



Barton Peveril College School of Art and Design

BREEAM Pre-assessment Summary Report

Pre-assessment

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Melin Consultants

The Beacon
Dafen Business Park
Llanelli
Carmarthenshire
SA14 8LQ

tel 0845 094 1593
Jamie@melinconsultants.co.uk

Introduction

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

Project Name	Barton Peveril College School of Art and Design
Version	BREEAM 2018 NC
Assessment stage	Pre Assessment
Lead Consultant	Jamie Best
Target Rating	Excellent (70%)
Downloaded By	Jamie Best
Download Date	20/12/22
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Site assumptions (Project Info details) that have been used to filter the credits in accordance with the scheme can be found in the Appendix at the end of this document.

Scoring scenarios

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

- Targeted - The number currently achieved.
- Early Stage - Credits which should be dealt with during or before Stage 3

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

Scenario	Score	BREEAM Rating
Targeted	74.07%	Excellent
Early Stage	34.43%	Pass

Minimum Standards

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

Issue	Targeted	Early Stage
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.

The following is a list of all credits available for this project, along with the following:

Targeted	The number currently achieved.
Early Stage	Credits which should be dealt with during or before Stage 3

Credit Progress Log

Management					
Man 01 - Project brief and design					
	Credit	Available	Targeted	Early Stage	Comments
1	Project delivery planning	1	1	1	Documents to show how the project delivery stakeholders (PM, client, architect, m&e, structural, civils, ecologist, contractor etc etc) have agreed project roles and responsibilities. This can include but is not limited to: • Project execution plans • Communication plans • Project deliverables document • RIBA Plan of Works Toolkit • Project organizational structure On-going consultants stage reports On-going copies of design meeting minutes Copy of the Project Directory Evidence of how the project delivery stakeholder contributions have influenced the developing design. This could be as a standalone report but is best address as part of stage reports
2	Stakeholder consultation (interested parties)	1	1	1	Demonstrate that consultation took place with all interested parties. This could include (but not limited to) the intended building users, community groups, other potential users, third parties who can add value, statutory stakeholders Copies of stakeholder event meeting minutes Examples of public consultation boards if appropriate Statement of Community Involvement Copies of any pre-application meetings and e-mails Any other documents that support adequate consultation took place **For education type buildings only - delete if not applicable** Evidence that an <i>independent party</i> undertook the consultation exercise using DQI or EDET toolkit

3	BREEAM AP (concept design)	1	1	1	Evidence of formal appointment of BREEAM AP. Ideally a purchase order Copy of initial BREEAM assessor report Formal agreement of the required BREEAM rating. Typically this could be a contract document, funding document or within letter of appointment to project team members
4	BREEAM AP (developed design)	1	1	0	Statement or report from BREEAM AP confirming involvement during Concept and Developed Design stages

Man 02 - Life cycle cost and service planning

	Credit	Available	Targeted	Early Stage	Comments
1	Elemental LCC	2	2	2	Provide an Elemental Life Cycle Cost plan (see RICS guidance note: Life cycle costings) prior to end of Stage 2 The plan should provide an indication of future replacement costs and include service life, maintenance and operation cost estimates Evidence that the Elemental LCC plan has been used to influence building and systems design
2	Component level LCC options appraisal	1	0	0	At end of Stage 4, or equivalent, provide a Component level LCC options appraisal (see RICS guidance note: Life cycle costings) prior to end of Stage 2
3	Capital cost reporting	1	1	0	Report the predicted capital cost for the building in £/m² of GIFA. To include contingencies. Melin to provide template letter

Man 03 - Responsible construction practices

	Credit	Available	Targeted	Early Stage	Comments
Pre-req 1	Prerequisite - Legally harvested and traded timber		✓	✓	Letter confirming that all site timber and timber-based products are legal and sustainable.
1	Environmental management	1	1	0	Main contractor to provide copy of ISO14001 certificate (or certificate in compliance with BS8555:2016) Complete PPG checklist. Melin to provide copy Copy of Environmental Management Plan (to include pollution prevention & control)

2	BREEAM AP (site)	1	1	0	Formal agreement of the required BREEAM rating the main contractor must achieve. Typically this could be within a contract document such as ER's Confirmation of appointment of BREEAM AP. Melin to provide template letter. Statement or report from BREEAM AP confirming involvement during Construction stage
3	Responsible construction management	2	2	0	Completed GN33. Melin to provide template Copy of Considerate Constructors site visit reports & certificate
4	Monitoring of construction site impacts	2	2	0	Assign responsibility for monitoring, recording and reporting energy use, water consumption and transportation data throughout the build programme. Melin to provide template letter Set target for site energy consumption in kWh (and ltr of fuel used) Provide monitored data (suggested minimum fortnightly readings) on project completion Set target for potable water consumption in m³ Provide monitored data (suggested minimum fortnightly readings) on project completion Set target for transportation movements of major building elements, ground works, landscaping and waste Provide monitored data (suggested minimum fortnightly readings) on project completion Melin to provide template letter
e1	Responsible construction management	1	0	0	
Man 04 - Commissioning and handover					
	Credit	Available	Targeted	Early Stage	Comments
Pre-req	Prerequisite (Very Good to Outstanding)		✓	✓	

