

BAM CONSTRUCT

Dunsbury Hill Farm

BREEAM Pre-assessment Summary

**BAM Sustainability department
November 2015**

1.0 Introduction

This report is intended as a summary of the pre-assessment for the following BREEAM assessment:

Project Name	Dunsbury Hill Farm (DHF)
BREEAM Version	BREEAM 2014 NC
Assessment Stage	Design Stage
Lead Assessor	Hardip Mann
Targeted Score	62.05

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3.0 BREEAM Planning requirement

DHF has the following BREEAM requirements:

'There is a wish - expressed by Havant planning representatives - that the proposed development should be of good quality, and an express requirement that a BREEAM Excellent status is achieved. Based on a BREEAM review, due to site constraints and the current RIBA stage of project, we believe that a 'high' BREEAM 'Very Good' rating is considered to be a fairer reflection of the rating that could be achieved. However, we would still aim to meet the mandatory 'minimum' BREEAM requirements needed to attain an Excellent rating.

A BREEAM feasibility review has been conducted by at BAM using our own analysis with the in-house BREEAM Assessors and BREEAM Accredited Professionals.

3.1 2011 vs 2014

The BREEAM 2014 version is more onerous than its predecessor. In our preliminary research, it seems BREEAM 2014 is between 5-10% more difficult (in terms of score) than BREEAM 2011 i.e. a score of 60-65% for the 2014 scheme (rating 'Very Good') would probably have gained over 70% (rating 'Excellent') for the 2011 scheme.(calculated using a conversion tool). This is due to the more onerous requirements of the new version, and due to various issue amalgamation. .

3.2 Very Good vs Excellent-

There is more associated risk to achieve the BREEAM Excellent rating, especially when assessed under the current 2014 scheme. This is because BREEAM has a number of credits which stipulate the time of application. If these credits have not been implemented by Stage 1/2 they will be lost and achieving the higher rating will become extremely difficult. Also, under the 2014 scheme a greater number of credits will need to be targeted to achieve the Excellent rating – this may require targeting new credits. As there has been limited number of projects assessed by the BRE under the new scheme, it is unclear what evidence the BRE will accept for these new credits and requirements. Therefore there is a risk they could be lost during the audit process, making it necessary to target a higher rating to act as a buffer.

3.3 Recommendations

Due to the restrictions listed above, we would recommend a compromise target rating of achieving a high 'Very Good' score (62.05%). To ensure the BRE's main principles of an Excellent building are implemented, we could target all of the mandatory credits outlined for an Excellent. We would therefore be providing a very sustainable building, which will meet all the mandatory requirements of an 'excellent' rating, whilst acting within the site constraints, project RIBA Stage and economic viability of the development.

4.0 Minimum Standards for Excellent

In addition performance against the minimum standards required for Excellent is summarised below:

Issue	Excellent	Minimum standard achieved
Man 03 - Responsible construction practices	Yes	One credit of the two CCS credits available required, DHF achieves both
Man 04 - Commissioning and handover	Yes	Compliant Building User Guide will be provided
Ene 01 - Reduction of energy use and carbon emissions	Yes	Requires 5 credits to be achieved (equivalent to an EPR of at least 0.375) – DHF achieves 5
Ene 02 - Energy Monitoring	Yes	Sub-metering major energy consuming systems will be provided
Wat 01 - Water Consumption	Yes	12.5% improvement in water efficiency is required, DHF is targeting 50%
Wat 02 - Water Monitoring	Yes	Water meter provided to the mains water supply
Mat 03 - Responsible Sourcing of Materials	Yes	All timber used on the project will be sourced in accordance with the Government's Timber Procurement Policy.
Wst 03 - Operational Waste	Yes	Dedicated space for the recycling of operational waste will be provided
LE 03 - Minimising impact on existing site ecology	Yes	One credit of the two available will be achieved

