

The Beacon,
Dafen Business Park,
Llanelli,
Carmarthenshire,
SA14 8LQ
0845 094 1593
llanelli@melinconsultants.co.uk

Park House,
10 Park Street,
Bristol,
BS1 5HX
0845 094 1279
bristol@melinconsultants.co.uk

4th Floor,
Rex House,
4-12 Regent Street, London,
SW1Y 4RG
0845 094 1847
london@melinconsultants.co.uk

www.melinconsultants.co.uk

Proposed Development @ 393 London Road, Reading, Berkshire, RG1 3PB
BREEAM UK Domestic Refurbishment 2014 pre-assessment

For

KWM Properties Ltd

3rd February 2022



A connected approach to
sustainable building solutions

Melin Consultants are accredited to provide a range of calculation, assessment and testing services. They are licensed BREEAM assessors and provide BREEAM Accredited Professional services

Melin Consultants fully check all work prior to completion and a robust audit trail exists to demonstrate accountability.

CPD (Continual Professional Development) records are kept and all technical staff are required to complete a minimum 20 hours per year in training activities.

This document contains the following information:

- BREEAM UK Domestic Refurbishment 2014 pre-assessment

Project Ref: 1976B **Report Date:** 3/2/2022

Report author: Chris Amos

Function: Senior Consultant



A connected approach to
sustainable building solutions

1. Executive Summary

1.1 Overview

The proposed development is for the conversion of 393 London Road, Reading into 5 self-contained one and two bedroom apartments.

Initial proposals allow for 3no one bedroom two person flats and 2no 2 bedroom 3 person flats spread across 4 floors, including basement, ground, first and second floors.

The report provides information on the proposed sustainability measures that will be incorporated into the scheme during design, construction and occupation and an outline to the BREEAM rating the building can expect to achieve during the design and post construction stages if adhering to the outlined measures.

In formulating this report the BREEAM UK Domestic Refurbishment 2014 Pre-assessment Estimator v4.2 tool has been used.

1.2 Key Findings

This Pre-assessment identifies a target BREEAM score for the development of **73.95%** and a BREEAM rating of **Excellent**. This provides a buffer over the target score of 70% needed to achieve an Excellent rating.

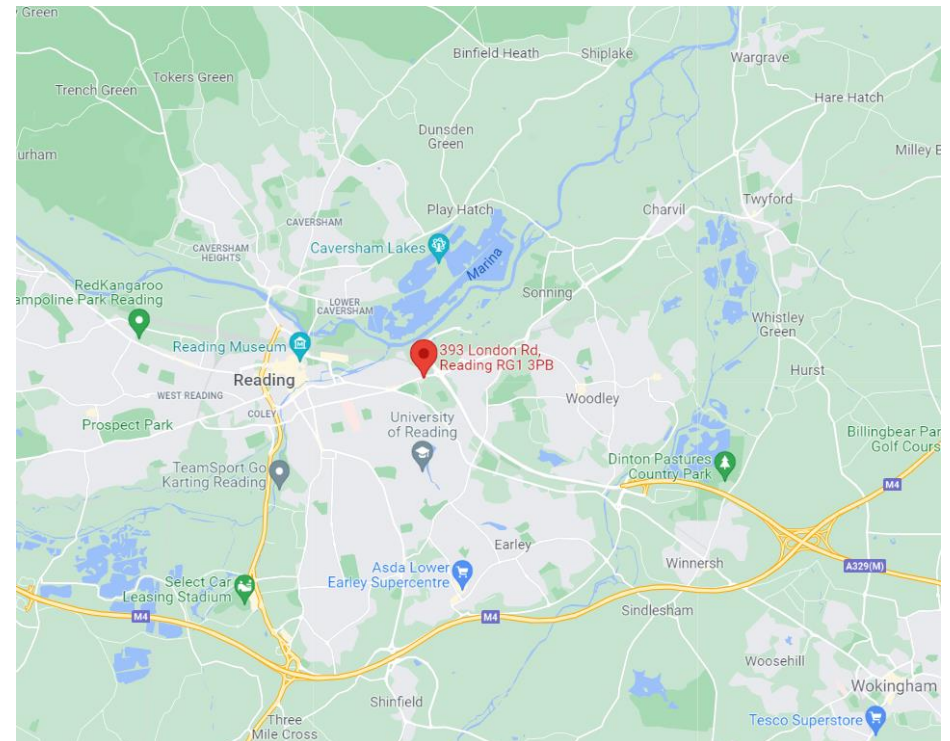
At pre-assessment stage several assumptions have been made which may be subject to change at design stage and should be reviewed immediately following planning consent.

2. Introduction

The proposed site is the provision of 5 new residential flats at 393 London Road, Reading.

2.1 Location

The site is situated on the west end of London Road and 2 miles west of Reading city Centre, the property benefits from a bus stop 50 yards east of the property with links to the City Centre and surrounding routes.



2.2 Introduction to BREEAM

This report has been prepared by Melin Consultants considering local planning requirements. This report is intended to provide a clear and straightforward assessment of the proposed development's sustainability measures through the use of BREEAM and to outline the rating that the development is likely to achieve if the targeted credits are undertaken and completed in the correct manner as prescribed by the BRE.

BREEAM (Building Research Establishment's Environmental Assessment Method) was first developed as an assessment method in 1990 and has been continually developed in line with the Building Regulations ever since, the most recent update, BREEAM Domestic Refurbishment 2.2, was published and released in March 2016.

BREEAM is currently the world's leading and most widely used environmental assessment method for buildings and can currently be used to assess any building, anywhere in the world.

The methodology is tried and tested in terms of its technical standards and its commercial delivery and expert advice is sought for almost every issue within BREEAM. It is overseen by an independent Sustainability Board which represents a wide cross

section of construction industry stakeholders. BREEAM won the Sustainable Building Conference where it was acknowledged 'the most successfully executed program for promoting sustainable practices, and influencing other initiatives, worldwide'.

2.3 Technical Standard

BREEAM Domestic Refurbishment is a performance-based assessment method and certification scheme for domestic buildings undergoing refurbishment that assesses the design, construction, intended use and future-proofing of developments. It uses a common framework that is adaptable depending upon the building's type and location.

The assessment criteria and process focuses on the design of the building from concept stage right through to an occupied building. It requires evidence to support the design and construction decisions, agreed during the development of the project, and ensures that they have been fully implemented.

2.3.1 Aims and Objectives

To date BREEAM has been used to certify over 260,000 building assessments across the building life cycle and is being applied in over 50 countries.

The core aims and objectives of BREEAM are:

- To reduce 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 simulate demand for sustainable buildings.
- To provide market recognition to low environmental impact buildings.
- To ensure best environmental practice is incorporated within buildings.
- To set criteria and standards surpassing those required by regulations and challenge the market to provide

solutions that minimise the environmental impact of buildings.

- To raise the awareness of owners, occupants, designers and operators of the benefits of buildings with a reduced impact on the environment.
- To allow organisations to demonstrate progress towards corporate environmental objectives.

2.4 The Stages

A BREEAM assessment is used to measure a building's environmental performance. There are two main stages of assessment the **Design Stage** and **Post-Construction Stage**, although a **Pre-assessment** is often carried out initially as a requirement of planning or to achieve funding.

2.4.1 The Pre-assessment

The Pre-assessment involves an initial evaluation of the sustainability of the proposed development which provides advice on the elements that need to be incorporated into the detailed design and cost plan.

The main benefits of carrying out a Pre-assessment are that the design team and BREEAM Assessor are introduced at an earlier

stage of the project; this will help to identify the constraints of the project sooner meaning that they can be addressed quicker and more cost effectively.

The Pre-assessment helps to highlight which credits are likely to be easily achievable, which in turn will help to maximise the credits that will be available and make it easier to achieve the desired rating.

