Industrial Units at Bartley Way, Hook

XLB Projects

BREEAM UK NC 2018 Pre-Assessment Report
Commercial – Industrial – Shell & Core

AES Sustainability Consultants Ltd

24 May 2021

	Author	Date	E-mail address
Produced By:	Emily Brockington	21.05..2021	Emily.Brockington@aessc.co.uk
Reviewed By:	Crystal Miller	21.05..2021	Crystal.Miller@aessc.co.uk

Revision	Author	Date	Comment
-	Emily Brockington	24.05..2021	Issue for planning

Contents

1. Introduction

1.1. AES Sustainability Consultants have been instructed by XLB Projects to complete a BREEAM Pre-assessment in order to define a strategy to achieve BREEAM 'Very Good' for the proposed new Industrial Units at Bartley Way, Hook.

1.2. The proposals comprise 9 units totaling 12,212m^2 of B8 – storage and distributions uses. The proposals include the provision of car parking, service yards and soft landscaping. The wider site includes an Aldi retail unit.

1.3. The client requires BREEAM Very Good for this development. The local council has no requirements for BREEAM in their planning policy.

BREEAM Manual:	BREEAM UK New Construction (NC) 2018 v3.0
BREEAM Building Type:	Commercial – Industrial Unit – Warehouse Storage/ Distribution
BREEAM Scope:	Shell & Core
BRE Registration:	TBC
Project Size (GIA):	12,212m^2
Required Rating:	Very Good – 55%

2. BREEAM Credit Filter

Designed to be untreated?:	No
Transportation systems present (e.g. lifts, escalators, moving walkways):	Yes – lifts
Unregulated water uses:	Yes
External areas present:	Yes
Statutory requirements impacting outdoor space?:	No
Unregulated energy load:	Yes
Post-occupancy Ene 01 credits targeted:	No

3. BREEAM Assessment Process

3.1. There are four stages within the BREEAM Assessment process:

- **BREEAM Pre-Assessment:** The BREEAM assessor meets/liaises with the project team to establish a robust strategy to ensure the required BREEAM rating is achievable. Targets are set at this stage based on information available and reasonable assumptions. Actions required to be carried out at an early stage are identified for implementation and a credit strategy is set.

- **BREEAM Design Stage:** The project team provide evidence to prove that targeted credits have been incorporated into design. This is verified by the BREEAM assessor. A submission is made to the BRE for Interim Certification.

- **BREEAM Post-Construction Review:** The project team provides as-built information in order to confirm design commitments have been implemented. The BREEAM assessor undertakes a site inspection to verify the construction. A submission is made to the BRE for Final Certification.

- **BREEAM Post**-Occupancy Stage: An optional stage for shell and core and fully fitted buildings. Monitoring and reporting processes are carried out during the period of 12-24 months after full building occupation in order to understand the actual performance of the building and optimise this in line with design expectations.

3.2. A BREEAM rating is achieved at the Design and Post Construction stages where:

- Credits are awarded to exceed the BREEAM rating benchmark. In order to achieve BREEAM Outstanding a score of 85% or more must be achieved; Excellent 70%; Very Good 55%; Good 45% and Pass 30%.

- The minimum standards for the rating level targeted are achieved. This involves compliance with specific credit areas to demonstrate a fundamental level of performance in key areas.

3.3. Any change to the scope of works may cause alteration to the applicable criteria and credits within the assessment would be subject to change.

4. Pre-Assessment Score Summary

4.1. The Pre-assessment has established the following:

- **Available Credits:** Credits that are available to the building type
- **Targeted Credits:** Credits that have been targeted in order to achieve the required rating
- **Potential Credits**: Credits that have potential to be targeted where required to achieve the required rating

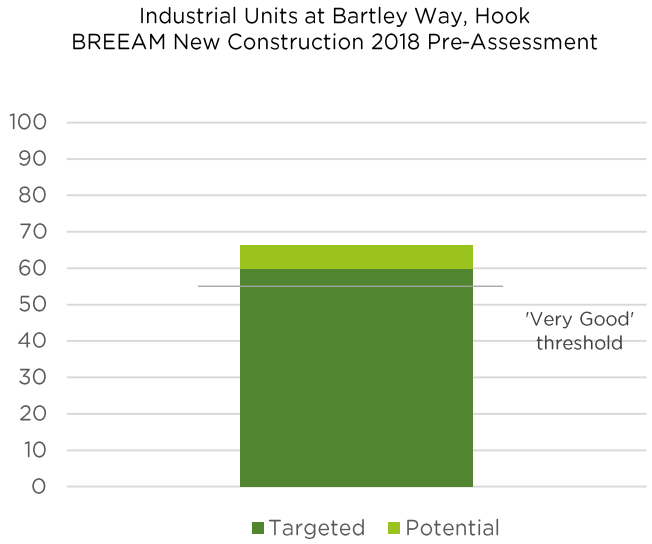
4.2. The table below summarises the value of available, targeted and potential credits within the assessment.

4.3. A summary of the credit strategy is presented in Appendix A – BREEAM Credit Strategy Summary.

4.4. If all targeted credits were achieved, BREEAM Excellent would be achieved with a score of **59.19%** and all minimum requirements met.

4.5. If all targeted *and* potential credits were achieved, BREEAM Excellent would be achieved with a score of **65.51%** and all minimum requirements met.

	Credit Value (%)	Credits Available	Credits Targeted	Targeted %	Credits Potential	Potential %
Management	0.61	18	12	7.33	1	0.61
Health & Wellbeing	0.80	10	4	3.20	1	0.80
Energy	0.67	21	10	6.67	0	0.00
Transport	0.96	12	8	7.67	0	0.00
Water	0.78	9	5	3.89	0	0.00
Materials	1.25	14	5	6.25	0	0.00
Waste	0.70	10	9	6.30	1	0.70
Landuse & Ecology	1.15	13	9	10.38	3	3.46
Pollution	0.75	12	10	7.50	1	0.75
Exemplary	1.00	10	0	0.00	0	0.00
				59.19		6.32



5. Early-Stage Requirements

5.1. The following items identify early-stage requirements that need to be fulfilled. Some of these are time critical in accordance with RIBA Stages and these must be addressed as applicable in terms of timescale. Please refer to the BREEAM Technical Manual 2018: Version: SD5078 – Issue: 3.0 – Issue Date: 31/07/2019 or contact AES Sustainability Consultants for further detail on compliance, where required.

RIBA Stage 1 / 2

Credit	Criteria / Requirement Summary	Early Action Undertaken?	Comments / Further Action Required
Man 01.1: Project brief and design: Project Delivery and Planning	Project delivery stakeholders must meet prior to RIBA Stage 2 to identify roles, responsibilities and contributions for key phases of project delivery. Demonstration that delivery stakeholders have influenced or changed the initial design brief (e.g. project execution plan/quality plan, communication strategy or concept design).	Partial	Project team meeting minutes to be provided along with responsibilities matrix.
Man 01.2: Project brief and design: Stakeholder Consultation	Prior to completion of the Concept Design, interested parties have been consulted and demonstration of how their contributions have influenced the brief/concept design. Consultation feedback has been given and received by all parties by completion of RIBA Stage 4.	N/A	Stakeholder consultation provided but does not cover criteria.
Man 01.3: Project brief and design: BREEAM Advisory Professional	BREEAM AP must work with the project team to consider links between BREEAM issues and assist them in maximising the project's overall performance against BREEAM, from their appointment and throughout Concept Design & Developed Design.	Yes	AES appointment for pre-assessment. AP appointment must be maintained through the design.
Man 02.1: Life cycle cost and service life planning: Elemental life cycle cost (LCC)	A competent person conducts an outline, entire asset LCC plan at RIBA Stage 2, with any design options appraisals in line with Standardised method of life cycle costing for construction procurement' PD 156865:2008.	No	LLC report would need to be undertaken.
Hea 06: Safety and security	Security specialist or ALO/CPDA to be consulted at Concept Design Stage to carry out a Security Needs Assessment.	Yes	Suitably Qualified Security Specialist has been instructed to complete a Security Needs Assessment. The recommendations will need implementation.
Ene 04: Low carbon design	Passive Design Analysis Low Zero Carbon Technologies feasibility study	Partial	Compliant reports to be provided by Shepherd Brombley.
Tra 01: Transport assessment and travel plan	A travel plan must be developed based on a site-specific travel assessment or statement. The travel assessment must cover the minimum requirements as defined in the manual.	Partial	Motion has been appointed. Transport Assessment and Travel Plan to be provided.
Mat 01: Environmental impacts from construction products	During the Concept Design building LCA (and options appraisal) on of the superstructure and substructure/hardlandscaping design. Submit the Mat 01/02 Results Submission Tool to BRE at the end of Concept Design, and before planning permission is applied for. During Technical Design, the above must be resubmitted.	Partial	AES has been appointed to undertake a LCA report.
Mat 03.1: Responsible sourcing of construction products	A sustainable procurement plan has been developed before Concept Design by the design team to guide specification towards sustainable construction products.	Yes	Sustainable procurement plan has been provided by XLB Projects.