1	Commissioning - testing schedule and responsibilities	1	1	0	Prepare schedule of commissioning and testing which confirms relevant standards/guidelines that will be met Commission review of BMS system if one installed Appoint project team member to monitor & programme pre-commissioning, commissioning and testing Account for commissioning in programme of works Melin to provide template letter
2	Commissioning - design and preparation	1	1	0	Appoint appropriate person to take responsibility for: • Undertaking design reviews • Providing commissioning management during installation • Managing commissioning at handover/post-construction Melin to provide template letter at early design stage.
3	Testing and inspecting building fabric	1	1	0	Copy of air tightness report Copy of thermographic report Melin to provide template letter

4	Handover	1	1	0	Copy of non-technical user guide. The content of the guides is specific to the building type and end users, but broadly should include information on the following: • Overview of the building and its environmental strategy, e.g. energy, water or waste efficiency • Provision of, and access to, shared facilities • Safety and emergency information or instructions • Building-related operational procedures specific to building type or operation • Building-related incident reporting and feedback arrangements • Provision of and access to transportation facilities, e.g. public transport, cyclist facilities • Provision of and access to local amenities • Links, references and relevant contact details • Building services overview and access to building occupant controls, e.g. where to find them, what they control, how to operate effectively and efficiently etc • Pre-arrival information for visitors, e.g. access and security procedures or provisions Copy of technical user guide for the premises/facilities manager. The content of the guides is specific to the building type, but broadly should include information on the following: • Building services overview and access to facilities management controls • Refit, refurbishment and maintenance arrangements or considerations • Building related training information or links Copy of non-technical and technical training schedule Melin to provide template letter
Man 05 - Aftercare					
	Credit	Available	Targeted	Early Stage	Comments
1	Aftercare support	1	1	0	Confirm the aftercare support measures available to the building occupier once operational e.g. a meeting, and introduction to aftercare support available Confirm resources are in place 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 could be via BMS Melin to provide template letter
2	Commissioning - implementation	1	1	0	Confirm that seasonal commissioning activity over a 12-month period, once the building becomes occupied, will be undertaken. Melin to provide template letter

3	Post occupancy evaluation (POE)	1	1	1	Confirm that a Post-occupancy Evaluation (POE) will be carried out, by an independent party, one year after the building has been substantially occupied. Melin to provide template letter
		21	20	6	Standard Management Credit Total
		1	0	0	Exemplary Management Credit Total
		11.92	10.40	3.12	% Management Total (Standard + Exemplary)
Health & Wellbeing					
Hea 01 - Visual comfort					
	Credit	Available	Targeted	Early Stage	Comments
1	Control of glare from sunlight	1	1	1	Identify areas at risk from glare. This typically is a stand-alone report which uses sunlight modelling for various time scenarios during occupied hours and must include all areas of the building where glare could be problematic i.e. using workstations, teaching boards, sports hall - update this specific to the project. If shading measures are in place for all relevant building areas then a full glare analysis might not be required however the onus is to either demonstrate that features such as brise-soleil have been designed to eliminate glare or that blinds meet specific light transmittance values (<0.1 (10%))
2	Daylighting (building type dependent)	2	2	2	Provide daylighting calculations to demonstrate: • Avg. daylight factor 2% • % area to comply 80% • Uniformity ration of at least 3%; or • 80% of the relevant room has a view of sky from desk height; and • The room depth criteria $d/w+d/HW < 2/(1-RB)$
3	View out	1	1	1	Provide marked up floor plans to show that 95% of floor area in 95% of relevant spaces is within 8m of an external wall that has a window/glazed opening that is >20% of the surrounding wall area

4	Internal and external lighting levels, zoning and control	1	1	0	Electrical specification to confirm that: • Internal lighting to provide illuminance (lux) levels and colour rendering in accordance with SLL Code for Lighting 2012 (provide lighting design strategy) • Areas with computer screens are designed to comply with CIBSE lighting Guide 7 • External lighting to provide Lux levels 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 workplaces – Part 2: Outdoor work places Provide internal lighting design layout. Preferably with lux levels annotated. Layout to show occupant controlled zoning in line with: • In office areas, zones of no more than four workplaces • Workstations adjacent to windows or atria and other building areas separately zoned and controlled • Seminar and lecture rooms: zoned for presentation and audience areas • Library spaces: separate zoning of stacks, reading and counter areas Buildings consisting entirely of small rooms or spaces (less than 40m²) which do not require any subdivision of lighting zones or control will meet the zoning criteria by default.
e1	Daylighting (building type dependent)	1	0	0	
e2	Internal and external lighting levels, zoning and control	1	0	0	
Hea 02 - Indoor air quality					
	Credit	Available	Targeted	Early Stage	Comments
Pre-req	Prerequisite - Indoor air quality (IAQ) plan		✓	✓	Provide a site specific indoor air quality plan. Ensure it is in accordance with Guidance Note GN06 (Melin to provide copy)

