

Ashley House

BREEAM 2014 New ConstructionOak Park Health & Wellbeing Campus
Multi-residential Pre-Assessment Report

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BREEAM 2014 New Construction Pre-Assessment Report

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BREEAM 2014 New Construction Pre-Assessment Report

Executive Summary

Couch Perry and Wilkes LLP (CPW) has undertaken a BREEAM (Building Research Establishment's Environmental Assessment Method) pre-assessment of the Oak Park Health & Wellbeing Campus. This report details the performance of Oak Park Health & Wellbeing Campus against the BREEAM 2014 New Construction Multi-residential Design Stage criteria. The building currently achieves a score of 70.86% which translates into a BREEAM rating of EXCELLENT. The object of the assessment was to establish a base score for the scheme against the current design.

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1.0 Introduction

Couch Perry and Wilkes LLP (CPW) has undertaken a BREEAM (Building Research Establishment's Environmental Assessment Method) pre-assessment of the Oak Park Health & Wellbeing Campus. The pre-assessment was conducted on 17th December 2014 by CPW at the project architect's office, and this report has been compiled to summarise the findings of the pre-assessment against the BREEAM 2014 New Construction Multi-residential criteria.

1.1 BREEAM

BREEAM is a voluntary scheme that aims to quantify and reduce the environmental burdens of buildings by rewarding those designs that take positive steps to minimise their environmental impacts. Projects are assessed using a system of credits. The credits are grouped within the following categories:

- Management
- Health and Wellbeing
- Energy
- Transport
- Water
- Materials
- Waste
- Land Use and Ecology
- Pollution

The assessment process results in a report covering the issues assessed together with a formal certification giving a rating on a scale of UNCLASSIFIED, PASS, GOOD, VERY GOOD, EXCELLENT and OUTSTANDING.

The diagram and text below describes how BREEAM scores and rates an assessed building:

BREEAM Rating	Score (%)
UNCLASSIFIED	<30
PASS	≥30
GOOD	≥45
VERY GOOD	≥55
EXCELLENT	≥70
OUTSTANDING	≥85

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The BREEAM categories contain a number of environmental issues, which reflect the options available when designing, procuring and constructing a building.

Tradable Credits

Each environmental issue has a set number of 'credits' available and these credits are awarded where the building demonstrates that it complies with the requirements of that issue.

Minimum Standards

A number of issues within a category have set minimum standards, i.e. a minimum number of credits that must be achieved in order for a particular BREEAM rating level to be met.

Minimum Standards by BREEAM Rating Level					
BREEAM Issue	Pass	Good	Very Good	Excellent	Outstanding
Man 03: Responsible construction practices	None	None	None	One credit (Considerate construction)	Two credits (Considerate construction)
Man 04: Commissioning and handover	None	None	None	Criterion 9 (Building User Guide)	Criterion 9 (Building User Guide)
Man 05: Aftercare	None	None	None	One credit (Seasonal commissioning)	One credit (Seasonal commissioning)
Ene 01: Reduction of energy use and carbon emissions	None	None	None	Five credits	Eight Credits
Ene 02: Energy monitoring	None	None	One Credit (First sub-metering credit)	One Credit (First sub-metering credit)	One Credit (First sub-metering credit)
Wat 01: Water consumption	None	One Credit	One Credit	One Credit	Two credits
Wat 02: Water monitoring	None	Criterion 1 Only	Criterion 1 Only	Criterion 1 Only	Criterion 1 Only
Mat 03: Responsible sourcing of materials	Criterion 1 Only	Criterion 1 Only	Criterion 1 Only	Criterion 1 Only	Criterion 1 Only
Wst 01: Construction waste management	None	None	None	None	One Credit
Wst 03: Operational waste	None	None	None	One Credit	One Credit
LE 03: Minimising impact on existing site ecology	None	None	One Credit	One Credit	One Credit

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Innovation Credits

Innovation credits provide additional recognition for a building that innovates in the field of sustainable performance, above and beyond the level that is currently recognised and rewarded by standard BREEAM issues. Innovation credits are awarded for either complying with pre-defined BREEAM issue exemplary level requirements, or via application to BRE Global to have a particular building feature, system or process recognised as 'innovative'.

Within each of the BREEAM categories outlined above, there are a number of credit requirements that reflect the options available to designers and managers of buildings.