Credit	Criteria / Requirement Summary	Early Action Undertaken?	Comments / Further Action Required
Mat 06: Material Efficiency	Opportunities have been identified to optimize the use of materials in the building design, procurement, construction, maintenance and end of life by the design/construction team in consultation with relevant parties at each project stage.	Partial	Material efficiency considerations taken during early design. Formal records to be provided.
Wst 01.1: Construction waste management: Pre-Demolition Audit	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.	No	Pre-demolition audit to be provided.
Wst 05: Adaptation to Climate Change	Conduct a climate change adaptation strategy appraisal for structural and fabric resilience to identify and evaluate the impact on the building over its projected life cycle from expected extreme weather conditions arising from climate change and, where feasible, mitigate against these impacts.	Partial	FRA from Baynham Meikle to be provided. Climate change adaptation strategy to be supplied.
Wst 06: Functional Adaptability	A building-specific Functional Adaptation Strategy Study conducted no later than RIBA Stage 2 which includes recommendations for measures to be incorporated to facilitate future adaptation.	Partial	Functional adaptation considerations taken during early design. Formal records to be provided.
LE 01.2: Site selection: Contaminated land	Where a contaminated land specialist's report deems the site to be affected by contamination; with the type of contamination specified, the degree of contamination and the options for remediation.	Partial	Phase 2 contamination report to be provided by Baynham Meikle to confirm any contamination.
Le 02: Ecological risks and opportunities	Opportunities have been identified to optimise ecological outcomes for the site to influence key planning decisions.	Partial	Ecology report and GN40 to be completed by Phlorum.
Le 03.1: Managing impacts on ecology: Planning and measures on site	Further planning is conducted to influence Concept Design to avoid and manage negative ecological impacts on-site.	Partial	Ecology report and GN40 to be completed by Phlorum.
LE 04: Ecological change and enhancement	Appointment of a suitably qualified ecologist to provide a BREEAM compliant ecology report within RIBA Stage 2. The Ecology Report should include appropriate recommendations for the enhancement of the site's ecology.	Partial	Ecology report and GN40 to be completed by Phlorum.

6. Conclusion & Recommendations

6.1. A BREEAM Pre-assessment has been completed in order to define a strategy to achieve BREEAM 'Very Good' for the proposed new Industrial Units at Bartley Way, Hook. The presented strategy achieves a targeted score of 59.19% and a rating of BREEAM Very Good. Achievement of this rating meets compliance with the client's requirements for BREEAM Very Good.

6.2. Appendix A – BREEAM Credit Strategy Summary presents the proposed assessment strategy. Appendix B – Criteria Detail Appendix B presents a summary of the criteria requirements. Full criteria and evidential requirements are found in the BREEAM New Construction 2018 version 3.0 manual https://www.breeam.com/NC2018/

6.3. In order to achieve the required rating, it is important to ensure all minimum standards are met. These are identified and targeted within the credit strategy.

6.4. Within the assessment methodology there are a number of credits that have time limitations. To ensure compliance with the credit strategy it is critical that early-stage requirements are actioned appropriately. Failure to do so may prevent the required rating being achieved and/or lead to increased costs. Section 4 of this report provides further detail.

6.5. It is recommended that a contingency of ~4.00% above the scoring threshold for the required rating is incorporated into the targeted score. This provides a safety net to protect the required rating. The target score should therefore be ~64.00%.

6.6. The following potential credits have been identified within the assessment. These should be targeted where viable in order to provide the required contingency.

- Man 03: Responsible construction practices: Environmental management
- Hea 01: Visual Comfort - Daylighting
- Mat 02: Environmental impacts from construction products
- Wst 02: Sustainable aggregates
- Le 01.2: Site selection: Contaminated land
- Le 03: Managing impacts on ecology
- LE 04: Ecological change and enhancement
- Pol 01: Impact of refrigerants

6.7. To ensure the required rating is achieved, the project team should progress design in line with the presented strategy. Where it is found the proposed strategy is not suitable for a particular credit area, the BREEAM assessor should be notified immediately.

6.8. The project team should provide the BREEAM assessor with evidence submissions once available to ensure any compliance issues are identified in good time for compliance to be achieved.

7. Appendix A – BREEAM Credit Strategy Summary

7.1. This credit strategy summary outlines the available, targeted and potential credits within the assessment. The responsible party for compliance is identified and a comment is presented in relation to any available documentation referenced or assumptions taken during formation of the credit strategy. Credits will only be achieved where compliant evidence is provided to the assessor. Please refer to Appendix B – Criteria Detail for further detail on compliance requirements.

MANAGEMENT – 1 credit = 0.61%						
		Available	Targeted	Potential	Responsible Party	Comments
Man 01: Project brief and design	Project delivery planning	1	1		XLB	Meeting of project delivery stakeholders prior to completion of concept design to identify/define roles, responsibilities and contributions. Compliance will be demonstrated through meeting minutes and responsibilities matrix.
	Stakeholder consultation	1	0		XLB	Third party stakeholder consultation documentation does not cover the criteria.
	Prereq: Sustainability Targets	0	Yes		XLB	BREEAM targets have been formally agreed early in early design process.
	BREEAM AP Concept Design	1	1		XLB / Sustainability Consultant	AES appointment for pre-assessment covers this.
	BREEAM AP Developed Design	1	1		XLB / Sustainability Consultant	Continued appointment with AES would meet compliance.
Man 02: Life cycle cost and service life planning	Elemental LCC	2	0		XLB	Entire asset LCC plan at concept design stage with design options appraisal.
	Component LCC options	1	0		XLB	LCC options appraisal by the end of technical design.
	Capital cost reporting	1	1		Contractor	Contractor will report capital cost.
Man 03: Responsible construction practices	Prereq: Legal & sustainable timber	0	Yes		Contractor	Contractor will prove the use of only legal and sustainable timber.
	Environmental management	1	0	1	Contractor	This may be targeted if selected contractor holds ISO14001.
	Prereq: Sustainability Targets	0	Yes		XLB / Contractor	The client and contractor will formally agree the BREEAM rating.
	BREEAM AP Construction	1	1		Contractor / Sustainability Consultant	Continued appointment with AES would meet compliance.
	Responsible construction management	2	2		Contractor	Contractor required to manage site responsibly. The contractor must refer to Table 4.1 in the BREEAM 2018 manual, achieving all ticked items and six additional.
	Monitoring of utility consumption	1	1		Contractor	Contractor required to monitor energy and water use throughout construction.
	Transport of materials and waste	1	1		Contractor	Contractor required to monitor vehicle mileage for delivery of key materials and waste collection.

Man 04: Commissioning and handover	Commissioning schedule and responsibilities BREEAM Very Good Rating Minimum Standard	1	1		SPB	Compliant commissioning schedule responsibility lies with the subcontractor/s.
	Commissioning design and preparation	1	1		SPB	Compliant commissioning activities lie with the subcontractor/s.
	Testing and inspecting building fabric	1	0		Contractor	Thermographic survey and any required remediation required.
	Building user guide and training BREEAM Very Good Rating Minimum Standard (Criterion 11)	1	1		Contractor	Provision of building user guides for user and building management as well as handover training.
Man 05: Aftercare	Aftercare support	N/A			N/A	N/A to Shell and Core assessments.
	Commissioning implementation	N/A			N/A	N/A to Shell and Core assessments.
	Post occupancy evaluation	N/A			N/A	N/A to Shell and Core assessments.
		18	**12**	**1**		

HEALTH AND WELLBEING - 1 credit = 0.80%						
		Available	**Targeted**	**Potential**	**Responsible Party**	**Comments**
Hea 01: Visual comfort	Control of glare from sunlight	N/A			N/A	N/A to Shell and Core assessments.
	Daylighting	1	0	1	Sustainability Consultant	The office spaces in the industrial units are likely to meet compliance. Daylighting assessment would need to be completed to confirm.
	View out	1	1		PRC	Calculation is required to determine that 95% of the floor areas in 95% of spaces where close work will be undertaken will be within 8m of an external wall where the opening is more than 20% of the surrounding wall area or where greater than 8m, an opening greater than the values in Table 1.0 BS8206:Part 2.
	External lighting	1	1		SPB	External lighting in line with BS 5489-1:2013 and BS EN 12464-2:2014.
Hea 02: Indoor air quality	Prerequisite: IAQ plan	0	No		Contractor	Indoor air quality plan would be required as a prerequisite to the ventilation credit.
	Ventilation	1	0		SPB	It would need to be demonstrated that the building has been designed to minimise the indoor concentration and recirculation of pollutants in the building in line with the requirements for ventilation under BS ISO 17772-1:2017 or, for naturally ventilated buildings, CIBSE AM10.
Hea 04: Thermal comfort	Thermal modelling	1	0		SPB	Thermal comfort report.