1	Ventilation	1	1	0	Air Conditioned and Mixed Mode Buildings: Provide ventilation design strategy, plans and schematic. Annotate drawings/specification to confirm air intakes and exhausts have been located in accordance with (where appropriate): • PD CEN/TR 16798-4:2017 • BRE FB 30 Ventilation for healthy buildings: Reducing the impact of urban air pollution (2011) • BRE IP 9/14 Locating ventilation inlets to reduce ingress of external pollutants into buildings • CIBSE TM21 Minimising pollutants at air intakes (1999) Air intakes and exhausts are at least 10m of horizontal distance apart and at least 10m horizontal distance from sources of external pollution. This isn't necessary if it can be demonstrated the above guidance has been followed. Naturally Ventilated Buildings: Provide ventilation design strategy, plans and schematic. Annotate drawings/specification to confirm ventilation intakes and airflow pathways are designed accordance with: • BRE FB 30 Ventilation for healthy buildings: Reducing the impact of urban air pollution (2011) • BRE IP 9/14 Locating ventilation inlets to reduce ingress of external pollutants into buildings • CIBSE TM21 Minimising pollutants at air intakes (1999) Provide plans showing the positioning of openable windows/ and background ventilators is at least 10m of horizontal distance from sources of external pollution
2	Emissions from building products	2	1	0	Formal letter confirming product VOC and formaldehyde emission rates for: • Interior paints and coating • Wood based products • Flooring materials (including floor levelling and resin compounds) • Ceiling, wall, and acoustic and thermal insulation materials • Interior adhesives and sealants (including flooring adhesives) NBS or architectural specification confirming materials (as above) specified Manufacturers data sheets confirming VOC and/or formaldehyde content
3	Post-construction indoor air quality measurement	1	1	0	Provide formal letter making commitment to complete post construction indoor air quality analysis Melin to provide template letter
e1	Minimising sources of air pollution - Emissions from building products	1	0	0	
Hea 04 - Thermal comfort					
	Credit	Available	Targeted	Early Stage	Comments

1	Thermal modelling	1	1	1	Air-conditioned Buildings: Provide Thermal Comfort report which confirms modelling was carried out using software in accordance with CIBSE AM11 The software used to carry out the simulation at the detailed design stage provides full dynamic thermal analysis Summer & winter operative temperature ranges in occupied spaces are in accordance with CIBSE Guide A, Table 1.5 or the thermal environment in occupied spaces meet the Category B requirements for PPD, PMV and local discomfort set out in Table A.1 of Annex A of ISO 7730:2005 The report includes the PMV (predicted mean vote) and PPD (predicted percentage of dissatisfied) indices Thermal comfort report to include statement in Introduction clarifying software used for modelling and the relevant industry guidance followed Naturally Ventilated Buildings: Provide Thermal Comfort report which confirms modelling was carried out using software in accordance with CIBSE AM11 The software used to carry out the simulation at the detailed design stage provides full dynamic thermal analysis Winter operative temperature ranges in occupied spaces are in accordance with CIBSE Guide A, Table 1.5 During Summer the building is designed to limit the risk of overheating in accordance with 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 **for schools – can use BB101 and ClassCool as an alternative to CIBSE TM52 and a full dynamic model** Thermal comfort report to include statement in Introduction clarifying software used for modelling and the relevant industry guidance followed
2	Design for future thermal comfort	1	1	1	The thermal comfort includes for a project climate change scenario using CIBSE standard weather data: Naturally ventilated buildings - (Time period: 2050s, Emissions scenario: Medium (A1B), 50th percentile DSY 2 and DSY 3) Mechanically ventilated or mixed mode buildings - Time period: 2020s, Emissions scenario: High (A1F1), 50th percentile DSY 2 and DSY 3

3	Thermal zoning and controls	1	1	0	A technical note confirming that the thermal modelling analysis has informed the temperature control strategy for the buildings and its users
Hea 05 - Acoustic performance					
	Credit	Available	Targeted	Early Stage	Comments
1	Acoustic performance	3	3	0	Provide acoustic performance requirements for all relevant function areas of the building covering: • Sound insulation • Indoor ambient noise level • Room acoustics Confirmation that a programme of pre-completion testing is carried out by a complaint test body in accordance with the required standard
Hea 06 - Security					
	Credit	Available	Targeted	Early Stage	Comments
1	Security of site and building	1	1	1	Provide copy of Security Needs Assessment (SNA). This is typically provided by a Designing Out Crime Officer (DOCO) from the local police force or another suitably qualified security specialist. The SNA should include evidence of the following: • Visual audit of the site and surroundings, identifying environmental cues and features pertinent to the security of the proposed development • Summary of crime and disorder issues in the vicinity of the proposed development • Risks specific to the proposed, likely or potential use of the buildings • Risks specific to the proposed, likely or potential user groups of the buildings • Detrimental effects the development may have on the existing community Provide copies of the security controls and recommendations suggested by the DOCO or appropriate security consultant Provide evidence on drawings or specification that the recommendations suggested by the DOCO have been implemented
e1	Security of site and building	1	0	0	<u>Credit 1</u> • Evidence of correspondence with SQSS has been completed • Copy of Security Needs Assessment • SQSS recommendations have been incorporated into design
Hea 07 - Safe and healthy surroundings					
	Credit	Available	Targeted	Early Stage	Comments

