendations.	As per requirement 1.

Requirement 12	Quantify the reduced regulated carbon dioxide (CO ₂) emissions resulting from the feasibility study.	Results from a dynamic simulation model demonstrating reductions in CO ₂ emissions from the specified low zero carbon technology. One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Ene 06 - Energy efficient transportation systems:		
Requirement 1	For specified lifts, escalators or moving walks (transportation types): 1. Analyse the transportation demand and usage patterns for the building to determine the optimum number and size of lifts, escalators or moving walks 2. Calculate the energy consumption in accordance with BS EN ISO 25745 Part 2⁽¹³¹⁾ or Part 3⁽¹³²⁾ for one of the following: 1. At least two options for each transportation type (e.g. for lifts, hydraulic, traction or machine roomless (MRL)) OR 2. At least two options considering different system arrangements and control strategies. 3. Consider the use of regenerative drives, subject to the requirements in Regenerative drives on the next page 4. Specify the transportation system with the lowest energy consumption.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria

Requirement 1	For Pathway A: Project teams must demonstrate that the minimum Deemed-to-Satisfy performance requirements stipulated within parts J1 and J2 of the NCC have been exceeded by at least 5%. For Pathway B: Project teams must demonstrate that the project achieves a minimum NatHERS 0.5-Star rating improvement on the minimum legislated area-weighted average. Each unit must also achieve a minimum NatHERS 0.5-Star rating over the individual rating requirement as specified in Section J0.2a of the NCC. For Pathway C: Project teams must demonstrate that a BASIX report has been issued to the Building Certifier at time of Building Approval demonstrating that the project aggregate cooling and heating demand, as calculated using a NatHERS-accredited calculation tool, achieves at least a 10% reduction relative to the maximum allowable aggregate heating and cooling energy for the project climate region as per the BASIX thermal comfort compliance criteria. This 10% reduction applies to both development average and to the worst-case dwelling performance. Pathway D: For this pathway, project teams must demonstrate that the project is subject to a NABERS Energy Commitment Agreement for a minimum of 4.5 Stars. This requires a full peer review of the base building design and associated energy performance simulation assessment by a NABERS-recognised Independent Design Reviewer, as a result of the Commitment Agreement process. Pathway E: Project teams must demonstrate that the Proposed Building greenhouse gas (GHG) emissions are less than those of the equivalent Benchmark Building. The Benchmark Building represents a 10% improvement on the Reference Building. The Reference Building is a building which achieves minimal compliance with the NCC Section J DTS provisions.	See below.
Requirement 2	Achieve criteria 1.	As per requirement 1.
Requirement 3	Specify the following three energy efficient features for each lift: 1. A standby condition for off-peak periods 2. The lift car lighting and display lighting provides an average luminous efficacy across all fittings in the car of > 70 luminaire lumens per circuit Watt 3. Use of a drive controller capable of variable speed, variable-voltage, and variable-frequency (VVVF) control of the drive motor.	As per requirement 1.
Requirement 4	Specify regenerative drives where their use is demonstrated to save energy.	As per requirement 1.
Ene 08 - Energy efficient equipment:		

Requirement 1	Identify the building's unregulated energy consuming loads. Estimate their contribution to the total annual unregulated energy consumption of the building, assuming a typical or standard specification.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	Identify the systems or processes that use a significant proportion of the total annual unregulated energy consumption of the building.	As per requirement 1.
Requirement 3	Demonstrate a meaningful reduction in the total annual unregulated energy consumption of the building. Table 6.5 lists some examples of significant contributors to unregulated energy consumption. If none of the examples listed in the table will be specified in the assessed building, the design team should justify how a meaningful reduction will be achieved for these contributors.	As per requirement 1.
Transport		
Tra 01 - Transport assessment and travel plan:		
Requirement 1	During the feasibility and design stages, develop a travel plan based on a site-specific travel assessment or statement.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	The site-specific travel assessment or statement covers as a minimum: 1. Existing travel patterns and opinions of existing building or site users towards cycling and walking identifying constraints and opportunities, if relevant 2. Travel patterns and transport impact of future building users 3. Current local environment for walkers and cyclists (accounting for visitors who may be accompanied by young children) 4. Reporting of the number and type of existing accessible amenities, see Table 7.1 below, within 500m of the site 5. Disabled access (accounting for varying levels of disability and visual impairment) 6. Calculation of the existing public transport Accessibility Index (AI), see Methodology 7. Current facilities for cyclists.	As per requirement 1.

Requirement 3	The travel plan includes proposals to increase or improve sustainable modes of transport and movement of people and goods during the building's operation and use, see Methodology.	As per requirement 1.
Requirement 4	If the occupier is known, involve them in the development of the travel plan.	As per requirement 1.
Requirement 5	Demonstrate that the travel plan will be implemented post construction and be supported by the building's management in operation.	As per requirement 1.
Tra 02 - Sustainable transport measures:		
Requirement 1	Achieve the Tra 01 transport assessment and travel plan credits.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	Identify the sustainable transport measures, see Table 7.4.	As per requirement 1.
Requirement 3	Award credits according to the Accessible Index (AI) of the project, and the total number of points achieved for the options implemented, see Table 7.3.	As per requirement 1.
Water		
Wat 01 - Water consumption:		
Requirement 1	Use the BREEAM Wat 01 calculator to assess the efficiency of the domestic water-consuming components.	A completed copy of the BREEAM Wat01 calculator. Documentary evidence supporting the data used to complete the calculator tool. One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.