	Design for future thermal comfort	1	0		SPB	Thermal comfort report considering the future climate.
Hea 05: Acoustic performance	Sound insulation	N/A			N/A	N/A to Shell and Core assessments.
	Indoor ambient noise level	1	1		Accon	Quantifiable assessment to confirm fabric is suitable standard for tenant to achieve compliance with Section 7 of BS 8233:2014.
	Room acoustics	N/A			N/A	N/A to Shell and Core assessments.
Hea 06: Security	Security of site and building	1	1		PRC	Quote for Security Needs Assessment has been received, PRC to confirm recommendations will be implemented.
Hea 07: Safe & Healthy Surroundings	Safe access	1	0		PRC	Pedestrian access and cycle storage are not compliant.
	Outside space	1	0		Landscape Architect	No outside space designed to provide amenity space for building users.
		10	4	1		

ENERGY - 1 credit = 0.67%						
		Available	Targeted	Potential	Responsible Party	Comments
Ene 01: Reduction of energy use and carbon emissions	Reduction of energy use and carbon emissions	13	3		SPB	BRUKLs provided by Shepherd Brombley confirm 3 credits have been achieved.
Ene 02: Energy monitoring	Sub-metering of end use categories BREEAM Very Good Rating Minimum Standard	1	1		SPB	Electric meters to each unit.
	Sub-metering of high energy load and tenancy areas	1	1		SPB	Each unit to be metered, any high energy loads (if present) to be sub-metered.
Ene 03: External lighting	External lighting	1	1		SPB	External lighting to achieve a minimum average of 70ll/cw (please note this is an increased target from 2014), automatic controls and presence detection in intermittent areas.
Ene 04: Low carbon design	Passive design analysis	1	1		SPB	Passive design analysis to be completed.
	Free cooling	1	0		SPB	Not targeted due to nature of the building form.
	Low and zero carbon technologies	1	1		SPB	LZC study to be completed by SPB prior to planning.
Ene 06: Energy efficient equipment	Energy consumption	1	1		Lift Consultant	Lift transport analysis and selection of most energy efficient lift would need to be provided.
	Energy efficient features - lifts	1	1		Lift Consultant	Specification of energy saving features.
	Energy efficient features - escalators or moving walks	N/A			N/A	N/A to Shell and Core assessments.
Ene 07: Energy efficient laboratory systems		N/A			N/A	N/A to Shell and Core assessments.

Ene 08: Energy efficient equipment		N/A			N/A	N/A to Shell and Core assessments.
		21	11	0		

TRANSPORT - 1 credit = 0.96%						
		Available	Targeted	Potential	Responsible Party	Comments
Tra 01: Transport assessment & travel plan	Travel plan	2	2		Motion	The Transport Assessment and Travel Plan would need to meet minimum requirements.
Tra 02: Sustainable transport measures	Sustainable transport measures	10	6		Motion / PRC	**The following measures are targeted/predicted:** - Electric recharging stations - 10% of parking spaces need to be either active or passive EV spaces - Car sharing spaces - 5% of parking spaces - Cycle storage - 1 space per 10 staff and 1 space per 20 public car parking spaces. Where the total required spaces is less than 10, staff and visitor spaces must be separated. - Indicative mark up of cyclist facilities - provision of two of the following: showers, changing rooms, lockers or drying spaces - Local amenities are enhanced by the construction of a new food outlet within the project. **The following measures are not targeted:** - Accessibility Index less than 4 - Public transport system provided - No increase in existing Accessibility Index - No consultation with local authority about cycling - Insufficient existing amenities within 500m - No other site specific improvement measures.
		12	8	0		

WATER - 1 credit = 0.78%						
		Available	Targeted	Potential	Responsible Party	Comments
Wat 01: Water consumption	Water consumption BREEAM Very Good Rating Minimum Standard	5	2		SPB	Efficient sanitaryware - standards have increased and thus tender documentation should reflect this to ensure performance is suitable.
Wat 02: Water monitoring	Pulsed water meter and submeters BREEAM Very Good Rating Minimum Standard (Criterion 1)	1	1		SPB	Capped off pulsed water meter for each unit.
Wat 03: Water leak detection and prevention	Leak detection system	1	1		SPB	Leak detection.
	Flow control devices	1	0		SPB	Flow control cost option.
Wat 04: Water efficient equipment	Water efficient consumption	1	1		Landscape Architect	It is assumed there is no irrigation within the landscaping and no other unregulated uses that require reduction.

9	5	0

MATERIALS - 1 credit = 1.25%						
		Available	Targeted	Potential	Responsible Party	Comments
Mat 01: Environmental impacts from construction products	Building LCA - Concept Design - Superstructure	6	0		XLB / PRC	LCA exercise would need to be undertaken.
	Building LCA - Technical Design - Superstructure					
	LCA Options - Concept Design - Superstructure					
	LCA Options - Technical Design - Superstructure					
	LCA Options - Concept Design - Substructure/hard landscaping	1	0		XLB / PRC	LCA exercise would need to be undertaken.
Mat 02: Environmental impacts from construction products	Environmental Product Declarations	1	0		Contractor	Products procured to ensure a sufficient number of products have an EPD.
Mat 03: Responsible sourcing of construction products	Prereq: Legal & sustainable timber BREEAM Very Good Rating Minimum Standard (Criterion 1)	0	Yes		Contractor	Contractor will prove the use of only legal and sustainable timber.
	Sustainable procurement	1	1		XLB	Compliant sustainable procurement policy provided.
	Responsible sourcing	3	2		Contractor	Products procured with responsible sourcing certification.
Mat 05: Designing for durability and resilience	Protecting the building from damage and degradation	1	1		PRC	Durability and resilience report.
Mat 06: Material efficiency	Optimisation measures investigated and implemented	1	1		Collaboration	Materials efficiency report.
		14	5	0		

WASTE - 1 credit = 0.78%						
		Available	Targeted	Potential	Responsible Party	Comments
Wst 01: Construction waste management	Pre-requisite: Predemolition audit	1	1		XLB / Contractor	Demolition audit to be provided prior to demolition on site.
	Resource efficiency	3	3		Contractor	Provision of site waste management plan and achievement of waste volume targets.
	Diversion from landfill	1	1		Contractor	Achievement of waste diverted from landfill targets.
Wst 02: Sustainable aggregates	Sustainable aggregate points	1	0	1	Contractor	May be potential here, but only once contractor has identified viable aggregate sources.
Wst 03: Operational waste	Recycling and non-recyclable waste storage	1	1		PRC	Indicative space marked up for recycling waste storage and a compactor/baler.

Wst 04: Speculative finishes		N/A			N/A	N/A to industrial assessments.
Wst 05: Adaptation to climate change	Resilience of building	1	1		Collaboration	Adaptation to climate change study.
Wst 06: Design for disassembly and adaptability	Recommendations	1	1		PRC	Functional adaptability study.
	Implementation	1	1			
		10	9	1		

LANDUSE & ECOLOGY - 1 credit = 1.15%						
		Available	Targeted	Potential	Responsible Party	Comments
LE01: Site selection	Previously occupied land	1	1		PRC	Overlay of previous site with site plan required.
	Contaminated land	1	0	1	BMP	Contamination report to be provided and reviewed for any contamination. Unlikely to be contaminated due to nature of the site.
LE02: Ecological risks and opportunities - comprehensive route	Prerequisite: statutory obligations	0	Yes		Phlorum	Kim Roll-Baldwin at Phlorum to confirm the current credit assumptions are realistic. Calculation must be progressed to solidify.
	Survey and evaluation	1	1		Phlorum	
	Determining ecological outcomes	1	1		Phlorum	
LE03: Managing impacts on ecology - comprehensive route	Prerequisite: ecological risks and opportunities	0	Yes		Phlorum	
	Planning and measures on site	1	1		Phlorum	
	Managing negative impacts	2	1	1	Phlorum	
LE04: Ecological change and enhancement - comprehensive route	Prerequisite: managing negative impacts on ecology	0	Yes		Phlorum	
	Ecological enhancement	1	1		Phlorum	
	Change and enhancement of ecology	3	1	1	Phlorum	
LE05: Long term ecology management and maintenance	Prerequisite: statutory obligations	0	Yes		Phlorum	
	Management and maintenance throughout the project	1	1		Contractor	
	Landscape and ecology management plan	1	1		Phlorum	
		13	9	3		

POLLUTION - 1 credit = 0.75%						
		Available	Targeted	Potential	Responsible Party	Comments
Pol 01: Impact of refrigerants	Absence of refrigerant containing systems	N/A			SPB	N/A as there are refrigerant containing systems within the scope of works.
	Refrigerant containing systems DELCO2/GWP	2	1	1	SPB	Achievement of a DELCO2 calculation of 1000 or less (typically achieved with VRF).
	Hermetically sealed systems or leak detection	1	1		SPB	It is currently assumed VRF systems will be hermetically sealed and there will be no other refrigerant containing systems.
Pol 02: Local air quality	Non combustion systems or low NOx	2	2		SPB	All heating and hot water will be supplied by non-combustion systems.
Pol 03: Flood and surface water management	Flood risk zone	2	2		BMP	FRA to be provided to confirm the flood zone. Narinder at BMP confirmed site is in flood zone 1.
	Surface water runoff (rate)	1	1		BMP	It is assumed post development runoff rate will not exceed the predevelopment scenario, including the climate change event.
	Surface water runoff (volume)	1	1		BMP	It is assumed post development volume will not exceed the predevelopment scenario, including the climate change event.
	Minimising watercourse pollution	1	0		BMP	Infiltration on site - 5mm rule will not be met, confirmed by Narinder at BMP.
Pol 04: Reduction of night time light pollution	External lighting	1	1		M&E	External lighting in line with Table 2 ILP guidance, can be automatically switched off and any illuminated ads in compliance with ILP PLGO5.
Pol 05: Reduction of noise pollution	Noise impact assessment	1	1		Accon	It is assumed that noise levels from the proposed buildings will be 5dB lower than background noise at the most exposed noise sensitive development.
		12	10	1		

EXEMPLARY - 1 credit = 1.00%						
		Available	Targeted	Potential	Responsible Party	Comments
Man 03: Responsible construction practices	Responsible construction management	1			As above	To be reviewed with contractor.
Hea 01: Visual comfort	Daylighting	1			As above	Exemplary performance unlikely but will be confirmed in the daylighting report.
	Internal and external lighting levels, zoning and control	N/A			As above	N/A to Shell and Core assessments.
Hea 06: Security	Security of site and building	1			As above	SABRE assessment cost prohibitive.
Ene 01: Reduction of energy use and carbon emissions	Reduction of energy use and carbon emissions	5			As above	BRUKL output confirms no credit achieved here.
Wat 01: Water consumption	Water consumption	1			As above	Sanitaryware performance will likely be unfavourable for achievement here.

