

BREEAM v6.1 NC Pre-Assessment Report

Hampton Wick Royal Cricket Club Re-build

Bushy Park

Surrey

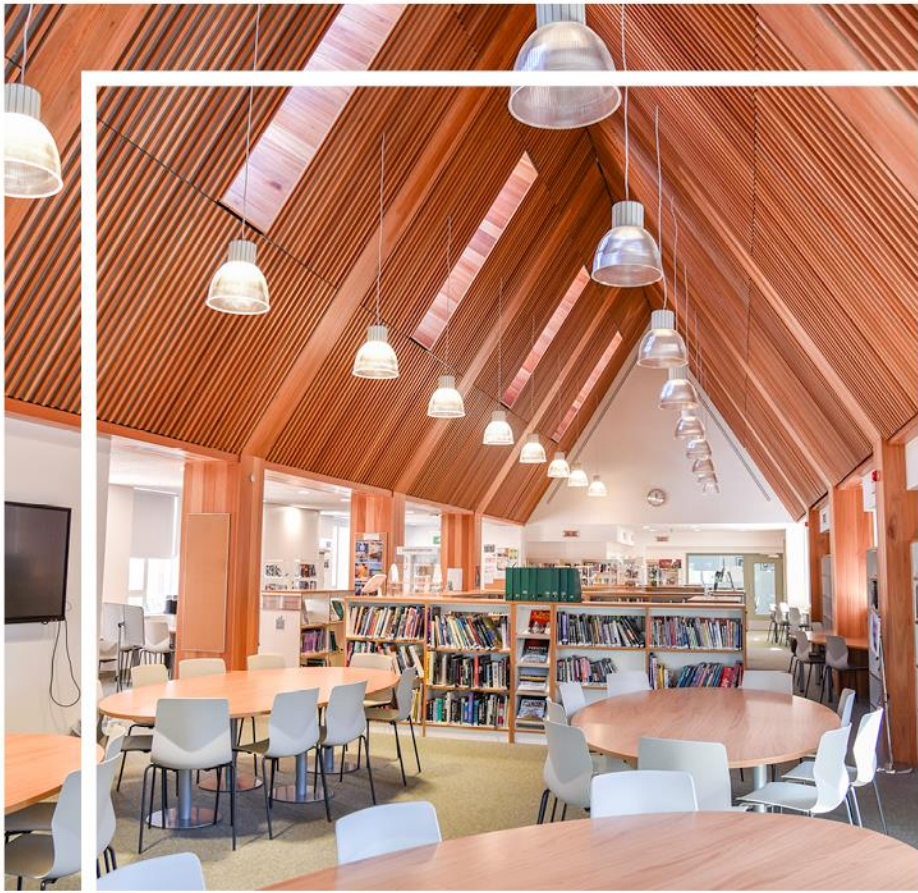
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1. Executive Summary

Hilson Moran has been commissioned Hampton Wick Royal Cricket Club (the Applicant) to provide BREEAM assessment services for the proposed redevelopment of Hampton Wick Royal Cricket Club, post fire in September 2023. The Primarily Non-Residential development (including demolition) of the Hampton Wick Royal Cricket Club site which includes the club pavilion (Class D2) and its car park.

The Hampton Wick Royal Cricket Club site is located in the heart of Bushy Park within the London Borough of Richmond upon Thames. The development is to align with the Royal Parks and Hampton Wick Royal Cricket Club’s sustainability strategy across the full spectrum of environmental, social and governance measures.

This report forms the basis of a strategy for the development to achieve the following:

A ‘Good’ rating under the BREEAM UK New Construction v6.1 (SD5079) Scheme for a Shell & Core assessment for leisure category.

Hilson Moran Sustainability team met with the design team on 26 April 2024 over video conference to undertake the BREEAM Pre-Assessment workshop. Following the BREEAM Pre-Assessment workshop the targeted score for **Hampton Wick Royal Cricket Club** is **48.5%**, which equates to a ‘Good’ (>45%) rating with all mandatory rating criteria targeted.

Achieving all the credits considered to be targeted and the Potential credits would result in a final BREEAM score of **60.7%** and a final rating of ‘**Very Good**’.

It is recommended that some of the additional potential credits (e.g., Tra01 and Tra02) be targeted to provide more security in achieving ‘Good’ final rating with a buffer of +3/5%.

It is the design team’s responsibility to ensure that compliant evidence is provided for all relevant BREEAM criteria, in the format prescribed. This will enable the assessor to submit the evidence for a quality assurance review by the BRE prior to issue of a certificate.

Targeted: credits that are achievable based on the current design strategy.

Potential: additional credits to take in account which can be achieved by having minor improvements on the current scheme without significant cost impact.

Difficult: credits to be taken in account if required. These may have substantial impact on the project cost.

BREEAM v6.1 Scheme	Targeted	Potential
Expected BREEAM Score	48.5%	73.7%
Expected BREEAM Rating	Good	Excellent

BREEAM v6.1 Scheme	Credits Available	Targeted	Potential	Difficult	U
Management	21	12	3	3	3
Health & wellbeing	18	4	8	5	1
Energy	23	12	5	2	4
Transport	12	0	0	6	6
Water	8	4	0	0	3
Materials	14	5	0	0	9
Waste	10	6	0	0	4
Land use and ecology	13	12	0	0	1
Pollution	12	8	0	2	2
Innovation	10	1	1	0	8
Total	141	64	17	18	41
Final Weighted Score		48.5%	60.7%	73.8%	110.0%
Predicted BREEAM Rating		Good	Very Good	Excellent	Outstanding

Table 1 BREEAM v6.1 credit summary

2. Introduction

2.1. Background

Hilson Moran has been commissioned Hampton Wick Royal Cricket Club (the Applicant) to provide BREEAM assessment services for the proposed redevelopment of Hampton Wick Royal Cricket Club, post fire in September 2023. The Primarily Non-Residential development (including demolition) of the Hampton Wick Royal Cricket Club site which includes the club pavilion (Class D2) and its car park.

The Hampton Wick Royal Cricket Club site is located in the heart of Bushy Park within the London Borough of Richmond upon Thames. The development is to align with the Royal Parks and Hampton Wick Royal Cricket Club’s sustainability strategy across the full spectrum of environmental, social and governance measures.

At this stage the proposals encompass:

“Following the current demolition, the redevelopment will provide a new pavilion building for leisure within use class D2. The first floor will feature flexible space to be used as a function space within Class D2 and/or Sui Generis. Additionally, the development will include communal spaces, private hire

areas, plant rooms, cycle and blue badge parking, refuse/recycling storage, access improvements, and other works.”

As part of this role Hilson Moran has prepared a strategy to enable the proposed leisure developments to achieve a ‘Good’ rating based on the New Construction Scheme v6.1 as it fully covers the Stage 2 requirements of all scheme options being considered.

