



BREEAM Pre-Assessment

Project:

2 London Road, Twickenham

Client:

Skylofts Ltd

Project Reference:

J02838

Date:

16th February 2023

1. Executive Summary

This BREEAM Pre Assessment has been written on behalf of Wyeth Burrell Pearce Ltd (the Client) to demonstrate the likely BREEAM score of the development at 2 London Road, Twickenham (the Proposed Development). This pre assessment has been based on details supplied by the client and wider design team to-date, in addition to further desk-based study, best practices and historical data. The author has been a licensed BREEAM organisation for over 10 years and has extensive knowledge of the methodology, which is used to produce an accurate assessment score.

Scenario	Min Standards Met	Score	BREEAM Rating
1	Yes	75.02	Excellent

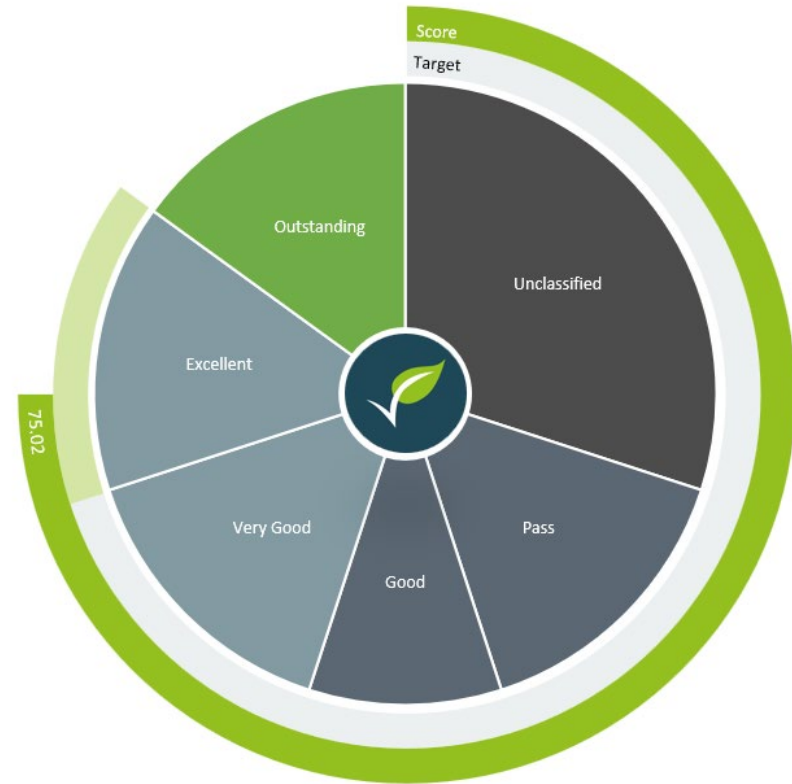


Figure 1 - BREEAM Score Chart

2. Assessment Overview

2.1. Development Overview

The Proposed Development consists of the redevelopment of business use class E3 property to a multi-residential apartment block (Use Class C) consisting of seven 1 and 2 bedroom apartments and associated access and landscaping at 2 London Road, Twickenham, TW1 3RY in the London Borough of Richmond.

2.2. Assessment Criteria

The BREEAM Pre Assessment has shown that the Proposed Development can currently achieve an 'Excellent' rating under BREEAM Domestic Refurbishment 2014 based on the assumptions and information agreed to-date.

This Pre Assessment highlights those credits which are likely to be achievable (Proposed) and those that will require additional input (Potential). This scheme must achieve a BREEAM score of at least 70% to ensure a 'Excellent' rating is awarded.

2.3. BREEAM Score

The overall target score for the project is currently 75.02 which will deliver an 'Excellent' rating. The credits targeted, are considered the design team to be realistic and deliverable on-site. Potential credits are highlighted within the following section, some of which should be adopted to improve the current score and provide sufficient 'buffer' to protect against the loss of any credits throughout the construction phase.

BREEAM standards can be challenging to achieve, and the design stage report should be carefully reviewed by the design and construction teams to ensure all targeted credits are delivered as the project is progressed. Section 7 list the specific credits proposed as part of the BREEAM 'Excellent' rating.



FIGURE 2 – PROPOSED ELEVATION

3. Assessment Methodology

3.1. The BREEAM score

BREEAM (Building Research Establishment's Environmental Assessment Method) is the world's first sustainability rating scheme for the built environment. It sets the standard for best practice in sustainable design and has become the de facto measure used to describe a building's environmental performance.

To date BREEAM has been used to certify over 560,000 building assessments across the building life cycle and is being applied in over 80 countries.

BREEAM is developed, operated and maintained by BRE Global Ltd and the operation and direction of the method is overseen by an independent Sustainability Board, representing a wide cross-section of construction industry stakeholders. Further information about BREEAM, including copies of the BREEAM standards, can be found at www.breem.org

3.2. Aims of BREEAM

- To mitigate the impacts of buildings on the environment
- To enable buildings to be recognised according to their environmental benefits.
- To provide a credible, environmental label for buildings.
- To stimulate demand for sustainable buildings.

3.3. BREEAM New Construction

BREEAM Domestic Refurbishment is a performance-based assessment method and certification scheme for domestic buildings undergoing refurbishment. The primary aim of BREEAM Domestic Refurbishment is to improve the environmental performance of existing dwellings in a robust and cost-effective manner. This is achieved through integration and use of the scheme by clients and their project teams at key stages in the refurbishment process. This enables the client, through personnel qualified and licensed under the BREEAM Domestic Refurbishment scheme and the BRE Global certification process, to

measure, evaluate and reflect the performance of their refurbishment project against best practice in an independent and robust manner. This performance is quantified by a number of individual measures and associated criteria stretching across a range of environmental issue.