Mat 01: Building LCA	LCA Options - Concept Design - Core building services	1			As above	LCA exercise is not inclusive of core building services.
	LCA and LCC alignment	1			As above	To be reviewed.
	Third Party verification	1			As above	To be reviewed.
Mat 03: Responsible sourcing of construction products	Responsible sourcing	1			As above	To be reviewed through procurement of materials.
Wst 01: Construction waste management	Resource efficiency	1			As above	Relies on waste quantities produced.
Wst 02: Sustainable aggregates	Sustainable aggregate points	1			As above	Will be reviewed once contractor has identified viable aggregate sources.
Wst 05: Adaptation to climate change	Responding to climate change	1			As above	This would only be achieved with the award of several credit areas that are not yet secured.
LE02: Ecological risks and opportunities	Wider site sustainability	1			As above	Ecologist to provide feedback.
LE04: Ecological change and enhancement - comprehensive route	Ecological enhancement	1			As above	Ecologist to provide feedback.
		18	0	0		

8. Appendix B – Criteria Detail

8.1. A summary of criteria requirements is presented below. Please refer to the BREEAM Technical Manual 2018: Version 3.0 https://www.breeam.com/NC2018/ or contact AES Sustainability Consultants for further detail on compliance.

Management	Compliance Requirements Summary
Man 01.1: Project brief and design: Project Delivery and Planning	One Credit – Stakeholder Consultation (Project Delivery Planning) • Project delivery stakeholders must meet prior to RIBA Stage 2 to identify roles, responsibilities and contributions for key phases of project delivery. • Demonstration that delivery stakeholders have influenced or changed the initial design brief (e.g., project execution plan/quality plan, communication strategy or concept design).
Man 01.2: Project brief and design: Stakeholder Consultation	One Credit - Stakeholder Consultation (Interested Parties) • Prior to completion of the Concept Design, interested parties have been consulted and demonstration of how their contributions have influenced the brief/concept design. • Consultation feedback has been given and received by all parties by completion of RIBA Stage 4.
Man 01.3: Project brief and design: BREEAM Advisory Professional	Two Credits – BREEAM AP (Concept Design & Developed Design) • BREEAM AP must work with the project team to consider links between BREEAM issues and assist them in maximising the project's overall performance against BREEAM, from their appointment and throughout Concept Design & Developed Design. • They must monitor progress against the performance targets agreed by the project team (including client) where decision critically impact the BREEAM assessment. • Proactively identify risks and opportunities in achieving the targets, and provide feedback to the project team in taking corrective actions, with support and coordination in supply of evidence from the project team.
Man 02.1: Life cycle cost and service life planning: Elemental life cycle cost (LCC)	Two Credits - Elemental LCC A competent person conducts an outline, entire asset LCC plan at RIBA Stage 2, with any design options appraisals in line with Standardised method of life cycle costing for construction procurement' PD 156865:2008. The LCC plan must; a) Provide an indication of future replacement costs over a period of analysis as required by the client (e.g., 20, 30, 50 or 60yrs). The study period should be agreed by the client in line with the design life expectancy of the building, with a default of 60yrs where the expectancy has not yet been formally agreed. b) Include service life, maintenance and operation cost estimates. c) Demonstrate, using appropriate examples (as provided by design team), how the LCC plan has been used to influence building and systems design & specification to minimise life cycle costs and maximise critical value.
Man 02.2: Life cycle cost and service life planning: Component level life options appraisal	One credit – Component level life options appraisal • A competent person develops a component level LCC plan developed during RIBA stage 4 to include envelope, services, finishes and external spaces. The LCC includes (where present); a) Envelope, e.g., cladding, windows, or roofing b) Services, e.g., heat source, cooling source, or controls c) Finishes, e.g., walls, floors or ceilings d) External spaces, e.g., alternative hard landscaping, boundary protection. • The appraisal should review all of the above component types (where present), with an appropriate selection considered to draw valued comparisons. This ensures a wide range of options are considered, and helps focus the analysis on components that would most benefit from appraisal. • Following the appraisal, evidence from the design team should demonstrate how the results have bene used to influence building and systems design, and specification to minimise life cycle costs and maximise critical value.

Management	Compliance Requirements Summary
Man 02.3: Life cycle cost and service life planning: Capital cost reporting	<u>One Credit – Capital cost reporting</u> • Report the capital cost for the building in £ / m^2 of gross internal floor area.
Man 03.1: Responsible construction practices: Environmental management	<u>Pre-Requisite</u> • All timber and timber-based products used on the project is 'Legally harvested and traded timber'. <u>One Credit – Environmental Management</u> • All parties who at any stage manage the construction site (i.e., the principal contractor / demolition contractor) operates an environmental management system (EMS) covering their main operations. The EMS must be either: a. third party certified, to ISO 14001:2015/EMAS or equivalent standard; or b. have a structure that is in compliance with BS 8555:2016 c. completed defined phase audits one to four. • The principal contractor (and/or demolition contractor) implements best practice pollution prevention policies and procedures on-site in accordance with Pollution Prevention Guidelines, Working at construction and demolition-sites: PPG6.
Man 03.2: Responsible construction practices: BREEAM AP (site)	<u>One Credit – Sustainability Champion (Construction)</u> • The BREEAM AP is appointed to monitor compliance with the BREEAM target during construction, handover and close out stages (RIBA 5&6). • The BREEAM target must form a requirement of the principal contractor's contract and the target must be achieved.
Man 03.3: Responsible construction practices: Responsible Construction Management	<u>Up to Two Credits - Responsible Construction Management</u> The principal contractor evaluates the risks (on site and off site), plans and implements actions to minimise the identified risks, covering the following, where appropriate. <u>First Credit - Mandatory Management Items</u> • Compliance with 9 compulsory responsible construction management items (A/D/F/G/H/J/N/O/R) from the list of 19 (BREEAM 2018: table 4.1) <u>Second Credit - Additional Management Items</u> • First credit is achieved AND; • Compliance with an additional 6 (15 of 19) additional responsible construction management items from the remaining options (B/C/E/I/K/L/M/P/Q/S) (BREEAM 2018: table 4.1). • A CCS score of 35+ will provide the evidence to secure the credits as long as Point G 'Ensure clear and safe access in and around the buildings at the point of handover' is also complied with.
Man 03.4: Responsible construction practices: Monitoring of construction site impacts	<u>Up to Two Credits – Monitoring of Construction Site Impacts</u> • Individual(s) with appropriate authority is responsible for monitoring, recording and reporting energy use, water consumption and transport data (where measured) resulting from all on-site construction processes (and dedicated off-site monitoring) throughout the build programme. <u>First Monitoring Credit – Utility Consumption</u> • Monitoring and reporting of energy and water used for all construction plants, equipment and site accommodation. Reporting of total kgCO2/project value and m3. <u>Second Monitoring Credit – Transport of Construction Materials and Waste</u> • Monitoring and recording data on transport movement and impact resulting from delivery of the majority of construction materials and waste.

Management	Compliance Requirements Summary
Man 04.1: Commissioning and handover: Commissioning - Testing schedule and responsibilities	<u>One Credit – Testing Schedule and Responsibilities</u> • 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. • Appoint an appropriate project team member to monitor and programme pre-commissioning, commissioning and testing. Where necessary include re-commissioning activities on behalf of the client.
Man 04.2: Commissioning and handover: Commissioning – design and preparation	<u>One Credit - Commissioning – Design and Preparation</u> • During the design stage, the client or the principal contractor appoints an appropriate project team member, provided they are not involved in the general installation works for the building services systems, with responsibility for: a) Undertaking design reviews and giving advice on suitability for ease of commissioning. b) Providing commissioning management input to construction programming and during installation stages. c) Management of commissioning, performance testing and handover or post-handover stages. • For buildings with complex building services and systems, this role needs to be carried out by a specialist commissioning manager.
Man 04.3: Commissioning and handover: Testing and inspecting building fabric	<u>One Credit - Testing and Inspecting Building Fabric</u> • Completion of thermographic survey and airtightness test and inspection, along with any defects remediated.
Man 04.4: Commissioning and handover: Handover	<u>One Credit – Handover</u> • Prior to handover, develop two building user guides and two training schedules around handover for the following users: a) A non-technical user guide for distribution to the building occupiers. b) A technical user guide for the premises facilities managers.
Man 05.1: Aftercare: Aftercare Support	*CREDIT(S) NOT APPLICABLE TO SHELL AND CORE DEVELOPMENT*
Man 05.2: Aftercare: Commissioning - implementation	*CREDIT(S) NOT APPLICABLE TO SHELL AND CORE DEVELOPMENT*
Man 05.3: Aftercare: Post Occupancy Evaluation (POE)	*CREDIT(S) NOT APPLICABLE TO SHELL AND CORE DEVELOPMENT*

Health & Wellbeing	Compliance Requirements Summary
Hea 01.1: Visual comfort: Control of glare from sunlight control	*CREDIT(S) NOT APPLICABLE TO SHELL AND CORE DEVELOPMENT*
Hea 01.2: Visual comfort: Daylighting	<u>One Credit - Daylighting</u> • Daylighting criteria have been met using either of the following options: • The relevant building areas meet good practice daylight factors and other criteria as outlined in the manual. 8.2. *OR* • The relevant building areas meet good practice average and minimum point daylight illuminance criteria as outlined in the manual.

