

BREEAM Domestic Refurbishment Pre-Assessment Estimator Report Rev2

Client: Andrew Archer

Site Details: 55 Newton Street, Manchester, M1 1ET

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Appendices

Appendix A - Pre-Assessment Estimator Report

Report Details:

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1. Introduction

A This report has been prepared to demonstrate how the proposed change of use of 55 Newton Street, Manchester could feasibly achieve BREEAM Domestic Refurbishment certification, recognising the requirements of the Manchester City Council.

55 Newton Street is an existing office building (over 4 floors, including lower ground floor).

Proposals are for the conversion of office to a single town house.

Manchester City Council

It is understood that Manchester City Council require domestic refurbishments to achieve a 'Very Good' BREEAM Domestic Refurbishment rating.

Furthermore, based on the Manchester Council's sustainability requirements, the proposed dwelling will aim to meet a 15% saving in CO2 over current Part L1b Building Regulations.

2. BREEAM Domestic Refurbishment - Overview

BREEAM Domestic Refurbishment is a performance-based assessment method and certification scheme for domestic buildings undergoing refurbishment. The main aim of the assessment is to improve the environmental performance of existing dwellings in a robust and cost-effective manner. 'Domestic Refurbishment' is classified under two categories: 1) alterations to existing dwellings and extensions, and 2) domestic conversions and change of use projects.

Under BREEAM Domestic Refurbishment there are seven categories of sustainable design, within which are a number of sub-categories. Credits are awarded where evidence can be provided to demonstrate compliance with the criteria in the sub-categories. There are also additional credits available for innovation where, the building goes beyond best practice in terms of a particular aspect of sustainability.

The credits are then converted into a point total and this determines the rating of BREEAM Domestic Refurbishment achieved.

In this instance, a minimum of 55% is needed for a BREEAM 'Very Good' rating (as required by Manchester City Council).

Assessment Routes

In general, a Pre-Assessment Estimator is required to support the planning application demonstrating how the proposals can meet the Councils' requirements in terms of BREEAM.

Once planning permissions is granted, an Initially Feasibility Report is put together to outline a more refined strategy and from there the Design Stage Assessment commences. The BREEAM Assessor will work alongside the client to advise on the evidence needed to demonstrate compliance with the BREEAM criteria. Once the Design Stage Assessment is complete, the report is submitted to BRE for Design Stage Quality Auditing and Design Stage / Interim Certification.

The final stage of the process is the Post Refurbishment Assessment. The BREEAM Assessor will again advise on the relevant evidence needed to demonstrate compliance and will also arrange for a site visit to be carried out. The report is then written up and submitted to BRE for Post Refurbishment Quality Auditing and Post Refurbishment / Final certification.

Minimum Standards

There are certain sub-categories within the BREEAM Domestic Refurbishment where minimum standards must be met. These are dependent upon the rating of BREEAM Domestic Refurbishment to be achieved, and include:

-
- Energy Efficiency (SAP Calculations) - The credits in the Energy Category are 'heavily weighted' and will have a significant impact on the overall points total. SAP calculations are also a requirement of Building Regulations therefore further details on SAP are provided overleaf.
 - Ventilation
 - Safety
 - Responsible Sourcing of Materials

Optional Elements

There are certain optional elements of the assessment where the required evidence includes supporting reports and calculations (such as MAN 1 Home User Guide, HEA 1 Daylight Factor Calculations, and POL 3 Flooding). It is worth bearing in mind that if the credits in these categories are needed to increase the overall point's total, additional consultant fees may be required.

3. BREEAM Pre-Assessment Estimator

A BREEAM Pre-Assessment Estimator (PAE) report has been prepared and is provided in **Appendix A**.

The PAE focuses on credits which, based on our experience, are feasible to achieve and will provide real benefits to future occupants.

On this basis, the PAE is showing a score of 57.10% - as previously detailed, a minimum of 55% is needed for BREEAM 'Very Good'.

We strongly recommend that, following the granting of planning permission, early consideration is given to the BREEAM Design Stage Assessment to ensure that the credits will be achieved and appropriately evidenced.

4. Energy and Carbon Assessment

The following energy measures have been incorporated into the SAP energy assessment for the proposed dwelling.