An environmental weighting is applied to the scores achieved under each category, as shown below, in order to calculate the final BREEAM score. The weighting factors have been derived from consensus based research with various groups such as government, material suppliers and lobbyists. This research was carried out by BRE Global to establish the relative importance of each environmental issue.

The environmental weightings are as follows:

BREEAM Section	Weighting (%)
Management	12.0
Health and Wellbeing	15.0
Energy	15.0
Transport	9.0
Water	7.0

BREEAM Section	Weighting (%)
Materials	13.5
Waste	8.5
Land Use and Ecology	10.0
Pollution	10.0

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2.0 Summary of Building Performance and Score Calculation

The proposed Oak Park Health & Wellbeing Campus currently achieves a score of 70.86% against the BREEAM 2014 New Construction Multiresidential criteria; this translates into an overall BREEAM rating of EXCELLENT.

The tables below illustrate how the BREEAM score has been calculated.

N.B. Due to an error in the BREEAM UK New Construction 2014 Pre-Assessment Estimator, issue Ene 09 (Drying Space) was not filtered out of the assessment. BRE have subsequently confirmed that this issue should not be included in a Care Home assessment. Whilst the targeted score shown below is 70.5%, the adjustment made from removing Ene 09 increases the target to **70.86%**.

BREEAM UK New Construction 2014 Pre-Assessment Estimator



Building details

Building name	Oak Park Health & Wellbeing Campus
Country	England
Building type (main description)	Multi-Residential Accommodation
Building type (sub-group)	Multi-Residential - Care home
Building floor area (GIA) m ²	4200
Building floor area (NIFA) m ²	4000
BREEAM scheme	New Construction
BREEAM version	2014 (SD5076)
BREEAM UK 2014 technical manual issue number	SD5076 Issue 1.0
Project type	New Construction (Fully fitted)
Assessment stage	Pre-Assessment
Location type	Medium urban (>25,000 population)
If applicable, does this industrial building have a heated or cooled operational area?	Option not applicable to building type
Commercial/industrial refrigeration and storage systems	Yes
Building user transportation systems (lifts and/or escalators)	Yes
Laboratory function/area and size category	No laboratory
Laboratory containment level	No laboratory
Fume cupboard(s) and/or other containment devices	No
Unregulated water uses present? (e.g. vehicle wash system, irrigation)	No
If applicable, will this healthcare building house inpatients?	Option not applicable to building type
If applicable, does this industrial building have an office area?	Option not applicable to building type
If applicable, does this building contain areas requiring SAP assessment?	No
If SAP used, what proportion of the building's total floor area (GIA) does it apply to?	

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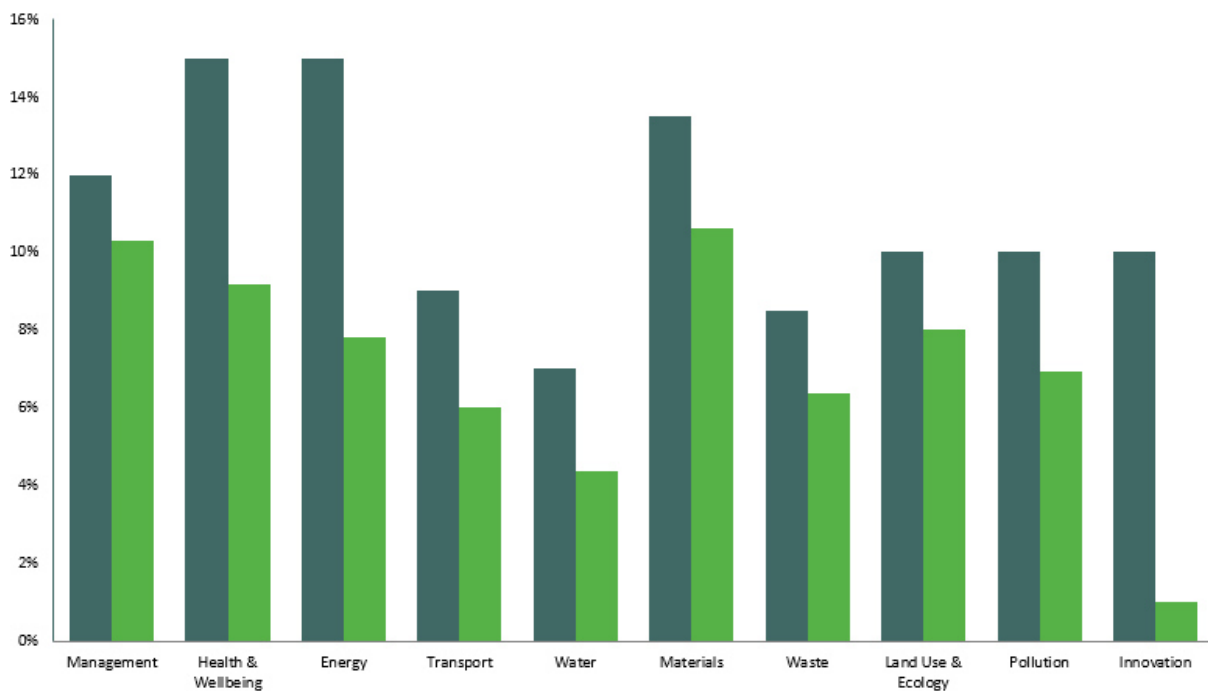
BREEAM UK New Construction 2014 Pre-Assessment Estimator: Indicative Rating & Building Performance