Health & Wellbeing	Compliance Requirements Summary
Hea 01.3: Visual comfort: View out	<u>One credit - View Out</u> • 95% of the floor area in each relevant building areas is within 7m of a wall which has a window or permanent opening that provides an adequate view out.
Hea 01.4: Visual comfort: Internal and external lighting, zoning and control	*INTERNAL LIGHTING CREDIT(S) NOT APPLICABLE TO SHELL AND CORE DEVELOPMENT* <u>One credit - External Lighting</u> • All external lighting located within the construction zone is specified in accordance with BS5489-1:2013. Where no external lighting has been specified this credit can be awarded by default.
Hea 02.1: Indoor Air Quality: Indoor Air Quality Plan	<u>Pre-requisite – Indoor Air Quality Plan</u> • A site-specific indoor air quality plan has been produced and implemented in accordance with the guidance in Guidance Note GN06. This must consider the following; a) Removal of contaminant sources b) Dilution and control of contaminant sources: where present, consideration is given to the air quality requirements of specialist areas such as laboratories c) Procedures for pre-occupancy flush out d) Third party testing and analysis e) Maintaining good indoor air quality in-use.
Hea 02.2: Indoor Air Quality: Ventilation	<u>One credit – Ventilation</u> • The building must be designed to minimise the concentration and recirculation of pollutants, as follows; a) Provide fresh air into the building in accordance with the criteria of the relevant standard for ventilation. b) Ventilation pathways are designed to minimise the ingress and build-up of air pollutants inside the building. c) Where present, HVAC systems must incorporate suitable filtration to minimise external air pollution, as defined in BS EN16798-3:2017. d) Areas of the building subject to large and unpredictable or variable occupancy patterns have carbon dioxide (CO_2) or air quality sensors specified and where applicable, are linked to mechanical ventilation *OR* in naturally ventilated buildings, sensors have the ability to alert the building own when CO2 levels exceed the recommended set point. e) For naturally ventilated or mixed mode buildings, the design demonstrates that the ventilation strategy provides adequate crossflow of air to maintain the required thermal comfort conditions and ventilation rates in accordance with CIBSEAM10[46].
Hea 02.3: Indoor Air Quality: Emissions from construction products	*CREDIT(S) NOT APPLICABLE TO SHELL AND CORE DEVELOPMENT*
Hea 02.4: Indoor Air Quality: Post-construction indoor air quality measurement	*CREDIT(S) NOT APPLICABLE TO SHELL AND CORE DEVELOPMENT*
Hea 04.1: Thermal Comfort: Thermal modelling	<u>One credit– Thermal Modelling</u> • Thermal modelling has been carried out using software in accordance with CIBSE AM11 Building Energy and Performance Modelling. • 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 (must still be compliant with CIBSE AM11). • 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.*OR* • Naturally ventilated buildings: Winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental design.

Health & Wellbeing	Compliance Requirements Summary
Hea 04.2: Thermal Comfort: Design for thermal comfort	<u>One credit– Design for Thermal Comfort</u> • First credit is a pre-requisite. • The thermal modelling demonstrates that the relevant requirements set out in are achieved for a projected climate change environment. Where the above is not met, the project team demonstrates how the building has been adapted, or designed to be easily adapted in the future using passive design solutions.
Hea 04.3: Thermal Comfort: Thermal zoning and controls	*CREDIT(S) NOT APPLICABLE TO SHELL AND CORE DEVELOPMENT*
Hea 05.2: Acoustic performance: Industrial, retail, Prisons and 'Other; building types	<u>Sound Insulation and Room Acoustics</u> *CREDIT(S) NOT APPLICABLE TO SHELL AND CORE DEVELOPMENT* <u>One Credit - Indoor ambient noise levels</u> • Demonstrate that indoor ambient noise levels that comply with the design ranges given in BS 8233:2014 could be achieved by the fitout tenant with a typical fitout
Hea 06: Safety and security: Security of site and building	<u>One credit - Security of Site and Building</u> • A Suitably Qualified Security Specialist conducts an evidence-based Security Needs Assessment during, or prior to, RIBA stage 2. • The SQSS develops a set of security controls and recommendations for incorporation into the proposals. Those controls and recommendations shall directly relate to the threats and assets identified in the preceding SNA. • The controls and recommendations shall be incorporated into proposals and implemented in the as-built development. Any deviation from those controls and recommendations shall be justified and agreed with the SQSS.
Hea 07: Safe and Healthy Surroundings: Safe Access	<u>One Credit – Safe Access</u> • Where dedicated cycle paths provide direct access from the site entrance to cycle storage and connect to any off-site cycle paths • Footpaths on site provide direct access from the site entrance to the building entrance/ car parks/ links to outdoor space and connect to off-site footpaths • Drop-off areas designed to provide direct access to pedestrian footpaths. Where delivery vehicles require access: a) Delivery areas must not be accessed directly through general parking areas and do not cross or share; pedestrian and cyclist routes; or outside amenity space. b) Dedicated parking/waiting areas for goods vehicles away from manoeuvring area and car parking. c) Parking and turning areas designed for simple manoeuvring according to the type of delivery vehicle likely to access the suite.
Hea 07: Safe and Healthy Surroundings: Outside space	<u>One Credit – Outside Space</u> • There is an outside space providing building users with an external amenity area

Energy	Compliance Requirements Summary
Ene 01.1: Reduction of energy use and carbon emissions: Energy performance	<u>Up to twelve credits - Energy performance</u> • Calculation of an Energy Performance Ratio for New Construction (EPR_{NC}).

Energy	Compliance Requirements Summary
Ene 01.2: Reduction of energy use and carbon emissions: Prediction of operational energy consumption	Up to four credits – Prediction of Operational Energy Consumption • Involve relevant members of the design team in an energy design workshop focusing on operational energy performance. • Undertake additional energy modelling during the design and post-construction stage to generate predicted • operational energy consumption figures. • Report predicted energy consumption targets by end use, design assumptions and input data (with justifications). 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.
Ene 02: Energy Monitoring: Sub-metering of end use categories	One Credit – Sub-metering of End Use Categories • 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 on the facing page). • Meter the energy consumption in buildings according to the total useful floor area: a) If the area is greater than 1,000m², by end-use category with an appropriate energy monitoring and management system. b) If the area is less than 1,000m², use either: an energy monitoring and management system or c) separate accessible energy sub-meters with pulsed or other open protocol communication outputs, for future connection to an energy monitoring and management system. • Building users can identify the energy consuming end uses, for example through labelling or data outputs.
Ene 02: Energy Monitoring: Sub-metering of high energy load and tenancy areas	One Credit – Sub-metering of End Use Categories • Monitor a significant majority of the energy supply with: • An accessible energy monitoring and management system for: tenanted areas, relevant function areas or departments in single occupancy buildings. 8.3. *OR* • Separate accessible energy sub-meters with pulsed or other open protocol communication outputs for future connection to an energy monitoring and management system for: Tenanted areas, relevant function areas or departments in single occupancy buildings.
Ene 03: External lighting	One credit – External Lighting • The building has been designed to operate without the need for external lighting (which includes on the building, signs and at entrances). • OR where the building does have external lighting, one credit can be awarded where the Average initial luminous efficacy of the external light fittings is not less than 60 luminaire lumens per circuit Watt and has automatic control for prevention of operation during daylight hours.
Ene 04.1: Low carbon design: Passive design: Passive design analysis	One credit – Passive design – Passive Design Analysis • The Hea 04 criteria 1, 2 and 3bii must be demonstrated. • An analysis is carried out during RIBA stage 2 to identify opportunities for the implementation of passive design solutions that reduce the building energy demand. • The building must use passive measures to reduce the total heating, cooling, mechanical ventilation and lighting loads and energy consumption in line with the findings, and this demonstrates at least 5% reduction in the total energy demands.

Energy	Compliance Requirements Summary
Ene 04.1: Low carbon design: Passive design: Free cooling	<u>One credit – Passive Design – Free Cooling</u> • The first credit must be achieved and the passive design analysis includes analysis of free cooling, identifies opportunities for its implementation and the building uses a free cooling strategy, with consideration of the following technologies; a) Night time cooling (which could include the use of a high exposed thermal mass) b) Ground coupled air cooling c) Displacement ventilation (not linked to any active cooling system) d) Ground water cooling e) Surface water cooling f) Evaporative cooling, direct or indirect g) Desiccant dehumidification and evaporative cooling, using waste heat h) Absorption cooling, using waste heat.
Ene 04.2: Low carbon design: Low or zero carbon technologies	<u>One Credit - Low and Zero Carbon Technologies</u> • Where a feasibility study has been carried out during RIBA stage 2 to establish the most appropriate LZC source/s and these are specified in line with the recommendations of the study to supply 5% reduction in regulated CO2.
Ene 05: Energy efficient cold storage: Refrigeration energy consumption	*CREDIT(S) NOT APPLICABLE AS NO COLD STORAGE SYSTEMS ARE DUE TO BE INSTALLED*