Projects are assessed at design and post-refurbishment review stages using a system of environmental issues grouped within the following sections:

- Management
- Health and Wellbeing
- Energy
- Water
- Materials
- Waste
- Pollution
- Innovation

3.4. Process of the assessment

The BREEAM Domestic Refurbishment 2014 scheme can be used to assess the environmental life cycle impacts of refurbishment projects including, existing dwelling's, undergoing refurbishment, extensions, domestic conversions and change of use projects in the UK only. The following section sets out the project types for which the scheme should be used. For the purposes of this scheme, 'Domestic Refurbishment' is classified under two categories:

Category 1: Alterations to existing dwellings and extensions

Category 2: Domestic conversions and change of use projects

Under BREEAM Domestic Refurbishment 2014, assessments take place over two

phases:

- a. Design Stage (DS): The DS assessment provides a rating of the refurbishment as specified, otherwise referred to as the 'interim' rating. Ideally the design stage assessment is carried out prior to refurbishment and is labelled as 'interim' as it does not represent the dwellings BREEAM Domestic Refurbishment rating as refurbished. The DS assessment is carried out during the design process using the specification and other evidence to document measures to be implemented in the refurbishment.
- b. Post Refurbishment Stage (PRS): The PRS assessment and BREEAM rating confirms the final 'as refurbished' performance of the building at the refurbishment stage of the life cycle. A final PRS assessment is completed and certified after practical completion of the refurbishment works.

An interim certificate will be provided following submission of the Design Stage Assessment, with final certification being awarded following the completion of the PRS Assessment.

3.5. Ratings

The assessment process results in a rating on a scale of PASS, GOOD, VERY

GOOD, EXCELLENT and OUTSTANDING. The rating bands for each are as follows:

Rating	Minimum score required
Outstanding	85%
Excellent	70%
Very Good	55%
Good	45%
Pass	30%

4. Mandatory Credits

Minimum Standards for Excellent		
Ene 02	Ene 02 Energy efficiency rating post-refurbishment	2.5 Credits
Wat 01	Wat 01 Internal water use	2 Credits
Hea 05	Hea 05 Ventilation	1 Credit
Hea 06	Hea 06 Safety	1 Credit
Pol 03	Pol 03 Flooding	2 Credits
Mat 01	Mat 01 Environmental impact of materials	Criterion 1 only

5. Potential and Unachievable Credits

5.1. Potential Credits

Below is a list of credits that we think have potential but are currently not targets.

Potential Credits				
Category	Credit	Potential Credits	Action By	Potential
Hea 03 - Volatile Organic Compounds	c1 – avoiding the use of VOCs	1	Architects	Compliant design stage commitment that the VOC content of the relevant specified product types will comply with the standards specified within the criteria


 These are additional credits to those targeted and are the total credits including already targeted.

Table 1 – Potential Credits

5.2. Unachieved Credits

The following credits have been identified as *unachievable* for the site. An explanation has been given for each:

Unachievable Credits (Project Specific)		
Category	Credit	Requirements

We currently have not marked any credits as unachievable

Table 2 - Unachievable credits

5.3. Critical Early Credits (RIBA Stage 2)

PLEASE REVIEW THE TABLE BELOW AS THE EVIDENCE WILL BE REQUIRED AND REGISTERED PRIOR TO THE GRANTING PLANNING APPROVAL. FAILURE TO GET THE EVIDENCE WILL RESULT IN THE CREDITS BEING LOST.

Early Action Credits								
Category	Credit	Credits	Credit Status	Action By	Summary of Credit Requirements	Pro forma	Calculator	Commitment
Hea 01 - Daylighting	c1 –Maintaining good daylighting	1	Targeted	Architects	A completed signed and dated copy of Checklist A-7: Daylight Factor, parts 1 and 2, or parts 3 and 4 as relevant AND Where relevant, calculations to demonstrate: Average daylight factor using the Hea01 calculator AND Position of the no-sky line and percentage of area of the working plane that receives direct light from the sky			
Hea 01 - Daylighting	c2 - Minimum daylighting	1	Targeted	Architects	Site drawings of the extension showing the impact of daylighting levels of neighbouring properties			
Hea 04 - Inclusive Design	c1 – Minimum accessibility	1	Targeted	Architects	A copy of the Access Statement completed by the inclusive design champion, NRAC auditors or NRAC consultant to address the requirements of Sections 6—9 of Part M. In all cases the access statement is signed by the developer and, when completed by an inclusive design champion or NRAC auditor, the appointed assessor.			

Hea 05 – Ventilation	c1 – Minimum ventilation Minimum standards required	1	Targeted	Architects	Written confirmation from the developer confirming the level of background, extract and purge ventilation OR Compliant design stage commitment confirming the level of background, extract and purge ventilation that will be implemented			
Ene 01 – Improvement in energy efficiency	c1-6 - Improving the dwelling's energy efficiency rating	6	Targeted	Energy consultant	A copy of the design stage energy performance certificate report or SAP 2012 worksheets to confirm the dwelling's energy efficiency rating pre-refurbishment and post-refurbishment AND A copy of the output from the BREEAM Domestic Refurbishment energy calculator			
Ene 04 - Renewable technology	c1 – 10% by low/zero carbon technology	1	Targeted	Energy consultant	A copy of the relevant calculations as detailed in the assessment procedure based on design stage SAP or RdSAP outputs AND A copy of the output from the BREEAM Domestic Refurbishment energy calculator AND Detailed documentary evidence confirming that the specified low or zero carbon technologies as applicable: meet the requirements defined in Directive 2009/28/EC are certified under the Microgeneration Certification Scheme are certified under the CHPQA standards			