2.2. Purpose

This document is intended to inform, and provide the basis for, detailed discussions regarding the current design proposals and the credits to be targeted to achieve the desired BREEAM rating for the building. All information contained within this document is based on the BREEAM New Construction v6.1 scheme.

A credit summary is listed in Section 4.2 for initial guidance. It is the responsibility of the design team to provide the assessor with the appropriate evidence to demonstrate compliance with the credit criteria.

2.3. BREEAM New Construction v6.1

The BREEAM UK New Construction v6.1 scheme can be used to assess the environmental life cycle impacts of new non-domestic buildings at the design and construction stages. ‘New Construction’ is defined as development that results in a new standalone structure, or new extension to an existing structure, which will come into operation or use for the first time upon completion of the works.

This BREEAM UK New Construction v6.1 scheme version is applicable to new non-domestic buildings in the United Kingdom only.

Buildings that are not fully fitted out, are referred to as shell only (generally no services installed as part of base build) or shell and core (generally with services installed as part of the base build) buildings under BREEAM NC v6.1 and can be assessed using the BREEAM UK New Construction scheme. Full Cat A projects, where areas of the development are not fully fitted, must demonstrate performance of the building and compliance with BREEAM criteria based on the developer’s scope of works. However, to allow for comparable buildings where CAT A works are undertaken (ceilings, HVAC, floors etc.), for the purpose of BREEAM, issues not included within the chosen option (shell only or shell and core) will be excluded from the assessment, even where they are within the developer’s scope of works.

A shell and core building project is defined as one where the developer’s scope of works is the design and construction of the base building only, leaving a range of construction and fit out works to be completed before the building is able to be occupied. This may include some or all of the following elements: the structure, building envelope, core building systems including building servicing strategy and installations (such as HVAC) or plant support for installation of such systems and where present, fit-out of common areas. Upon completion, the whole building or space within the building is sold or let to be fitted out as appropriate for occupation. The new owner(s) or tenant(s) will fit-out the building’s accommodation in accordance with their corporate and operational needs which could include designing and installing fit out works to BREEAM NC v6.1 standards.

In projects where areas of the development are not fully fitted, performance of the building and compliance with BREEAM is verified based on the developer’s scope of works only. This performance is measured using two standard project type options (shell only or shell and core) that in turn define appropriate assessment criteria applicable to that project type. Whilst some projects will differ to some extent from the scope of these standard options, for the purpose of BREEAM, issues not included within the chosen option will be excluded from the assessment, even where they are within the Developer’s scope of works. This approach is necessary to ensure clarity, consistency, and comparability within the property market.

The BREEAM v6.1 scheme requires a green lease agreement for Ene01. Ene 01 has the option for a contractually agreed Green Fit-out Agreement to allow the required energy rating for Good to be achieved. Without it the minimum standards in the Part L 2021 design guide must be used, thus making achieving the minimum energy standards for Good difficult.

2.4. Recent Workshops

Hilson Moran Sustainability team met with the project team on 26 April 2024 over video conference to review the current design and to set out a strategy to achieve the BREEAM New Construction v6.1 targeted rating. The workshop was attended by:

Name	Company	Job Role
Surinder Jandor	Aros	Associate
Simon Cole	Aros	Associate
Fiona Batha	Hilson Moran	Associate Director/BREEAM AP
Molly Behling	Hilson Moran	Graduate Design Engineer
Alessandro Cirillo	Hilson Moran	Sustainability Consultant

Table 2: BREEAM workshop attendees

Note: Key design team meetings and an early-stage workshop with the Aross should be attended by the BREEAM AP.

3. BREEAM NC v6.1 Early-Stage Credits

The table below summarises the credits in BREEAM v6.1 scheme that have an early-stage requirement. The design team should ensure the requirements at the relevant stage are met to ensure credits are not lost as the design progresses. The scope of the project requires that these early-stage credits be targeted to achieve the desired rating of good. The document highlights in green the targeted stage 2 credits.

It is recommended that the travel plan be undertaken alongside the travel assessment that has been appointed. This will secure a number of additional credits, reducing the risk of not achieving good at the end of the project.

Credit Code	Credit Title	Credits Available	Action Lead	Lead Support	Stage	Requirements	
MAN 01	Credit 1	Project delivery planning	1	Project Manager	Design Team	Stage 2	Not Targeted Roles and responsibilities of all project team members to be defined during Stage 2. Report to be produced by end of Stage 2
	Credit 2	Stakeholder consultation (interested parties)	1	-	-	Stage 2	Not Targeted Third party consultation will not be undertaken.
	Credit 3 Pre-req.	Performance targets formally agreed: Pre-requisite	-	Project Manager	Design Team	Stage 2	Not Targeted BREEAM target to be formally agreed during Stage 2.
	Credit 3	BREEAM Advisory Professional credit (Concept Design)	1	BREEAM AP	Sustainability Champion	Stage 2	Not Targeted BREEAM Advisory Professional to be appointed. AP attends a number of stage 2 DTMs.
MAN 02	Credits 1-2	Elemental life cycle cost (LCC)	2	Project Manager/Cost consultant	Aros	Stage 2	Not Targeted Elemental LCC Study to include a number of design options. Dialogue required between LCC & LCA assessors to align optioneering for Mat 01. Aros to confirm. Report to be produced by end of Stage 2
HEA 02	Pre-req.	Indoor air quality plan: Pre-requisite	-	-	-	Stage 2	Not Targeted Air quality plan will not be undertaken
HEA 06	Credit 1	Security of site and building	1	-	-	Stage 2	Not Targeted Security Needs Assessment will not be undertaken.
ENE 04	Credit 1	Passive design (<i>hea 04 should be achieved</i>)	1	Hilson Moran?TBC	Aros	Stage 2	Not Targeted Passive design analysis to be confirmed.
	Credit 2	Free Cooling (<i>Credit 1 Passive design must be achieved</i>)	1	Hilson Moran?TBC	Aros	-	To be discussed