Requirement 2	Use the standard Wat 01 method (see Methodology) to compare the water consumption (L/person/day) for the assessed building against a baseline performance. Award BREEAM credits based upon Table 8.1. Where it is not possible to use the standard method, complete the assessment using the alternative Wat 01 method (see Methodology).	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 3	If a greywater or rainwater system (see Definitions) is specified, use its yield in L/person/day to offset potable water demand from components.	As per requirement 2.
Requirement 4	If a greywater or rainwater system is specified and installed: 1. Greywater systems in compliance with BS 8525-1:2010 Greywater Systems - Part 1 Code of Practice 2. Rainwater systems in compliance with BS 8515:2009+A1:2013 Rainwater Harvesting Systems - Code of practice or for BREEAM NC 2018 V2.0 use BS EN 16941-1:2018. Achieve Wat 02 criterion 6, if you intend to pursue a post occupancy stage certification.	As per requirement 2.
Requirement 5	Additionally for Healthcare building types only: If applicable, the flushing control for each WC or urinal must be suitable for operation by patients with frail or infirm hands or activated by electronic sensors (see 2.0).	As per requirement 2.
Requirement 6	Additionally for Prison building types only: 6 Sanitary components specified within a prison cell have a volume controller specified on the individual fittings or water supply to each cell (see Definitions).	As per requirement 2.
Requirement 1	Use the BREEAM Wat 01 calculator to assess the efficiency of the domestic water-consuming components.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria. A completed copy of the BREEAM Wat 01 calculator. Documentary evidence supporting the data used to complete the calculator tool.

Requirement 2	Use the standard Wat 01 method (see Methodology on the facing page) to compare the water consumption (L/person/day) for the assessed building against a baseline performance. Award BREEAM credits based upon Table 8.1 below. Where it is not possible to use the standard method, complete the assessment using the alternative Wat 01 method (see Methodology).	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 5	Additionally for Healthcare building types only: If applicable, the flushing control for each WC or urinal must be suitable for operation by patients with frail or infirm hands or activated by electronic sensors (see 2.0).	As per requirement 2.
Requirement 6	Sanitary components specified within a prison cell have a volume controller specified on the individual fittings or water supply to each cell (see Definitions).	As per requirement 2.
Requirement 8	The water consumption (L/person/day) for the assessed building achieves the 65% improvement described as exemplary performance in Table 8.1.	As per requirement 2.
Wat 02 - Water monitoring:		
Requirement 0	Specify a water meter on the mains water supply to each building. This includes instances where water is supplied via a borehole or other private source.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 1	Specify a water meter on the mains water supply to each building. This includes instances where water is supplied via a borehole or other private source.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	For water-consuming plant or building areas consuming 10% or more of the building's total water demand: 1. Fit easily accessible sub-meters, OR 2. Install water monitoring equipment integral to the plant or area.	As per requirement 1.

Requirement 3	For each meter (main and sub): 1. Install a pulsed or other open protocol communication output, AND 2. Connect it to an appropriate utility monitoring and management system, e.g. a building management system (BMS), for the monitoring of water consumption. If there is no BMS system in operation at Post-Construction stage, award credits provided that the system used enables connection when the BMS becomes operational.	As per requirement 1.
Requirement 4	In buildings with swimming pools, or large water tanks and aquariums, fit separate sub-meters on the water supply of the above and any associated changing facilities (toilets, showers etc.) irrespective of their water consumption levels.	As per requirement 1.
Requirement 5	In buildings containing laboratories, fit a separate water meter on the water supply to any process or cooling loop for 'plumbed-in' laboratory process equipment, irrespective of their water consumption levels.	As per requirement 1.
Requirement 6	Additionally for those pursuing a post-occupancy stage certification: The water monitoring strategy used enables the identification of all water consumption for sanitary uses as assessed under Wat 01 (L/person/day), if a post occupancy stage certification is sought.	As per requirement 1.
Wat 03 - Water leak detection:		
Requirement 1	Install a leak detection system capable of detecting a major water leak: 1. On the utilities water supply within the buildings, to detect any major leaks within the buildings AND 1. Between the buildings and the utilities water supply, to detect any major leaks between the utilities supply and the buildings under assessment.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.

Requirement 2	The leak detection system is: 1. A permanent automated water leak detection system that alerts the building occupants to the leak OR an inbuilt automated diagnostic procedure for detecting leaks 2. Activated when the flow of water passing through the water meter or data logger is at a flow rate above a pre-set maximum for a pre-set period of time. This usually involves installing a system which detects higher than normal flow rates at meters or sub-meters. It does not necessarily require a system that directly detects water leakage along part or the whole length of the water supply system 3. Able to identify different flow and therefore leakage rates, e.g. continuous, high or low level, over set time periods. Although high and low level leakage rates are not specified, the leak detection equipment installed must have the flexibility to distinguish between different flow rates to enable it to be programmed to suit the building type and owner's or occupier's usage patterns 4. Programmable to suit the owner's or occupier's water consumption criteria 5. Where applicable, designed to avoid false alarms caused by normal operation of large water consuming plant such as chillers. Where there is physically no space for a leak detection system between the utilities water meter and the building, alternative solutions can be used, provided that a major leak can still be detected.	As per requirement 1.
Requirement 3	Install flow control devices that regulate the supply of water to each WC area or facility according to demand, in order to minimise undetected wastage and leaks from sanitary fittings and supply pipework.	As per requirement 1.
Wat 04 - Water efficient equipment:		
Requirement 1	Identify all water demands from uses other than those listed under Wat 01 Table 8.1 that could be realistically mitigated or reduced. Where there is no water demand from uses other than domestic scale, sanitary use components in the building, this issue is not applicable.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	Identify systems or processes to reduce the relevant water demand (criterion 1), and establish, through either good practice design or specification, a demonstrable reduction in the total water demand of the building.	As per requirement 1.

Materials		
Mat 01 - Environmental impacts from construction products - Building life cycle assessment (LCA):		
Requirement 1	Comparison with the BREEAM LCA benchmark during Concept Design (offices, industrial and retail buildings only) Superstructure (offices, industrial and retail buildings (except for Simple Buildings and where Notes 1.1 and 1.2 apply) During the Concept Design, demonstrate the environmental performance of the building as follows: 1. Carry out a building LCA on of the superstructure design using either the BREEAM Simplified building LCA tool or an IMPACT Compliant LCA tool according to the methodology (see Methodology). 2. Submit the Mat 01/02 Results Submission Tool to BRE at the end of Concept Design, and before planning permission is applied for (that includes external material or product specifications).	The Mat 01/02 Results Submission Tool.
Requirement 2	Comparison with the BREEAM LCA benchmark during Technical Design (offices, industrial and retail buildings only) During Technical Design, demonstrate the environmental performance of the building as follows: 1. As requirement 1.a 2. Submit the Mat 01/02 Results Submission Tool to BRE at the end of Technical Design. Where a project has not achieved requirement 1, requirement 2 may still be achieved.	As per requirement 1.
Requirement 3	Option appraisal during Concept Design (all building types) For offices, industrial and retail building types, achieve criterion 1 (except where Notes 1.0, 1.1 and 1.2 apply).	As per requirements 1 to 2. The options appraisal summary document. Evidence that the LCA options appraisal summary document has been received by the design team and client (meeting minutes, letter of acknowledgement). Evidence of how the LCA design options have informed the design decision-making process (e.g. meeting minutes, documented design development showing how the LCA options have affected the design).