Ene 04 - Renewable technology	c2 – 20% by low/zero carbon technology	1	Targeted	Energy consultant	<p>A copy of the relevant calculations as detailed in the assessment procedure based on design stage SAP or RdSAP outputs AND A copy of the output from the BREEAM Domestic Refurbishment energy calculator AND Detailed documentary evidence confirming that the specified low or zero carbon technologies as applicable: meet the requirements defined in Directive 2009/28/EC are certified under the Microgeneration Certification Scheme are certified under the CHPQA standard</p>			
Mat 01 – Environmental impact of materials	c1-25 – Environmental impact of materials	10	Targeted	Architect	<p>Specification providing a detailed description of each applicable element and its constituent materials AND Design drawings or specification detailing the location and area (m2) of each applicable element AND A copy of the output from the Mat 01 calculator tool, including Green Guide ratings and element numbers for each specification assessed And where relevant: Copies of environmental product declarations A link/reference to the EPD's Product Category Rules Online Green Guide and or refurbishment</p>			

					calculator output Environmental profile certificate(s) (or certificate number)			
--	--	--	--	--	--	--	--	--

Table 3 – Critical Early Credits

6. Summary score sheet

TARGET					
BREEAM Section	Credits Targeted	Credits available	% Of credits targeted	Category weighting (Domestic)	Section score (%)
Management	8.00	9.00	88.89	0.12	10.67
Health and Wellbeing	6.00	12.00	50.00	0.17	8.50
Energy	24.00	29.00	82.76	0.43	35.59
Water	4.00	5.00	80.00	0.11	8.80
Materials	22.00	48.00	45.83	0.08	3.67
Waste	3.00	5.00	60.00	0.03	1.80
Pollution	8.00	8.00	100.00	0.06	6.00
Total	75.00	116.00	64.66	1.00	75.02
Innovation	0.00	6.00	0.00	0.10	0.00
Final BREEAM score				75.02	
BREEAM Rating				Excellent	