In order to ensure that the dwelling exceeds the minimum standards as set out in Part L1A, the following measures have been improved and are as proposed:

Table 1: Proposed Energy Measures (u-values W/m²K)

	Part L1B Limiting Parameters	Proposed Dwelling
Ground Floor	0.25	0.22
External Walls	0.3	0.34
External wall to refuse	0.3	0.3
Roof pitched and flat	0.18	0.18
Windows existing	1.6	2.7
Windows new	1.6	1.6
Air test	15	10
Ventilation	Natural	DMEV
Thermal Bridging	NA	NA
Heating	88% Gas System boiler	89% Gas System boiler
Heating controls	Programmer, room thermostats and TRVs	Time / temp zone control, delayed start thermostat
Lights	75%	100%
Thermal mass	Medium	Low

Due to the existing nature of the building, the proposed layout and limited private space, the majority of renewable technologies would not be feasible. Solar PV panels would be one of the most common methods to provide a greater carbon emissions saving, however due to the roof layout, the roof lights to the top floor and the building being overshadowed by taller neighbouring properties, solar PV would not be suitable. Furthermore, the PV panels would not be suitable to the character of the existing building.

The above specifications have been incorporated into the SAP calculation; the results are summarised in the carbon emission results table below.

Table 2: Be Lean Energy Efficient Area Weighted Average

	Baseline Calculation
Dwelling Emission Rate (DER) (kg CO ₂ /m ² /year)	22.60
Target Emission Rate (TER) (kg CO ₂ /m ² /year)	27.73
DER/TER Variance	-18.50%
Total TER Baseline CO ₂ Emissions (kg/year)	3189
Total DER Baseline CO ₂ Emissions (kg/year)	2599

Based on the above energy improvements to the existing building, the SAP calculation shows an 18.50% reduction in CO₂ emissions can feasibly be achieved solely through improving the fabrics elements, air tightness, and installing a DMEV system.

Appendices

Appendix A	Pre-Assessment Estimator
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BREEAM UK Domestic Refurbishment 2014 Pre-Assessment Estimator v0.1



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.

process.						
Building name	55 Newton Street					
Indicative building score (%)	57.10%					
Indicative BREEAM rating	BREEAM Very Good					
Management	Health & Wellbeing	Energy	Water	Materials	Waste	Pollution

	Minimum Standards				
	Pass	Good	Very Good	Excellent	Outstanding
Ene 02	✓	✓	✓	✓	✗
Wat 01	✓	✓	✓	✓	✓
Hea 05	✓	✓	✓	✓	✓
Hea 06	✓	✓	✓	✓	✓
Pol 03	✓	✓	✓	✓	✓
Mat 02	✓	✓	✓	✓	✓

INNOVATION	Section Weighting: 10%	Indicative Section Score: 0.00%
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Comments

MANAGEMENT	Section Weighting: 12%	Indicative Section Score: 7.64%
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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	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	Indicative Credits	3
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Comments

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	No	

Assessment Criteria	Where a compliant considerate construction scheme will be used, credits are awarded depending the score achieved as outlined below:	Indicative Credits	0
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Large Scale - project with more than 5 units

	One Credit	Two Credits
Considerate Constructors Scheme	Score of 25-34 with a score of 5 in each section	Score of 35-39 with a score of 7 in each section
Alternative Compliant Scheme	Compliance	Beyond Compliance

Small Scale - project with 5 units or fewer

	One Credit	Two Credits
Considerate Constructors Scheme	Score of 25-34 with a score of 5 in each section	Score of 35-39 with a score of 7 in each section
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	Indicative Innovation Credits Achieved Please Select
Alternative Compliant Scheme	Exemplary Level Compliance	
Checklist A-3*	All Items (Optional & Mandatory)	

* Small Scale Project Only

Comments

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	Where evidence demonstrate that site impacts will be monitored, as detailed below:	Indicative Credits	1
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	One Credit
Large Scale	Where there is evidence to demonstrate that 2 or more of the sections in Checklist A-4 are completed
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

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:			0
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			
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 adopts all general ecological recommendations adopts 30% of additional recommendations		
Indicative Innovation Credits Achieved			Please Select
Comments			
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		
Indicative Innovation Credits Achieved			
Exemplary Credits			Please Select
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		
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			

HEALTH & WELLBEING		Section Weighting: 17%		Indicative Section Score 8.50%	
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:				1	
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					
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					
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:				0	
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					

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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</td> <td>Completed with Evidence</td> <td></td> </tr> <tr> <td>Minimum Accessibility</td> <td></td> <td></td> </tr> <tr> <td>Two Credits</td> <td>Completed with Evidence</td> <td>Completed with Evidence</td> </tr> <tr> <td>Advanced Accessibility</td> <td></td> <td></td> </tr> </tbody> </table>				Checklist A-8 of the Technical Manual				Section 1	Section 2	One Credit	Completed with Evidence		Minimum Accessibility			Two Credits	Completed with Evidence	Completed with Evidence	Advanced Accessibility		
Checklist A-8 of the Technical Manual																					
	Section 1	Section 2																			
One Credit	Completed with Evidence																				
Minimum Accessibility																					
Two Credits	Completed with Evidence	Completed with Evidence																			
Advanced Accessibility																					
Exemplary Performance			Indicative Innovation Credits Achieved Please Select																		
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																				
Comments																					
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:			2																		
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																					
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																					
ENERGY Section Weighting: 43% Indicative Section Score 28.17%																					
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:			1.5																		
	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																					