Requirement 4	During Concept design, identify opportunities for reducing environmental impacts as follows: 1. Carry out building LCA options appraisal of 2 to 4 significantly different superstructure design options (applicable to the Concept Design stage, see Methodology). 2. Use a building LCA tool that is recognized by BREEAM (as suitable for assessing superstructure during Concept Design) according to the methodology (see Methodology). 3. For each design option, fulfil the same functional requirements specified by the client and all statutory requirements (to ensure functional equivalency). 4. Integrate the LCA options appraisal activity within the wider design decision-making process. Record this in an options appraisal summary document. 5. Record the following in the Mat 01/2 Results Submission Tool: The differences between the design options; the design option selected by the client to be progressed beyond Concept Design; the reasons for selecting it and the reasons for not selecting the other design options. 6. Submit the Mat 01/02 Results Submission Tool to BRE at the end of Concept Design, and before planning permission is applied for (that includes external material or product specifications). If the building LCA tool recognised by BREEAM used for requirements 3 to 5 (and 6 to 9, if pursued) is not an IMPACT Compliant LCA tool and requirements 1 to 2 are applicable, then the BREEAM Simplified building LCA tool (or an IMPACT Compliant LCA tool) shall be used for requirements 1 to 2.	As per requirement 3.
Requirement 5	Options appraisal during Technical Design (all building types) During Technical Design identify opportunities for reducing environmental impacts as follows: 1. Carry out building LCA options appraisal of 2 to 3 significantly different superstructure design options (based on the selected Concept Design option and as applicable to the Technical Design stage, see Methodology). 2. Use a building LCA tool that is recognized by BREEAM (as suitable for assessing superstructure during Technical Design) according to the methodology (see Methodology). 3. As requirements 4.c to 4.e above. Where an options appraisal summary document was produced during Concept Design, update it to include the Technical Design options. 4. Submit the Mat 01/02 Results Submission Tool to BRE at the end of Technical Design. Where a project has not achieved requirements 3 and 4, requirement 5 may still be achieved.	As per requirements 3 to 4.

Requirement 6	Design (all building types) Requirements 3 and 4 are achieved.	As per requirements 3 to 4. The LCA options appraisal summary document includes substructure and hard landscaping according to the requirements.
Requirement 7	During Concept Design identify opportunities for reducing environmental impacts as follows: 1. Carry out building LCA options appraisal of a combined total of at least six significantly different substructure or hard landscaping design options (at least two shall be substructure and at least two shall be hard landscaping) 2. Using a building LCA tool that is recognized by BREEAM (as suitable for assessing substructure and hard landscaping during Concept Design) according to the methodology (see Methodology). 3. As requirements 4.c to 4.f above.	As per requirement 6.
Requirement 8	Requirements 3 to 4 are achieved.	As per requirements 3 to 4. The LCA options appraisal summary document includes core building services according to the criteria.
Requirement 9	During Concept Design identify opportunities for reducing environmental impacts as follows: 1. Carry out building LCA options appraisal of at least 3 significantly different core building services design options. 2. Use a building LCA tool that is recognized by BREEAM (as suitable for assessing core building services during Concept Design) according to the methodology (see Methodology). 3. As requirements 4.c to 4.f.	As per requirement 8.
Requirement 10	Achieve requirements 3 to 5.	As per requirement 5. The 'elemental LCC plan' and 'Component level LCC option appraisal; in issue Man 02 Life cycle cost and service life planning'.
Requirement 11	Achieve Elemental LCC plan and Component Level LCC options appraisal credits (Man 02 Life cycle cost and service life planning).	As per requirement 10.

Requirement 12	Include design options appraised for requirements 3 to 4 (and 6 to 7 and 8 to 9, if pursued) during Concept Design in Assessment scope - The elemental LCC plan.	As per requirement 10.
Requirement 13	Include the design options appraised for criterion 5 during Concept Design in the 'Component level LCC option appraisal' in (Man 02 Life cycle cost and service life planning).	As per requirement 10.
Requirement 14	Integrate the aligned LCA and LCC options appraisal activity within the wider design decision-making process. Record this in an options appraisal summary document including the relevant cost information from the 'elemental LCC plan' and 'Component level LCC option appraisal'.	As per requirement 10.
Requirement 15	Requirements 1 to 7 (as applicable to the building type) are achieved.	The third party's report: - Verifying that building LCAs accurately represent the designs under consideration. - Itemising the findings of their verification checks. - Evidence that the requirements of a Suitably qualified third party are fulfilled.
Requirement 16	A suitably qualified third party (see Definitions) either carries out the building LCA work or verifies the building LCA work (if by others), and produces a report describing how they have checked the building LCA work accurately represent the designs under consideration during Concept Design and Technical Design with reference to the requirements of requirements 1 to 7 (and 8 to 14 if pursued).	As per requirement 15.
Requirement 17	For each LCA option, itemise in the report the checks made by the suitably qualified third party including, as a minimum, the quality requirements shown in Table 9.4.	As per requirement 15.
Requirement 18	Include details of the suitably qualified third party's relevant skills and experience and a declaration of their third party independence from the project client and design team in the report.	As per requirement 15.
Mat 02 - Mat 02 Environmental impacts from construction products - Environmental Product Declarations (EPD):		