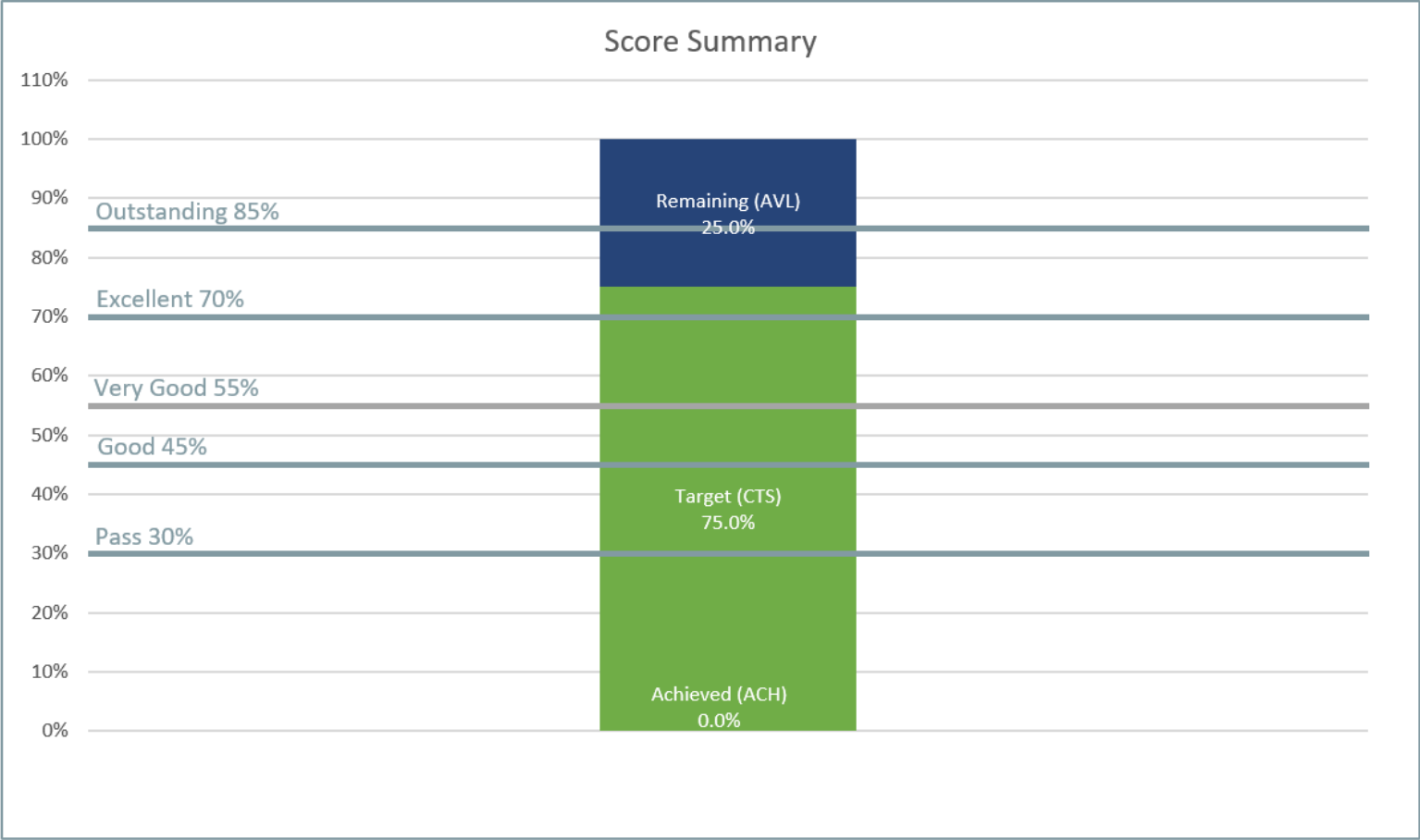


FIGURE 3 – SCORE SUMMARY

7. Individual Credits

Management								
Man 01 - Home User Guide	Credit	RIBA Stage	Action By	Credit States	Available	Targeted	Potential	Achieved
					1	1	0	0
	c1 - Refer to the User Guide Contents List and ensure the Home User Guide that is produced covers all listed items.	6- Handover	Project Manager	Targeted	1	1	0	0
Man 02 - Responsible construction practices	Credit	RIBA Stage	Action By	Credit States	Available	Targeted	Potential	Achieved
					2	2	0	0
	c1 - 25–34 with score of 5 in each section of Considerate Constructors Scheme or compliance with alternative scheme	5 – Manufacturing and Construction	Principle Contractor	Targeted	1	1	0	0
	c2 - 35–39 with a score of 7 in each section of Considerate Constructors Scheme or beyond just compliance with alternative scheme	5 – Manufacturing and Construction	Principle Contractor	Targeted	1	1	0	0
	Exemplary Credits (40 or more with a score of 7 in each section of Considerate Constructors Scheme or Exemplary level compliance with the alternative scheme	5 – Manufacturing and Construction		Not Targeted	1	0	0	0
Man 03 - Construction Site Impacts	Credit	RIBA Stage	Action By	Credit States	Available	Targeted	Potential	Achieved
					1	1	0	0
	c1 – Where there is evidence to demonstrate that 2 or more of the sections a-e in Checklist A-4: Large-scale refurbishments are completed.	5 – Manufacturing and Construction	MEP	Targeted	1	1	0	0
Man 04 - Security	Credit	RIBA Stage	Action By	Credit States	Available	Targeted	Potential	Achieved
					2	2	0	0
	c1 - Secure windows and doors	6- Handover	Client	Targeted	1	1	0	0
	c2 - Secured by design	6- Handover	Client	Targeted	1	1	0	0
	Credit	RIBA Stage	Action By		Available	Targeted	Potential	Achieved

Man 05 - Protection and enhancements of ecological features				Credit States	1	1	0	0
	c1 - Protecting ecological feature	5 – Manufacturing and Construction	Ecologist	Targeted	1	1	0	0
	Exemplary Credits - ecological enhancement	5 – Manufacturing and Construction	Ecologist	Not Targeted	1	0	0	0
Man 6 - Project Management	Credit	RIBA Stage	Action By	Credit States	Available	Targeted	Potential	Achieved
					2	1	0	0
	c1 - Project roles and responsibilities	2 - Concept Design	Project Manager	Targeted	1	1	0	0
	c2 - Handover and aftercare	2 - Concept Design	Project Manager	Targeted	1	1	0	0
	Exemplary Credits - Early Design Input and Thermographic and Airtightness testing	2 - Concept Design	Project Manager	Not Targeted	2	0	0	0
Management Totals:					9	8	0	0
% Management Score Totals:					12%	11%		0%

Health & Wellbeing								
Hea 01 - Daylighting	Credit	RIBA Stage	Action By	Credit States	Available	Targeted	Potential	Achieved
					2	2	0	0
	c1 –Maintaining good daylighting	2 - Concept Design	Architects	Targeted	1	1	0	0
	c2 - Minimum daylighting	2 - Concept Design	Architects	Targeted	1	1	0	0
Hea 02 -Sound Insulation	Credit	RIBA Stage	Action By	Credit States	Available	Targeted	Potential	Achieved
					4	1	0	0
	c1-4 – Achieving and going beyond national regulations	4 - Developed Design	Architects	Targeted	4	1	0	0
Hea 03 - Volatile Organic Compounds	Credit	RIBA Stage	Action By	Credit States	Available	Targeted	Potential	Achieved
					1	0	0	0
	c1 – avoiding the use of VOCs	4 - Developed Design	Architects	Not Targeted	1	0	0	0
Hea 04 - Inclusive Design	Credit	RIBA Stage	Action By	Credit States	Available	Targeted	Potential	Achieved
					2	1	0	0
	c1 – Minimum accessibility	2 - Concept Design	Architects	Targeted	1	1	0	0
	c2– Advances accessibility	2 - Concept Design	Architects	Not Targeted	1	0	0	0
	Exemplary Credits	2 - Concept Design	Architects	Not Targeted	1	0	0	0
Hea 05 – Ventilation	Credit	RIBA Stage	Action By	Credit States	Available	Targeted	Potential	Achieved
					2	1	0	0
	c1 – Minimum ventilation Minimum standards required	2 - Concept Design	Architects	Targeted	1	1	0	0
	c2– Advances ventilation	2 - Concept Design	Architects	Not Targeted	1	0	0	0
Hea 05 – Safety	Credit	RIBA Stage	Action By	Credit States	Available	Targeted	Potential	Achieved
					1	1	0	0
	c1 - Fire and carbon monoxide (CO) detection and alarm systems Minimum standards required	4 - Developed Design	M&E	Targeted	1	1	0	0
Health & Wellbeing Totals:					12	6	0	0
% Health & Wellbeing Score Totals:					17%	9%		0%