Energy	Compliance Requirements Summary
Ene 06: Energy efficiency transport systems: Energy consumption	<u>One credit - Energy consumption</u> • For specified lifts, escalators or moving walks (transportation types): a) Analyse the transportation demand and usage patterns for the building to determine the optimum number and size of lifts, escalators or moving walks b) Calculate the energy consumption in accordance with BS EN ISO 25745 Part 2 or Part 3 for one of the following: ▪ At least two options for each transportation type (e.g. for lifts, hydraulic, traction or machine room-less (MRL)) OR ▪ At least two options considering different system arrangements and control strategies. c) Consider the use of regenerative drives, subject to the requirements in Regenerative drives d) Specify the transportation system with the lowest energy consumption. <u>One credit – Lifts (credit N/A where not present)</u> • Achieve the Ene 06 energy consumption credit • Specify the following three energy efficient features for each lift: a) A standby condition for off-peak periods b) The lift car lighting and display lighting provides an average luminous efficacy across all fittings in the car of > 70 luminaire lumens per circuit Watt c) Use of a drive controller capable of variable speed, variable-voltage, and variable-frequency (VVVF) control of the drive motor • Specify regenerative drives where their use is demonstrated to save energy. <u>One credit - Escalators or moving walks (credit N/A where not present)</u> • Achieve the Ene 06 energy consumption credit • Specify at least one of the following for each escalator or moving walk: a) A load-sensing device that synchronises motor output to passenger demand through a variable speed drive OR b) A passenger-sensing device for automated operation (auto walk), so the escalator operates in auto start mode when there is no passenger demand.
Ene 07: Energy efficient laboratory systems	*CREDIT(S) NOT APPLICABLE TO SHELL AND CORE DEVELOPMENT*
Ene 08: Energy Efficient equipment	*CREDIT(S) NOT APPLICABLE TO SHELL AND CORE DEVELOPMENT*

Transport	Compliance Requirements Summary
Tra 01: Transport assessment and travel plan	<u>Two credits – Transport assessment and Travel plan</u> • A site-specific travel assessment (undertaken no later than concept design stage) is to be completed, which covers as a minimum; a) If relevant, travel patterns and attitudes of existing building or site users towards cycling, walking and public transport, to identify relevant constraints and opportunities. b) Predicted travel patterns and transport impact of future building or site users. c) Current local environment for pedestrians and cyclists, accounting for any age-related requirements of occupants and visitors. d) Reporting of the number and type of existing accessible amenities within 500m of the site. e) Disabled access accounting for varying levels and types of disability, including visual impairment. f) Calculation of the existing public transport Accessibility Index (AI). g) Current facilities for cyclists. A site-specific travel plan should be produced that provides a long-term strategy to encourage more sustainable travel during the building's operation. If the future occupier is known, they should be involved within the development of this plan.

Transport	Compliance Requirements Summary
Tra 02: Sustainable transport measures	Up to 10 Credits • Good accessibility index (AI) • Increase of the AI through negotiation • Provision of dedicated transport services • Provision of a public transport information system • 3 kW Electric recharging stations for 10% of total car parking • Priority parking for car share • Consultation with the location authority on improvements to public walking and cycling networks • Cycle storage spaces and cyclist facilities • Existing amenities • New amenities • Other improvements recommended within the travel plan

Water	Compliance Requirements Summary
Wat 01: Water consumption	Up to five credits – Water Consumption • Use the BREEAM Wat 01 calculator to assess the efficiency of the domestic water-consuming components. • Use the standard Wat 01 method to compare the water consumption (litres/person/day) for the assessed building against a baseline performance.
Wat 02: Water monitoring	One credit – Water Monitoring • The specification of a water meter on the mains water supply to each building; this includes instances where water is supplied via a borehole or other private source. • For each meter (main and sub): a) Install a pulsed or other open protocol communication output AND b) Connect it to an appropriate utility monitoring and management system, e.g. a building management system (BMS), for the monitoring of water consumption. If there is no BMS system in operation at Post Construction stage, award credits provided that the system used enables connection when the BMS becomes operational.
Wat 03: Water leak detection: Leak detection system	One credit – Water Leak Detection Install a leak detection system capable of detecting a major water leak on the utilities water supply within the buildings, to detect any major leaks within the buildings • Additionally, a leak detection system must be installed between the buildings and the utilities water supply, to detect any major leaks between the utilities supply and the buildings under assessment. • The leak detection system is: a) Permanent automated water leak detection system that alerts the building occupants to the leak OR an inbuilt automated diagnostic procedure for detecting leaks b) Activated when 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 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 c) Able to identify different flow and therefore leakage rates, e.g. continuous, high or low level, over set time periods. Although high and low-level leakage rates are not specified, the leak detection equipment installed must have the flexibility to distinguish between different flow rates to enable it to be programmed to suit the building type and owner's or occupier's usage patterns. d) Programmable to suit the owner's or occupier's water consumption criteria e) Where applicable, designed to avoid false alarms caused by normal operation of large water consuming plant such as chillers.
Wat 03: Water leak detection: Flow control devices	One Credit – Flow Control Devices • Install flow control devices that regulate the water supply to each WC area or sanitary facility according to demand, in order to minimise undetected wastage and leaks from sanitary fittings and supply pipework.

Water	Compliance Requirements Summary
Wat 04: Water efficient equipment	<u>One credit - Water Efficient Equipment</u> • Identification of all unregulated water demands that could realistically be mitigated or reduced and systems or processes have been identified to reduce the demand which lead to a meaningful reduction. Examples include external landscaping and planting that relies solely on precipitation, during all seasons of the year.

Materials	Compliance Requirements Summary
Mat 01.1: Environmental impacts from construction products - Building life cycle assessment (LCA): Superstructure (all building types)	<u>Up to six credits – Superstructure (all building types)</u> • During the Concept Design, demonstrate the environmental performance of the building as follows: a) Carry out a building LCA on of the superstructure design using either the BREEAM Simplified Building LCA tool or an IMPACT Compliant LCA tool according to the methodology. b) Submit the Mat 01/02 Results Submission Tool to BRE at the end of Concept Design, and before planning permission is applied for (that includes external material or product specifications). • During Technical Design, the above must be resubmitted. • During concept design, complete an option appraisal identify opportunities for reducing environmental impacts as follows; a) Carry out building LCA options appraisal of 2 to 4 significantly different superstructure design options, using a building LCA tool that is recognised by BREEAM b) For each design option, fulfil the same functional requirements specified by the client and all statutory requirements (to ensure functional equivalency). c) Integrate the LCA options appraisal activity within the wider design decision-making process. Record this in an options appraisal summary document. d) Record and submit (before planning permission is applied for) the following in the Mat 01/02 Results Submission Tool: The differences between the design options; the design option selected by the client to be progressed beyond Concept Design; the reasons for selecting it and the reasons for not selecting the other design options.
Mat 01.2: Environmental impacts from construction products - Building life cycle assessment (LCA): Substructure (all building types)	<u>One credit – Substructure and Hard Landscaping Options Appraisal During Concept Design (All Building Types)</u> • Pre-requisite: The options appraisal during concept design must be completed. • During Concept Design identify opportunities for reducing environmental impacts as follows: • 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). • This must fulfill the same functional requirement specified by the client and all statutory requirements (to ensure functional equivalency), with the results integrated within the wider design decision-making process. • This must be recorded in an option appraisal summary document.
Mat 02: Environmental impacts from construction products - Environmental Product Declarations (EPD)	<u>One credit - Specification of Products with a Recognised Environmental Product Declaration (EPD)</u> • Specify construction products with EPD that achieve a total EPD points score of at least 20. • 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.

Materials	Compliance Requirements Summary
Mat 03.1: Responsible sourcing of construction products: Enabling sustainable procurement	<u>Pre-requisite - Legal and Sustainable Timber</u> • 100% of timber and timber-based products used on the project are 'Legal' and 'Sustainable' as per the UK Government's Timber Procurement Policy (TPP). <u>One credit - Enabling Sustainable Procurement</u> • A sustainable procurement plan must be used by the design team to guide specification towards sustainable construction products. The plan must: a) Be in place before Concept Design. b) Include sustainability aims, objectives and strategic targets to guide procurement activities. 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. c) Include a requirement for assessing the potential to procure construction products locally. There must be a policy to procure construction products locally where possible. d) Include details of procedures in place to check and verify the effective implementation of the sustainable procurement plan. e) In addition, if the plan is applied to several sites or adopted at an organisational level it must: f) Identify the risks and opportunities of procurement against a broad range of social, environmental and economic issues following the process set out in BS ISO 20400:2017(162).
Mat 03.2: Responsible sourcing of construction products: Measuring responsible sourcing	<u>Up to three credits - Measuring Responsible Sourcing</u> • Use the Mat 03 calculator tool and methodology to determine the number of credits achieved for the construction products specified or procured.
Mat 05: Designing for durability and resilience	<u>One credit – Designing for Durability and Resilience</u> • 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, such as; a) Negative impacts of high user numbers in relevant areas (e.g. corridors, lifts, stairs, doors etc.). b) Damage from any vehicle or trolley movements within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas. c) External building fabric damage by a vehicle. Protection where parking or maneuvering areas are within 1metre of the building façade and where delivery areas or routes are within 2m of the façade, i.e. specifying bollards or protection rails. d) Potential malicious damage to building materials and finishes, in public and common areas where appropriate. • 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: • The element or product achieving an appropriate quality or durability standard or design guide. If none are available, use BS7543:2015(164) as the default appropriate standard. *OR* • A detailed assessment of the element's resilience when exposed to the applicable material degradation • and environmental factors. • Include convenient access to the roof and façade for cost-effective cleaning, replacement and repair in the building's design. • Design the roof and façade to prevent water damage, ingress and detrimental ponding.