Credit Code	Credit Title		Credits Available	Action Lead	Lead Support	Stage	Requirements
	Credit 3	Low zero carbon (LZC) feasibility study	1	Hilson Moran	Aros	Stage 2	HM has been appointed to undertake this as part of the planning submission
TRA 01	Credit 1 & 2	Transport assessment and travel plan	2	Velocity TP	Aros	Stage 2	<p>Not Targeted</p> <p>It is recommended that this credit be targeted as the assessment is being completed by Velocity. If the scope could include the travel plan the targeted rating will be easier to achieve.</p> <p>BREEAM compliant travel assessment and transport plan. Transport consultant to confirm.</p> <p>Report to be produced by end of Stage 2</p>
TRA 02	Credit 1	Sustainable transport measures	10	Velocity TP	Aros	Stage 2	<p>Not Targeted</p> <p>Unable to achieve as TRA 01 has not been appointed. Transport measures to be finalised based on AI score and client requirements. Transport consultant to confirm.</p>
MAT 01	Credit 1 to 6	Life cycle impacts - Superstructure	6	LCA assessor	Aros	Stage 2	<p>Not Targeted</p> <p>Embodied carbon studies to be undertaken on the superstructure to demonstrate its environmental performance and identify opportunities for reducing environmental impacts. Aros to confirm.</p> <p>Report to be produced by end of Stage 2</p>
	Credit 7	Life cycle impacts - Substructure and hard landscaping	1	LCA assessor	Aros	Stage 2	<p>Not Targeted</p> <p>Report to be produced by end of Stage 2</p>
	EXE Credit	LCA and LCC alignment	1	LCA assessor	Aros	Stage 2	<p>Not Targeted</p>
	EXE Credit	Third party verification	1	LCA assessor	Aros	Stage 2	<p>Not Targeted</p>
MAT 03	Pre-req.	Legally harvested and traded timber: Pre-requisite	-	Principal Contractor	-	-	All timber to be legally harvested and traded. To be included in the contractor's requirements.
	Credit 1	Enabling Sustainable procurement plan	1	Aros/PM	-	Stage 2	Sustainable procurement plan to be developed. Aros to confirm. Report to be produced by end of Stage 2

Credit Code	Credit Title	Credits Available	Action Lead	Lead Support	Stage	Requirements
MAT 06	Credit 1 Material efficiency	1	Aros	Hilson Moran	Stage 1	Requires input from Stage 1. Report is required detailing the ME considerations at each stage. Materials efficiency opportunities to be identified and documented during each RIBA stage. Aros to confirm. Report to be produced by end of Stage 2
WST 01	Credit 1 Pre-demolition/refurbishment audit	1			Stage 2	A pre-demolition audit will not be undertaken.
WST 05	Credit 1 Adaptation to climate change - Structural and fabric resilience	1	Aros	-	Stage 2	Study required during Stage 2 to identify risks to the building from climate change and identification of measures to mitigate these risks. Aros to confirm. Report to be produced by end of Stage 2
WST 06	Credit 1 Design for disassembly and functional adaptability - recommendations	1	Aros	-	Stage 2	The Aros should produce this as a summary. Study required during Stage 2 to identify features that can make the building more adaptable and how to allow disassembly at end of life. Aros to confirm.
LE02	Credit 1 Survey and evaluation	1	LUC	-	Stage 1	<i>LUC have been appointed to complete the ecology survey and report. Note: If Route 1 is selected, only 1 out of 2 credits can be achieved.</i> Report to be produced by end of Stage 2
	Credit 2 Determining the Ecological outcomes for the site - credit not available to route 1	1	LUC	-	Stage 2	
LE03	Credit 1 Planning, liaison, implementation, and data	1	LUC	-	Stage 2	<i>LUC have been appointed to complete the ecology survey and report.</i> Report to be produced by end of Stage 2

Table 3 Early-stage credits

4. Initial Assessment against BREEAM New Construction v6.1 Criteria

4.1. BREEAM v6.1 New Construction Minimum Standards

The development is targeting a BREEAM Good rating for the fully fitted Pavilion

BREEAM New Construction v6.1 Minimum Standards.

BREEAM Credit	Percentage required and number credits required to meet minimum standards				
	Pass ≥30 - <45%	Good ≥45 - <55%	Very Good ≥55 - <70%	Excellent ≥70 - <85%	Outstanding ≥85%
Man 03 - Responsible construction practices	-	-	-	One credit (Responsible construction management)	Two credits (Responsible construction management)
Man 04 - Commissioning and handover (NA Shell only)	-	-	1 credit (Commissioning – test schedule and responsibilities)	1 credit (Commissioning – test schedule and responsibilities)	1 credit (Commissioning – test schedule and responsibilities)
Man 04 - Commissioning and handover (NA Shell only)	-	-	Building User Guide	Building User Guide	Building User Guide
Man 05 - Aftercare (NA shell and core or Shell only)	-	-	-	1 credit Commissioning implementation	1 credit Commissioning implementation
Ene 01 - Reduction of Energy Use and CO ₂ Emissions	-	-	-	4 credits Energy performance	6 credits Energy performance 4 credits Energy modelling and reporting
Ene 02 - Energy Monitoring (NA Shell only)	-	-	1 credit First sub-metering credit	1 credit First sub-metering credit	1 credit First sub-metering credit
Wat 01 - Water Consumption (NA Shell only)	-	1 credit	1 credit	1 credit	2 credit
Wat 02 - Water Monitoring	-	Criterion 1 Mains water meter	Criterion 1 Mains water meter	Criterion 1 Mains water meter	Criterion 1 Mains water meter

BREEAM Credit	Percentage required and number credits required to meet minimum standards				
	Pass ≥30 - <45%	Good ≥45 - <55%	Very Good ≥55 - <70%	Excellent ≥70 - <85%	Outstanding ≥85%
Mat 03 - Responsible Sourcing	Criterion 1 Legally harvested and traded timber	Criterion 1 Legally harvested and traded timber	Criterion 1 Legally harvested and traded timber	Criterion 1 Legally harvested and traded timber	Criterion 1 Legally harvested and traded timber
Wst 01 - Construction Waste Management	-	-	-	-	1 credit
Wst 03 - Operational Waste	-	-	-	1 credit	1 credit

Table 4 Minimum standards for BREEAM New Construction v6.1 scheme

4.2. Pre-Assessment: Summary Credit List

The following table summarises the status of each credit and provides the RIBA Stage 2 assessment score and rating.

All credits in the 'Green' column are targeted and are included into the Stage 2 design. The credits in the 'Yellow' column will need to be monitored closely as they could be affected by the RIBA Stage 3 and 4 design.

The design team should be aware that above score is subject to change:

- The input from ecologist on the most appropriate route for the assessment. Current targeted credits are based on Route 2. If Route 1 is chosen some of 'Potential' credits might be needed.

Targeted (T)
Potential (P)
Difficult (D)
Unachievable (U)
Mandatory credits for the targeted rating
pre-requisite credits

Additional credits to take in account which can be achieved by having minor improvements on the current scheme without significant cost impact.

Credits to be taken in account if required. These may have substantial impact on the project cost.