1	Safe access	1	1	0	Provide site layout plan with clearly defined routes for pedestrians and cyclists from the site entrance to the building entrance and where provided cycle storage areas Delivery areas are not accessed through general parking areas or cross pedestrian and cyclist paths Site plan to show dedicated parking/waiting area for goods vehicles if appropriate
2	Outside space	1	1	0	Provide site layout plan which shows an outside space that is appropriately sized for the predicted building users. Ideally the space must: • be an outdoor landscaped area, for example a garden, balcony or terrace; the majority of the space should be open to the sky • have appropriate seating areas and be non-smoking • be located to ensure it is accessible to all building users and avoids areas that will have disturbances from sources of noise
		18	17	7	Standard Health & Wellbeing Credit Total
		4	0	0	Exemplary Health & Wellbeing Credit Total
		17.86	13.09	5.39	% Health & Wellbeing Total (Standard + Exemplary)
Energy					
Ene 01 - Reduction of energy use and carbon emissions					
	Credit	Available	Targeted	Early Stage	Comments
1	Energy performance	9	4	4	Provide as-designed BRUKL report Provide copy of .inp file for BRUKL Confirmation that the energy modelled is suitable qualified i.e. CIBSE LCEA member or equivalent and the BRUKL modelling has been undertaken using approved building energy calculation software i.e. IES VE
2	Prediction of operational energy consumption	4	4	4	Undertake a provide robust meeting minutes from an <i>operational energy design workshop</i> Undertake additional energy modelling and report, using BRE template, the predicted operational energy consumption figures Provide report and risk assessment highlighting risks that should be monitored and managed throughout the construction and commissioning process
e1	Beyond zero net regulated carbon	3	0	0	

e2	Post-occupancy stage - Exemplary level criteria	2	0	0	
Ene 02 - Energy monitoring					
	Credit	Available	Targeted	Early Stage	Comments
1	Sub-metering of end use categories	1	1	0	Provide metering schematic/drawing covering 90% of annual energy consumption is assigned to end use categories (see BREEAM methodology for further details): • Lighting & small power for each floor plate • Heating • Domestic hot water For building's consisting of a number of small function areas or departments (<200m²), sub-metering the heating, hot water and combined electricity energy uses is sufficient *delete as required Buildings >1000m² need to be monitored using BMS Buildings <1000m² either monitored using BMS or other pulsed output
2	Sub-metering of high energy load and tenancy areas	1	1	0	Provide metering schematic/drawing that shows sub-metering monitors a majority of relevant function areas or tenanted areas (see BREEAM methodology for further details).
Ene 03 - External Lighting					
	Credit	Available	Targeted	Early Stage	Comments
1	External lighting	1	1	0	Provide external lighting layout showing: • Average initial luminous efficacy of not less than 70 lumens per circuit Watt (I have the car park lighting plan already) • Automatic control to prevent operation during daylight hours • Presence detection in areas of intermittent pedestrian traffic
Ene 04 - Low carbon design					
	Credit	Available	Targeted	Early Stage	Comments
1	Passive design	2	1	1	<u>Credit 3</u> • Provide the LZC report for the proposed site prior to RIBA stage 2. The recommendations of the report will need be implemented into the buildings design

2	Low and zero carbon technologies	1	1	1	Provide Low & Zero Carbon Feasibility to identify and recommend an appropriate local low and zero carbon energy source. The reduction in carbon dioxide emissions need to be demonstrated by comparing the building CO₂ emissions with LZC technologies to those without LZCs. Typically from BRUKL report
Ene 06 - Energy efficient transportation systems					
	Credit	Available	Targeted	Early Stage	Comments
1	Energy consumption	1	1	0	Provide analysis of the transport demand and usage patterns for the building to determine optimum size of lifts Calculate the energy consumption in accordance with BS EN ISO 25745 Part 2 for at least two options Consider the use of regenerative drives and if not specified provide reasons
2	Energy efficient features	1	1	0	Demonstrate the following features have been specified: • Standby condition for off-peak periods • Lift car lighting greater than 70 luminaire per circuit Watt • Use of a drive controller capable of variable speed, variable voltage and variable frequency control of the drive motor • Regenerative drives where their use is demonstrated to save energy
Ene 08 - Energy efficient equipment					
	Credit	Available	Targeted	Early Stage	Comments
1	Energy efficient equipment	2	2	0	Identify the buildings unregulated energy consuming systems (i.e. energy consumption from systems not covered by building regulations – computers, servers, cooking etc) Demonstrate a meaningful reduction in the total annual unregulated energy consumption of the building (see BREEAM technical guidance for guidance)
		23	17	10	Standard Energy Credit Total
		5	0	0	Exemplary Energy Credit Total
		20.87	11.73	6.90	% Energy Total (Standard + Exemplary)
Transport					
Tra 01 - Transport assessment and travel plan					
	Credit	Available	Targeted	Early Stage	Comments