To calculate the predicted score and rating Melin Consultants have used the BREEAM 2014 Domestic Refurbishment Pre-Assessment Estimator. The results and output of which can be found at the end of this report.

2.4.2 The Design Stage

The Design Stage assessment and interim BREEAM rating confirms the proposed new building's performance at the design stage of the life cycle. Ideally the assessment and certification will occur prior to the beginning of on-site operations. The BREEAM rating at this stage is labeled as 'interim' because it does not reflect the building's final, new construction performance.

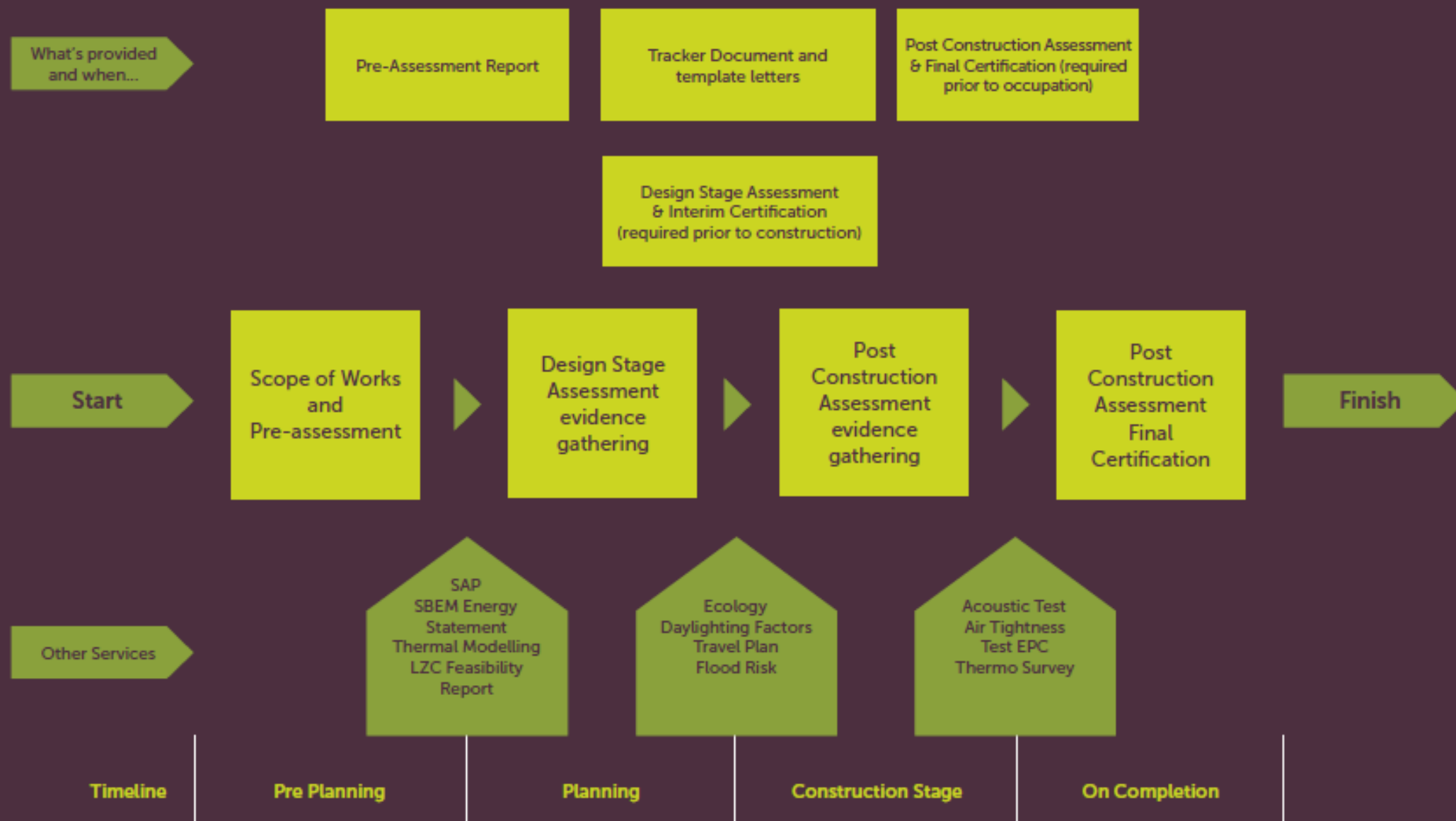
To complete an assessment at this stage the design must be advanced to a point where the relevant design information is available for evaluation and verification of the building's performance by the BREEAM assessor.

2.4.3 The Post Construction Stage

The Post Construction Stage assessment and final BREEAM rating confirms the as built performance of the building at the new construction stage of the life cycle. A final assessment is completed and certified after practical completion of the building works.

2.5 Process

Melin employ licensed BREEAM assessors and Accredited Professionals whom can provide robust and informed advice for all aspects of sustainable design. It is anticipated that the proposed development will follow the work schematic on the following page which sets out a clear and timed approach to gaining the required rating.



2.6 Categories

Assessments can be carried out for new builds, extensions, refurbishments, fit out and shell and core projects. An assessment is made up of the following ten categories:

- Management – to encourage the adoption of sustainable management in connection with the design, construction, commissioning, handover and aftercare activities.
- Health and Wellbeing – to encourage the increased comfort, health and safety of building occupants.
- Energy – to encourage the specification and design of energy efficient building solutions, systems and equipment that support the sustainable use of energy in the building and operation.
- Water – to encourage sustainable water use in the operation of the building and its site.
- Materials – to encourage steps taken to reduce the impact of construction materials through design, construction, maintenance and repair.
- Waste – to encourage the sustainable management of construction and operational waste.
- Pollution – to encourage the prevention and control of pollution and surface water run-off associated with the building's location and use.
- Innovation – to provide opportunities for exemplary performance and innovation to be recognised.

Management	Health & Wellbeing	Energy	Water
- Home User Guide - Responsible Construction Practices - Construction Site Impacts - Security - Protection and enhancement of ecological features. - Project Management	- Daylighting - Sound Insulation - Volatile Organic Compounds (VOCs) - Inclusive Design - Ventilation - Safety	- Improvement in energy efficiency rating - Energy efficiency rating post-refurbishment - Primary Energy Demand - Renewable technologies - Energy labelled white goods - Drying Space - Lighting - Energy Display Devices - Cycle Storage - Home Office	- Internal water use - Water meters - External water use
Materials	Waste	Pollution	Innovation
- Environmental impact of Materials - Responsible sourcing - Insulation	- Household waste - Refurbishment site waste management	- Surface water run off - Flooding - Nitrogen oxide emissions	Exemplary Performance

Each category is then broken down further into individual measures across a range of environmental issues (see table above).

Depending on a building type and function not all of these issues are relevant and are filtered out for the Pre-assessment.

2.6.1 Category weightings

Each BREEAM category carries its own weighting factor which is applied as credits are achieved. For example, 1 credit within the Energy category will have a different impact than 1 credit in the Water section.

Category	Weighting
Management	12%
Heath & Wellbeing	17%
Energy	43%
Water	11%
Materials	8%
Waste	3%
Pollution	6%
Total	100%
Innovation (Additional)	10%

2.7 Benchmarks

The BREEAM rating benchmarks for projects assessed using the 2014 version of BREEAM UK Domestic Refurbishment 2014 as follows:

BREEAM Rating	% score	
Outstanding	≥ 85	Less than top 1% of UK DR buildings.
Excellent	≥ 70	Top 10% of UK DR buildings.
Very Good	≥ 55	Top 25% of UK DR buildings.
Good	≥ 45	Top 50% of UK DR buildings.
Pass	≥ 30	Top 75% of UK DR buildings.
Unclassified	< 30	Doesn't meet minimum level of good practice

*DR – Domestic Refurbishment

These benchmarks enable stakeholders to compare the performance of a newly constructed building with other BREEAM rated buildings.