EXE - Exemplary credit worth 1%

Credit Code	Credit Title	Credits Available	Rating				Responsibility		Stage	Comments
			T	P	D	U	Action Lead	Support Role		
MANAGEMENT			credit weight = 0.52%							
MAN 01	Credit 1	Project delivery planning	1	1			Project Manager	Design Team	Stage 2	Roles and responsibilities of all project team members to be defined during Stage 2.
	Credit 2	Stakeholder consultation (interested parties)	1			1	-	-	Stage 2	-
	Credit 3 Pre-req.	Performance targets formally agreed: Pre-requisite	-	Yes				Project Manager	Design Team	Stage 2

Credit Code		Credit Title	Credits Available	T	P	D	U	Responsibility		Stage	Comments
								Action Lead	Support Role		
	Credit 3	BREEAM Advisory Professional credit (Concept Design)	1		1			BREEAM AP	Sustainability Champion	Stage 2	BREEAM Advisory Professional to be appointed. AP attends a number of stage 2 DTMs.
	Credit 4	BREEAM Advisory Professional credits (Developed Design)	1		1			BREEAM AP	Sustainability Champion	Stage 4	BREEAM AP role to be fulfilled with ongoing input throughout developed design stage.
MAN 02	Credits 1-2	Elemental life cycle cost (LCC)	2			2		Project Manager/Cost consultant	Aros	Stage 2	Elemental LCC Study to include a number of design options Dialogue required between LCC & LCA assessors to align optioneering for Mat 01.
	Credit 3	Component level LCC Plan - Options appraisal	1			1		Cost Consultant	-	Stage 4	Component level LCC plan produced at Stage 4, and used to influence the design.
	Credit 4	Capital cost reporting	1	1				Cost Consultant	-	-	The capital cost of the project will be reported.
MAN 03	Pre-req.	Timber: Pre-requisite	-	Yes				Principal Contractor	-	-	All timber to be legal and sustainable. To be included in the contractor's requirements.
	Credit 1	Environmental management	1	1				Principal Contractor	-	-	Contractor to have ISO14001 accreditation. Best practice pollution prevention policies and procedures on site in accordance with PPG6 Guidelines. To be included in the contractor's requirements.
	Credit 2 Pre-req.	Performance targets formally agreed with contractor: Pre-requisite	-	Yes				Project Manager	-	-	BREEAM targeted to be contractually agreed.
	Credit 2	BREEAM AP (site)	1	1				Principal Contractor	-	-	Contractor to have a site based BREEAM AP. To be included in the contractor's requirements.
	Credit 3-4	Responsible construction management	2	2				Principal Contractor	-	-	Contractor to achieve the items highlighted on the Responsible Construction Management checklist, (plus 6 additional items to achieve 2nd credit). To be included in the contractor's requirements.
	Credit 5&6 Pre-req.	Monitoring of construction site impacts: Pre-requisite	-	Yes				Principal Contractor	-	-	Assign responsibility to an individual for monitoring, recording and reporting energy use, water

Credit Code	Credit Title	Credits Available	T	P	D	U	Responsibility		Stage	Comments
							Action Lead	Support Role		
										consumption and transportation data.
	Credit 5	1	1				Principal Contractor	-	-	Contractor to set targets for the site energy consumption and water consumption and monitor and record data. To be included in the contractor's requirements.
	Credit 6	1	1				Principal Contractor	-	-	Set targets for transportation movements and impacts resulting from delivery of the majority of construction materials to site and construction waste from site and monitor and record data. To be included in the contractor's requirements.
	EXE Credit	1	1				Principal Contractor	-	-	All items on the Responsible Construction Management checklist to be fulfilled. Checklist to be reviewed.
MAN 04	Credit 1	1	1				Principal Contractor	-	-	To prepare a schedule of commissioning according to the BREEAM criteria. In contractor specification/ preliminaries
	Credit 2	1	1				Principal Contractor	-	Stage 3/4	Commissioning agent to be appointed during design stage to undertake design reviews, provide commissioning management input and management of commissioning and performance testing.
	Credit 3	1	1				Principal Contractor	Project Manager	-	Air tightness testing and thermographic study to be undertaken prior to handover with any defects remedied. To be investigated with the contractor.
	Credit 4	1	1				Client/ Project Manager/ Principal Contractor	-	-	Building User Guides to be produced and handover training to be provided. To be included in the contractor's requirements. The building users & FM team are

Credit Code		Credit Title	Credits Available	T	P	D	U	Responsibility		Stage	Comments
								Action Lead	Support Role		
											trained in the efficient use of the building.
MAN 05	Credit 1	Aftercare support	1				1	Client/ Project Manager	-	-	Provide aftercare support to the building occupiers through having in place operational infrastructure and resources
	Credit 2	Commissioning implementation (seasonal)	1	1				Client/ Project Manager/ Principal Contractor	-	-	Complete Commissioning Activities over a minimum of 12 months period.
	Credit 3	Post occupancy evaluation	1				1	Client	-	-	The client or building occupier commits to carry out a POE exercise
HEALTH & WELLBEING			credit weight =	0.78%							
HEA 01	Credit 1	Control of glare from sunlight	1		1			Aros	-	-	Daylight Consultant TBC
	Credit 2	Daylighting	1		1			Aros	-	-	Daylighting analysis may be undertaken LEISURE: 1 available credit - Require a daylight factor of 2% to be achieved for 80% of floor area, plus uniformity ratio. - difficult to achieve
	Credit 3	View out	1	1				Aros	-	-	Requires 95% of the floor area in 95% of spaces for each relevant building area to have an adequate view out and be within 8m of a window with a view out; OR where the room depth is greater than 8m, the percentage of window or opening must instead be the same as, or greater than, the values in Table 1.0 BS8206. Floor plans and glazing proportions to be reviewed.
	Credit 4	Internal and external lighting levels, zoning and control	1	1				M&E Engineer	-	-	External lighting to comply with BS 5489-1:2013 and BS EN 12464-2:2014. To be included in the electrical specification.
	EXE Credit	Daylighting - Exemplary level	1				1	-	-	-	Requires 3% daylight factor to be achieved for 80% of the area-difficult to achieve
	EXE Credit	Internal and external lighting levels - Exemplary level	1	1				M&E Engineer	-	-	Lighting in each zone can be manually dimmed by occupants down to 20% of the maximum light output using dimmer switches

