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ENGINEERS

REEF GROUP

PLOT B

ST PANCRAS

BREEAM NEW CONSTRUCTION 2014

PRE-ASSESSMENT REPORT

REVISION P01

Document History

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EXECUTIVE SUMMARY

Early awareness and implementation of the BREEAM requirements will help the Project Team to arrive at a consolidated approach to the environmental and sustainable aspects of a site development. A BREEAM assessor will give advice on how to embrace key sustainability requirements, and in so doing to set about the development of a project that communicates a holistic approach and integrated strategy.

KJ Tait Engineers has been commissioned by Reef Group to carry out a BREEAM (Building Research Establishment's Environmental Assessment Method) Assessment for the Plot B, St Pancras.

The project will be assessed under the BREEAM 2014 New Construction: Offices criteria. The development is classed as 'speculative office, complete with installed environmental services installed.

The minimum rating required by the Client is **Excellent**.

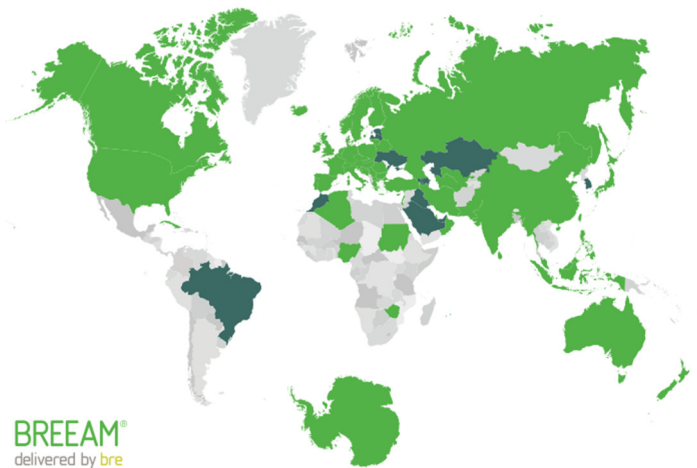
The current 'Target' score is **70%**, equating to a rating of Excellent (>45% required to obtain a Good, >55% for Very Good, >70% for Excellent and >85% for Outstanding). The Aspirational score has been set at **75%** to allow for any shortfall in evidence issued during the assessment period.

There are further credits being "*Investigated*", equating to an additional score of **c12%**. There are also further credits which are deemed to be Cost/Design sensitive. These credits are currently being assessed by the Design Team, which shall be assessed in the coming design stage.

1.0 INTRODUCTION

1.1 Overview

BREEAM, the Building Research Establishment's Environmental Assessment Method, is an internationally recognised procedure for reviewing and improving the environmental design and performance of building.



BREEAM is recognised and used in c90 countries.

There are over 2 million registered buildings. Over 600,000 being certified.