2.7.1 Minimum standard

To provide a flexible approach BREEAM uses a balanced approach to the scoring. To achieve a particular level of performance the majority of BREEAM credits can be traded. However, to ensure performance against fundamental environmental is not overlooked BREEAM sets minimum standards of performance in key areas.

BREEAM Issue	Minimum standards by rating level				
	Pass	Good	Very Good	Excellent	Outstanding
ENE02 Energy efficiency rating post-refurbishment	0.5 Credits	1 Credit	2 Credits	2.5 Credits	3.5 Credits
WAT01 Internal Water Use	-	-	1 Credit	2 Credits	3 Credits
HEA05 Ventilation	1 Credit	1 Credit	1 Credit	1 Credit	1 Credit
HEA06 Safety	1 Credit	1 Credit	1 Credit	1 Credit	1 Credit
POL03 Flooding	-	-	-	2 Credits	2 Credits
MAT01 Environmental impact of materials	Criterion 1 only	Criterion 1 only	Criterion 1 only	Criterion 1 only	Criterion 1 only

Results Output

Category	No. of Credits Available	No. of Credits Agreed	Credits Agreed (%)	Section Weighting (%)	Section Score (%)
Management	11	8	73%	12%	8.73%
Health & Wellbeing	12	7	58.3%	17%	9.92%
Energy	29	25.5	90%	43%	37.81%
Water	5	3	60%	11%	8.80%
Materials	48	18	37.5%	8%	3.00%
Waste	5	5	100%	3%	1.20%
Pollution	8	6	75%	6%	4.50%
Innovation (additional)	10	0	%	n/a	-
					73.95%

Category	Available	Excellent	Comments
Man01	3	3	A Home Users Guide will be supplied to the dwelling and will contain all the required information for the occupant to understand how to operate their home efficiently and effectively.
Man02	2	1	50% of optional items from Checklist A-3 addressed (Checklist A-3 available upon request from the Melin BREEAM assessor)
Man03	1	1	The project team will provide a completed copy of Checklist A-5 to demonstrate that the site is managed in an environmentally sound manner in terms of resource use, energy consumption and pollution
Man04	2	1	Where retained, external doors and windows will comply with the BREEAM minimum security requirements. Where newly added, these items will be appropriately certified, e.g. External door sets: PAS24:2007, Windows: BS7950:1997.
Man05	1	0	Credit not sought
Man06	2	2	The criteria outlined in regard to 'project roles and responsibilities', 'handover and aftercare' will be adhered to, to ensure delivery of a functional and sustainable refurbishment, designed and built in accordance with performance expectations.

Man06 Innovation	2	0	Credit not targeted
Hea01	2	2	To achieve these credits daylighting calculations will need to be undertaken on the new dwelling, confirming the extension does not significantly reduce daylighting levels in the neighboring property and the dwelling achieves minimum daylighting requirements for the kitchen, living room, dining room and study. (Melin Consultants can provide this service, if required a quote can be provided upon request)
Hea02	4	4	It is assumed that sound testing will be required, and the property will perform beyond the building regulation standards by 5dB.
Hea03	1	1	Internal finishes and fittings will be specified with low emissions of volatile organic compounds (VOCs). Further guidance on the relevant product categories is available from the Melin BREEAM Assessor
Hea04	2	0	Credit not targeted
Hea05	2	1	Evidence will be supplied by the project team to demonstrate that 'Minimum Requirements' will be met (Further guidance is available from the Melin BREEAM Assessor)
Hea06	1	1	Formal commitment will be provided at Design Stage to demonstrate that the Fire and Carbon Monoxide (CO) Detection and Alarm Systems will be compliant.
Ene01	6	5.5	Credits will be awarded based on SAP Calculations, this will be used to calculate the improvement to the dwelling's Energy Efficient Rating.
Ene02	4	4	Credits will be awarded based on SAP Calculations, this will be used to calculate the Energy Efficient Rating.
Ene03	7	7	Design Stage SAP Calculations will demonstrate the Primary Energy Demand for the proposed refurbishment. Based on this figure credits will be awarded.
Ene04	2	0	At this stage no plans have been made for renewable technologies to be installed.
Ene05	2	2	Where supplied, the white goods will be supplied in accordance with the above labelling scheme. Where not supplied, a leaflet will be supplied to occupants providing guidance on the EU Energy Efficiency Labelling Scheme.
Ene06	1	1	A 4m+ internal drying space will be provided
Ene07	2	2	Two credits have been targeted at pre-assessment stage based on Energy Efficient external lighting of more than 45 lumens per circuit watt & Energy Efficient security lighting. Maximum internal lighting wattage of 9 watts/m ² across the total floor area.
Ene08	2	2	A BREEAM compliant energy display device will be fitted displaying the Electricity and Primary Heating Fuel.
Ene08 Innovation	1	0	Not targeted

Ene09	2	1	Based on the provision of two dedicated cycle storage spaces
Ene10	1	0	Credit not targeted
Wat01	3	1	2 credits are currently targeted, which meets the minimum requirement for an 'Excellent' rating. The water consumption of the relevant sanitaryware will be confirmed to the Assessor. This will be re-evaluated at Design Stage.
Wat02	1	1	One credit awarded based on no individual or communal garden space to be provided
Wat03	1	0	A compliant water meter would need to be specified to provide a visible display of mains potable water consumption to occupants. The meters would need to be a permanent feature secured within the dwelling in a location visible to occupants (i.e. not hidden within a cupboard).
Mat01	25	0	Credits not sought
Mat02	15	3	At pre-assessment stage, it is estimated that a sustainable procurement plan will be provided, and all new timber will be sourced in accordance with the UK Government's Timber Procurement Policy
Mat03	8	0	Credits not sought
Was01	2	2	Two credits are targeted based on the provision of internal recycling containers being provided, composting facilities/ service for green & kitchen waste provided and the provision of an interior kitchen composting waste container of at least 7 litres.
Was02	3	3	Waste generated through the refurbishment process will be managed in accordance with a compliant site waste management plan
Was02 Innovation	1	1	A Site Waste Management Plan (to the relevant standard) will be produced
Pol01	3	3	Three credits predicted, based on the assumed provision of high efficiency gas boilers
Pol02	3	1	One credit is achieved based on the fact that there is no change in the size of the building footprint or hardstanding areas as a result of the refurbishment
Pol03	2	2	2 credits targeted to meet minimum standards for Excellent, a Flood Risk Assessment will be required meeting the above standards.