Requirement 1	Specify construction products with EPD that achieve a total EPD points score of at least 20, according to the methodology.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria. The Mat 01/02 Results Submission tool. Copies of EPD certificates.
Requirement 2	Enter the details of each EPD into the Mat 01/02 Results Submission Tool, including the material category classification. The Mat 01/02 Results Submission Tool will verify the EPD points score and credit award.	As per requirement 1.
Mat 03 - Responsible sourcing of construction products:		
Requirement 1	All timber and timber-based products used on the project are legally harvested and traded timber as per the UK government's Timber Procurement Policy (TPP) (189) (see Definitions). Compliance with requirement 1 is a minimum requirement for achieving any BREEAM rating. There are no prerequisite requirements for other materials.	See The BREEAM evidential requirements for a list of general evidence types that can be used to demonstrate compliance with the relevant criteria for this issue. Evidence of level of responsible sourcing achieved for each construction product. For example, certificates. Completed copy of the Mat 03 Calculator tool. Evidence to show how the Mat 03 calculator tool has been completed.
Requirement 2	A sustainable procurement plan must be used by the design team to guide specification towards sustainable construction products. The plan must: 1. Be in place before Concept Design. 2. Include sustainability aims, objectives and strategic targets to guide procurement activities. Note: targets do not need to be achieved for the credit to be awarded but justification must be provided for targets that are not achieved. 3. Include a requirement for assessing the potential to procure construction products locally. There must be a policy to procure construction products locally where possible. 4. Include details of procedures in place to check and verify the effective implementation of the sustainable procurement plan. In addition, if the plan is applied to several sites or adopted at an organisational level it must: 1. Identify the risks and opportunities of procurement against a broad range of social, environmental and economic issues following the process set out in BS ISO20400:2017⁽¹⁷⁰⁾.	As per requirement 1.

Requirement 3	Use the Mat 03 calculator tool and methodology to determine the number of credits achieved for the construction products specified or procured. Credits are awarded in proportion to the scope of the assessment and the number of points achieved, as set out in Table 9.10.	As per requirement 1.
Requirement 3	Use the Mat 03 calculator tool and methodology to determine the number of credits achieved for the construction products specified or procured. Credits are awarded in proportion to the scope of the assessment and the number of points achieved, as set out in Table 9.10.	As per requirement 1.
Mat 05 - Designing for durability and resilience:		
Requirement 1	Protecting vulnerable parts of the building from damage Protection measures are incorporated into the building's design and construction to reduce damage to the building's fabric or materials in case of accidental or malicious damage occurring. These measures must provide protection against: 1. Negative impacts of high user numbers in relevant areas of the building (e.g. corridors, lifts, stairs, doors etc.). 2. Damage from any vehicle or trolley movements within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas. 3. External building fabric damage by a vehicle. Protection where parking or manoeuvring areas are within 1 metre of the building façade and where delivery areas or routes are within 2 metres of the façade, i.e. specifying bollards or protection rails. 4. Potential malicious damage to building materials and finishes, in public and common areas where appropriate.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	Protecting exposed parts of the building from material degradation Key exposed building elements have been designed and specified to limit long and short term degradation due to environmental factors. This can be demonstrated through one of the following: 1. The element or product achieving an appropriate quality or durability standard or design guide. See Table 9.14. If none are available, use BS 7543:2015⁽¹⁷²⁾ as the default appropriate standard OR 2. A detailed assessment of the element's resilience when exposed to the applicable material degradation and environmental factors.	As per requirement 1.

Requirement 3	Include convenient access to the roof and façade for cost effective cleaning, replacement and repair in the building's design.	As per requirement 1.
Requirement 4	Design the roof and façade to prevent water damage, ingress and detrimental ponding. See Table 9.14 for an example list of relevant industry durability and quality standards.	As per requirement 1.
Mat 06 - Material efficiency:		
Requirement 1	At the Preparation and Brief and Concept Design stages, set targets and report on opportunities and methods to optimise the use of materials. These must be done for each of the following stages. See Table 9.15. 1. Preparation and Brief 2. Concept Design 3. Developed Design 4. Technical Design 5. Construction	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	Develop and record the implementation of material efficiency, see Table 9.15, during 1. Developed Design 2. Technical Design 3. Construction	As per requirement 1.
Requirement 3	Report the targets and actual material efficiencies achieved.	As per requirement 1.
Waste		
Wst 01 - Construction waste management:		

Requirement 1	Complete a pre-demolition audit of any existing buildings, structures or hard surfaces being considered for demolition. This must be used to determine whether refurbishment or reuse is feasible and, in the case of demolition, to maximise the recovery of material for subsequent high grade or value applications. The audit must cover the content of Pre-demolition audit scope and: 1. Be carried out at Concept Design stage (RIBA Stage 2) by a competent person (see Definitions) prior to strip-out or demolition works 2. Guide the design, consider materials for reuse and set targets for waste management 3. Engage all contractors in the process of maximising high grade reuse and recycling opportunities 4. Compare actual waste arisings and waste management routes used with those forecast and investigate significant deviations from planned targets.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria. A copy of the Resource Management Plan and, where relevant, pre-demolition audit.
Requirement 2	Make reference to the audit in the resource management plan (RMP) (see Definitions).	As per requirement 1.
Requirement 3	Prepare a compliant Resource Management Plan (RMP) covering: 1. Non-hazardous waste materials (from on-site construction and dedicated off-site manufacture or fabrication, see Definitions), including demolition and excavation waste. 2. Accurate data records on waste arisings and waste management routes.	As per requirement 1.
Requirement 4	Meet or improve upon the benchmarks in Table 10.1 for non-hazardous construction waste, excluding demolition and excavation waste.	As per requirement 1.
Requirement 5	Meet, where applicable, the diversion from landfill benchmarks in Table 10.2 for non-hazardous construction waste and demolition and excavation waste generated.	As per requirement 1.
Requirement 6	Sort waste materials into separate key waste groups as per Table 10.3, either on-site or through a licensed contractor for recovery.	As per requirement 1.
Requirement 7	Non-hazardous construction waste generated, excluding demolition and excavation waste, is less than or equal to the exemplary level resource efficiency benchmarks (see Table 10.1).	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria. A copy of the Resource Management Plan and, where relevant, pre-demolition audit.