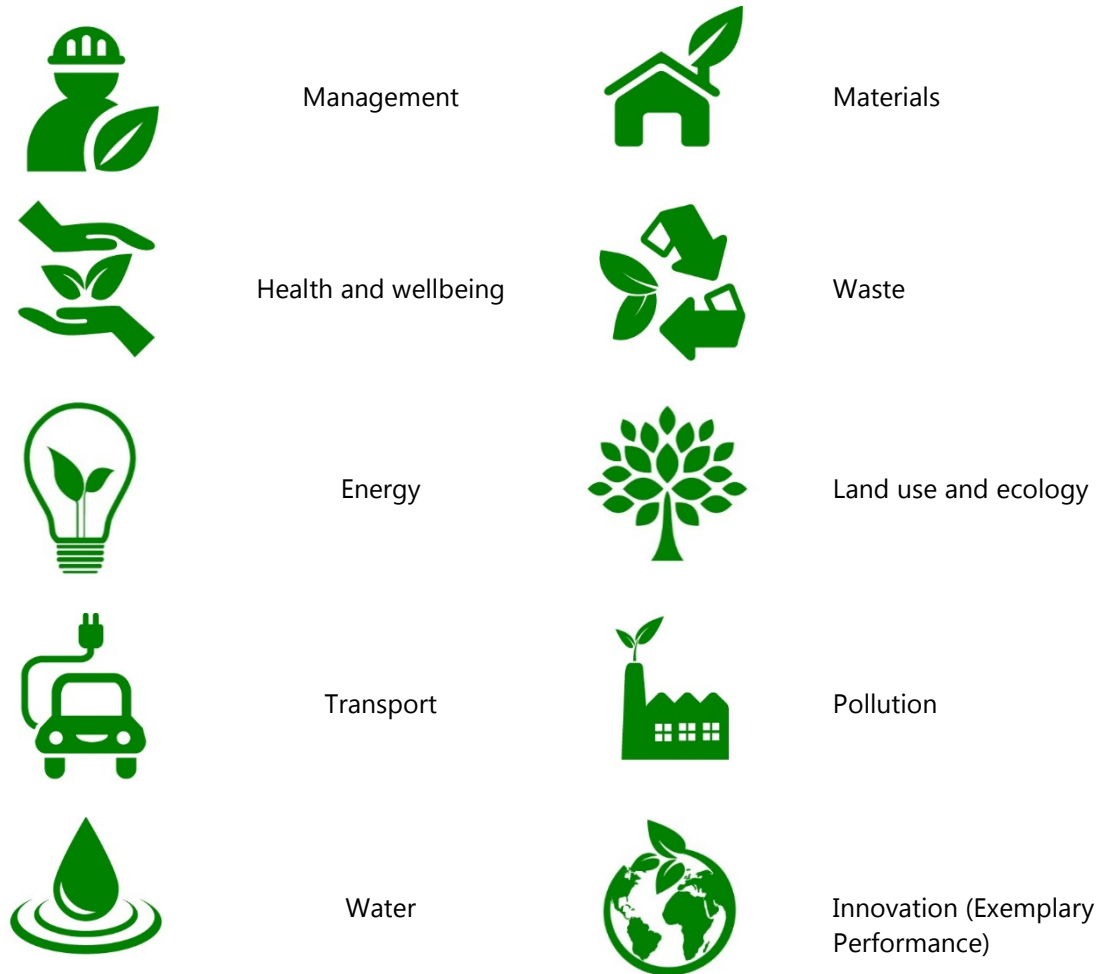
It is a widely used environmental assessment method for buildings in the UK.

BREEAM provides clients, developers, designers, contractors and building owners with:

- Assurance that best environmental practice is incorporated into a building
- Public recognition for low environmental impact buildings
- A benchmark that is higher than regulation
- Motivation to find novel solutions that minimises environmental impact
- A tool to help reduce running costs and improve the built environment
- A standard that demonstrates Corporate Social Responsibility
- Potential to increase sales and letting
- Help meet Planning Conditions and funding

As BREEAM is a holistic and evolving process the assessment will serve as a guide and quantify the sustainability of the proposed designs which will require the input and dedication from all disciplines and the client.

The Assessment is split into the following categories:



The requirements of BREEAM also establishes pre-requisite and mandatory minimum requirements which are more onerous the higher the target rating is. It also allows for extra points for innovation and beyond best practice elements.

1.2 Assessment Process

Assessment must be conducted at two formal stages:

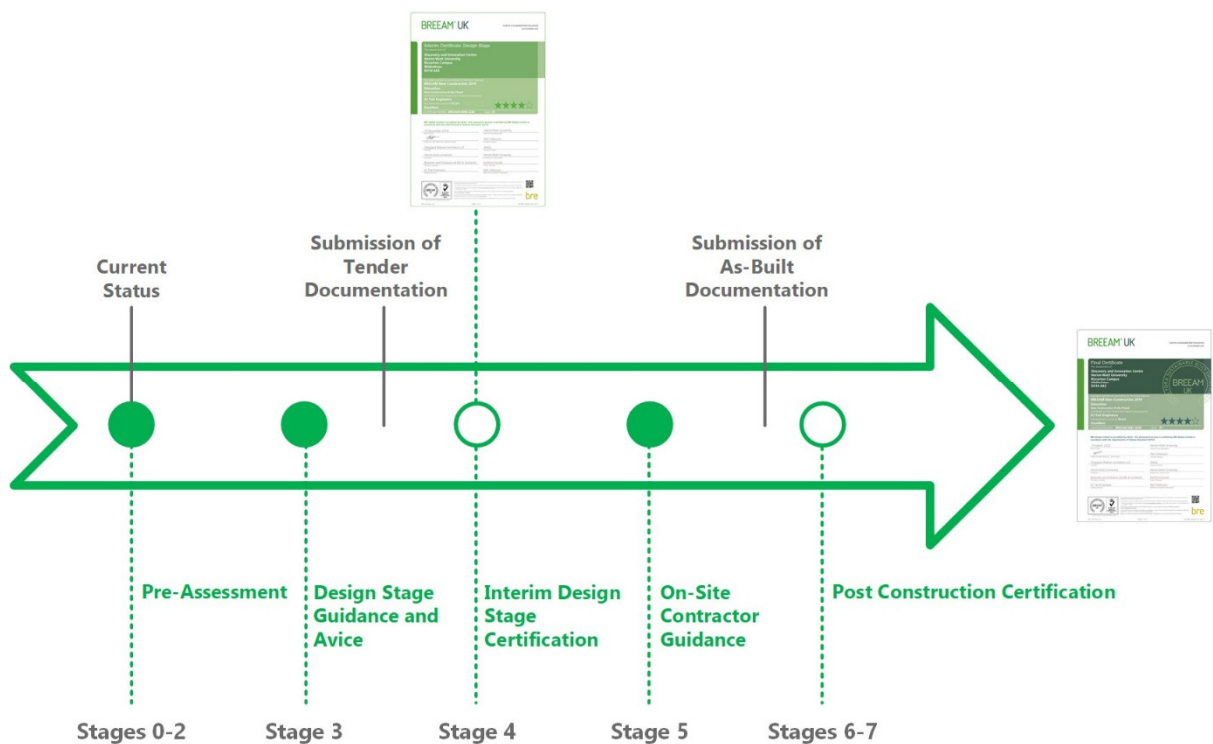
Stage 1: Design Stage (DS) - leading to an *Interim* BREEAM Certificate

Stage 2: Post-Construction Stage (PCS) - leading to a *Final* BREEAM Certificate

Stage 1 is undertaken at the design stage, preferably after the Contractor is appointed. This reflects designed-based evidence and commitments by the Design Team.

The Stage 2 post-construction review serves to confirm the interim BREEAM rating achieved at the design stage have been implemented within the final project. This will involve in further detailed evidence, as-built records and an audit by the BREEAM Assessor.

For both of these stages the Assessment shall be fully audited by BRE Global prior to any certification being issued.



1.3 Pre-assessment Estimation

A pre-assessment estimation is an initial review of the site, existing records, survey information and proposed design to predict the likely rating that would be achieved in a BREEAM assessment. It is generally based on information at an early stage of design development when there may be minimum amount of the evidence that will subsequently be necessary for an assessment. The experience and knowledge of the person carrying out the pre-assessment is therefore vital in obtaining an accurate prediction.

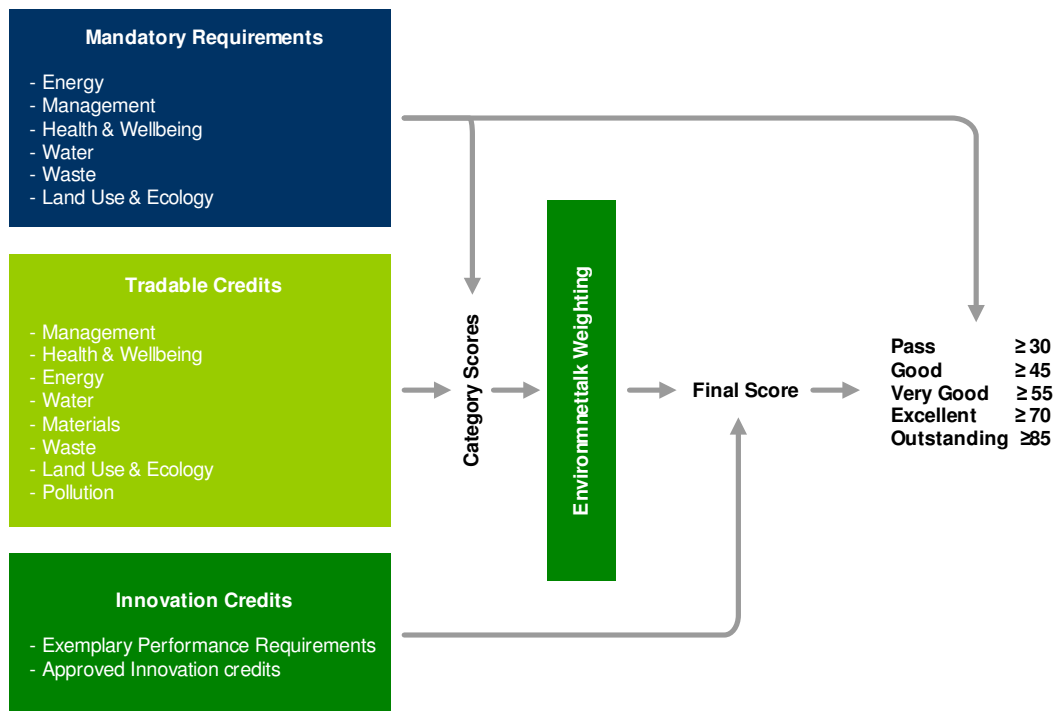
A pre-assessment estimation is frequently required by local authority as part of a planning application. The submission of a formal assessment and certification may still subsequently be required.