BREEAM UK Domestic Refurbishment 2014 Pre-Assessment Estimator v0.1						BREEAM UK	
This assessment and indicative BREEAM rating is not a formal certified BREEAM assessment or rating and must not be communicated as such. The score presented is indicative of a dwelling's potential performance and is based on a simplified pre-formal BREEAM assessment and unverified commitments given at an early stage in the design process.							
Building name		Development at 393 London Rd, Reading		Minimum Standards			
Indicative building score (%)		73.95%		Pass		Good	
Indicative BREEAM rating		BREEAM Excellent		Very Good		Excellent	
Management		Health & Wellbeing		Energy		Water	
Materials		Waste		Pollution			
Ene 02		✓		✓		✓	
Wat 01		✓		✓		✓	
Hea 05		✓		✓		✓	
Hea 06		✓		✓		✓	
Pol 03		✓		✓		✓	
Mat 02		✓		✓		✓	
Section Weighting: 10%		Indicative Section Score: 0.00%					
Comments							
MANAGEMENT Section Weighting: 12% Indicative Section Score: 8.73%							
Man 01 Home Users Guide							
No. of BREEAM credits available		3		Available contribution to overall score		3.27%	
No. of BREEAM innovation credits		0		Minimum Standards applicable:		No	
Assessment Criteria						Indicative Credits	
Where a Home Users Guide be provided to all dwellings, covering all issues set out in the 'Users Guide Contents list', three credits may be awarded						3	
Comments							
A Home Users Guide will be supplied to the dwelling and will contain all the required information for the occupant to understand how to operate their home efficiently and effective.							
Man 02 Responsible Construction Practices							
No. of BREEAM credits available		2		Available contribution to overall score		2.18%	
No. of BREEAM innovation credits		1		Minimum Standards applicable:		No	
Assessment Criteria						Indicative Credits	
Where a compliant considerate construction scheme will be used, credits are awarded depending on the score achieved as outlined below:						0	
Large Scale - project with more than 5 units							
Considerate Constructors Scheme		Score of 25-34 with a score of 5 in each section		One Credit		Two Credits	
Alternative Compliant Scheme		Compliance		Beyond Compliance			
Small Scale - project with 5 units or fewer							
Considerate Constructors Scheme		Score of 25-34 with a score of 5 in each section		One Credit		Two Credits	
Alternative Compliant Scheme		Compliance		Beyond Compliance			
Checklist A-3		50% of the optional items		80% of the optional items			
Exemplary Credit							
Considerate Constructors Scheme		Score of 40 or more with a score of 7 in each section		One Credit		Two Credits	
Alternative Compliant Scheme		Exemplary Level Compliance		Beyond Compliance			
Checklist A-3*		All Items (Optional & Mandatory)		* Small Scale Project Only			
Indicative Innovation Credits Achieved						0	
Comments							
Site to be registered with the Considerate Constructors Scheme and achieve a minimum score of 25 - 34 with atleast 5 in each section. (CCS Targeted as per the Granit Specification Provided)							
Man 03 Construction Site Impacts							
No. of BREEAM credits available		1		Available contribution to overall score		1.09%	
No. of BREEAM innovation credits		0		Minimum Standards applicable:		No	
Assessment Criteria						Indicative Credits	
Where evidence demonstrate that site impacts will be monitored, as detailed below:						0	
Large Scale		Where there is evidence to demonstrate that 2 or more of the sections in Checklist A-4 are completed		One Credit			
Small Scale		Where there is evidence to demonstrate that 2 or more of the sections in Checklist A-5 are completed					
Sections of Checklist							
Large Scale - Checklist A-4				Small Scale - Checklist A-5			
Monitor, report and set targets for CO2 production of energy use arising from site activities				Set objectives for reducing CO2 production from energy use arising from site activities			
Monitor, report and set targets for water consumption arising from site activities				Set objectives for reducing water use arising from site activities			
A main contractor with an environmental materials policy				Main contractor environmental materials statement			
A main contractor that operates an Environmental Management System				80% of site timber is reclaimed, re-used or responsibly sourced			
80% of site timber is reclaimed, re-used or responsibly sourced							
Same definition of small and large scale as in Man 02							
Comments							
The project team will provide a completed copy of Checklist A-5 to demonstrate that the site is managed in a environmentally sound manner in terms of resource use, energy consumption and pollution (Checklist available from Melin BREEAM Assessor).							

Man 04 Security			
No. of BREEAM credits available	2	Available contribution to overall score:	2.18%
No. of BREEAM innovation credits	0	Minimum Standards applicable:	No
Assessment Criteria			Indicative Credits
Where the following requirements will be met:			2
One Credit Secure windows and doors	External doors and accessible windows meet minimum standards and appropriately certified		
Two Credits Secured by design	Principles and guidance of Secured by Design Section 2 are complied with		
	A suitably qualified security consultant is consulted at the design stage and their recommendations are incorporated into the refurbishment		
Comments			
Where retained, external doors and windows will comply with the BREEAM minimum security requirements. Where newly added, these items will be appropriately certified, e.g. External door sets: PAS24:2007, Windows: BS7950:1997.			
Man 05 Protection and Enhancement of Ecological Features			
No. of BREEAM credits available	1	Available contribution to overall score:	1.09%
No. of BREEAM innovation credits	1	Minimum Standards applicable:	No
Assessment Criteria			Indicative Credits
Where the following requirements will be met:			1
One Credit Protecting Ecological Features	Site survey carried out to determine presence of ecological features		
	Statutory Nature Conservation Organisation notified of protected species		
	Features of ecological value protected during refurbishment works		
Exemplary Credit Ecological enhancement	A suitably qualified ecologist recommends features to enhance ecology of the site		Indicative Innovation Credits Achieved
	adopts all general ecological recommendations		
	adopts 30% of additional recommendations		
Comments			
Credit not sought.			
Man 06 Project Management			
No. of BREEAM credits available	2	Available contribution to overall score:	2.18%
No. of BREEAM innovation credits	2	Minimum Standards applicable:	No
Assessment Criteria			Indicative Credits
Where the following requirements will be met:			2
One Credit Project Roles and Responsibilities	Where all of the project team are involved in the project decision making		
	Small Scale - the project manager assigns individual and shared responsibilities amongst the project team including all trades on site		
	Large Scale - the project manager assigns individual and shared responsibilities across the following key design and refurbishment stages: i. Planning and Building control notification ii. Design iii. Refurbishment iv. Commissioning and handover v. Occupation		
Small Scale projects: five units or fewer and less than £100k		Large Scale projects: more than five units and more than £100k	
One Credit Handover and Aftercare	Handover meeting arranged		
	2 or more of the following committed to: - A site inspection within 3 months of occupation - Conduct post occupancy interviews with building occupants or a survey via phone or posted information within 3 months of occupation - Longer term after care e.g. a helpline, nominated individual or other appropriate system to support building users for at least the first 12 months of occupation		
Exemplary Credits			Indicative Innovation Credits Achieved
One Exemplary Credit Early Design Input	Where A BREEAM Accredited Professional has been appointed to oversee key stages within the project. OR Where a BREEAM Domestic Refurbishment Assessor has been appointed at an early stage of the project, prior to the production of a refurbishment specification		0
One Exemplary Credit Thermographic Surveying and Airtightness Testing	Where Thermographic surveying and Airtightness testing have been carried out at both pre and post refurbishment stages Where an improved air tightness target has been set at design stage and testing demonstrates that this has been achieved post refurbishment		
Comments			
The criteria outlined above in regard to 'project roles and responsibilities', 'handover and aftercare' and 'thermographic survey and airtightness testing' will be adhered to, to ensure delivery of a functional and sustainable refurbishment, designed and built in accordance with performance expectations.			