1	Travel plan	2	2	2	Provide a site-specific travel assessment during the feasibility and design stages Provide a draft travel plan during the feasibility and design stages The travel plan should include: • Proposals to increase sustainable modes of transport and movement of people and goods • Calculated Accessibility Index (AI) • Existing accessibility amenities Complete Tra 01 calculator Provide evidence to demonstrate that the travel plan will be implemented post construction
Tra 02 - Sustainable transport measures					
	Credit	Available	Targeted	Early Stage	Comments
Pre-req	Pre-requisite		✓	✓	
1	Transport options implementation	10	6	0	Identify the sustainable transport measures at and surrounding the development by completing pro-forma and supplying supporting evidence to show implementation (i.e drawings, schedules etc) Melin to provide pro-forma
		12	8	2	Standard Transport Credit Total
		0	0	0	Exemplary Transport Credit Total
		9.96	6.64	1.66	% Transport Total (Standard + Exemplary)
Water					
Wat 01 - Water consumption					
	Credit	Available	Targeted	Early Stage	Comments

1	Water consumption	5	3	0	Provide specification, types and unit numbers for all domestic water consuming components. To include: • WC's • Urinals • Taps (wash-basin, kitchenette) • Pre-rinse nozzle taps • Showers • Baths • Dishwashers • Washing machines • Waste disposal units Provide information on greywater systems installed Complete Wat 01 calculator
e1	Water consumption	1	0	0	
Wat 02 - Water monitoring					
	Credit	Available	Targeted	Early Stage	Comments
Pre-req	Prerequisite (Good to Outstanding)		✓	✓	<u>Credit 1</u> • Marked up drawings confirming the specification of a water meter on the main water supply • Install separate water meters for areas consuming 10% or greater of the buildings water demand • Drawings to also confirm main and sub meters have pulsed output
1	Water monitoring	1	1	0	Marked up drawings confirming the location and specification of a water meter on the main water supply Specification to confirm details of water meter Drawings to also confirm of main and sub-meters have pulsed output
Wat 03 - Water leak detection					
	Credit	Available	Targeted	Early Stage	Comments
1	Leak detection system	1	1	0	Confirmation of water leak detection system - marked up drawings and specification
2	Flow control devices	1	1	0	Confirmation that flow control devices will be installed to regulate water supply to each WC facility - marked up drawings and specification
Wat 04 - Water efficient equipment					
	Credit	Available	Targeted	Early Stage	Comments

1	Water efficient equipment	1	1	0	Demonstrate how and unregulated water demands have been mitigated or reduced
		9	7	0	Standard Water Credit Total
		1	0	0	Exemplary Water Credit Total
		7.93	5.39	0	% Water Total (Standard + Exemplary)
Materials					
Mat 01 - Environmental impacts from construction products - Building life cycle assessment (LCA)					
	Credit	Available	Targeted	Early Stage	Comments
1	Superstructure	6	3	3	During Concept design, carry out a building LCA of the superstructure design using the BREEAM Simplified Building LCA tool or an IMPACT compliant LCA tool Complete Mat01/02 Submission Tool. Tool must be submitted to BRE at the end of Concept design and before planning permission is applied for During Technical design, carry out a building LCA of the superstructure design using the BREEAM Simplified Building LCA tool or an IMPACT compliant LCA tool
2	Substructure and hard landscaping options appraisal during Concept Design (all building types)	1	1	1	During Concept design, carry out a building LCA of the substructure and hard landscaping design using the BREEAM Simplified Building LCA tool or an IMPACT compliant LCA tool Complete Mat01/02 Submission Tool. Tool must be submitted to BRE at the end of Concept design and before planning permission is applied for During Technical design, carry out a building LCA of the superstructure design using the BREEAM Simplified Building LCA tool or an IMPACT compliant LCA tool
e1	Core building services options appraisal during Concept Design (all building types)	1	0	0	<u>Credit 1 - 4</u> • During Concept design, carry out a building LCA of the superstructure design using the BREEAM Simplified Building LCA tool or an IMPACT compliant LCA tool • Tool must be submitted to BRE at the end of Concept design and before planning permission is applied for • This must be repeated at Technical design also and submitted to BRE at the end of technical design <u>Credit 5</u> • During concept design, carry out LCA of the sub-structure and hard landscaping
e2	LCA and LCC alignment (all building types)	1	0	0	