1.4 Scoring and Rating

Each category is sub-divided into different credits each with different criteria. Points are then awarded for each criteria being met.

These points are totalled for each category, with each criteria having a weighting applied to determine the overall score. The rating is then awarded based upon this score:

- Pass
- Good
- Very Good
- Excellent
- Outstanding



2.0 STATUS OF REPORT

2.1 Project Summary

The development consists of a BREEAM assessment for a new office fitted out to Cat-B standards, incorporating open-plan office areas, as well as ancillary areas, storage etc.

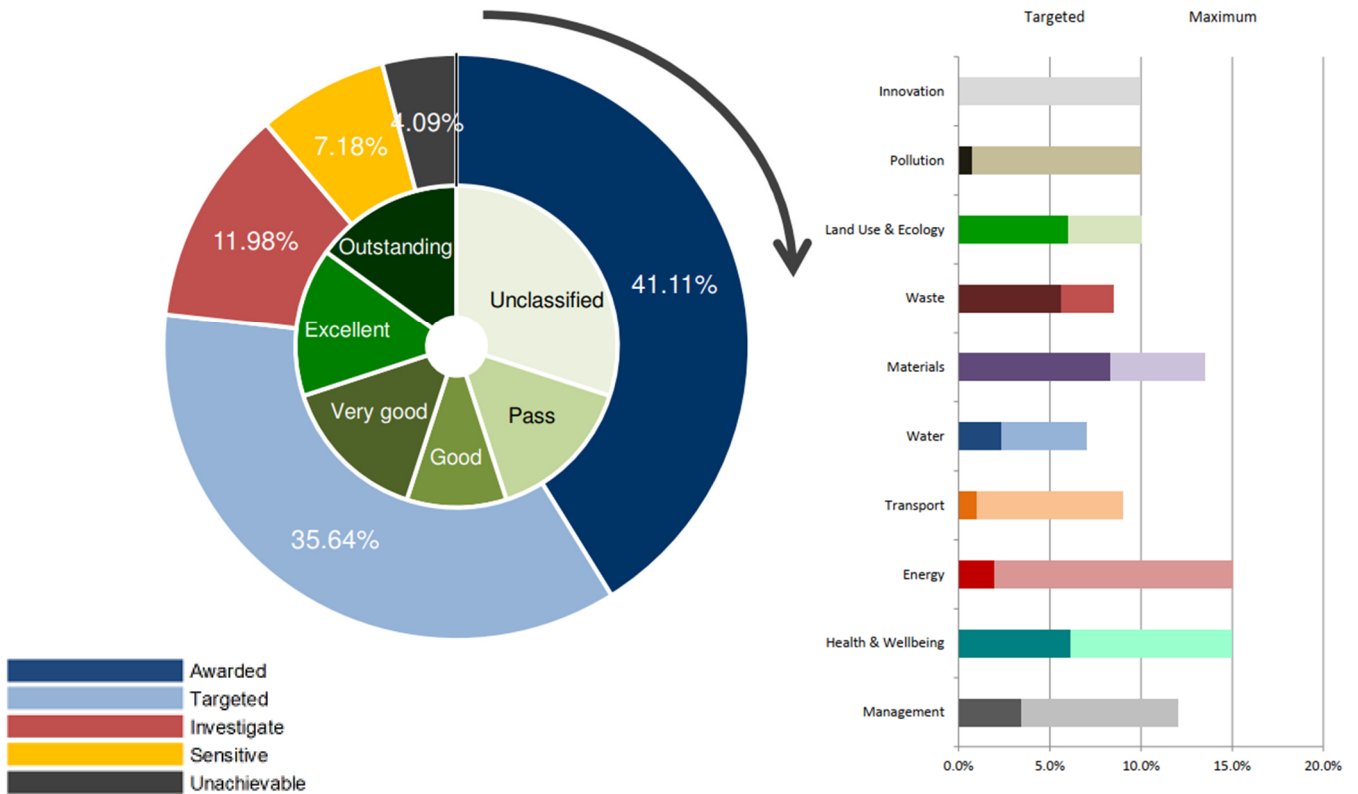
- Heat pumps
- LED Lighting
- Blue roof

2.2 Pre-assessment Score Overview

It is understood that a BREEAM Rating of 'Excellent' is required for the project as a minimum. Strategies for this rating were identified following the kick-off meeting, and are outlined in the credit analysis sheet.

Credits can often be "lost" either during the Design Stage or during Construction. Hence, it is recommended that a 5-7% additional score is added to allow for any unforeseen eventualities in issuing evidence. Therefore, a score of **75%** as a minimum is targeted to allow for any

This initial pre-assessment illustrates that the Design Team are confident in achieving a score of **76%**, correlating to an Excellent rating.



BREEAM Offices 2008	Maximum	Weighting	Credit Value	Base	Target	Investigate	Sensitive
Management	21.00	12.00%	0.57%	8.57%	3.43%	0.00%	0.00%
Health & Wellbeing	17.00	15.00%	0.88%	5.29%	6.18%	0.00%	4.41%
Energy	23.00	15.00%	0.65%	6.52%	1.96%	1.30%	0.00%
Transport	9.00	9.00%	1.00%	8.00%	1.00%	0.00%	0.00%
Water	9.00	7.00%	0.78%	4.67%	2.33%	0.00%	0.00%
Materials	13.00	13.50%	1.04%	1.04%	8.31%	5.19%	0.00%
Waste	9.00	8.50%	0.94%	0.94%	5.67%	0.94%	0.00%
Land Use & Ecology	10.00	10.00%	1.00%	1.00%	6.00%	2.00%	0.00%
Pollution	13.00	10.00%	0.77%	3.08%	0.77%	1.54%	0.77%
Innovation	18.00	10.00%	0.56%	2.00%	0.00%	1.00%	2.00%