HEALTH & WELLBEING		Section Weighting: 17%		Indicative Section Score 9.92%	
Hea 01 Daylighting					
No. of BREEAM credits available	2	Available contribution to overall score	2.83%		
No. of BREEAM innovation credits	0	Minimum Standards applicable	No		
Assessment Criteria				Indicative Credits	
Where the refurbishment results in a neutral impact on daylighting or where minimum daylighting standards are met, up to two credits may be awarded as follows:				2	
For Existing Dwellings and Change of Use Projects					
First Credit Maintaining Good Daylighting		The refurbishment results in a neutral impact on the dwellings daylighting levels in the kitchen, living room, dining room and study			
Where the property is being extended					
First Credit Maintaining Good Daylighting		New spaces achieve minimum daylighting levels			
		The extension does not significantly reduce daylighting levels in the kitchen, living room, dining room or study of neighbouring properties			
For All Properties					
Second Credit Minimum Daylighting		The dwelling achieves minimum daylighting levels in the kitchen, living room, dining room and study			
Comments					
Daylighting calculations will be undertaken on the new dwelling, confirming if the dwelling achieves minimum daylighting requirements for the kitchen, living room, dining room and study.					
Hea 02 Sound Insulation					
No. of BREEAM credits available	4	Available contribution to overall score	5.67%		
No. of BREEAM innovation credits	0	Minimum Standards applicable	No		
Assessment Criteria				Indicative Credits	
To ensure the provision of acceptable sound insulation standards and so minimise the likelihood of noise complaints.				2	
Properties where sound testing has been carried out:					
Up to Four Credits		Four credits awarded according to the improvement over building regulations. See table in additional information in Technical Manual			
Properties where sound testing is not feasible and not required by the appointed Building Control body					
Two Credits		Where existing separating walls and floors are designed to meet the requirements of Building Regulations with compliant construction details			
Up to Four Credits		Where a Suitably Qualified Acoustician (SQA) provides recommendations for the specification of all existing separating walls and floors			
		SQA confirms in their professional opinion that they have the potential to meet or exceed the sound insulation credit requirements			
		Where these recommendations are implemented			
		See table in additional information in Technical Manual			
Historic Buildings					
Up to Four Credits		Where the dwelling is a Historic Building and sound testing results demonstrate existing separating walls and floor meet the Historic Building credit requirements			
		See table in additional information in Technical Manual			
		Where sound testing is not feasible and not required by the appointed Building Control body meeting criteria 2 and 3 using Table 12			
		Properties where sound testing has been carried out, credits awarded according to the improvement over building regulations. See table in additional information in Technical Manual			
		Where the dwelling is a detached property			
		Where the dwelling is a property with separating walls or floors only between non habitable rooms OR Testing not required by building control body			
Detached Properties					
Four Credits		By Default			
Properties with separating walls or floors only between non habitable rooms OR Testing not required by building control body					
Four Credits		By Default			
Comments					
The property is detached so the credits can be awarded by default.					
Hea 03 Volatile Organic Compounds					
No. of BREEAM credits available	1	Available contribution to overall score	1.42%		
No. of BREEAM innovation credits	0	Minimum Standards applicable	No		
Assessment Criteria				Indicative Credits	
Where the refurbishment avoids the use of VOCs with new products meeting the following requirements:				1	
One Credit Avoiding the use of VOCs		Where all decorative paints and varnishes used in the refurbishment have met the requirement listed in table 5.4 in the Technical Manual			
		Where at least five of the eight remaining product categories listed in table 5.4 have met the testing requirements and emission levels for Volatile Organic Compound (VOC) emissions against the relevant standards identified within table 5.4 in the Technical Manual			
		Where five or less products are specified within the refurbishment, all must meet the requirements in order to achieve this credit.			
Comments					
Internal finishes and fittings will be specified with low emissions of volatile organic compounds (VOCs). Further guidance on the relevant product categories is available from the Melin					

BREEAM Assessment

DALLAM ASSESSOR

Hea 04 Inclusive Design																													
No. of BREEAM credits available	2	Available contribution to overall score	2.83%																										
No. of BREEAM innovation credits	1	Minimum Standards applicable	No																										
Assessment Criteria			Indicative Credits																										
Where an access statement has been carried out using Checklist A-8 of the Technical Manual to optimise the accessibility of the home as follows:			0																										
<table border="1"> <thead> <tr> <th colspan="3">Checklist A-8 of the Technical Manual</th> </tr> <tr> <th></th> <th>Section 1</th> <th>Section 2</th> </tr> </thead> <tbody> <tr> <td>One Credit Minimum Accessibility</td> <td>Completed with Evidence</td> <td></td> </tr> <tr> <td>Two Credits Advanced Accessibility</td> <td>Completed with Evidence</td> <td>Completed with Evidence</td> </tr> </tbody> </table>				Checklist A-8 of the Technical Manual				Section 1	Section 2	One Credit Minimum Accessibility	Completed with Evidence		Two Credits Advanced Accessibility	Completed with Evidence	Completed with Evidence														
Checklist A-8 of the Technical Manual																													
	Section 1	Section 2																											
One Credit Minimum Accessibility	Completed with Evidence																												
Two Credits Advanced Accessibility	Completed with Evidence	Completed with Evidence																											
Exemplary Performance			Indicative Innovation Credits Achieved																										
One Credit	Where an access expert suitably qualified member of the design team has completed sections 1, 2 and 3 of Checklist A-8, access statement template with evidence provided of the measures implemented in the refurbishment		0																										
Comments																													
Credit not sought.																													
Hea 05 Ventilation																													
No. of BREEAM credits available	2	Available contribution to overall score	2.83%																										
No. of BREEAM innovation credits	0	Minimum Standards applicable	Yes																										
Assessment Criteria			Indicative Credits																										
Where the dwelling meets the following ventilation requirements:			1																										
One Credit Minimum Ventilation Requirements	A minimum level of background ventilation is provided (with trickle ventilators or other means of ventilation) for all habitable rooms, kitchens, utility rooms and bathrooms compliant with section 7, Building Regulations Approved Document Part F, 2010																												
	A minimum level of extract ventilation is provided in all wet rooms (e.g. kitchen, utility and bath-rooms), compliant with section 5, Building Regulations Approved Document Part F 2010.																												
	A minimum level of purge ventilation is provided in all habitable rooms and wet rooms, compliant with section 7, Building Regulations Approved Document Part F, 2010.																												
	It is an historic building and meets historic building requirements in CN4 of the technical manual																												
Two Credits Advanced Requirements	Ventilation is provided for the dwelling that meets the requirements of Section 5 of Building Regulations Part F in full																												
	Where the building is a historic building and meets the requirements for Historic Buildings in compliance note 4 of the technical manual																												
Comments																													
Evidence will be supplied by the project team to demonstrate that 'Minimum Requirements' listed above will be met																													
Hea 06 Safety																													
No. of BREEAM credits available	1	Available contribution to overall score	1.42%																										
No. of BREEAM innovation credits	0	Minimum Standards applicable	Yes																										
Assessment Criteria			Indicative Credits																										
Where a fire and carbon monoxide (CO) detection and alarm system is specified as follows:			1																										
One Credit Fire and Carbon Monoxide (CO) Detection and Alarm Systems	Where a compliant fire detection and fire alarm system is provided																												
	Carbon Monoxide detector installed if dwelling is supplied with mains gas or other fossil fuel																												
	Mains supplied fire detection and alarm system if project involves re-wiring*																												
	Battery operated fire detection and alarm system if no re-wiring* is to take place																												
* see CN9 in Hea 06 for the definition of re-wiring																													
Comments																													
Formal commitment will be provided at Design Stage to demonstrate that the Fire and Carbon Monoxide (CO) Detection and Alarm Systems will be compliant with the above points.																													
ENERGY Section Weighting: 43% Indicative Section Score 37.81%																													
Ene 01 Improvement in Energy Efficiency Rating																													
No. of BREEAM credits available	6	Available contribution to overall score	8.90%																										
No. of BREEAM innovation credits	0	Minimum Standards applicable	No																										
Assessment Criteria			Indicative Credits																										
Where the following targets are met for the improvement in Energy Efficiency Rating achieved as a result of refurbishment:			5.5																										
<table border="1"> <thead> <tr> <th>Improvement in EER</th> <th>Credits</th> </tr> </thead> <tbody> <tr><td>≥ 5</td><td>0.5</td></tr> <tr><td>≥ 9</td><td>1</td></tr> <tr><td>≥ 13</td><td>1.5</td></tr> <tr><td>≥ 17</td><td>2</td></tr> <tr><td>≥ 21</td><td>2.5</td></tr> <tr><td>≥ 26</td><td>3</td></tr> <tr><td>≥ 31</td><td>3.5</td></tr> <tr><td>≥ 36</td><td>4</td></tr> <tr><td>≥ 42</td><td>4.5</td></tr> <tr><td>≥ 48</td><td>5</td></tr> <tr><td>≥ 54</td><td>5.5</td></tr> <tr><td>≥ 60</td><td>6</td></tr> </tbody> </table>				Improvement in EER	Credits	≥ 5	0.5	≥ 9	1	≥ 13	1.5	≥ 17	2	≥ 21	2.5	≥ 26	3	≥ 31	3.5	≥ 36	4	≥ 42	4.5	≥ 48	5	≥ 54	5.5	≥ 60	6
Improvement in EER	Credits																												
≥ 5	0.5																												
≥ 9	1																												
≥ 13	1.5																												
≥ 17	2																												
≥ 21	2.5																												
≥ 26	3																												
≥ 31	3.5																												
≥ 36	4																												
≥ 42	4.5																												
≥ 48	5																												
≥ 54	5.5																												
≥ 60	6																												
Comments																													
Credits awarded based on the SAP Calculations undertaken by Melin Consultants on 08/01/2018, this will be used to calculate the improvement to the dwelling's Energy Efficient Rating.																													