e3	Third party verification (all building types) - Exemplary level criteria	1	0	0	
Mat 02 - Mat 02 Environmental impacts from construction products - Environmental Product Declarations (EPD)					
	Credit	Available	Targeted	Early Stage	Comments
1	Specification of products with a recognised environmental product declaration (EPD)	1	0	0	Specify construction products with Environmental Product Declaration (EPD) to achieve a score of at least 20 Provide copies of EPD certificates Complete EPD Mat01/02 Submission Tool
Mat 03 - Responsible sourcing of construction products					
	Credit	Available	Targeted	Early Stage	Comments
Pre-req	Prerequisite		✓	✓	
1	Enabling sustainable procurement	1	1	1	Provide Sustainable Procurement plan.
2	Measuring responsible sourcing	3	1	0	Complete Mat03 calculator
e1	Measuring responsible sourcing	1	0	0	
Mat 05 - Designing for durability and resilience					
	Credit	Available	Targeted	Early Stage	Comments

1	Protecting vulnerable parts of the building from damage/material degradation	1	1	0	Provide information on the measures incorporated into the buildings design to protect vulnerable parts of the building from damage. The measures must include: • Mitigation against high user numbers in relevant areas of the building • Damage from vehicle or trolley movement internally • Damage from vehicles externally • Malicious damage Typically, this will be evidenced on annotated and/or marked up drawings Demonstrate how key exposed parts of the building are protected from degradation Demonstrate how the roof and façade are designed to prevent water damage and ingress
Mat 06 - Material efficiency					
	Credit	Available	Targeted	Early Stage	Comments
1	Material efficiency	1	1	1	Provide evidence that opportunities with regards to material efficiency have been identified, investigated, and implemented (with regards to building design, procurement, construction, maintenance and end of life) throughout the required RIBA stages of the project
		14	8	6	Standard Materials Credit Total
		4	0	0	Exemplary Materials Credit Total
		18.98	8.56	6.42	% Materials Total (Standard + Exemplary)
Waste					
Wst 01 - Construction waste management					
	Credit	Available	Targeted	Early Stage	Comments

1	Pre-demolition audit	1	1	1	<u>Credit 1</u> • Provide Resource Management Plan for the project which must include the target waste generation benchmarks • Waste generation target - $\leq 13.3 \text{ m}^3$ / ≤ 11.1 tonnes of waste per 100m² gross internal floor area • Provide the waste datasheets for the project <u>Credit 4</u> • Divert following waste from entering landfill facilities: ◦ Non-demolition waste: 70% volume / 80% tonnage Potential credit (0.6% / credit) <u>Credit 1 & 2</u> • Achieve following waste generation target - $\leq 7.5 \text{ m}^3$ / ≤ 6.5 tonnes of waste per 100m² gross internal floor area <u>Credit 1 - 3</u> • Achieve following waste generation target - $\leq 3.4 \text{ m}^3$ / ≤ 3.2 tonnes of waste per 100m² gross internal floor area
2	Construction resource efficiency	3	1	0	Provide Resource Management Plan for the project which must include the target waste generation benchmarks Provide the waste datasheets for the project
3	Diversion of resources from landfill	1	1	0	Provide Resource Management Plan for the project which must include the target waste generation benchmarks (Diverted from landfill) Provide the waste datasheets for the project
e1	Construction resource efficiency/Diversion of resources from landfill	1	0	0	
Wst 02 - Use of recycled and sustainably sourced aggregates					
	Credit	Available	Targeted	Early Stage	Comments
Pre-req	Prerequisite		✗	✗	
1	Project Sustainable Aggregate points	1	0	0	Complete Wst02 calculator
e1	Project Sustainable Aggregate points	1	0	0	

Wst 03 - Operational waste					
	Credit	Available	Targeted	Early Stage	Comments
1	Operational waste	1	1	0	Provide dedicate space for operational waste. Must be clear segregation and storage of operational recyclable waste volumes Provide confirmation that the dedicated space is of an appropriate capacity, clearly labelled and accessible for building occupants - marked up drawings Provide confirmation that if large volumes of waste are generated, then static waste compactors, vessels for composting will need to be included
Wst 05 - Adaptation to climate change					
	Credit	Available	Targeted	Early Stage	Comments
1	Resilience of structure, fabric, building services and renewables installation	1	1	1	Provide climate change adaption strategy by the end of RIBA stage 2 which will identify the impact of expected extreme weather conditions arising from climate change on the building over its projected life cycle. Develop recommendations or solutions based on the climate change adaptation strategy appraisal, before or during Concept Design. Provide an update during Technical Design demonstrating how the recommendations or solutions proposed at Concept Design have been implemented where practical and cost effective.
e1	Responding to climate change	1	0	0	
Wst 06 - Design for disassembly and adaptability					
	Credit	Available	Targeted	Early Stage	Comments
1	Design for disassembly and functional adaptability - recommendations	1	1	1	Provide functional adaption and disassembly study by the end of RIBA stage 2 Develop recommendations or solutions based on the study, during or prior to Concept Design, to enable and facilitate disassembly and functional adaptation.
2	Disassembly and functional adaptability - implementation	1	1	0	Provide an update to the study during RIBA Stage 4 demonstrating how the recommendations or solutions proposed by Concept Design have been implemented where practical and cost effective. Provide guide to communicate characteristics to allow functional adaptability to prospective tenants