Credit Code		Credit Title	Credits Available	Responsibility				Action Lead	Support Role	Stage	Comments
				T	P	D	U				
HEA 02	Pre-req.	Indoor air quality plan: Pre-requisite	1			1		-	-	Stage 2	A site-specific indoor air quality plan to be produced.
	Credit 2	Ventilation	1			1		Aros	-	-	The building has been designed to minimise the indoor concentration and recirculation of pollutants in the building
	Credit 3	Emissions from construction products VOC (products specifications)	2			2		Aros	-	-	Product types listed meet the emission limits, testing requirements and any additional requirements listed.
	Credit 4	Post Construction Indoor Air Quality Measurement	1				1	-	-	-	-
	EXE Credit	Exemplary performance for VOC (products specs)	2		1		1	-	-	-	-
HEA 04	Credit 1	Thermal modelling	1		1			-	-	-	Dynamic Thermal Modelling to confirm relevant occupied spaces meet CIBSE overheating limits
	Credit 2	Design for future thermal comfort	1		1			-	-	-	Dynamic Thermal Modelling to confirm relevant occupied spaces meet CIBSE overheating limits
	Credit 3	Thermal zoning and controls	1		1			-	-	-	-
HEA 05	Credit 1	Sound insulation	1		1			Acoustician	-	-	Appointment required to undertake acoustic report.
	Credit 2	Acoustic performance	1		1			Acoustician	-	-	Appointment required to undertake acoustic report.
	Credit 3	Room Acoustics	1		1			Acoustician	-	-	Appointment required to undertake acoustic report.
HEA 06	Credit 1	Security of site and building	1			1		-	-	Stage 2	Security consultant to be appointed to undertake a Security Needs Assessment.
	EXE credit	Security	1				1	-	-	-	-
HEA 07	Credit 1	Safe access	1	1				Aros	Landscape Architect	-	Dedicated and safe cycle paths, footpaths, drop off areas, delivery areas and goods vehicles parking to be included in the design
	Credit 2	Outside space	1	1				Aros	Landscape Architect	-	External amenity space at GF to be provided for users
ENERGY			credit weight =	0.70%							
ENE 01	Credit 1 to 9	Energy performance	9	5	2	2		Hilson Moran	-	-	Energy efficient systems e.g. heat pump solution.
	Credit 10-13	Prediction of operational energy consumption	4				4	-	-	-	-
	EXE Credit	Beyond zero net regulated carbon / Carbon negative	3				3	-	-	-	-

Credit Code		Credit Title	Credits Available	T	P	D	U	Responsibility		Stage	Comments
EXE Credit		Post-occupancy stage	2				2	Action Lead	Support Role		
ENE 02	Credit 1	Sub-metering of end-use categories	1	1				Principal Contractor	-	-	A compliant metering strategy will be developed which will demonstrate monitoring of each end-use category.
	Credit 2	Sub-metering of high energy load and tenancy areas	1	1				Principal Contractor	-	-	-
ENE 03	Credit 1	External Lighting	1	1				Principal Contractor	-	-	Energy efficient lighting will be specified.
ENE 04	Credit 1	Passive design (hea 04 should be achieved)	1		1			Hilson Moran?TBC	Aros	Stage 2	Passive Design analysis to be confirmed.
	Credit 2	Free Cooling (Credit 1 Passive design must be achieved)	1	1				-	-	-	Openable windows proposed
	Credit 3	Low zero carbon (LZC) feasibility study	1	1				Hilson Moran	Aros	Stage 2	HM has been appointed to undertake this as part of the planning submission
ENE 05	Credit 1	Refrigeration energy consumption	n/a								
	Credit 2	Indirect greenhouse gas emissions	n/a								
ENE 06	Credit 1	Lift & Escalator - Energy consumption	1	1				Lift Manufacturer	Principal Contractor	-	Calculate the energy consumption in accordance with BS EN ISO 25745
	Credit 2	Lift - Energy efficient features	1	1				Lift Manufacturer	Principal Contractor	-	Specify three energy efficient features for each lift
	Credit 3	Escalator - Energy efficient features	n/a								
ENE 07	Credit 1	Design Specification	n/a								
	Credit 2-5	Best practice energy efficient measures	n/a								
ENE 08	Credit 1	Energy efficient equipment	2		2			Client	-	-	Identify the building's unregulated energy consuming loads. Estimate their contribution to the total annual unregulated energy consumption of the building, assuming a typical or standard specification.
TRANSPORT			credit weight =	0.83%							
TRA 01	Credit 1 & 2	Transport assessment and travel plan	2			2		Velocity TP	Aros	Stage 2	TBC Credits currently not targeted - Milena email 8/05/24 BREEAM compliant travel assessment and travel plan.
TRA 02	Pre req. Credit 1-10	Travel Assessment	-	Yes				Velocity TP	Aros	Stage 2	-
TRA 02	Credit 1 to 10	Sustainable transport measures - details below (Tra 01 credits must be achieved)	10			4	6	Velocity TP	Aros	Stage 2	-
	Measure 1	Public transport location A1 ≥ 8	-	Yes				Velocity TP	Aros	Stage 2	-
	Measure 2	Increase of the existing local transport services	-	No				Velocity TP	Aros	-	-
	Measure 3	Provide a public transport information system	-	No				Velocity TP	Aros	-	-
	Measure 4	Provide electric cars recharging stations	-	TBC				Velocity TP	Aros	Stage 2	-
	Measure 5	Set up a car sharing facility	-	No				Velocity TP	Aros	-	-

Credit Code		Credit Title	Credits Available	T	P	D	U	Responsibility		Stage	Comments
								Action Lead	Support Role		
	Measure 6	Implement a measure chosen with the local authority	-	No				Velocity TP	Aros	-	-
	Measure 7	Install compliant cycle storage spaces	-	Yes				Velocity TP	Aros	Stage 2	-
	Measure 8	Provide at least 2 compliant cyclists facilities	-	Yes				Velocity TP	Aros	Stage 2	-
	Measure 9	At least three existing accessible amenities are present	-	Yes				Velocity TP	Aros	Stage 2	-
	Measure 10	Provide 1 or 2 new accessible amenities	-	No				Velocity TP	Aros	-	-
	Measure 11	Implement 1 site-specific improvement measure	-	TBC				Velocity TP	Aros	Stage 2	-
WATER			credit weight =	0.88%							
WAT 01	Credit 1 to 5	Water consumption	5	3			2	Aros	-	-	At least one credit . 12.5 % Improvement to be achieved compared to BREEAM baseline to be calculated with Wat 01 BREEAM tool.
	EXE Credit	Water consumption	5				5	Aros	-	-	-
WAT 02	Credit 1	Water Sub-metering	1	1				Principal Contractor	-	-	A compliant water metering strategy will be developed.
WAT 03	Credit 1	Leak detection system	1	1				Principal Contractr	-	-	A water leak detection system will be specified.
	Credit 2	Flow control devices	1				1		-		-
WAT 04	Credit 1	Water efficient equipment	n/a	0							
MATERIALS			credit weight =	1.07%							
MAT 01	Credit 1 to 6	Life cycle impacts - Superstructure	6				6	LCA assessor	Aros	Stage 2	Embodied carbon studies to be undertaken on the superstructure to demonstrate its environmental performance and identify opportunities for reducing environmental impacts.
	Credit 7	Life cycle impacts - Substructure and hard landscaping	1				1	LCA assessor	Aros	Stage 2	-
	EXE Credit	Core building services	1				1	LCA assessor	Aros	Stage 2	-
	EXE Credit	LCA and LCC alignment	1				1	LCA assessor	Aros	Stage 2	-
	EXE Credit	Third party verification	1				1	LCA assessor	Aros	-	-
MAT 02	Credit 1	Environmental impacts construction products – EPD	1				1	Aros	-	-	Credit achievable where a significant proportion of materials have an Environmental Product Declaration. To be explored at a later stage once materials selection is known.
MAT 03	Pre-req.	Legally harvested and traded timber: Pre-requisite	-	Yes				Principal Contractor	-	-	All timber to be legally harvested and traded. To be included in the contractor's requirements.
	Credit 1	Enabling Sustainable procurement plan	1	1				Aros / PM to confirm	-	Stage 2	A Sustainable procurement plan will need to be produced and implemented.