BREEAM® UKI

Overall Building Performance

Building name	Oak Park Health & Wellbeing Campus
Indicative BREEAM rating	Excellent
Indicative Total Score	70.5%
Min. standards level achieved	Excellent level

Building Performance by Environment Section



		Indicative no.		Section Weighting	Indicative Section Score
		No. credits available	credits Achieved		
Environmental Section					
	Management	21	18	85.7%	12.0%
	Health & Wellbeing	18	11	61.1%	15.0%
	Energy	25	13	52.0%	15.0%
	Transport	9	6	66.7%	9.0%
	Water	8	5	62.5%	7.0%
	Materials	14	11	78.6%	13.5%
	Waste	8	6	75.0%	8.5%
	Land Use & Ecology	10	8	80.0%	10.0%
	Pollution	13	9	69.2%	10.0%
	Innovation	10	1	10.0%	10.0%

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3.0 Comments Relating to the Pre-Assessment

The full output from the BREEAM 2014 New Construction Multiresidential assessment has been sent as a separate document and shows a breakdown of the individual credits that have been awarded resulting in a BREEAM rating of EXCELLENT.

The following section provides some comments relating to those credits already being pursued, and highlighted in yellow are where further additional credits could be targeted by the design team to improve the rating. Mandatory credits that must be achieved for an EXCELLENT rating have been outlined in grey.

	Description	Credits	Comments
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3.1 Management

01	Project Brief and Design	Targeted	Total 4
	Stakeholder consultation (project delivery)	1	Consultation meeting has taken place with Paul Brand representing the contractor's interests. Meeting minutes need to be recorded to meet the requirements of the first credit.
	Stakeholder consultation (third party)	1	
	Sustainability champion (design)	1	AP is the sustainability champion for these stages.
	Sustainability champion (monitoring progress)	1	
02	Life Cycle Cost and Service Life Planning		Total 1
	Elemental Life Cycle Cost (LCC)	0	Life Cycle Costing not targeted.
	Component Level LCC plan	0	
	Capital cost reporting	1	Client is to report capital costs (£k/m ²) to BRE.
03	Responsible Construction Practices		Total 6
	PRE-REQUISITE: Legally harvested and traded timber	Y	Contractor must have ISO14001 or equivalent. Contractor <i>must have their own</i> Sustainability Champion. Considerate Constructors Scheme (CCS) score between 25 and 34, achieving a score of 5 in each of 5 sections. Minimum standard for Excellent. CCS score between 35 and 39, achieving a score of 7 in each of 5 sections. Contractor must record data on transport of materials from factory gate to site (including intermediate storage and distribution) AND transport of waste from site to disposal centre.
	Environmental management	1	
	Sustainability champion (construction stage)	1	
	Considerate Construction (compliance)	1	
	Considerate Construction (exceeded)	1	
	Monitoring of construction site impacts (energy and water)	1	
	Monitoring of construction site impacts (transport of materials and waste)	1	
	Exemplary Credit: Considerate Construction (exemplary)	0	

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04	Commissioning and Handover		Total 4
	Commissioning and testing schedule and responsibilities	1	Testing schedule meeting the requirements of the first credit.
	Commissioning building services	1	
	Testing and inspecting building fabric (thermographic survey/ air tightness testing)	1	A thermographic study is to be commissioned and any defects to be rectified.
	Hand over (building user guide and training schedule)	1	A BREEAM compliant Building User guide and training schedule is required for the final credit. Minimum standard for Excellent.