Requirement 8	The percentage of non-hazardous construction, demolition and excavation waste (if relevant) diverted from landfill meets or exceeds the exemplary level percentage benchmarks in Table 10.2.	As per requirement 7.
Requirement 9	All key waste groups in Table 10.3 for diversion from landfill are covered in the RMP.	As per requirement 7.
Requirement 10	Waste data obtained from licensed external waste contractors is reliable and verifiable, by using data from EA/SEPA/EA Wales/NIEA Waste Return Forms or from a PAS 402:2013 compliant company (see Definitions).	As per requirement 7.
Wst 02 - Use of recycled and sustainably sourced aggregates:		
Requirement 0	If demolition occurs on site, to encourage the reuse of site-won material on site, complete a pre-demolition audit of any existing buildings, structures or hard surfaces in accordance with Assessment scope - Requirement 1 and Assessment scope - Requirement 2.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 1	Identify all aggregates uses and type on the project Table 10.5 and Table 10.6.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria. A completed copy of the Wst 02 calculator. Documentary evidence supporting the data used to complete the Calculator tool.
Requirement 2	Determine the quantity in tonnes for each identified use and aggregate type.	As per requirement 1.
Requirement 3	Identify the region in which the aggregate source is located.	As per requirement 1.
Requirement 4	Identify the distance in kilometres travelled by all aggregates by transport type.	As per requirement 1.
Requirement 5	Enter the information into the BREEAM Wst 02 calculator to calculate the Project Sustainable Aggregate points. The corresponding number of BREEAM credits will be awarded as shown in Table 10.4.	As per requirement 1.

Requirement 6	The Project Sustainable Aggregate points score meets or exceeds the exemplary level performance benchmark in Table 10.4.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria. A completed copy of the Wst 02 calculator. Documentary evidence supporting the data used to complete the Calculator tool.
Wst 03 - Operational waste:		
Requirement 1	Provide a dedicated space for the segregation and storage of operational recyclable waste generated. The space is: 1. Clearly labelled, to assist with segregation, storage and collection of the recyclable waste streams 2. Accessible to building occupants or facilities operators for the deposit of materials and collections by waste management contractors 3. Of a capacity appropriate to the building type, size, number of units (if relevant) and predicted volumes of waste that will arise from daily or weekly operational activities and occupancy rates.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	For consistent and large amounts of operational waste generated, provide: 1. Static waste compactors or balers; situated in a service area or dedicated waste management space 2. Vessels for composting suitable organic waste OR adequate spaces for storing segregated food waste and compostable organic material for collection and delivery to an alternative composting facility 3. A water outlet provided adjacent to or within the facility for cleaning and hygiene purposes where organic waste is to be stored or composted on site.	As per requirement 1.
Requirement 3	Additionally for healthcare buildings only The specified or installed operational waste facilities are compliant with the relevant NHS guidelines for that part of the UK.	As per requirement 1.

Requirement 4	Additionally for multi-residential buildings with self-contained dwellings or bedsits only Provide three internal storage containers for each dwelling or bedsit with: 1. A minimum total capacity of 30 litres 2. No individual container smaller than 7 litres 3. All containers in a dedicated non-obstructive position 4. Storage containers for recycling in addition to non-recyclable waste storage	As per requirement 1.
Requirement 5	Provide home composting facilities and a home composting information leaflet within the kitchen area or communal space for each self-contained dwelling or bedsit.	As per requirement 1.
Requirement 6	Additionally for multi-residential buildings with individual bedrooms and communal facilities only Meet requirements 4.a and 4.b for self-contained dwellings or bedsits for every six bedrooms.	As per requirement 1.
Requirement 7	Locate recyclable storage in a dedicated, unobstructive position in communal kitchens or other appropriate communal space.	As per requirement 1.
Requirement 8	Provide home composting facilities and a home composting information leaflet within the kitchen area or communal space.	As per requirement 1.
Requirement 9	Provide a minimum of 10 litres of internal storage for compostable waste.	As per requirement 1.
Wst 05 - Adaptation to climate change:		
Requirement 1	Conduct a climate change adaptation strategy appraisal using: 1. A systematic risk assessment to identify the impact of expected extreme weather conditions arising from climate change on the building over its projected life cycle. The assessment covers the installation of building services and renewable systems, as well as structural and fabric resilience aspects and includes (see Methodology): 1. Hazard identification 2. Hazard assessment 3. Risk estimation 4. Risk evaluation 5. Risk management.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.

Requirement 2	Develop recommendations or solutions based on the climate change adaptation strategy appraisal, during or prior to Concept Design, that aim to mitigate the identified impact.	As per requirement 1.
Requirement 3	Provide an update during Technical Design demonstrating how the recommendations or solutions proposed at Concept Design have been implemented where practical and cost effective. Omissions have been justified in writing by the assessor.	As per requirement 1.
Requirement 4	Achievement of the following criteria demonstrates a holistic approach to the design and construction of the building's life cycle to mitigate against the impacts of climate change. Meet criteria 1 to 3.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 5	Meet the requirements or achieve credits of the assessment issues given in Table 10.11.	As per requirement 4.
Wst 06 - Design for disassembly and adaptability:		
Requirement 1	Conduct a study to explore the ease of disassembly and the functional adaptation potential of different design scenarios (see Methodology) by Concept Design.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria. Disassembly and functional adaptability study, implementation plan report, building adaptability and disassembly guide.
Requirement 2	Develop recommendations or solutions (see Functional adaptation implementation) based on the study (criterion 1 above), during or prior to Concept Design, that aim to enable and facilitate disassembly and functional adaptation.	As per requirement 1.
Requirement 3	Achieve requirements 1 and 2.	As per requirement 1.