Credit Code		Credit Title	Credits Available	T	P	D	U	Responsibility		Stage	Comments
								Action Lead	Support Role		
	Credits 2 to 4	Measuring Responsible sourcing of materials	3	2			1	Principal Contractor	-	-	Credits awarded where responsible sourcing certification for materials is provided. To be included in the contractor's requirements.
	EXE Credit	Exemplary Performance for Responsible Sourcing	1				1	-	-	-	-
MAT 05	Credit 1	Protecting vulnerable parts of the building from damage & Protecting exposed parts of the building from material degradation	1	1				Aros	-	-	The building design will demonstrate durable and robust materials selection.
MAT 06	Credit 1	Material efficiency	1	1				Aros	Hilson Moran	Stage 1	Requires input from Stage 1. Report is required detailing the ME considerations at each stage. Materials efficiency opportunities to be identified and documented during each RIBA stage.
WASTE			credit weight =	0.60%							
WST 01	Credit 1	Pre-demolition audit	1				1	Principal Contractor	-	Stage 2	NA
	Credit 2	Construction resource efficiency	3	1			2	Principal Contractor	-	-	<11.1 tonnes of construction waste generated per 100m ² GIA. To be included in the contractor's requirements. The 2nd credit requires <6.5 tonnes
	Credit 3	Diversion of resources from landfill	1	1				Principal Contractor	-	-	80% Construction & 90% Demolition waste (by weight) is diverted from landfill. To be included in the contractor's requirements
	EXE credit	Exemplary Performance for Construction Waste Management	1				1	Principal Contractor	-	-	-
WST 02	Pre-req.	Project sustainable aggregate points		No					-		-
	Credit 1	Project sustainable aggregate points	1				1		-	-	-
	EXE Credit	Exemplary Performance for Recycled Aggregates	1				1		-	-	-
WST 03	Credit 1	Operational waste	1	1				Aros	-	-	A dedicated waste store will be provided which will include adequate storage for recyclable waste items.
WST 04	Credit 1	Speculative Floor and Ceiling Finishes	n/a								
WST 05	Credit 1	Adaptation to climate change - Structural and fabric resilience	1	1				Aros	Hilson Moran	Stage 2	Study required during Stage 2 to identify risks to the building from climate change and develop measures to mitigate these risks.
	EXE Credit	Exemplary Performance Responding to Climate	1				1		-		-

Credit Code		Credit Title	Credits Available	T	P	D	U	Responsibility		Stage	Comments
								Action Lead	Support Role		
WST 06	Credit 1	Design for disassembly and functional adaptability - recommendations	1	1				Aros	-	Stage 2	Credit TBC by Aros Study required during Stage 2 to identify features that can make the building more adaptable and how to allow disassembly and reduce waste at end of life.
	Credit 2	Design for disassembly and functional adaptability - implementation	1	1				Aros	-	Stage 4	Implementation of measures as per the above study.
LAND USE AND ECOLOGY			credit weight =	1.00%							
LE 01	Credit 1	Previously occupied land	1	1				Aros	-	-	At least 75% of the land on which the new building will be sited must meet the definition of 'previously occupied'
	Credit 2	Contaminated land	1				1	-	-	-	N/A
Pre-req. to LE02/04/05		Pre-requisite: UK and EU law compliance	-	Yes				LUC	-	-	Suitably Qualified Ecologist (SQE) to provide legislation compliance guidance.
Pre-req. to LE02		Pre-requisite: Assessment route	-	Route 2				LUC	-	-	Route 2 suggested.
Pre-req.		Assessment Route	-	Yes				LUC	-	-	SQE is appointed
LE 02	Credit 1	Survey and evaluation	1	1				LUC	-	Stage 1	LUC to conduct a site survey early on to determine the site's ecological baseline and provide ecological recommendations.
	Credit 2	Determining the Ecological outcomes for the site	1	1				Design team	-	Stage 2	Project Team liaise with stakeholders to optimise the ecological outcomes on site.
	EXE Credit	Exemplary Performance Determine the ecological outcomes for the site (Sustainability - related activities)	1				1	-	-	-	Achieve the following:- Hea 07 Safe and healthy surroundings, Pol 03 run-off and pollution, Pol 05 reduction of noise pollution credits
Pre-req.		Identification and Understanding the Risks and opportunities for the site	-	Yes				LUC	-	-	As per Le 02
LE 03	Credit 1	Planning, liaison, implementation and data	1	1				LUC	-	Stage 2	Avoid and manage negative ecological impacts on-site to achieve at least no net loss of value.
	Credit 2	Managing negative impacts on ecology	2	2				LUC	-	-	<i>Note: If Route 1 is selected, only 1 out of 2 credits can be achieved.</i>
LE 04	Pre-req.	Managing Negative Impacts on Ecology	-	Yes				LUC	-	-	
	Credit 1	Change Enhancement of ecology (Route 1 only)	n/a								