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:				3.5
	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		Please Select
	≥100	2		
Comments				
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				
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				
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				

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:			Please Select	
1 Credit				
Number of bedrooms	Drying line required			
1-2	4m+			
3+	6m+			
Comments				
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				
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		
			Indicative Innovation Credits Achieved	
			Please Select	
Comments				
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:			Please Select	
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				
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				

WATER		Section Weighting: 11%		Indicative Section Score 6.60%	
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 Please Select	
Comments					
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					
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				0	
Comments					
MATERIALS		Section Weighting: 8%		Indicative Section Score 0.50%	
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:				0	
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
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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

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:			3																							
Sustainable Procurement Plan (3 BREEAM credits) The principal contractor sources materials for the project in accordance with a documented sustainable procurement plan OR Where the principal contractor is a Small Company (up to 3 BREEAM credits) Checklist A-9 is filled in with supporting evidence		Will all new timber used in the project be sourced in accordance with the UK Government's Timber Procurement Yes																								
Table 1	<table border="1"> <thead> <tr> <th>BREEAM credits</th> <th>% of available points achieved</th> </tr> </thead> <tbody> <tr> <td>12</td> <td>≥54%</td> </tr> <tr> <td>10</td> <td>≥45%</td> </tr> <tr> <td>8</td> <td>≥36%</td> </tr> <tr> <td>6</td> <td>≥ 27%</td> </tr> <tr> <td>4</td> <td>≥ 18%</td> </tr> <tr> <td>2</td> <td>≥ 9%</td> </tr> </tbody> </table>			BREEAM credits	% of available points achieved	12	≥54%	10	≥45%	8	≥36%	6	≥ 27%	4	≥ 18%	2	≥ 9%									
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4	≥ 18%																									
2	≥ 9%																									
Comments																										
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 <table border="1"> <tr> <td rowspan="2">4 Credits</td> <td>Where the Insulation Index for new insulation used in the buildings is ≥2</td> </tr> <tr> <td>Where Green Guide ratings are determined using the Green Guide to specification tool</td> </tr> </table> Requirements <table border="1"> <tr> <td>4 Credits</td> <td>Where ≥ 80% of the new thermal insulation used in the building elements is responsibly sourced.</td> </tr> </table>				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	4 Credits	Where ≥ 80% of the new thermal insulation used in the building elements is responsibly sourced.																		
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Comments																										
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 <table border="1"> <thead> <tr> <th>Scenario</th> <th>Internal recycling storage requirements</th> </tr> </thead> <tbody> <tr> <td rowspan="4">Compliant collection scheme in place</td> <td>3 internal recycling containers provided where recycling is not sorted post collection</td> </tr> <tr> <td>1 internal recycling container provided where recycling is sorted post collection</td> </tr> <tr> <td>Minimum 30 litre total capacity, no single container less than 7 litre capacity</td> </tr> <tr> <td>Dedicated position in accordance with compliance note 1</td> </tr> <tr> <td rowspan="3">No compliant collection scheme in place No adequate external storage</td> <td>3 internal recycling containers provided</td> </tr> <tr> <td>Minimum 60 litre total capacity</td> </tr> <tr> <td>Dedicated position in accordance with compliance note 1</td> </tr> <tr> <td rowspan="3">No compliant collection scheme in place Adequate external storage provided</td> <td>3 internal recycling containers provided</td> </tr> <tr> <td>Minimum 30 litre total capacity, no single container smaller than 7 litre</td> </tr> <tr> <td>Dedicated position in accordance with compliance note 1</td> </tr> </tbody> </table> Second credit - Composting facilities <table border="1"> <thead> <tr> <th>With external space</th> <th>Without external space</th> </tr> </thead> <tbody> <tr> <td>Where a composting service or facility is provided for green/garden waste</td> <td>Where a composting service or facility is provided for kitchen waste</td> </tr> <tr> <td>Where a composting service or facility is provided for kitchen waste</td> <td>Where an interior container is provided for kitchen composting waste of at least 7 litres</td> </tr> <tr> <td>Where an interior container is provided for kitchen composting waste of at least 7 litres</td> <td></td> </tr> </tbody> </table>				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	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	
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Comments																										
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		Indicative Innovation Credits Achieved																							
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		Please Select																							

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

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
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Three Credits	≤40 mg/kWh												
Comments													
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 Please Select									
Comments													
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													