	10	7	3	Standard Waste Credit Total	
	3	0	0	Exemplary Waste Credit Total	
	9	4.20	1.80	% Waste Total (Standard + Exemplary)	
Land Use & Ecology					
LE 01 - Site selection					
	Credit	Available	Targeted	Early Stage	Comments
1	Previously occupied land	1	1	1	Provide scale plans showing the previous occupation and proposed development Provide confirmation of type of previous occupation
2	Contaminated land	1	0	0	Provide a copy of the site investigation report confirming the following • The degree of contamination • The contaminant sources or types • The options for remediation Provide a copy of the remediation strategy and implementation plan
LE 02 - Ecological risks and opportunities					
	Credit	Available	Targeted	Early Stage	Comments
Pre-req	Prerequisite - Statutory obligations		✔	✔	Provide confirmation that compliance is monitored against all relevant UK and EU or international legislation
1	Survey and evaluation/Determining ecological outcomes	2	2	2	Provide an ecology report carried out by a Suitably Qualified Ecologist (SQE) at the early design stage (typically preparation and brief stage). The SQEs evaluation of the site should include: • The current and potential ecological value and condition of the site and related Zone of Influence • The direct and indirect risks to the current ecological value • The capacity and feasibility for enhancement of the site’s ecological value. Provide confirmation that the recommendations and evaluation have been shared with appropriate project team members to influence decisions regarding preparation, design and construction works. Provide confirmation that the project team and stakeholders have liaised to identify the optimal outcome for the site and select measures to meet them in the mitigation hierarchy: 1. Avoidance 2. Protection 3. Reduction or limitation of negative impacts 4. On site compensation 5. Enhancement

e1	Wider site sustainability - Exemplary level criteria	1	0	0	<u>Pre-requisite</u> • Suitably Qualified Ecologist (SQE) to confirm compliance is monitored against relevant UK, EU and international legislation relating to ecology <u>Credit 1</u> • SQE to complete initial survey and evaluation to determine ecological baseline <u>Credit 2</u> • SQE to determine ecological outcomes of the development in accordance with the mitigation hierarchy (Avoidance, protection, reduction, on-site compensation, enhancement)
LE 03 - Managing impacts on ecology					
	Credit	Available	Targeted	Early Stage	Comments
Pre-req	Prerequisite - Ecological risks and opportunities		✓	✓	
1	Planning and measures on-site	1	1	1	Provide confirmation that the data collated as part of LE02 has been used to plan to avoid and manage negative ecological impacts on-site at an early enough stage to influence the concept design, design brief and site preparation planning. Provide confirmation that the on-site measures for managing negative ecological impacts during site preparation and construction have been implemented.
2	Managing negative impacts	2	1	1	Provide confirmation that negative impacts from site preparation and construction works have been managed according to the mitigation hierarchy and the SQEs recommendations to confirm there has been no overall loss of ecological value or confirm the loss has been minimised.
LE 04 - Ecological change and enhancement					
	Credit	Available	Targeted	Early Stage	Comments
Pre-req	Prerequisite - Managing negative impacts on ecology		✓	✓	
1	Change and enhancement of ecology / Ecological enhancement	1	1	1	Provide confirmation that the enhancement measures determined as part of LE02 have been implemented on site or, where this is not feasible, off site within the Zone of Influence. Provide confirmation that the data collect and analysed, where potentially valuable, has been provided to the local environmental records centres nearest to, or relevant for, the site.
2	Change and enhancement of ecology	3	0	0	Provide ecological calculations, completed in accordance with the methodology set out in GN36 - BREEAM, CEEQUAL and HQM Ecology Calculation Methodology - Route 2.