Credit Code	Credit Title	Credits Available	T	P	D	U	Responsibility		Stage	Comments
							Action Lead	Support Role		
	Credit 2	Planning, liaison, implementation, data collation (Route 2 only)	1	1			LUC	-	-	Ecology report required with recommendations and findings. LUC appointed to undertake ecology report
	Credit 3	Change enhancement of ecology (Route 2 only)	3	3			LUC	-	-	Ecological enhancement is calculated in accordance with BRE's GN36. Request guidance from ecologist on score 05-10
	EXE Credit	Exemplary Enhancement	1				LUC	-		Significant net gain achieved in ecological value (GN36). Maybe possible?
LE 05	Pre-req.	Roles and Responsibilities	-	Yes			LUC	-	-	Negative impacts have been managed (Le 03-C8) A minimum of 1 Le 04 Ecological enhancement credit is achieved.
	Credit 1	Planning, liaison, monitoring review, maintenance	1	1			Principal Contractor	-	-	Measures have been implemented to manage and maintain ecology throughout the project as defined in Le 04.
	Credit 2	Landscape and ecology management plan	1	1			Principal Contractor	-	-	A 5 year ecology maintenance plan is developed.
POLLUTION			credit weight = 0.67%							
POL 01	Pre-req.	Electric compressors BS EN 378: 2016	-	Yes			Principal Contractor	-	-	-
	Credit 1-2	Impact of refrigerants	2	1		1	Principal Contractor	-	-	DELCO of refrigerant systems is <1000kgCO2/kW (<100 required for 2 credits)
	Credit 3	Leak detection system	1			1	Principal Contractor	-	-	-
POL 02	Credit 1	Local air quality	2	2			Principal Contractor	-	-	All heating and hot water is supplied by non-combustion systems.
POL 03	Pre req.	flood and surface water management		Yes			Whitby Wood	Drainage engineer	-	
	Credit 1	Flood resilience	2	1		1	Whitby Wood		-	1 credit can be achieved through our FRA and the assessment of flood risk/ mitigating measures proposed.
	Credit 2	Surface water run-off - Rate	1	1			Whitby Wood	Drainage engineer	-	Peak run off rate is 30% lower than the existing rate, for the 1-year and 100 year return period? Climate change allowance to be included.
	Credit 3	Surface water run-off - Volume	1	1			Whitby Wood	Drainage engineer	-	All runoff from the roof is managed using source control methods (water butts and a soakaway to infiltrate excess)
	Credit 4	Minimising watercourse pollution	1	1			Whitby Wood	-	-	Achieved through soakaway

Credit Code		Credit Title	Credits Available	T	P	D	U	Responsibility		Stage	Comments
								Action Lead	Support Role		
POL 04	Credit 1	Reduction of night time light pollution	1	1				Aros	-	-	No up-lighting of building or landscaping? Compliant with Table 2 of ILP guidance.
POL 05	Credit 1	Reduction of noise pollution	1			1		Acoustician	-		Noise impact assessment to be carried out.
AI Approved Innovation			credit weight =	1.00%							
Approved Innovation			1	0			1		-	-	
			Score	48.5%	60.7%	73.8%					
			Rating	Good	Very Good	Excellent					

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Appendix 1 – General BREEAM Guidance

BREEAM aims to assess many aspects of a project, from the initial decisions taken by clients and Aross, through the detail of engineering design, to the policies and agreements reached by prospective tenants and building owners.

Minimum standards have been set for various credits that must be achieved if certain rating levels are to be achieved. Significant minimum standards need to be met to achieve an ‘Excellent’ rating. These will be identified throughout the report and will be shown in bold red text. Formal certification cannot be achieved until this assessment is completed and submitted to BREEAM for approval.

BREEAM v6.1 allows additional credits outside of the core BREEAM credits to be achieved by demonstrating innovation within the building. This may be by exceeding a current credit requirement, or by developing a new credit and demonstrating that the innovation proposed by the design team will make a positive contribution to one of 20 criteria determined by BREEAM. Innovation credits that are available for exceeding the standard credit requirements will be described in bold blue text.

The BREEAM assessment is carried out by awarding credits for environmental improvement on each of the issues. Each credit awarded must be supported by full evidence in the form of details documented in the design drawings and specification. There are now additional Innovation Credits available as recognition for buildings that either meet exemplary performance standards for an existing BREEAM credit or for a particular building feature, system or process that is exemplary. This is determined by the BRE on a case-by-case basis. An additional 1% can be awarded for each innovation credit achieved, up to a maximum of 10%.

On submission and successful QA of the Design Stage Assessment, an interim BREEAM rating is awarded to the development. The development is then assessed again at Post Construction stage upon successful submissions and QA of this report, the final BREEAM rating is awarded by the BRE. BREEAM v6.1 also includes an optional Post-occupancy stage certification.

Hilson Moran can make no warranty in respect of BREEAM predictions, as all credits are dependent on supporting evidence being provided to the BREEAM assessor at the time of the formal BREEAM assessment. Until a formal BREEAM assessment takes place, with supporting evidence provided to a certified BREEAM Assessor and the BRE complete their quality assurance process, no building can claim to hold a BREEAM rating.

BREEAM Assessment Process

The BREEAM assessment process awards a number of credits depending upon whether or not sufficient evidence can be provided to demonstrate that the BREEAM requirements have been fulfilled. One of the strengths of the BREEAM Assessment process is that it examines the performance of a development over a wide range of issues (Figure 1). These issues are weighted according to their perceived importance, with the credits in some sections being more valuable than others. In order to standardise the BREEAM Assessment process there are a number of issues that are common to all building types. Within these common credits there are a number of mandatory minimum performance requirements that all building types need to achieve

in order to secure a particular rating. Please refer to Section 4.1 for details of the minimum performance standards for the BREEAM New Construction v6.1 scheme. The remaining credits are tradable and give the design team the flexibility to choose which credits to target in order to achieve a particular rating. The requirements of individual credits vary considerably, both between credits and between schemes.