Materials	Compliance Requirements Summary
Mat 06: Material efficiency	<u>One credit – Material Efficiency</u> • Opportunities have been identified to optimize the use of materials in the building design, procurement, construction, maintenance and end of life by the design/construction team in consultation with relevant parties at each of the following RIBA stages: a. Preparation and Brief b. Concept Design c. Developed Design d. Technical Design e. Construction • Develop and record the implementation of material efficiency, see Table 9.15 below, during: a) Developed Design b) Technical Design c) Construction • Report the targets and actual material efficiencies achieved.

Waste	Compliance Requirements Summary
Wst 01.1: Construction waste management: Pre-Demolition Audit	<u>One Credit – Pre-demolition Audit</u> • 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 (see manual) and: a) Be carried out at Concept Design stage by a competent person prior to strip-out or demolition works b) Guide the design, consider materials for reuse and set targets for waste management c) Engage all contractors in the process of maximising high grade reuse and recycling opportunities d) Make reference to the audit in the resource management plan (RMP) e) Compare actual waste arisings and waste management routes used with those forecast and investigate significant deviations from planned targets.
Wst 01.1: Construction waste management: Construction resource efficiency	<u>Up to Three Credits - Construction Resource Efficiency</u> • A Resource Management Plan (RMP) has been developed to cover; a) Non-hazardous waste materials (from on-site construction and dedicated off-site manufacture or fabrication, including demolition and excavation waste. b) Accurate data records on waste arisings and waste management routes. • Meet or improve upon the benchmarks below for non-hazardous construction waste, excluding demolition and excavation waste. a) 1 Credit: ≤13.3m3 or ≤11.1 tonnes b) 2 Credits: ≤7.5m3 or ≤6.5 tonnes c) 3 Credits: ≤3.4m3 or ≤3.2 tonnes
Wst 01.3: Construction waste management: Diversion of resources from landfill	<u>One credit - Diversion of Resources from Landfill</u> • Where the following percentages of non-hazardous construction waste and excavation waste have been diverted from landfill: a) Non demolition: 70% volume or 80% tonnage b) Demolition: 80% volume or 90% tonnage

Waste	Compliance Requirements Summary
Wst 02: Use of recycled and sustainably sourced aggregates	<u>One credit – Use of Recycled and Sustainably Sourced Aggregates</u> • Pre-requisite: 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. • Identify all aggregate uses and types on the project • Determine the quantity in tonnes for each identified use and aggregate type. • Identify the region in which the aggregate source is located. • Calculate the distance in kilometres travelled by all aggregates by transport type. • Enter the information into the BREEAM Wst 02 calculator to calculate the Project Sustainable Aggregate points.
Wst 03: Operational waste	<u>One credit - Operational Waste</u> • Dedicated space(s) is provided for the segregation and storage of operational recyclable waste volumes generated by the assessed building/unit, its occupant(s) and activities. • Where the consistent generation in volume of the appropriate operational waste streams is likely to exist, e.g. large amounts of packaging or compostable waste generated by the building's use and operation, the further compliant facilities are provided.
Wst 04: Speculative floor and ceiling finishes	*CREDIT(S) ONLY APPLICABLE TO OFFICE BUILDING ASSESSMENTS*
Wst 05: Adaptation to climate change	<u>One credit - Structural and Fabric Resilience</u> • Conduct a climate change adaptation strategy appraisal for structural and fabric resilience by the end of Concept Design (RIBA Stage 2 or equivalent), in accordance with the following approach: • Carry out a systematic risk assessment to identify and evaluate the impact on the building over its projected life cycle from expected extreme weather conditions arising from climate change and, where feasible, mitigate against these impacts. The assessment should cover the following stages: i. Hazard identification ii. Hazard assessment iii. Risk estimation iv. Risk evaluation v. Risk management. • Develop recommendations or solutions based on the climate change adaptation strategy appraisal, before or during Concept Design, that aim to mitigate the identified impact. • Provide an update during Technical Design demonstrating how the recommendations or solutions proposed at Concept Design have been implemented where practical and cost effective.
Wst 06.1: Functional adaptability: Recommendations	<u>One credit - Functional Adaptability Recommendations</u> • Where a building specific functional adaptation strategy has been undertaken by RIBA stage 2 which includes recommendations for measures to be incorporated to facilitate future adaption which are then implemented (by RIBA stage 4). The strategy must consider: a. Potential for major refurbishment b. Design aspects that facilitate plant replacement c. Degree of adaptability of internal environment to accommodate changes in working practices d. Degree of adaptability of the internal physical space and external shell to accommodate change in use e. The extent of accessibility to local services (power/data) • Develop recommendations or solutions based on the study that aim to enable and facilitate disassembly and functional adaptation.

Waste	Compliance Requirements Summary
Wst 06.2: Functional adaptability: Implementation	<u>One credit - Functional Adaptability Implementation</u> • Provide an update, during Technical Design, on how the recommendations or solutions proposed by Concept Design have been implemented where practical and cost effective. Omissions have been justified inwriting to the assessor. • Changes to the recommendations and solutions during the development of the Technical Design must be specified. • A building adaptability and disassembly guide must be produced to communicate the characteristics allowing functional adaptability and disassembly to prospective tenants.

Land Use & Ecology	Compliance Requirements Summary
LE 01.1: Site selection: Previously occupied land	<u>One credit – Previously Occupied Land</u> • Where it is demonstrated that at least 75% of the proposed development is on an area of previously developed land.
LE 01.2: Site selection: Contaminated land	<u>One credit – Contaminated land</u> • Where a contaminated land specialist's report deems the site to be affected by contamination; with the type of contamination specified, the degree of contamination and the options for remediation. • The client or principal contractor confirms that remediation will be carried out in accordance with the recommended remediation strategy.
LE 02: Ecological risks and opportunities	<u>One Credit – Survey and Evaluation</u> • A Suitably Qualified Ecologist (SQE) carries out a survey and evaluation (see Methodology) for the site early enough to influence site preparation works, layout and, where necessary, strategic planning decisions. • The SQE's survey and evaluation determines the site's ecological baseline (see Definitions), including: a) Current and potential ecological value and condition of the site and related areas within the Zone of Influence. b) Direct and indirect risks to current ecological value from the project. c) Capacity and feasibility for enhancement of the site's ecological value and, where relevant, areas within the Zone of Influence. • Recommendations and data collected from the survey and evaluation are shared with appropriate project team members to influence decisions made for activities during site preparation, design and construction works, which can support ecological features. <u>One Credit – Determining Ecological Outcomes</u> • The survey and evaluation must cover, at minimum, the following; a) Avoidance b) Protection c) Reduction or limitation of negative impacts d) On site compensation and e) Enhancement, considering the capacity and feasibility within the site, or where viable, offsite. • The project team liaise and collaborate with representative stakeholders early enough to influence key planning decisions (typically Concept Design stage) to; a) Identify the optimal ecological outcomes for the site. Identify, appraise and select measures to meet the optimal ecological outcomes for the site, in line with the mitigation hierarchy of action.

Land Use & Ecology	Compliance Requirements Summary
LE 03.1: Managing impacts on ecology: Planning and measures on site	<u>One Credit – Planning and Measures on Site</u> • LE 02 must be achieved as a pre-requisite to inform the following. • Further planning to avoid and manage negative ecological impacts on-site is carried out early enough to influence the concept design and design brief as well as site preparation planning (typically Concept Design stage). • On-site measures for managing negative ecological impacts during site preparation and construction are implemented in-practice (e.g. mitigation measures to protect existing ecological features).
LE 03.2: Managing impacts on ecology: Managing negative impacts	<u>Up to two credits – Managing Negative Impacts</u> • The previous credit must be achieved as a pre-requisite. • Negative impacts from site preparation and construction works have been managed according to the mitigation hierarchy, in line with the SQE's recommendations and, either: a) No overall loss of (see Definitions) ecological value has occurred – two credits. b) The loss of ecological value has been minimised - one credit.
LE 04.1: Ecological change and enhancement: Ecological enhancement	<u>One credit – Ecological Enhancement</u> • Measures must be implemented that enhance ecological value, which are based on input from the project team and SQE in collaboration with representative stakeholders and data collated as part of the 'Determining ecological outcomes' in LE02. Measures are implemented in the following order: a) On site, and where this is not feasible. b) Off site within the Zone of Influence. • Data collated are analysed and where potentially valuable, provided to the local environmental records centres nearest to, or relevant for, the site.
LE 04.2: Ecological change and enhancement: Change and enhancement of ecology	<u>Up to three credits – Change and Enhancement of Ecology</u> • Up to three credits are awarded based on 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.

Land Use & Ecology	Compliance Requirements Summary
LE 05: Long term ecological management and maintenance	Prerequisite - Statutory Obligations, Planning and Site Implementation • The client or contractor has confirmed that compliance is being monitored against all relevant UK, EU and international standards relating to the ecology of the site. • The following must be achieved, according to the route being assessed: a) Foundation route (Route 1) - Criterion 6 in LE 03 has been achieved. b) Comprehensive route (Route 2) - Criterion 8 in LE 03 has been achieved, and at least one credit under LE 04 for 'Change and Enhancement of Ecology' has been awarded. One credit - Management and Maintenance Throughout the Project– Foundation and Comprehensive Routes (Route 1 And Route 2) • Measures have been implemented to manage and maintain ecology throughout the project. These measures are based on input from the project team in collaboration with representative stakeholders and data collated as part of LE02: Determining ecological outcomes'. • To ensure the optimal ecological outcomes agreed in LE 02 are met in-practice, these measures must monitor and review the effectiveness of the mitigation and enhancement measures in place for LE 03 & LE 04 to ensure they are implemented. • A section on Ecology and Biodiversity has been included as part of the tenant or building owner information supplied, to inform the owner or occupant of local ecological features, value and biodiversity on or near the site. • This should include detailed management and maintenance plans as required by landscape and asset managers as well as relevant parts of the handover information for occupiers written in a format that encourages understanding and supportive behaviours. One credit - Landscape and Ecology Management Plan • A Landscape and Ecology Management Plan, or equivalent, has been developed in accordance with BS 42020:2013 Section 11.1(205) covering at least the first five years after project completion as a minimum and including: a) Actions and responsibilities of relevant individuals prior to handover b) The ecological value and condition of the site at handover and how this is expected to develop and change over time c) Identification of opportunities for ongoing alignment with activities beyond the development project, which support the aims of BREEAM's Strategic Ecology Framework d) Identification and guidance to trigger appropriate remedial actions to address previously unforeseen impacts e) Clearly defined and allocated roles and responsibilities for delivering the plan • The landscape and management plan or similar will be updated to support maintenance of the ecological value of the site.