Ene 02 Energy Efficiency Rating Post Refurbishment				
No. of BREEAM credits available	4	Available contribution to overall score	5.93%	
No. of BREEAM innovation credits	2	Minimum Standards applicable	Yes	
Assessment Criteria				Indicative Credits
Where the following Energy Efficiency Rating benchmarks will be met as a result of refurbishment:				3
EER post refurbishment		Credits	Minimum requirements	
≥50		0.5	'Pass' level EER of 50	
≥55		1	'Good' level EER of 58	
≥60		1.5		
≥65		2	'Very Good level' EER of 65	
≥70		2.5	'Excellent' level EER of 70	
≥75		3		
≥80		3.5	'Outstanding' level EER of 81	
≥85		4		
Exemplary		Credits		Indicative Innovation Credits Achieved
≥90		1		0
≥100		2		
Comments				
Credits awarded based on the SAP Calculations undertaken by Melin Consultants on 08/01/2018, this will be used to calculate the SAP Energy Efficient Rating.				
Ene 03 Primary energy demand				
No. of BREEAM credits available	7	Available contribution to overall score	10.38%	
No. of BREEAM innovation credits	0	Minimum Standards applicable	No	
Assessment Criteria				Indicative Credits
Where the following Primary Energy Demand benchmarks will be met as a result of refurbishment:				7
Primary Energy Demand Post Refurbishment		Credits		
≤ 400		0.5		
≤ 370		1		
≤ 340		1.5		
≤ 320		2		
≤ 300		2.5		
≤ 280		3		
≤ 260		3.5		
≤ 240		4		
≤ 220		4.5		
≤ 200		5		
≤ 180		5.5		
≤ 160		6		
≤ 140		6.5		
≤ 120		7		
Comments				
The Design Stage SAP Calculations (08/01/2018) will demonstrate the Primary Energy Demand for the proposed refurbishment. Based on this figure credits will be awarded.				
Ene 04 Renewable Technologies				
No. of BREEAM credits available	2	Available contribution to overall score	2.97%	
No. of BREEAM innovation credits	0	Minimum Standards applicable	No	
Assessment Criteria				Indicative Credits
Where the dwelling will meet the following % contribution from renewables and primary energy demand targets as a result of refurbishment				0
Dwelling Type	Primary Energy Demand	Percentage from Renewables		
		1 Credit	2 Credits	
Detached	≤ 250 kWh/m ² /year	≥10%	≥20%	
Semi-Detached		≥10%	≥20%	
Bungalow		≥10%	≥20%	
End of Terrace		≥10%	≥20%	
Mid Terrace	≤ 220 kWh/m ² /year	≥10%	≥20%	
Low Rise Flat		≥10%	≥20%	
Mid Rise Flat		≥10%	≥15%	
High Rise Flat		≥10%	≥15%	
Comments				
As the proposed refurbishment is on a listed building, no PV can be used, so it is unlikely this credit will be achieved.				
Ene 05 Energy Labelled White Goods				
No. of BREEAM credits available	2	Available contribution to overall score	2.97%	
No. of BREEAM innovation credits	0	Minimum Standards applicable	No	
Assessment Criteria				Indicative Credits
Where Energy Efficiency White goods are to be provided as follows:				2
First Credit				
Appliance	Appliance provided	Appliance not to be provided		
Fridges, Freezers and Fridge-Freezers	A+ Rating under EU Energy Efficiency Labelling Scheme	EU Energy Efficiency Labelling Scheme Information Leaflet provided to all dwellings		
Second Credit				
Appliance	Appliance provided	Appliance not to be provided		
Washing Machines and Dishwashers	Washing Machine A++ under EU Energy Efficiency Labelling Scheme AND Dishwasher A+ under EU Energy Efficiency Labelling Scheme	Second credit not achieved		
Washer-Dryers and Tumble Dryers	Appliances specified with A Rating under EU Energy Efficiency Labelling Scheme	EU Energy Efficiency Labelling Scheme Information Leaflet provided to all dwellings		
Comments				
Where supplied, the white goods will be supplied in accordance with the above labelling scheme. Where not supplied, a leaflet will be supplied to occupants providing guidance on the EU Energy Efficiency Labelling Scheme.				

Ene 06 Drying Space				
No. of BREEAM credits available	1	Available contribution to overall score	1.48%	
No. of BREEAM innovation credits	0	Minimum Standards applicable	No	
Assessment Criteria				Indicative Credits
Where adequate, secure internal or external space with posts and footings or fixings is provided with the following:				1
1 Credit				
Number of bedrooms	Drying line required			
1-2	4m+			
3+	6m+			
Comments				
An internal or external drying space will be provided in accordance with the above.				
Ene 07 Lighting				
No. of BREEAM credits available	2	Available contribution to overall score	2.97%	
No. of BREEAM innovation credits	0	Minimum Standards applicable	No	
Assessment Criteria				Indicative Credits
Where energy efficient internal and external lighting is provided as follows:				2
External Lighting - 1				
Energy Efficient Space Lighting of more than 45 lumens per circuit watt and Energy Efficient Security Lighting OR				
Where Energy Efficient Space Lighting is provided ONLY				
Internal Lighting - 1				
Maximum average wattage across the total floor area of the dwelling of 9 watts/m2				
Comments				
One credits has been targeted at pre-assessment stage based on compliance with the above requirements for external lighting.				
Ene 08 Display Energy Devices				
No. of BREEAM credits available	2	Available contribution to overall score	2.97%	
No. of BREEAM innovation credits	1	Minimum Standards applicable	No	
Assessment Criteria				Indicative Credits
Where consumption data is displayed to occupants by a compliant energy display device				2
Electricity usage data displayed		Primary Heating Fuel		
		Electricity	Other	
Electricity usage data displayed		2 credits awarded	1 credit awarded	
Primary Heating Fuel usage data displayed		N/A	1 credit awarded	
Electricity & Primary Heating Fuel usage displayed		N/A	2 credits awarded	
Exemplary Credits				
One credit		Where the first two credits are achieved		
Recording consumption data		Where any compliant Energy Display Device is capable of recording consumption data		
Comments				
A BREEAM compliant energy display device will be fitted displaying the Electricity and Primary Heating Fuel. This Energy Display Device will also be capable of recording the consumption data.				
Ene 09 Cycle Storage				
No. of BREEAM credits available	2	Available contribution to overall score	2.97%	
No. of BREEAM innovation credits	0	Minimum Standards applicable	No	
Assessment Criteria				Indicative Credits
Where individual or communal compliant cycle storage is provided as follows:				2
Dwelling Size	One Credit	Two Credits		
Studios/ 1 bedroom	1 per two dwellings	1 per dwelling		
2-3 bedrooms	1 per dwelling	2 per dwelling		
4 bedrooms	2 per dwelling	4 per dwelling		
Comments				
Credit not targeted				
Ene 10 Home Office				
No. of BREEAM credits available	1	Available contribution to overall score	1.48%	
No. of BREEAM innovation credits	0	Minimum Standards applicable	No	
Assessment Criteria				Indicative Credits
Where sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation				1
Comments				
Credit not targeted				