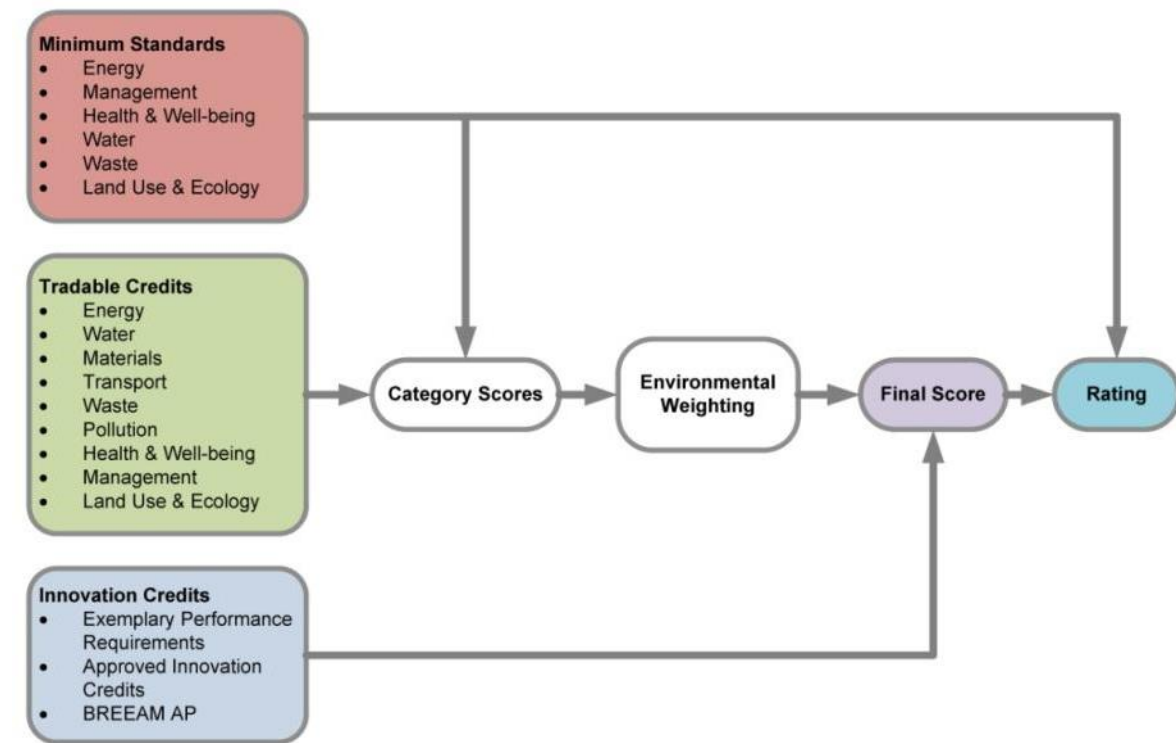


Figure 1: BREEAM Scoring Process

The BREEAM Assessment process is split into three four stages: Pre-Assessment; Design Stage Assessment; Post Construction Review; and Post-Occupancy Stage (Optional). The Pre-Assessment stage allows the design team to ascertain the likely BREEAM score and rating a development can achieve and to provide a strategy for the credits to be targeted and to support the later stages of the assessment process. The Design Stage Assessment builds on the Pre-Assessment strategy and is undertaken just before tender and or work begins on site. At this stage the design should be sufficiently detailed to demonstrate that all of the targeted credit requirements have been fulfilled. Following completion of the design stage the assessment can be submitted to the BRE for interim certification.

The Post Construction Review is intended to verify that the commitments made at the design stage have been implemented. The performance of the development in the post construction review will dictate the final score and rating the building achieves.

At all times throughout the assessment process the assessor is reliant upon receiving accurate and comprehensive evidence from the design team in a timely manner. When preparing evidence, the design team should bear in mind that the QA personnel at the BRE are not necessarily technically minded and have no knowledge of the project. The evidence provided by the design team should clearly show (through annotation, sketches, calculations etc.) to a non-technical individual that the credit requirements have been met. Where necessary any confirmation statements should quote relevant credit criteria to demonstrate that the requirements have been met.

The optional post-occupancy stage certification relates to robust best practice to meet design aspirations in the following areas:

- Post occupancy handover and commissioning processes
- Performance monitoring
- Actions undertaken post occupancy to understand and manage the actual performance of the building.

BREEAM Threshold

BREEAM ratings range between 'Pass' and 'Outstanding'. The rating achieved is dependent on the percentage score achieved and achieving the required minimum standards appropriate to each rating level. Percentage thresholds and minimum standards (number of credits to be achieved within the specified minimum standard credits) are given below:

BREEAM Rating	% Score	BREEAM Rating	% Score
Unclassified	<30	Very Good	≥55
Pass	≥30	Excellent	≥70
Good	≥45	Outstanding	≥85

Table 5: BREEAM New Construction v6.1 Ratings

APPENDIX 2 – Pre-Assessment: BREEAM v6.1 New Construction Criteria

Complete credit criteria and requirements are contained within the BREEAM New Construction v6.1 manual available online following free registration. The credits have been categorised as follows:

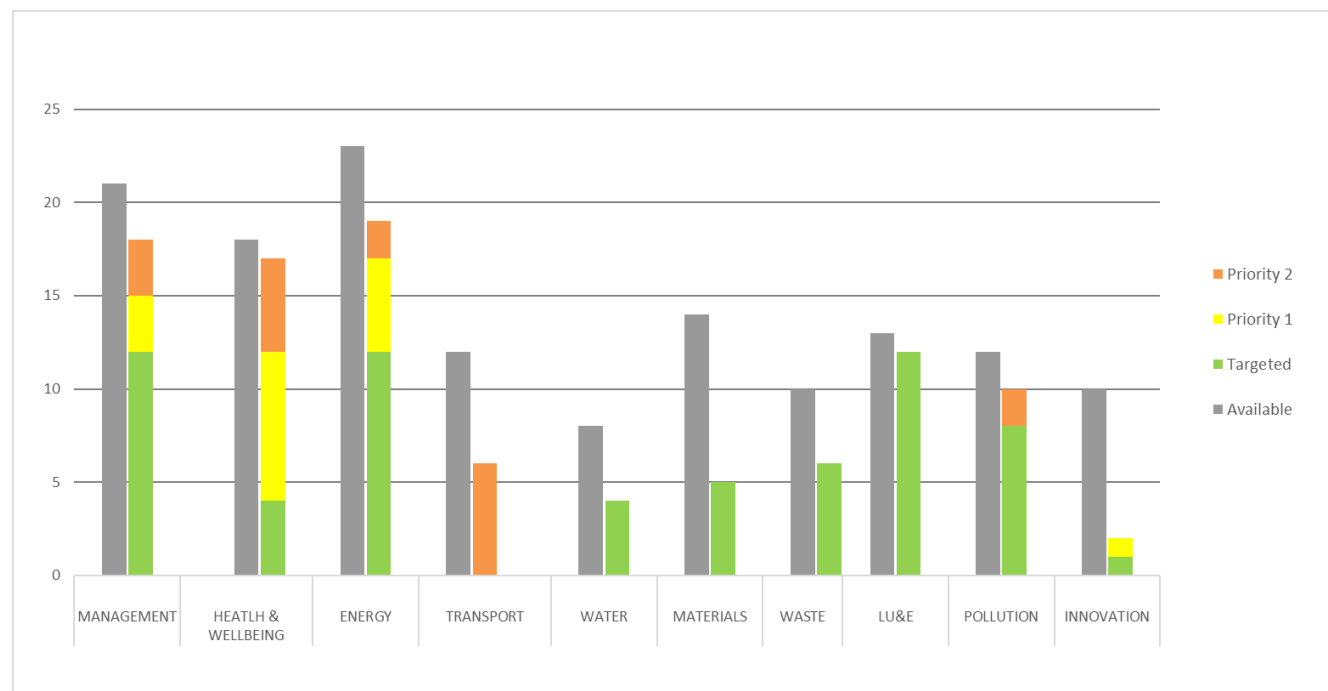
Targeted (T) (green column) credits are those credits that are deemed to be achievable by the design team subject to compliant evidence being provided to the assessor.

Priority 1 (yellow column) credits are those that require further investigation by the design team and could not be deemed targeted at this stage. To gain the 'Potential' credits should not require significant investment by any design team member.

Priority 2 (orange column) credits are those that the design team and assessor consider to be uncertain for this project, either because a cost, design or site constraint.

Credits in the Unachievable column (U) (light grey column) are inaccessible to this project, either because of its location, because design and cost implications are unfeasible, or because some other influence prevents the design from targeting said credits.

BREEAM v6.1 Credit Matrix





People. Places. Planet.