Total Score				41.11%	76.75%	88.73%	95.91%
Rating				PASS	EXCELLENT	OUTSTANDING	OUTSTANDING

2.3 Score Definitions

Base -	Credits which should be included without additional cost
Targeted -	Credits likely to be gained (such as Lighting control zones). Please note, these credits are based solely on Design Team discussions; therefore these credits may be lost should the evidence not be issued. Hence, the score can only be assumed to be indicative until complaint evidence is received.
Investigate -	Credits requiring some investigation, which may have some cost implications; it is expected that these will be achievable but it is too early to say for definite.
Cost/Design Sensitive -	Credits which may have an additional associated cost or are design prohibitive.

2.4 Enhancing the Score

As can be seen from the score sheet, there are opportunities to increase the score. These are shown within the Investigate and Cost/Design Sensitive scores.

Although it is unlikely to gain all of these credits these could yield an extra score of 12% and 7% respectively.

Therefore it is imperative that the Design Team investigate these credits further and advise the Assessor whether they are or are not achievable.

2.5 Evidence Requirement

Evidence should be provided to the Assessor as soon as it is available so as to accurately predict the score through the Design and Construction Process.

Review of the outstanding credits, including those being investigated should also be continuously reviewed and advised where changes may occur.

The Credit Analysis Sheet (score sheet) can be found within Appendix 1.0. It should be noted that the Credit Analysis Sheet should be used as a quick reference document only (as not all evidence requirements can be provided on the sheet).

The BREEAM Manual should be referred to for full detailed criteria requirements and the evidence to be issued. The manual is free to download from the BRE website and has been issued by the Assessor

APPENDIX 1.0

CREDIT SHEET