WATER		Section Weighting: 11%		Indicative Section Score 8.80%	
Wat 01 Internal Water Use					
No. of BREEAM credits available	3	Available contribution to overall score	6.60%		
No. of BREEAM innovation credits	1	Minimum Standards applicable	Yes		
Assessment Criteria				Indicative Credits	
Where the dwellings water consumption meets the following consumption benchmarks, or where terminal fittings meet the following water consumption standards:				2	
Calculated Water Consumption (litres/person/day)	Equivalent terminal fitting standards	Minimum Standard	Credits		
>150	Typical baseline performance	N/A	0		
from 140 to ≤ 150	All showers specified to 'Good' OR All taps and WC's to 'Good' OR Kitchen fittings specified to 'Excellent'	N/A	0.5		
from 129 to < 140	All showers specified to 'Excellent' OR All showers and bathroom taps to 'Good'	BREEAM Very Good	1		
from 118 to < 129	All bathroom and WC room fittings specified to 'Good' OR All bathroom fittings specified to 'Excellent'	N/A	1.5		
from 107 to < 118	All Bathroom and WC room fittings specified to 'Excellent' OR All Bathroom fittings Specified to 'Excellent' and WC room fitting specified to 'Good' OR All Bathroom fittings, kitchen and utility fittings specified to 'Good'	BREEAM Excellent	2		
from 96 to < 107	All kitchen, bathroom, utility room and WC room fittings specified to 'Good' OR All bathrooms, kitchens and utility rooms specified to 'Excellent'	N/A	2.5		
< 96	All bathroom fittings specified to 'Excellent' and WC room, kitchen and utility room fittings specified to 'Good'	BREEAM Outstanding	3		
NOTE: 'Good' fittings are equivalent to good practice fittings with "Excellent" fittings equivalent to best practice fittings (see the technical manual for full details).					
Exemplary Credit		If the water consumption is less than 80l/person/day		Indicative Innovation Credits Achieved	
				0	
Comments					
2 credits are currently targeted, which meets the minimum requirement for an 'Excellent' rating. The water consumption of the relevant sanitaryware will be confirmed to the Assessor. This will be re-evaluated at Design Stage.					
Wat 02 External Water Use					
No. of BREEAM credits available	1	Available contribution to overall score	2.20%		
No. of BREEAM innovation credits	0	Minimum Standards applicable	No		
Assessment Criteria				Indicative Credits	
Where the following requirements will be met:				1	
Requirements:					
One Credit		Where a compliant rainwater collection system for external/internal irrigation use has been provided to dwellings. OR Where dwellings have no individual or communal garden space.			
Comments					
A BREEAM Compliant rainwater collection system for external water use will be provided for the dwelling. This will be able to hold at least 150 Litres, and will meet all other BREEAM Criteria (Guidance on the Compliant Criteria can be provided by your Melin BREEAM Assessor)					
Wat 03 Water Meter					
No. of BREEAM credits available	1	Available contribution to overall score	2.20%		
No. of BREEAM innovation credits	0	Minimum Standards applicable	No		
Assessment Criteria				Indicative Credits	
Where an appropriate water meter for measuring usage of mains potable water meter has been provided to dwelling(s), one credit may be awarded				1	
Comments					
Credit not sought, as a water meter would need to be specified to provide a visible display of mains potable water consumption to occupants. The meters would need to be a permanent feature secured within the dwelling in a location visible to occupants (i.e. not hidden within a cupboard).					
MATERIALS		Section Weighting: 8%		Indicative Section Score 3.00%	
Mat 01 Environmental Impact of Materials					
No. of BREEAM credits available	25	Available contribution to overall score	4.16%		
No. of BREEAM innovation credits	0	Minimum Standards applicable	No		
Assessment Criteria				Indicative Credits	
Up to 25 credits can be awarded, with credits calculated using the Mat 01 calculator tool. The table below shows the maximum number of credits available for each element:				10	
Elements	Green Guide Rating credits available	Thermal performance credits available*			
Roof	5	3			
External walls	5	3.8			
Internal walls (including separating walls)	5	-			
Upper and Ground Floor	5	1.2			
Windows	5	2			
The full 25 credits represents all of the elements containing refurbished or existing materials that meet the Green Guide Rating of A+(6)					
GG Rating	Points for existing / refurbished elements	Points for new elements			
A+ (6)	5				
A+ (5)	4.6				
A+ (4)	4.2				
A+ (3)	3.8				
A+ (2)	3.4				
A+	3	3			
A	2	2			
B	1	1			
C	0.5	0.5			
D	0.25	0.25			

E	0	0
---	---	---

Where the full 25 credits cannot be achieved the score can be 'topped up' with thermal performance credits. The full number of thermal performance credits for each element can be achieved when achieving the minimum U-values shown below.

Elements	Minimum U-Value
Roof	0.11
External walls	0.15
Internal walls (including separating walls)	-
Upper and Ground Floor	0.15
Windows	1.4

Comments

10 credits are estimated at pre-assessment stage. This will be confirmed at Design Stage.

Mat 02 Responsible Sourcing of Materials			
No. of BREEAM credits available	15	Available contribution to overall score	2.50%
No. of BREEAM innovation credits	0	Minimum Standards applicable	Yes
Assessment Criteria			Indicative Credits
Where new materials are responsibly sourced, up to 12 credits may be awarded where 80% of new materials for an element are responsibly sourced. The credits achieved are dependent on % of point achieved which is based upon the responsible sourcing tier level of each material sourced as detailed below:			8
Sustainable Procurement Plan (3 BREEAM credits)		Will all new timber used in the project be sourced in accordance with the UK Government's Timber Procurement	
The principal contractor sources materials for the project in accordance with a documented sustainable procurement plan		Yes	
OR Where the principal contractor is a Small Company (up to 3 BREEAM credits)			
Checklist A-9 is filled in with supporting evidence			
Table 1	BREEAM credits	% of available points achieved	
	12	≥54%	
	10	≥45%	
	8	≥36%	
	6	≥ 27%	
	4	≥ 18%	
	2	≥ 9%	
Comments			
At pre-assessment stage, it is estimated that greater than 36% of the new building materials will be responsibly sourced, and all new timber will be sourced in accordance with the UK Government's Timber Procurement Policy.			
Mat 03 Insulation			
No. of BREEAM credits available	8	Available contribution to overall score	1.33%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No
Assessment Criteria			Indicative Credits
Where any new insulation specified for use within external walls, ground floor, roof and buildings services meet the following requirements:			0
Requirements			
4 Credits	Where the Insulation Index for new insulation used in the buildings is ≥2		
	Where Green Guide ratings are determined using the Green Guide to specification tool		
Requirements			
4 Credits	Where ≥ 80% of the new thermal insulation used in the building elements is responsibly sourced.		
Comments			
Where new insulation products are specified within the building fabric and building services, these will be Green Guide A/A+ rated and be responsibly sourced from suppliers capable of providing chain of custody certification.			
WASTE		Section Weighting: 3%	Indicative Section Score 1.20%
Was 01 Household Waste			
No. of BREEAM credits available	2	Available contribution to overall score	1.20%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No
Assessment Criteria			Indicative Credits
Where compliant recycling and composting facilities are provided, up to two credits may be awarded as follows			2
First Credit - Recycling Facilities			
Scenario	Internal recycling storage requirements		
Compliant collection scheme in place	3 internal recycling containers provided where recycling is not sorted post collection		
	1 internal recycling container provided where recycling is sorted post collection		
	Minimum 30 litre total capacity, no single container less than 7 litre capacity		
	Dedicated position in accordance with compliance note 1		
No compliant collection scheme in place No adequate external storage	3 internal recycling containers provided		
	Minimum 60 litre total capacity		
	Dedicated position in accordance with compliance note 1		
No compliant collection scheme in place Adequate external storage provided	3 internal recycling containers provided		
	Minimum 30 litre total capacity, no single container smaller than 7 litre		
	Dedicated position in accordance with compliance note 1		
Second credit - Composting facilities			
	With external space	Without external space	
	Where a composting service or facility is provided for green/garden waste	Where a composting service or facility is provided for kitchen waste	
	Where a composting service or facility is provided for kitchen waste	Where an interior container is provided for kitchen composting waste of at least 7 litres	
	Where an interior container is provided for kitchen composting waste of at least 7 litres		
Comments			
Two credits are targeted based on the provision of the above waste storage facilities.			
Was 02 Refurbishment Site Waste Management			
No. of BREEAM credits available	3	Available contribution to overall score	1.80%
No. of BREEAM innovation credits	1	Minimum Standards applicable	No
Assessment Criteria			Indicative Credits
Up to three credits are available depending on the site waste management plan to be implemented as follows			0
Projects up to £100k			
Three Credits	Where waste generated through the refurbishment process is managed in accordance with Checklist A-9		
Exemplary Credit	Where a compliant Level 1; Site Waste Management Plan (SWMP) is in place		
Projects up to £300k			
Three Credits	Where a compliant Level 1; Site Waste Management Plan (SWMP) is in place		
			Indicative Innovation Credits Achieved
			0