Requirement 4	Provide an update, during Technical Design, on: 1. How the recommendations or solutions proposed by Concept Design have been implemented where practical and cost effective. Omissions have been justified in writing to the assessor. 2. Changes to the recommendations and solutions during the development of the Technical Design.	As per requirement 1.
Requirement 5	Produce a building adaptability and disassembly guide to communicate the characteristics allowing functional adaptability and disassembly to prospective tenants.	As per requirement 1.
Land Use & Ecology		
LE 01 - Site selection:		
Requirement 1	At least 75% of the proposed development's footprint is on an area of land which has previously been occupied (see Definitions).	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	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: 1. The degree of contamination 2. The contaminant sources or types 3. The options for remediating sources of contamination which present an unacceptable risk.	As per requirement 1.
Requirement 3	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 (see Definitions).	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria. A copy of the remediation strategy and implementation plan.
LE 02 - Identifying and understanding the risks and opportunities for the site:		

Requirement 1	An assessment route (see Definitions) for the project has been determined using BREEAM Guidance Note GN34 BREEAM Ecological Risk Evaluation Checklist.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria. Completed Guidance Note 34: BREEAM, CEEQUAL and HQM Ecology Risk Evaluation Checklist.
Requirement 2	The client or contractor confirms compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site.	As per requirement 1.
Requirement 3	Route 1 Assessment route 1 can be used only when indicated by the results of the BREEAM Ecological Risk Evaluation Checklist (see Methodology).	As per requirement 1.
Requirement 4	Route 2 A Suitably Qualified Ecologist (SQE) is appointed at a project stage that ensures early involvement in site configuration and, where necessary, can influence strategic planning decisions.	As per requirement 1.
Requirement 5	Prior to the completion of the Preparation and Brief project stage, an appropriate level of survey and evaluation (see Assessment route 2: For sites where complex ecological systems are likely to be present on the next page) has been carried out to determine the ecological baseline of the site, taking account of the zone of influence to establish: 1. Current and potential ecological value and condition of the site, and related areas within the zone of influence. 2. Direct and indirect risks to current ecological value 3. Capacity and feasibility for enhancement of the ecological value of the site and, where relevant, areas within the zone of influence.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria. A copy of the Ecological Survey and Evaluation document. Note: A phase 1 habitat assessment or other equivalent type of assessment can act as acceptable evidence as long as it can be shown that they cover the content of the assessment criteria.
Requirement 6	Data are collated and shared with project team to inform the site preparation, design and construction works.	As per requirement 1.
Requirement 7	Determining the ecological outcomes for the site (Routes 1 and 2) Survey and evaluation criteria relevant to the chosen route (requirement 3 or requirements 4-6) have been achieved.	As per requirement 1.

Requirement 8	During Concept Design, the project team liaise and collaborate with representative stakeholders to identify the optimal ecological outcome for the site (For Route 1 assessments, see GN35. For Route 2 assessments, see Methodology).	As per requirement 1.
Requirement 9	The ecological outcome for the site is determined by identifying, appraising and selecting specific solutions and measures. The solutions and measures must be identified sufficiently early in the project to influence key project planning decisions and must be done in accordance with the following hierarchy of action, which is dependant on the route being used : Route 1 1. Avoidance 2. Protection Route 2 1. Avoidance 2. Protection 3. Reduction or limitation of negative impacts 4. On site compensation and 5. Enhancement, considering the capacity and feasibility within the site, or where viable, offsite.	As per requirement 1.
Requirement 10	The optimal ecological outcome for the site is selected after liaising with representative stakeholders and the project team.	As per requirement 1.
Requirement 11	Achieve requirements 8 to 10 above.	As per requirement 3.
Requirement 12	When determining the optimal ecological outcome for the site consider, in addition to those outlined in requirements 8 to 10 above, the wider site sustainability-related activities and the potential for ecosystem service related benefits. See Methodology for a list of the minimum areas for consideration.	As per requirement 3.
Requirement 13	Achieve the credits of the assessment issues outlined below: 1. Assessment scope on page 121 - Both credits 2. Assessment scope on page 332 - Achieve credits for 'Surface water run-off' and 'Minimising watercourse pollution' 3. Assessment scope on page 349	As per requirement 3.

LE 03 - Managing negative impacts on ecology:		
Requirement 1	LE 02 has been achieved.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	Roles and responsibilities for managing negative impacts on the ecology are clearly defined and allocated to support successful delivery of project outcomes at an early enough stage to influence the Preparation and Brief or Concept Design.	As per requirement 1.
Requirement 3	The potential impact of site preparation and construction works on ecology are identified at an early project stage to optimise benefits and outputs.	As per requirement 1.
Requirement 4	The project team, liaising and collaborating with representative stakeholders and, taking into consideration data collated and shared, have proposed solutions and selected measures to be implemented during site preparation and construction works.	As per requirement 1.
Requirement 5	Route 1 (one credit) Requirements 2 and 3 have been achieved.	As per requirement 1.
Requirement 6	Negative impacts from site preparation and construction works have been managed according to the hierarchy (see Methodology) and no overall loss of ecological value has occurred.	As per requirement 1.
Requirement 7	Route 2 (up to two credits) Requirements 2-4 have been achieved.	As per requirement 1.
Requirement 8	Negative impacts from site preparation and construction works have been managed according to the hierarchy (see Assessment route 2: For sites where complex ecological systems are likely to be present on the next page) and, either: 1. No overall loss of ecological value has occurred (2 credits) OR 1. The loss of ecological value has been minimised (Minimising Loss) (1 credit)	As per requirement 1.
LE 04 - Enhancement of Ecological value:		

Requirement 1	Requirements 2-3 in LE 03 have been achieved.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	The client or contractor confirms compliance is monitored against all relevant UK, EU or international legislation relating to the ecology of the site.	As per requirement 1.
Requirement 3	Route 1 The project team, liaising and collaborating with representative stakeholders and taking into consideration data collated and shared, have implemented locally relevant ecological solutions and measures which enhance the site. The solutions and measures adopted are based on recommendations from recognised 'local' ecological expertise and specialist input and guidance.	As per requirement 1.
Requirement 4	Route 2 The project team, liaising and collaborating with representative stakeholders and taking into consideration data collated and shared, have implemented the solutions and measures selected in a way that enhances ecological value in the following order: 1. On site, and where this is not feasible, 2. Off site within the zone of influence.	As per requirement 1.
Requirement 5	Data collated are provided to the local environmental records centres nearest to, or relevant for, the site.	As per requirement 1.
Requirement 6	Route 2 Up to three credits are awarded based on the calculation of the change in ecological value occurring as a result of the project. This must be calculated in accordance with the process set out in GN36 - BREEAM, CEEQUAL and HQM Ecology Calculation Methodology - Route 2. Credits are awarded as follows: 1. Minimising loss of ecological value (one credit - percentage score of 75-94) 2. No net loss of ecological value (two credits - percentage score of 95-104) 3. Net gain of ecological value (three credits - percentage score of 105-109)	As per requirement 1.
Requirement 7	The change in ecological value occurring is calculated in accordance with the process set out in GN36 - BREEAM, CEEQUAL and HQM Ecology Calculation Methodology - Route 2. The credit is awarded as follows: 1. Significant net gain of ecological value (percentage score of 110 or above)	As per requirement 1.