Energy								
Ene 01 – Improvement in energy efficiency	Credit	RIBA Stage	Action By	Credit Status	Available	Targeted	Potential	Achieved
					6	6	0	0
	c1-6 - Improving the dwelling's energy efficiency rating	2 - Concept Design	Energy consultant	Targeted	6	6	0	0
Ene 02 - Energy efficiency rating post-refurbishment	Credit	RIBA Stage	Action By	Credit Status	4	3	0	0
	c1 -EER post-refurbishment Minimum standards required	4 - Developed Design	Energy consultant	Targeted	4	3	0	0
	Exemplary	4 - Developed Design	Energy consultant	Not Targeted	1	0	0	0
Ene 03 - Primary energy demand	Credit	RIBA Stage	Action By	Credit Status	7	3	0	0
	c1-7–Primary energy demand	4 - Developed Design	Energy consultant	Targeted	7	3	0	0
Ene 04 - Renewable technology	Credit	RIBA Stage	Action By	Credit Status	2	2	0	0
	c1 – 10% by low/zero carbon technology	2 - Concept Design	Energy consultant	Targeted	1	1	0	0
	c2 – 20% by low/zero carbon technology	2 - Concept Design	Energy consultant	Targeted	1	1	0	0
Ene 05 – Energy labelled white goods	Credit	RIBA Stage	Action By	Credit Status	2	2	0	0
	c1 – A+ Fridges, freezers and fridges/freezers	4 - Developed Design	MEP	Targeted	1	1	0	0
	c2 – washing machines A++, dishwashers A+, tumble dryers and washer-dryers A	4 - Developed Design	MEP	Targeted	1	1	0	0
Ene 06 – Drying space	Credit	RIBA Stage	Action By	Credit Status	1	1	0	0
	c1 – An adequate, secure internal or external space with posts and footings, or fixings holding:	4 - Developed Design	MEP	Targeted	1	1	0	0
Ene 07 – Lighting	Credit	RIBA Stage	Action By	Credit Status	2	2	0	0
	c1 – External lighting	4 - Developed Design	MEP	Targeted	1	1	0	0
	c2 –Internal Lighting	4 - Developed Design	MEP	Targeted	1	1	0	0
Ene08 – Energy display devices	Credit	RIBA Stage	Action By	Credit Status	2	2	0	0

BREEAM Pre Assessment
2 London Road, Twickenham

	c1-2 – Energy display device	4 - Developed Design	MEP	Targeted	2	2	0	0
	Exemplary	4 - Developed Design	MEP	Not Targeted	1	0	0	0
Ene09 – Cycle storage	Credit	RIBA Stage	Action By	Credit Status	2	2	0	0
	c1-2 - Cycle storage	4 - Developed Design	Architect	Targeted	2	2	0	0
Ene10 – Home Office	Credit	RIBA Stage	Action By	Credit Status	1	1	0	0
	c1 - Where sufficient space and services have been provided which allow the occupants to set up a home office in a suitable room with adequate ventilation	2 - Concept Design	Architect	Targeted	1	1	0	0
Energy Totals:					29	24	0	0
% Energy Score Totals:					43%	36%		0%

Energy								
Ene 01 – Improvement in energy efficiency	Credit	RIBA Stage	Action By	Credit Status	Available	Targeted	Potential	Achieved
					6	6	0	0
	c1-6 - Improving the dwelling's energy efficiency rating	2 - Concept Design	Energy consultant	Targeted	6	6	0	0
Ene 02 - Energy efficiency rating post-refurbishment	Credit	RIBA Stage	Action By	Credit Status	4	3	0	0
	c1 -EER post-refurbishment Minimum standards required	4 - Developed Design	Energy consultant	Targeted	4	3	0	0
	Exemplary	4 - Developed Design	Energy consultant	Not Targeted	1	0	0	0
Ene 03 - Primary energy demand	Credit	RIBA Stage	Action By	Credit Status	7	3	0	0
	c1-7–Primary energy demand	4 - Developed Design	Energy consultant	Targeted	7	3	0	0
Ene 04 - Renewable technology	Credit	RIBA Stage	Action By	Credit Status	2	2	0	0
	c1 – 10% by low/zero carbon technology	2 - Concept Design	Energy consultant	Targeted	1	1	0	0
	c2 – 20% by low/zero carbon technology	2 - Concept Design	Energy consultant	Targeted	1	1	0	0
Ene 05 – Energy labelled white goods	Credit	RIBA Stage	Action By	Credit Status	2	2	0	0
	c1 – A+ Fridges, freezers and fridges/freezers	4 - Developed Design	MEP	Targeted	1	1	0	0
	c2 – washing machines A++, dishwashers A+, tumble dryers and washer-dryers A	4 - Developed Design	MEP	Targeted	1	1	0	0
Ene 06 – Drying space	Credit	RIBA Stage	Action By	Credit Status	1	1	0	0
	c1 – An adequate, secure internal or external space with posts and footings, or fixings holding:	4 - Developed Design	MEP	Targeted	1	1	0	0
Ene 07 – Lighting	Credit	RIBA Stage	Action By	Credit Status	2	2	0	0
	c1 – External lighting	4 - Developed Design	MEP	Targeted	1	1	0	0
	c2 –Internal Lighting	4 - Developed Design	MEP	Targeted	1	1	0	0

Ene08 – Energy display devices	Credit	RIBA Stage	Action By	Credit Status	2	2	0	0
	c1-2 – Energy display device	4 - Developed Design	MEP	Targeted	2	2	0	0
	Exemplary	4 - Developed Design	MEP	Not Targeted	1	0	0	0
Ene09 – Cycle storage	Credit	RIBA Stage	Action By	Credit Status	2	2	0	0
	c1-2 - Cycle storage	4 - Developed Design	Architect	Targeted	2	2	0	0
Ene10 – Home Office	Credit	RIBA Stage	Action By	Credit Status	1	1	0	0
	c1 - Where sufficient space and services have been provided which allow the occupants to set up a home office in a suitable room with adequate ventilation	2 - Concept Design	Architect	Targeted	1	1	0	0
Energy Totals:					29	24	0	0
% Energy Score Totals:					43%	36%		0%