2.0 - Credit Summary

		Available	Targeted	Potential	Comments
Management					
Man 01	Project brief and design	4	3	3	100% Credits not targeted would require a compliant specific third party consultation process The consultation supplied does not comply – addresses the masterplan, not the building being assessed.
Man 02	Life cycle cost and service life planning	4	4	4	
Man 03	Responsible construction practices	6	5	6	Extra credit – monitoring of delivery and waste transportation.
Man 04	Commissioning and handover	4	4	4	
		18	16	17	
Health & Wellbeing					
Hea 01	Visual Comfort	4	4	4	
Hea 02	Indoor Air Quality	2	0	0	Credits for air intake / extract separation and natural ventilation are not achievable due to project nature. It was deemed for the type of building i.e. a warehouse would not lend itself to provide ventilation or the potential for natural ventilation. The other credits including the VOC credits are scoped out as this scheme is a 'shell and core' assessment and not a full 'fit-out'.
Hea 04	Thermal comfort	2	2	2	
Hea 05	Acoustic Performance	1	1	1	
Hea 06	Safety and Security	2	1	1	Credit not targeted is site safety credit and is not feasible due to site footprint and location of access roads
	Total	11	8	8	
Energy					
Ene 01	Reduction of energy use and carbon emissions	12	5	5	Mandatory requirement for excellent rating achieved ie 5 credits– further credits not achievable due to mechanical vent strategy and funding allocation These credits are based on several factors such as the air-tightness of the building, all energy consuming items such as lighting, heating, operation of plant, etc. and how much electricity the site can generate from renewable sources. It is a small site in comparison and there are limitations as to how much land and other areas can be set aside for renewal energy. Once these are fed into the energy consumption equation then the percentage saving can be evaluated over the Part L requirements. In other words, the less operational plant that is installed will reduce the energy consumption for this development. We have assessed project as a 'shell& core', which assumes central plant and systems are being installed. An early energy modelling study, which would include details on fabric, fittings and plant specified, would give a realistic estimation on no. credits that should be targeted. 5 credits is a challenging target for this functional type of building.
Ene 02	Energy Monitoring	2	2	2	
Ene 03	External Lighting	1	1	1	
Ene 04	Low carbon design	3	1	1	Again the passive design analysis would had needed to be carried out by the developer at the end of RIBA stage 2 to identify opportunities and implement as

					required on the advice of a BREEAM assessor. The 2 nd credit (free cooling) is not achievable (as dependent on passive design analysis credit, PLUS because there is MV)
Ene 06	Energy Efficient Transportation Systems	3	3	3	
Total		21	12	12	
Transport					
Tra 01	Public Transport Accessibility	3	0	0	These are site specific credits. As there is no readily accessible public transport these will not be achieved. For TRA 01, the site is currently in a green field site off of the A3(M) junction 3 where no public transport would be available. The nearest railway stations at Havant and Rowlands Castle are too far away from the development to be considered in the calculation. Written confirmation of intended bus routes/frequencies required before we can consider any potential analysis BREEAM stipulates a need for a commitment and details on no. routes/services and frequencies.
Tra 02	Proximity to amenities	1	0	0	This is a site specific credit. As no amenities readily available this will not be achieved. Need confirmation of provision of 3 of the 4 core amenities, with location and type, not currently available.
Tra 03	Cyclist facilities	2	2	2	
Tra 04	Maximum Car Parking Capacity	2	0	0	Due to the scheme requirements this is not achievable as it would limit the number of car spaces allowed in the scheme.
Tra 05	Travel Plan	1	1	1	
Total		9	3	3	
Water					
Wat 01	Water Consumption	5	2	2	Maximum economically viable credits achieved for this development. Based on the most efficient low flow taps on the market, it is difficult to achieve more than 2 or 3 credits out of 5 no. at the most if only a mains water supply is used i.e. no grey/rain water harvesting.
Wat 02	Water Monitoring	1	1	1	
Wat 03	Leak Detection	2	2	2	
Wat 04	Water Efficient Equipment	1	1	1	
		9	6	6	
Materials					
Mat 01	Life Cycle Impacts	2	2	2	Maximum use of A/A+ rated materials achieved within available funding We could try and target 3 (instead of 2) credits here by carefully specifying appropriate GG rated materials
Mat 02	Hard Landscaping and Boundary Protection	1	0	1	Extra credit may be achievable subject to availability of locally sourced recycled sub-base,
Mat 03	Responsible Sourcing of Materials	4	2	2	Further credits will require more materials and will have to be specified with environmental specification. The planners should be made aware that the responsible sourcing element in 2014 is considerably harder to achieve with that new tier ratings that have been set. Also there is a limited number of suppliers who have BES 6001 certification (carrying a tier rating of 5 out of 10) and many of those who have ISO 14001 are 'Key Process' which carries a tier rating of 1 out of 10. Those which have ISO 14001 with 'Supply Chain' as well only provide 2 out of 10 so the scope to score