LE 05 - Long term management and maintenance:		
Requirement 1	The client or contractor has confirmed that compliance is being monitored against all relevant UK, EU and local best practice standards relating to the ecology of the site.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	The following must be achieved, according to the route being assessed: 1. Route 1 - Requirements 2-3 in LE 03 have been achieved. 2. Route 2 - Requirements 2-3 in LE 03 have been achieved, and at least one credit under LE 04 for 'Change and Enhancement of Ecology' has been awarded.	As per requirement 1.
Requirement 3	Planning, liaison, data, monitoring and review management and maintenance The project team liaise and collaborate with representative stakeholders, taking into consideration data collated and shared, on solutions and measures implemented to: 1. monitor and review the effectiveness with which the plans for LE 03 & LE 04 are implemented. 2. develop and review management and maintenance solutions, actions or measures.	As per requirement 1.
Requirement 4	In support of the above and to help ensure their continued relevance over the period of the project the following should be considered: 1. Monitoring and reporting of on the ecological outcomes for site implemented at the design and construction stage 2. Monitoring and reporting of outcomes and successes from the project 3. Arrangements for the ongoing management of landscape and habitat connected to the project (on and, where relevant, off site) 4. Maintaining the ecological value of the site and its relationship or connection to its zone of influence 5. Maintaining the site in line with the any sustainability linked activities, e.g. ecosystems benefits (LE 02). 6. Remedial or other management actions are carried out which relate to those identified in LE 02, LE 03 and LE 04.	As per requirement 1.

Requirement 5	As part of the tenant or building owner information supplied, include a section on Ecology and Biodiversity to inform the owner or occupant of local ecological features, value and biodiversity on or near the site.	As per requirement 1.
Requirement 6	The landscape and management plan or similar is updated as appropriate to support maintenance of the ecological value of the site.	As per requirement 1.
Requirement 7	Landscape and ecology management plan (or similar) development Landscape and ecology management plan, or equivalent, is developed in accordance with BS 42020:2013 Section 11.1 covering as a minimum the first five years after project completion and includes: 1. Actions and responsibilities, prior to handover, to give to relevant individuals 2. The ecological value and condition of the site over the development life. 3. Identification of opportunities for ongoing alignment with activities external to the development project and which supports the aims of BREEAM's Strategic Ecology Framework 4. Identification and guidance to trigger appropriate remedial actions to address previously unforeseen impacts 5. Clearly defined and allocated roles and responsibilities.	As per requirement 1.
Pollution		
Pol 01 - Impact of refrigerants:		
Requirement 1	Three credits - No refrigerant use No refrigerant use within the installed plant or systems. OR alternatively, where the building does use refrigerants, the three credits can be awarded as follows:	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	Prerequisite All systems with electric compressors comply with the requirements of BS EN 378:2008 ⁽²¹¹⁾ (parts 2 and 3). Refrigeration systems containing ammonia comply with the Institute of Refrigeration Ammonia Refrigeration Systems code of practice ⁽²¹²⁾ .	As per requirement 1.

Requirement 3	Impact of refrigerant Two credits The direct effect life cycle CO ₂ equivalent emissions (DEL _C) of ≤ 100 kgCO _{2e} /kW. For systems which provide cooling and heating, the worst performing output based on the lower of kW cooling output and kW heating output is used to complete the calculation. To calculate the DEL _C refer to the relevant definitions in the Methodology below and Additional information sections. OR	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria. Completed copy of the Pol 01 Calculator tool. Documentary evidence supporting the data used to complete the calculator tool.
Requirement 4	4 Refrigerants used have a Global Warming Potential (GWP) ≤ 10. OR	As per requirement 1.
Requirement 5	One credit Systems using refrigerants have DEL _C of ≤ 1000 kgCO _{2e} /kW cooling and heating capacity.	As per requirement 3.
Requirement 6	One credit - Leak detection All systems are hermetically sealed or only use environmentally benign refrigerants. See Leak detection and Hermetically sealed systems OR	As per requirement 1.
Requirement 7	Where the systems are not hermetically sealed. 1. Systems have: 1. A permanent automated refrigerant leak detection system, that is robust and tested and capable of continuously monitoring for leaks. OR 1. An inbuilt automated diagnostic procedure for detecting leakage is enabled. 1. In the event of a leak, the system must be capable of automatically responding and managing the remaining refrigerant charge to limit loss of refrigerant (see Automatic isolation and containment of refrigerant on).	As per requirement 1.
Pol 02 - Local air quality:		
Requirement 1	All heating and hot water is supplied by non-combustion systems. For example, only powered by electricity. OR alternatively;	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.

Requirement 2	Emissions from all installed combustion plant that provide space heating and domestic hot water do not exceed the levels set in Table 12.4 and Table 12.5.	As per requirement 1.
Pol 03 - Flood and surface water management:		
Requirement 1	Prerequisite An appropriate consultant is appointed to carry out and demonstrate the development's compliance with all criteria.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	Two credits - Low flood risk A site-specific flood risk assessment (FRA) confirms the development is in a flood zone that is defined as having a low annual probability of flooding. The FRA takes all current and future sources of flooding into consideration (see Sources of flooding).	As per requirement 1.
Requirement 3	One credit - Medium or high flood risk A site-specific FRA confirms the development is in a flood zone that is defined as having a medium or high annual probability of flooding and is not in a functional floodplain. . The FRA must take all current and future sources of flooding into consideration (see Sources of flooding). For smaller sites refer to Level of detail required in the FRA for smaller sites, which overrides requirement 2.	As per requirement 1.
Requirement 4	To increase the resilience and resistance of the development to flooding, one of the following must be achieved: 1. 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 site's flood zone (see 600mm threshold). 2. 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 BS8533:2017 ⁽²¹⁸⁾ .	As per requirement 1.
Requirement 5	Prerequisite for surface water run-off credits Surface water run-off design solutions must be bespoke, i.e. they must take account of the specific site requirements and natural or man-made environment of and surrounding the site. The priority levels detailed in the Methodology must be followed, with justification given by the appropriate consultant where water is allowed to leave the site.	As per requirement 1.