Exemplary Credit	Where a compliant Level 2; Site Waste Management Plan (SWMP) is in place
	Non-hazardous construction waste generated by the dwellings refurbishment meets or exceeds the resource efficiency benchmark
	The percentage of non-hazardous construction waste and demolition waste generated by the project has been diverted from landfill and meets or exceeds the refurbishment & demolition waste diversion benchmarks

Projects over £300k

First Credit Management Plan	Where a compliant Level 2; Site Waste Management Plan (SWMP) is in place
Second Credit Good Practice Waste Benchmarks	First credit achieved
	Non-hazardous construction waste generated by the dwellings refurbishment meets or exceeds the resource efficiency benchmark
	Amount of waste generated against £100,000 of project value is recorded in the SWMP
	Pre-refurbishment audit of the existing building is completed
Third Credit Best Practice Waste Benchmarks	If demolition is included as part of the refurbishment programme, then the audit should also cover demolition materials
	Where the first two credits have been achieved achieved
Exemplary Credit	Where Non-hazardous demolition waste generated by the dwellings refurbishment meets or exceeds the refurbishment & demolition waste diversion benchmarks
	Where non-hazardous construction waste generated by the dwellings refurbishment meets or exceeds the <i>exemplary level resource efficiency benchmark</i>
Exemplary Credit	Where Non-hazardous demolition waste generated by the dwellings refurbishment meets or exceeds the exemplary level diversion benchmarks

Comments

A Site Waste Management Plan (to the relevant standard outlined above) will be produced.

POLLUTION		Section Weighting: 6%		Indicative Section Score 4.50%									
Pol 01 NOx Emissions													
No. of BREEAM credits available	3	Available contribution to overall score	2.25%										
No. of BREEAM innovation credits	0	Minimum Standards applicable	No										
Assessment Criteria				Indicative Credits									
Credits are awarded on the basis of NOx emissions arising from the operation of space heating and hot water systems for each refurbished dwelling as follows:				3									
		<table border="1"> <thead> <tr> <th colspan="2">Dry NOx Emissions</th> </tr> </thead> <tbody> <tr> <td>One Credit</td> <td>≤100 mg/kWh (NOx class 4 boiler)</td> </tr> <tr> <td>Two Credits</td> <td>≤70 mg/kWh (NOx class 5 boiler)</td> </tr> <tr> <td>Three Credits</td> <td>≤40 mg/kWh</td> </tr> </tbody> </table>				Dry NOx Emissions		One Credit	≤100 mg/kWh (NOx class 4 boiler)	Two Credits	≤70 mg/kWh (NOx class 5 boiler)	Three Credits	≤40 mg/kWh
Dry NOx Emissions													
One Credit	≤100 mg/kWh (NOx class 4 boiler)												
Two Credits	≤70 mg/kWh (NOx class 5 boiler)												
Three Credits	≤40 mg/kWh												
Comments													
Credits not sought, as Electric heating is to be specified, no credits will be achieved.													
Pol 02 Surface Water Runoff													
No. of BREEAM credits available	3	Available contribution to overall score	2.25%										
No. of BREEAM innovation credits	1	Minimum Standards applicable	No										
Assessment Criteria				Indicative Credits									
Where impacts of the refurbishment on surface water runoff are neutralised or where runoff is reduced as a result of refurbishment, up to three credits can be awarded as follows:				1									
Requirements													
One Credit Neutral Impact on Surface Water		New hard standing areas must be permeable If building on to previously permeable area additional run-off must be managed on site Calculations should be carried out by an appropriately qualified professional											
Requirements													
OR Second Credits Reducing Run-Off From Site: Basic		Where the criteria needed for One Credit has been achieved Where all run-off from the roof for rainfall depths up to 5 mm, have been managed on site using source control methods Include runoff from all existing and new parts of the roof. An appropriately qualified professional should be used to design an appropriate drainage strategy for the site											
Requirements													
OR Three Credits Reducing Run-Off From Site: Advanced		Where run-off as a result of the refurbishment is managed on site using source control An appropriately qualified professional should be used to design an appropriate drainage strategy for the site. The peak rate of run-off as a result of the refurbishment for the 1 in 100 year event has been reduced by 75% from the existing site. The total volume of run-off discharged into the watercourses and sewers as a result of the refurbishment, for a 1 in 100 year event of 6 hour duration has been reduced by 75%. An allowance for climate change must be included for all of the above calculations, in accordance with current best practice (PPS25, 2010).											
Requirements													
Exemplary Credit		Where all run-off from the developed site is managed on site using source control The peak rate of run-off as a result of the refurbishment for the 1 in 1 year event is reduced to zero. The peak rate of run-off as a result of the refurbishment for the 1 in 100 year event is reduced to zero. There is no volume of run-off discharged into the watercourses and sewers as a result of the refurbishment, for a 1 in 100 year event of 6 hour duration. An allowance for climate change must be included for all of the above calculations, in accordance with current best practice (PPS25, 2010).											
				Indicative Innovation Credits Achieved									
				0									
Comments													
One credit is achieved based on the fact that there is no change in the size of the building footprint or hardstanding areas as a result of the refurbishment													
Pol 03 Flooding													
No. of BREEAM credits available	2	Available contribution to overall score	1.50%										
No. of BREEAM innovation credits	0	Minimum Standards applicable	Yes										
Assessment Criteria				Indicative Credits									
Where the dwelling is located in a low flood risk zone, or where in a medium to high flood risk zone and a flood resilience/resistance strategy has been implemented, up to two credits can be awarded as follows:				2									
Minimum Standards		A minimum of two credits must be achieved for this issue at the Excellent and Outstanding levels											
Option 1 - Low Flood Risk													
Two Credits		Where a Flood Risk Assessment (FRA) has been carried out and the assessed dwellings are defined as having a low annual probability of flooding.											
Option 2 - Medium / High Flood Risk													
Two Credits		Where a Flood Risk Assessment (FRA) has been carried out and the assessed dwellings are defined as having a medium or high annual probability of flooding. Two credits are awarded where as a result of the dwellings floor level or measures to keep water away the dwelling is defined as achieving avoidance from flooding by following Checklist A-10; Decision Strategy Flow Chart. Where avoidance is not possible, two credits are achieved where a full flood resilience/resistance strategy is implemented for the dwellings in accordance with recommendations made by a Suitably Qualified Building Professional											
Comments													
2 credits targeted to meet minimum standards for Excellent, a Flood Risk Assessment will be required meeting the above standards.													