e1	Change and enhancement of ecology - Exemplary level criteria	1	0	0	
LE 05 - Long term ecological management and maintenance					
	Credit	Available	Targeted	Early Stage	Comments
Pre-req	Prerequisite - Statutory obligations, planning and site implementation		✓	✓	Provide confirmation that the measures, identified in LE02, to manage and maintain ecology throughout the project have been implemented to ensure the enhancement and mitigation measures in place for LE03 and LE04 have been implemented.
1	Management and maintenance throughout the project / Landscape and ecology management plan	2	1	1	Provide confirmation that a section of the Building User Guide (Man04) will be dedicated to the to inform the owner/occupier of the local ecology and include the Landscape and Ecology Management Plan. Provide a Landscape and Ecology Management Plan, developed in accordance with BS 42020:2013 Section 11.1, covering at least the first 5 years after project completion. Provide confirmation that the Landscape and Ecology Management Plan will be updated, as necessary, to support the maintenance of ecological value on site.
		13	7	7	Standard Land Use & Ecology Credit Total
		2	0	0	Exemplary Land Use & Ecology Credit Total
		15	7	7	% Land Use & Ecology Total (Standard + Exemplary)
Pollution					
Pol 01 - Impact of refrigerants					
	Credit	Available	Targeted	Early Stage	Comments

1	Impact of refrigerants	3	2	0	All systems with electric compressors comply with the requirements of BS EN 378:2008 (parts 2 and 3). Refrigeration systems containing ammonia comply with the Institute of Refrigeration Ammonia Refrigeration Systems code of practice The direct effect life cycle CO₂ equivalent emissions (DELCO) of ≤ 100 kgCO_{2e}/kW or Refrigerants used have a Global Warming Potential (GWP) ≤ 10 *two credits Systems using refrigerants have DELCO of ≤ 1000 kgCO_{2e}/kW cooling and heating capacity *one credit All systems are hermetically sealed or only use environmentally benign refrigerants 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 2. An inbuilt automated diagnostic procedure for detecting leakage is enabled. 2. 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
Pol 02 - Local air quality					
	Credit	Available	Targeted	Early Stage	Comments
1	Local air quality	2	1	0	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 of the BREEAM technical guidance.
Pol 03 - Flood and surface water management					
	Credit	Available	Targeted	Early Stage	Comments
1	Flood resilience	2	2	2	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.
2	Surface water run-off	2	2	0	Confirm the bespoke run-off design solutions and run-off rate and volume for the pre-and post-construction site. Completed copy of Guidance Note GN38.
3	Minimising watercourse pollution	1	1	0	Confirm the pollution mitigation measures to be installed as part of the development. Completed copy of Guidance Note GN38.
Pol 04 - Reduction of night time light pollution					

	Credit	Available	Targeted	Early Stage	Comments
1	Reduction of night time light pollution	1	1	0	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 All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00 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 Illuminated advertisements are designed in compliance with ILP PLG05 The Brightness of Illuminated Advertisements
Pol 05 - Reduction of noise pollution					
	Credit	Available	Targeted	Early Stage	Comments
1	Reduction of noise pollution	1	1	1	A noise impact assessment compliant with BS4142:2014 is commissioned. Noise levels must be measured or determined for: - Existing background noise levels - at the nearest or most exposed noise-sensitive development to the proposed assessed site - including existing plant on a building, where the assessed development is an extension to the building - Rating noise level from the assessed building. The noise impact assessment must be carried out by a suitably qualified acoustic consultant. The noise level from the assessed building, as measured in the locality of the nearest or most exposed noise sensitive development, is a difference to the background noise of at least -5dB throughout the day and night
		12	10	3	Standard Pollution Credit Total
		0	0	0	Exemplary Pollution Credit Total
		7.92	6.60	1.98	% Pollution Total (Standard + Exemplary)
Innovation					
AI - Approved Innovation					
	Credit	Available	Targeted	Early Stage	Comments

e1	Approved innovations	1	0	0	
		0	0	0	Standard Innovation Credit Total
		1	0	0	Exemplary Innovation Credit Total
		1	0	0	% Innovation Total (Standard + Exemplary)

Appendix - Site assumptions (Project Info details)

Assessment Information	Selection
Building type (main description)	Education
Building Type sub-group	Education - Schools and sixth form colleges
Assessment stage	Design (Interim)
Technical manual issue number	Issue 3.0
Project scope	Fully Fitted
Building Net internal floor area m ²	2000
Building Gross internal floor area m ²	2000
Is the building designed to be untreated?	No
Building services - heating system type	Other type of heating system
Building services - cooling system type	Other type of cooling
Are commercial or industrial-sized refrigeration and storage systems specified?	No
Are building user lifts present?	Yes
Are building user transportation systems (escalators or moving walkways) present?	No
Are laboratories present?	No
Fume cupboard(s) and/or other containment devices	No
Are there any water demands present other than those assessed in Wat 01?	Yes
Does the building have external areas within the boundary of the assessed development?	Yes
Are there statutory requirements, or other issues outside of the control of the project, that impact the ability to provide outdoor space?	No
Are the Post-occupancy stage credits targeted in Ene 01 issue?	No
Is demolition occurring under the developer's ownership for the purpose of enabling the assessed development?	Yes
Are WC facilities only provided within the residential areas of a long-term residential accommodation?	N/A
Are there any systems specified that contribute to the unregulated energy load?	Yes
Is this a speculative development?	No

Is the project required to connect to a District Heating system, and it supplies all heating and hot water demands to the building?	No
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