Requirement 6	One credit - Surface Water Run-Off - Rate For brownfield sites, drainage measures are specified so that the peak rate of run-off from the site to the watercourses (natural or municipal) shows a 30% improvement for the developed site compared with the predeveloped site. This should comply at the 1-year and 100-year return period events.	As per requirement 1.
Requirement 7	For Greenfield sites, drainage measures are specified so 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.	As per requirement 6.
Requirement 8	Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified Sustainable Drainage Systems (SuDS) are in place.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria. No 'specific' evidence applies at Design Stage.
Requirement 9	Calculations include an allowance for climate change. This should be made in accordance with current best practice planning guidance (see Definitions).	As per requirement 1.
Requirement 10	One credit - Surface Water Run-Off - Volume Flooding of property will not occur in the event of local drainage system failure (caused either by extreme rainfall or a lack of maintenance); AND EITHER	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria. Information showing the proposed drainage solution, system failure flood flow routes, potential flood ponding levels and ground floor levels.
Requirement 11	Drainage design measures are specified so that the post-development run-off volume, over the development lifetime, is no greater than it would have been prior to the assessed site's development. This must be for the 100-year 6-hour event, including an allowance for climate change (see requirement 15).	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria. Calculation results for the pre- and postdevelopment volume of run-off.

Requirement 12	Any additional predicted volume of run-off for this event is prevented from leaving the site by using infiltration or other SuDS techniques. OR (only where requirements 11 and 12 cannot be achieved):	As per requirement 11.
Requirement 13	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.	As per requirement 11.
Requirement 14	Drainage design measures are specified so that the post-development peak rate of run off is reduced to the limiting discharge. The limiting discharge is defined as the highest flow rate from the following options: 1. The pre-development one-year peak flow rate 2. The mean annual flow rate (Qbar) 3. 2L/s/ha.	Calculation results for the pre- and postdevelopment volume of run-off, Calculation results for the limiting discharge.
Requirement 15	For the one-year peak flow rate, the one-year return period event criterion applies. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS are in place.	As per requirement 8.
Requirement 16	For either option, above calculations must include an allowance for climate change; this should be made in accordance with current best practice planning guidance.	As per requirement 1.
Requirement 17	There is no discharge from the developed site for rainfall up to 5 mm (confirmed by the appropriate consultant).	As per requirement 1.
Requirement 18	Areas with a low risk source of watercourse pollution, an appropriate level of pollution prevention treatment is provided, using appropriate SuDS techniques.	As per requirement 1.
Requirement 19	Areas with a high risk of contamination or spillage of substances, such as petrol and oil, have separators (or an equivalent system) are installed in surface water drainage systems.	As per requirement 1.

Requirement 20	Chemical or liquid gas storage areas have a means of containment fitted to the site drainage system (i.e. shut-off valves). This is to prevent the escape of chemicals to natural watercourses in the event of a spillage or bunding failure.	As per requirement 1.
Requirement 21	All water pollution prevention systems have been designed and installed in accordance with the recommendations of documents such as the SuDS manual (219) and other relevant industry best practice. They must be bespoke solutions taking account of the specific site requirements and natural or man-made environment of and surrounding the site.	As per requirement 1.
Requirement 22	A comprehensive and up to date drainage plan of the site will be made available for the building or site occupiers.	As per requirement 1.
Requirement 23	Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS must be in place.	As per requirement 8.
Requirement 24	All external storage and delivery areas are designed and detailed in accordance with the current best practice planning guidance.	As per requirement 1.
Pol 04 - Reduction of night time light pollution:		
Requirement 1	External lighting pollution has been eliminated through effective design that removes the need for external lighting. This does not adversely affect the safety and security of the site and its users. OR alternatively, where the building does have external lighting, one credit can be awarded as follows:	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	The external lighting strategy has been designed in compliance with Table 2 (and its accompanying notes) of the Institute of Lighting Professionals (ILP) Guidance notes for the reduction of obtrusive light, 2011 ⁽¹⁷⁹⁾ .	As per requirement 1.
Requirement 3	All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00.	As per requirement 1.

Requirement 4	If safety or security lighting is provided and will be used between 23:00 and 07:00, this part of the lighting system complies with the lower levels of lighting recommended during these hours in Table 2 of the ILP guidance notes.	As per requirement 1.
Requirement 5	Illuminated advertisements are designed in compliance with ILP PLG05 The Brightness of Illuminated Advertisements ⁽²²⁶⁾ .	As per requirement 1.
Pol 05 - Reduction of noise pollution:		
Requirement 1	There are no noise-sensitive areas within the assessed building or within 800m radius of the assessed site. OR	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria.
Requirement 2	Where there are noise-sensitive areas within the assessed building or noise-sensitive areas within 800m radius of the assessed site, a noise impact assessment compliant with BS4142:2014 is commissioned. Noise levels must be measured or determined for: 1. Existing background noise levels 1. at the nearest or most exposed noise-sensitive development to the proposed assessed site 2. including existing plant on a building, where the assessed development is an extension to the building 2. Rating noise level from the assessed building.	As per requirement 1.
Requirement 3	The noise impact assessment must be carried out by a suitably qualified acoustic consultant.	As per requirement 1.
Requirement 4	The noise level from the assessed building, as measured in the locality of the nearest or most exposed noisesensitive development, is a difference to the background noise of at least -5dB throughout the day and night.	As per requirement 1.
Requirement 5	If the noise sources from the assessed 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 the requirement.	As per requirement 1.

Innovation		
AI - Approved Innovation:		
Requirement 2	One innovation credit can be awarded for each innovation application approved by BRE Global, where the building complies with the criteria defined within an approved innovation application form.	One or more of the appropriate evidence types listed in The BREEAM evidential requirements can be used to demonstrate compliance with these criteria. A copy of the Approved Innovation Application Form AND A copy of the Innovation Application Report stating the application outcome as 'approved' AND Relevant documentary evidence demonstrating specification of the approved innovation.