Water								
Wat 01 - Internal water use	Credits	RIBA Stage	Action By	Credit Status	Available	Targeted	Potential	Achieved
					3	2	0	0
	c1-5 – Water consumption	4 - Developed Design	MEP	Targeted	3	2	0	0
	Minimum standards required							
	Exemplary Credits			Not Targeted	1	0	0	0
Wat 02 - External water use	Credits	RIBA Stage	Action By	Credit Status	Available	Targeted	Potential	Achieved
					1	1	0	0
	c1 –Rainwater collection	4 - Developed Design	MEP	Targeted	1	1	0	0
	Criterion 1 only for Good and simple buildings							
Wat 03 - Water meter	Credits	RIBA Stage	Action By	Credit Status	Available	Targeted	Potential	Achieved
					1	1	0	0
	c1 – Water meter provision	4 - Developed Design	MEP	Targeted	1	1	0	0
Water Totals:					5	4	0	0
% Water Score Totals:					11%	9%		0%

Materials								
Mat 01 – Environmental impact of materials	Credits	RIBA Stage	Action By	Credit Status	Available	Targeted	Potential	Achieved
					25	10	0	0
	c1-25 – Environmental impact of materials	2 - Concept Design	Architect	Targeted	25	10	0	0
Mat 02 -Responsible sourcing of materials	Credits	RIBA Stage	Action By	Credit Status	Available	Targeted	Potential	Achieved
					15	8	0	0
	<i>Prerequisite: 100% of timber to be "legal and sustainable"</i>							
	c1-3 Sustainable procurement plan	2 - Concept Design	Architect	Targeted	3	3	0	0
	c4-15 Responsible sourcing of materials (RSM)	2 - Concept Design	4 - Developed Design	Targeted	12	5	0	0
	Exemplary Credits			Not Targeted	1	0	0	0
Mat 03 - Insulation	Credits	RIBA Stage	Action By	Credit Status	Available	Targeted	Potential	Achieved
					8	4	0	0
	c1-4 – Embodied Impact	2 - Concept Design	Architects	Targeted	4	2	0	0
	c5-8 – Responsible sourcing	4 - Developed Design	Architects	Targeted	4	2	0	0
Materials Totals:					48	22	0	0
% Materials Score Totals:					8%	4%		0%

Waste								
Was 01 - Household waste	Credits	RIBA Stage	Action By	Credit Status	Available	Targeted	Potential	Achieved
	One Credit for Outstanding				2	2	0	0
	c1 – Recycling facilities	4 - Developed Design	Architects	Targeted	1	1	0	0
	c2 - Composting	4 - Developed Design	Architects	Targeted	1	1		0
Was 02 – Refurbishment site waste management	Credits	RIBA Stage	Action By	Credit Status	Available	Targeted	Potential	Achieved
					3	1	0	0
	c1-3 – Site waste management plan	5 – Manufacturing and Construction	Principle Contractor	Targeted	3	1	0	0
	Exemplary Credit	5 – Manufacturing and Construction	Principle Contractor	Not Targeted	1	0	0	0
Waste Totals:					5	3	0	0
% Waste Score Totals:					3%	2%		0%

Pollution								
Pol 01 -Nitrogen oxide emissions	Credits	RIBA Stage	Action By	Credit Status	Available	Targeted	Potential	Achieved
					3	3	0	0
	c1-3- Low NOx space heating and hot water systems	4 - Developed Design	MEP	Targeted	3	3	0	0
Pol 02 - Surface water run-off	Credits	RIBA Stage	Action By	Credit Status	Available	Targeted	Potential	Achieved
					3	3	0	0
	c1-3 – Surface water run-off	4 - Developed Design	Hydrologist	Targeted	3	3	0	0
	Exemplary Credits	4 - Developed Design	Hydrologist	Not Targeted	1	0	0	0
Pol 03 - Flooding	Credits	RIBA Stage	Action By	Credit Status	Available	Targeted	Potential	Achieved
					2	2	0	0
	c1-2 – Low flood risk or flood mitigation	2 - Concept Design	Hydrologist	Targeted	2	2	0	0
	Minimum Standards							
Pollution Totals:					8	8	0	0
% Pollution Score Totals:					6%	6%		0%

Innovation							
AI - Approved Innovation	Credits	RIBA Stage	Action By	Credit Status	Available	Targeted	Achieved
					6	0	0
	Innovation	2 - Concept Design	Architect	Not Targeted	6	0	0
Innovation Totals:					6	0	0
% Innovation Score Totals:					10%	0%	0%

8. Detailed Assessment

Management

9 **12%** **8** **11%** **0** **0%**
 Available % Targeted % Achieved %
 Credits Available Credits Targeted Credits Achieved

Category	Credit	Action By	Evidence	Targeted	Achieved	Pro forma	Calculator	Letter
Man 01	c1 - Refer to the User Guide Contents List and ensure the Home User Guide that is produced covers all listed items.	Project Manager	Written confirmation from the developer or in the specification that a home user guide will be: Supplied to all dwellings and will as a minimum include a list of contents showing that the guide will cover all of the issues required in the 'user guide contents list'	1	0			
Man 04	c2 - Secured by design	Client	Detailed documentary evidence confirming: That a suitably qualified security consultant has been contacted for advice to ensure that the requirements of Section 2 – Physical Security of Secured by Design – New Homes 2 are met A commitment to follow the advice provided by the suitably qualified security consultant	1	0			
Man 05	c1 - Protecting ecological feature	Ecologist	Confirming ecological features present prior to commencement of refurbishment works in the form of a building and site inspection report and photographic evidence OR Drawings showing the location of the ecological features present prior to commencement of refurbishment works OR Where the above detailed documentary evidence cannot be produced at this stage compliant design stage commitment to carrying out a out a survey to determine the presence of ecological features	1	0			
Man 6	c1 - Project roles and responsibilities	Project Manager	Written confirmation indicating when the collaboration began and the roles and responsibilities of the project team This could be either: Meeting minutes Construction programme Responsibilities schedule Relevant section or clauses of the building specification or contract	1	0			