					well is very limited until the BRE create new responsible sourcing protocols which looks very unlikely in the short term over the duration of this scheme.
Mat 04	Insulation	1	1	1	
Mat 05	Designing for durability and resilience	1	1	1	
Mat 06	Material efficiency	1	1	1	
		10	7	8	
Waste					
Wst 01	Construction Waste Management	4	2	2	No further credits achievable without significant increase in offsite fabrication, which is not viable.
Wst 02	Recycled Aggregates	1	0	0	Not achievable due to nature of construction and material content
Wst 03	Operational Waste	1	1	1	
Wst 05	Adaptation to climate change	1	0	0	Not targeted as this is a new credit with onerous requirements that are not yet well defined. As with Man 01 above, this credit cannot be retrospectively targeted if it wasn't presented as part of the original scheme (hybrid application). The point of this being a new credit was to elucidate this as a 'risk' as we are unsure as to what the BRE will deem as acceptable evidence.
Wst 06	Functional adaptability	1	1	1	
		8	4	4	
Land Use & Ecology					
LE 01	Site Selection	2	0	0	Neither credits achievable due to location of t=project. First credit requires 75% of building footprint to be on previously occupied land (i.e. brownfield site); second credit is for contamination remediation which is not required at this site.
LE 02	Ecological Value of Site and Protection of Ecological Features	2	1	1	An ecologist is required to determine if further credits are achievable at this site. The site has a high ecological value before any development takes place so achieving a positive improvement post development is difficult, if at all achievable. Credit available for protection of ecological features during construction.
LE 03	Minimising impact on existing site ecology	2	1	1	An ecologist is required to determine if further credits are achievable at this site. Due to removal of species and re-planting scheme, credit not achievable as eventual reduction in number of species across site post development outside parameters to score both credits.
LE 04	Enhancing site ecology	2	1	1	An ecologist is required to determine if further credits are achievable at this site. As with LE02, existing site has High ecological value, therefore only credit for following and implementing Ecologist report is targeted and available.
LE 05	Long Term Impact on Biodiversity	2	2	2	
		10	5	5	
Pollution					
Pol 01	Impact of Refrigerants	3	0	0	Specialist coolants required to achieve credits – not industry standards and therefore not viable within funding
Pol 02	NOx emissions	2	2	2	
Pol 03	Surface Water Run Off	5	4	4	Credit not achievable due to ground conditions
Pol 04	Reduction of Night Time Light Pollution	1	1	1	
Pol 05	Noise Attenuation	1	1	1	
		12	8	8	

Innovation					
Man 03	Responsible construction practices	1	0	0	Due to risky nature of CCS monitoring system this credit is not targeted although could be achieved on final visit.
Hea 01	Visual Comfort	1	0	0	
Ene 01	Reduction of energy use and carbon emissions	5	0	0	No further innovation credits achievable as the baseline standards either not achieved or not open to improvement
Wat 01	Water Consumption	1	0	0	
Mat 01	Life Cycle Impacts	3	0	0	
Mat 03	Responsible Sourcing of Materials	1	0	0	
Wst 01	Construction Waste Management	1	0	0	
Wst 02	Recycled Aggregates	1	0	0	
Wst 05	Adaptation to climate change	1	0	0	
AI	Approved Innovation	1	0	0	
		16	0	0	