Pollution	Compliance Requirements Summary
Pol 01: Impact of refrigerants	Three credits – No Refrigerant Use • No refrigerant use within the installed plant or systems. Pre-requisite • All systems with electric compressors comply with the requirements of BS EN378:2016(207). Refrigeration systems containing ammonia comply with the Institute of Refrigeration Ammonia Refrigeration Systems code of practice. Impact of Refrigerant • Two credits - The direct effect life cycle CO_2 equivalent emissions (DELC) of ≤100 CO_2-eq/kW. For systems which provide cooling and heating, the worst performing output based on the lower of kW cooling output and kW heating output is used to complete the calculation. 8.4. *OR* • All refrigerants used have a global warming potential (GWP) ≤10. 8.5. *OR* • One credit - Systems using refrigerants have a DELC of ≤1000kgCO_2-eq/kW cooling and heating capacity.

Pollution	Compliance Requirements Summary
Pol 01.2: Impacts of refrigerants: Leak detection	<u>One credit - Leak Detection</u> • All systems are hermetically sealed or only use environmentally benign refrigerants. 8.6. *OR* • Where the systems are not hermetically sealed, systems have; a) A permanent automated refrigerant leak detection system, that is robust and tested, and capable of continuously monitoring for leaks. 8.7. *OR* b) An inbuilt automated diagnostic procedure for detecting leakage is enabled.
Pol 02: Local air quality	<u>Up to Two Credits – Local Air Quality</u> • All heating and hot water is supplied by non-combustion systems. For example, only powered by electricity. 8.8. *OR* • Emissions from all installed combustion plant that provide space heating and domestic hot water do not exceed the levels set in the manual.
Pol 03.1: Flood and surface water management: Flood resilience	<u>Up to Two Credits – Flood Resilience</u> • A site-specific flood risk assessment (FRA) must be provided confirming the flood zone and flood risk from all sources, with either; • Two credits – Low flood risk: The FRA confirms the development is in a flood zone that is defined as having a low annual probability of flooding. • One credit – Medium or high flood risk: The FRA confirms the development is in a flood zone that is defined as having a low annual probability of flooding. To increase resilience to flooding, one of the following must be achieved; a) The ground level of the building and access to both the building and the site, are designed so they are at least 600 mm above the design flood level of the site's flood zone. b) The final design of the building and the wider site reflects the recommendations made by an appropriate consultant in accordance with the hierarchy approach.
Pol 03.2: Flood and surface water management: Surface water run-off (Rate)	<u>One Credit – Surface Water Run-Off (Rate)</u> • Where drainage measures are specified to ensure that the peak rate of run-off from the site to watercourse is no greater for the developed site than it was for the pre-development site, complying with the 1 year and 100-year return periods and provide an allowance for climate change. • In addition, relevant maintenance agreements for the ownership, long term operation and maintenance of all SuDs are in place.
Pol 03.2: Surface water run-off: Surface water run-off (Volume)	<u>One Credit – Surface Water Run-Off (Volume)</u> • Where flooding of property will not occur in the event of local drainage system failure and either: a) Drainage measures are specified to ensure the post development run-off volume, over the development lifetime, is not greater than it would have been prior to development for 100year 6-hour event, with allowance for climate change; or where this cannot be achieved b) Justification why the above cannot be achieved (i.e. where infiltration or SuDs not viable and drainage design measures are specified to ensure post development peak rate or run-off is reduced to the limiting discharge (highest of: predevelopment 1-year peak flow, mean annual flow rate Qbar or 2L/s/ha). This must include allowance for climate change.
Pol 03.3: Surface water run-off: Minimising water course pollution	<u>One Credit - Minimising Watercourse Pollution</u> • Where there is no discharge from the developed site for rainfall up to 5mm. • In areas of low risk of watercourse pollution appropriate level of SuDs are used • In areas of high risk of watercourse pollution separators are installed in surface water drainage systems. • Any chemical store must have a means of containment (i.e. shutoff valves). • All water pollution prevention systems must be designed and installed in accordance with Pollution Prevention Guideline (PPG) 3 and the SuDs manual where applicable. Vehicle wash systems must meet PPG13. • Drainage plans will be made available to occupiers and maintenance agreements for the ownership, long term operation and maintenance of all SuDs must be in place. • Any external storage and delivery areas must be designed and detailed in accordance with current best practice planning guidance.

Pollution	Compliance Requirements Summary
Pol 04: Reduction of night time light pollution	<u>One Credit – Reduction Of Night Time Light Pollution</u> • 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* • External Lighting is designed in compliance with Table 2 of the ILP Guidance notes for the reduction of obtrusive light 2011, with the exception of safety and security lighting, can be switched off between 23:00 and 07:00. • Where illuminated advertisements are designed in compliance with the ILE Technical report 5 – The Brightness of Illuminated Advertisements.
Pol 05: Reduction of noise pollution	<u>One Credit – Reduction of Noise Pollution</u> • There are no noise-sensitive areas within the assessed building or within 800 m radius of the assessed site. *OR* • 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[223] is commissioned. Noise levels must be measured or determined for: a) Existing background noise levels: at the nearest or most exposed noise-sensitive development to the proposed assessed site. This includes existing plant on a building, where the assessed development is an extension to the building. b) Noise rating 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, must be at least 5dB lower than the background noise throughout the day and night. • If the noise sources from the assessed building are greater than the levels described in criterion 4, measures have been installed to attenuate the noise at its source to a level where it will comply with the criterion.

Innovation	Compliance Requirements Summary
Inn 01: Innovation	• When an innovative product/service is used in the project and an application is made to the BRE.
Man 03: Responsible construction practices	• CCS Score of 40 or more.
Hea 01: Visual comfort	• Daylighting criteria in excess of that described under Hea 01.
Hea 02: Indoor air quality	• Air quality criteria in excess of that described under Hea 02.
Ene 01: Reduction of energy use and carbon emissions	• Exemplary reduction of energy and CO2 consumption.
Wat 01: Water consumption	• Exemplary reduction of water use in line with Wat 01 requirements.

Innovation	Compliance Requirements Summary
Mat 01: Life cycle impacts	• Exemplary levels of materials rated A or A+ from The Green Guide described in Mat 01.
Mat 03: Responsible sourcing of materials	• Available for the responsible sourcing of materials e.g. FSC, PEFC, BES6001, ISO14001, CARES SCS (steel).
Wst 01: Construction site waste management	• Where the construction waste resource efficiency meets ≤1.6 m3 or ≤1.9 tonnes waste per 100m2 gross internal floor area and where the following percentages of non-hazardous construction waste and excavation waste have been diverted from landfill: a. Non demolition: 85% volume or 90% tonnage b. Demolition: 85% volume or 95% tonnage c. Excavation: 95% volume or 95% tonnage
Wst 02: Use of recycled and sustainably sourced aggregates	• Where high grade aggregate meets minimum levels (by weight and volume) that are recycled or secondary aggregate: a. Structural frame – 30% b. Bitumen or hydraulically bound base, binder, and surface courses for paved areas and roads – 75% c. Building foundations – 35% d. Concrete road surfaces – 45% e. Pipe bedding – 100% f. Granular fill and capping – 100% • Where the total amount of recycled or secondary aggregate specified is greater than 35% (by weight or volume) of the total high-grade aggregate specified for the project and is sourced from within 30km by road transport.
Wst 05: Adaptation to climate change	• Awarded where the following credits are achieved: a. Wst 05 – Adaption to Climate Change b. Hea 04 – Thermal Comfort c. Ene 01 – Reduction of Energy Use & Carbon Emissions (8 credits) d. Ene 04 – Low Carbon Design (Passive Design Analysis) e. Wat 01 – Water Consumption (3 credits) f. Mat 05 – Designing for Durability and Resilience (Material degradation issue) g. Pol 03 – Flood Risk (1 credit), Surface Water Runoff (2 credits)
LE02 Ecological risks and opportunities	• Wider sustainability related activities and potential ecosystem service benefits are considered as part of determining the optimal ecological outcomes for the site (criterion 7), including the areas outlined in the Methodology below. o Achieve the credits of the assessment issues outlined below: o Hea 07 Safe and healthy surroundings- Both credits o Pol 03 Flood and surface water management - Achieve credits for 'Surface water run-off' and 'Minimising watercourse pollution' o Pol 05 Reduction of noise pollution
LE04 Ecological change and enhancement	• To achieve one exemplary performance credit: The change in ecological value calculated under criterion 6 above confirms significant net gain has been achieved asset out in GN36 - BREEAM, CEEQUAL and HQM Ecology Calculation Methodology.