BREEAM Pre Assessment
 2 London Road, Twickenham

			Project implementation plan (typically in the case of small-scale projects)				
Man 6	c2 - Handover and aftercare	Project Manager	Written confirmation of a commitment or contract to provide compliant aftercare support and training or a compliant design stage commitment to provide aftercare	1	0		



Must be completed by RIBA
 Stage 2 or credit lost

Energy

29 **43%** **24** **36%** **0** **0%**
 Available % Targeted % Achieved %
 Credits Available Credits Targeted Credits Achieved

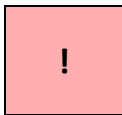
Category	Credit	Action By	Evidence	Targeted	Achieved	Pro forma	Calculator	Letter
Ene 01	c1-6 - Improving the dwelling's energy efficiency rating	Energy consultant	A copy of the design stage energy performance certificate report or SAP 2012 worksheets to confirm the dwelling's energy efficiency rating pre-refurbishment and post-refurbishment AND A copy of the output from the BREEAM Domestic Refurbishment energy calculator	6	0			
Ene 02	c1 -EER post-refurbishment	Energy consultant	A copy of the design stage energy performance certificate report or SAP 2012 worksheets post-refurbishment to confirm the dwellings energy efficiency rating. AND A copy of the output from the BREEAM Domestic Refurbishment energy calculator	3	0			
Ene 03	c1-7-Primary energy demand	Energy consultant	A copy of the design stage energy performance certificate report, SAP 20121 or RdSAP April 2012 worksheets (or EPC report) post-refurbishment to confirm the dwelling's primary energy demand. AND A copy of the output from the BREEAM Domestic Refurbishment energy calculator	3	0			
Ene 04	c1 – 10% by low/zero carbon technology	Energy consultant	A copy of the relevant calculations as detailed in the assessment procedure based on design stage SAP or RdSAP outputs AND A copy of the output from the BREEAM Domestic Refurbishment energy calculator AND Detailed documentary evidence confirming that the specified low or zero carbon technologies as applicable: meet the requirements defined in Directive 2009/28/EC	1	0			

BREEAM Pre Assessment
2 London Road, Twickenham

			are certified under the Microgeneration Certification Scheme are certified under the CHPQA standards				
Ene 04	c2 – 20% by low/zero carbon technology	Energy consultant	A copy of the relevant calculations as detailed in the assessment procedure based on design stage SAP or RdSAP outputs AND A copy of the output from the BREEAM Domestic Refurbishment energy calculator AND Detailed documentary evidence confirming that the specified low or zero carbon technologies as applicable: meet the requirements defined in Directive 2009/28/EC are certified under the Microgeneration Certification Scheme are certified under the CHPQA standard	1	0		
Ene 05	c1 – A+ Fridges, freezers and fridges/freezers	MEP	Detailed documentary evidence for existing white goods confirming the performance of the appliances OR Compliant design stage evidence outlining the appliances to be provided with their applicable ratings under the EU energy efficiency labelling scheme	1	0		
Ene 05	c2 – washing machines A++, dishwashers A+, tumble dryers and washer-dryers A	MEP	Detailed documentary evidence for existing white goods confirming the performance of the appliances OR Compliant design stage evidence outlining the appliances to be provided with their applicable ratings under the EU energy efficiency labelling scheme	1	0		

BREEAM Pre Assessment
 2 London Road, Twickenham

Ene 06	c1 – An adequate, secure internal or external space with posts and footings, or fixings holding:	MEP	For internal drying space, detailed documentary evidence confirming: Location of drying fixings Details and location of ventilation provided The length of drying line Details of the lock provided (for communal drying space only) Number of bedrooms For external drying space, detailed documentary evidence confirming: Location of fixings, footings or posts The length of drying line Number of bedrooms	1	0			
--------	--	-----	---	---	---	--	--	--

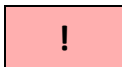


Must be completed by RIBA
 Stage 2 or credit lost

Water

5 Available Credits
11% % Available
4 Targeted Credits
9% % Targeted
0 Achieved Credits
0% % Achieved

Category	Credit	Action By	Evidence	Targeted	Achieved	Pro forma	Calculator	Letter
Wat 01	c1-5 – Water consumption	MEP	A copy of the Wat 01 calculator showing the internal potable water use per dwelling type. AND Drawings describing the location, details and type of appliances or fittings that use water in the dwelling or dwellings, including any specific water reduction equipment OR Where evidence 1 cannot be produced compliant design stage commitment to implement the specification required for the targeted credits	2	0			
Wat 03	c1 – Water meter provision	MEP	Detailed documentary evidence confirming: The water meter make and model The consumption data displayed by the water meter The location of the water meter OR Where the above cannot be produced at this stage, a compliant design stage commitment outlining the design specification that will be implemented	1	0			



Must be completed by RIBA
Stage 2 or credit lost

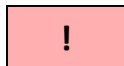
Materials

48 Available Credits
8% % Available
22 Targeted Credits
4% % Targeted
0 Achieved Credits
0% % Achieved

Category	Credit	Action By	Evidence	Targeted	Achieved	Pro forma	Calculator	Letter
Mat 01	c1-25 – Environmental impact of materials	Architect	Specification providing a detailed description of each applicable element and its constituent materials AND Design drawings or specification detailing the location and area (m2) of each applicable element AND A copy of the output from the Mat 01 calculator tool, including Green Guide ratings and element numbers for each specification assessed And where relevant: Copies of environmental product declarations A link/reference to the EPD's Product Category Rules Online Green Guide and or refurbishment calculator output Environmental profile certificate(s) (or certificate number)	10	0			
Mat 02	c1-3 Sustainable procurement plan	Architect	Written confirmation that: All timber will/has come from a 'legal source' and is not on the CITES list OR in the case of Appendix III of the CITES list, it has not been sourced from the country seeking to protect this species as listed in Appendix III	3	0			
Mat 02	c4-15 Responsible sourcing of materials (RSM)	4 - Developed Design	Detailed documentary evidence outlining the commitment to responsible sourcing which should take the form of: A sustainable procurement plan OR A completed checklist A-9 if the principal contractor is a 'micro-enterprise'	5	0			

BREEAM Pre Assessment
2 London Road, Twickenham

Mat 03	c1-4 – Embodied Impact	Architects	<p>Text (on drawings or in a specification) describing the location and area (m2) and thickness (m) or volume (m3) of insulation specified AND Manufacturer's technical details confirming the thickness and thermal conductivity of the insulating materials specified AND A copy of the output from the BREEAM Domestic Refurbishment Mat 03 calculator AND The Green Guide rating and element number for the assessed insulation specifications, including Green Guide ratings and element numbers for each new insulation specification assessed and where relevant: Copies of environmental product declarations A link/reference to the EPD's product category rules Online Green Guide calculator output Environmental profile certificate(s) (or certificate number)</p>	2	0			
Mat 03	c5-8 – Responsible sourcing	Architects	<p>Evidence (as outlined in Mat 02 Responsible sourcing of materials req. 2) confirming compliance for the insulating materials and carried out using the BREEAM Refurbishment Mat 03 calculator.</p>	2	0			



Must be completed by RIBA
Stage 2 or credit lost

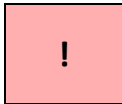
Waste

5 Available Credits
3% % Available
3 Targeted Credits
2% % Targeted
0 Achieved Credits
0% % Achieved

Category	Credit	Action By	Evidence	Targeted	Achieved	Pro forma	Calculator	Letter
Was 01	c1 – Recycling facilities	Architects	<p>Detailed documentary evidence highlighting: The type and sizes of internal storage bins The location of internal and external storage bins and distance to kitchen The types and sizes of external storage bins AND Where there is a local authority collection scheme or private recycling scheme:</p> <p>A letter, leaflet, website or other published information from the local authority or private recycling scheme operator describing: The types of waste collected The frequency of collection Type of collection sorting</p>	1	0			
Was 01	c2 - Composting	Architects	<p>Detailed documentary evidence highlighting: the location and size of external composter distance of external storage and/or composter from external door Location of the sufficiently sized internal space AND</p> <p>Where there is a local authority collection scheme or private recycling scheme: A letter, leaflet, website or other published information from the local authority or private scheme describing details of the scheme location</p>	1	0			

BREEAM Pre Assessment
 2 London Road, Twickenham

Was 02	c1-3 – Site waste management plan	Principle Contractor	<p>A copy of the compliant site waste management plan/Checklist A-10: Refurbishment Site Waste Management – up to £100k value containing the appropriate benchmarks, commitments and procedures AND Where appropriate, a copy of the pre-refurbishment audit OR Compliant design stage commitment that requires the principal contractor to produce a SWMP/complete checklist A-9 in line with the criteria and to outline in detail the criteria with respect to resource efficiency and target(s) and procedures to be included in the SWMP.</p>	1	0			
--------	-----------------------------------	----------------------	--	---	---	--	--	--



Must be completed by RIBA
 Stage 2 or credit lost

Pollution

8 **6%** **8** **6%** **0** **0%**
 Available % Targeted % Achieved %
 Credits Available Credits Targeted Credits Achieved

Category	Credit	Action By	Evidence	Targeted	Achieved	Pro forma	Calculator	Letter
Pol 01	c1-3- Low NOx space heating and hot water systems	MEP	Detailed documentary evidence describing: The primary and any secondary heating systems and flue type Dry NOx levels and/or boiler class of the primary and any secondary heating systems AND Where NOx averaging is required due to multiple heating systems within the dwelling/s, provide the following detailed documentary evidence: Copy of calculations as detailed in Appendix B: Pollution OR Copy of Pol 01 calculator Where evidence 1 and 2 cannot be produced compliant design stage commitment outlining the design specification that will be implemented	3	0			
Pol 02	c1-3 – Surface water run-off	Hydrologist	Copy of all relevant calculations and information necessary to meet the requirements AND Drawings showing the impermeable areas pre-refurbishment and post-refurbishment OR Where evidence 1 cannot be produced compliant design stage commitment outlining the design specification that will be implemented AND Written confirmation of the appointment of an appropriately qualified professional to carry out the calculations and provide design criteria for all relevant elements	3	0			
Pol 03	c1-2 – Low flood risk or flood mitigation	Hydrologist	A copy of a flood risk assessment confirming flood zone or annual probability of flooding in the site location AND	2	0			

BREEAM Pre Assessment
2 London Road, Twickenham

			Where appropriate, correspondence from the appropriate statutory body confirming reduced annual probability of flooding due to existing flood defences			
--	--	--	--	--	--	--



Must be completed by RIBA
Stage 2 or credit lost