05	Aftercare		Total 3 + 1 Exemplary
	Aftercare support	1	Support to be provided to building occupier for 12 months.
	Seasonal commissioning	1	Minimum standard for Excellent.
	Post occupancy evaluation (12 Months)	1	A third party survey of building occupants 12 months after occupancy including dissemination of information.
	Exemplary Credit: Post occupancy evaluation (3 Years)	1	3 years reporting of occupant satisfaction, and water and energy data to BRE on a quarterly basis.

3.2 Health and Wellbeing

01	Visual Comfort		Total 2
	Glare control	0	Not targeted as curtains won't comply.
	Daylighting	0	Daylight factors are not targeted due to room depths.
	View out	1	Credit available if 95% of relevant floor areas are within 7m of a window.
	Internal and external lighting levels, zoning and control	1	
	Exemplary Credit: Daylighting	0	Exemplary credit not targeted.

02	Indoor Air Quality		Total 4
	Indoor Air Quality (IAQ) plan	1	
	Ventilation	0	Ventilation credit cannot be targeted due to proximity of car park.
	Volatile Organic Compound (VOC) emission levels (products)	1	
	Volatile Organic Compound (VOC) emission levels (post construction)	1	PCR VOC credit requires testing <i>post</i> completion but <i>prior</i> to occupancy
	Potential for natural ventilation	1	Modelling can show potential to provide natural ventilation.
	Exemplary Credit: Volatile Organic Compound (VOC) emission levels (products)	0	

04	Thermal Comfort		Total 2
	Thermal modelling	1	
	Adaptability – for a projected climate change scenario	0	One potential credit if thermal model is re-run under different external temperatures.
	Thermal zoning and controls	1	

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05	Acoustic Performance		Total 1 1 credit targeted for airborne sound levels at least 3dB lower than Building Regulations.
	Acoustic performance standards	1	

06	Safety and Security		Total 2 Delivery routes not to cross parking areas or pedestrian or cycle paths. ALO to be appointed at Stage 2. ALO's recommendations to be implemented.
	Safe access - pedestrians and cyclists, deliveries and parking	1	
	Security of site and building	1	

3.3 Energy

01	Reduction of Energy Use and Carbon Emissions		Total 6 Six credits have been targeted based on the EPR for similar development. CHP & PV likely to be specified. (5 credits are the minimum standard for Excellent.) Exemplary credits feasible.
	Energy performance	6	
	Exemplary credits: Zero Regulated Carbon or Carbon Negative	0	

02	Energy Monitoring		Total 1 Sub-metering credit is minimum standard for Excellent level.
	Sub-Metering of major energy consuming systems	1	

03	External Lighting		Total 1 Specify lights with minimum 60lm/cw. All fittings to be automatically controlled.
	Lamp/luminaire efficiency and lighting control	1	

04	Low Carbon Design		Total 2 CPW can complete passive design report as required. Free cooling credit not targeted due to inclusion of mechanical vent. CPW to carry out LZC feasibility study.
	Passive design analysis	1	
	Free cooling	0	
	Low Zero Carbon feasibility study	1	

05	Energy Efficient Cold Storage		Total 0 A walk-in cold store is present. Credits not targeted due to complexity of requirements.
	Refrigeration energy consumption	0	
	Indirect greenhouse gas emissions	0	

06	Energy Efficient Transportation Systems		Total 3 Compliant analysis required for first credit. If regenerative drives will save energy they must be specified.
	Energy consumption	1	
	Energy efficient features	2	

08	Energy Efficient Equipment		Total 0 Not targeted as heat recovery or greywater recycling would be needed in the laundry.
	Standards or controls used to minimise energy consumption or environmental impact	0	

09	Drying Space		Total 0 This credit has been confirmed by BRE as being non-applicable to this assessment.
	Sufficient secure area available for drying clothes	0	

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3.4 Transport

01	Public Transport Accessibility		Total 2 Buses run down Petersfield Rd & Crossland Drive. Havant railway station is within 1000m.
	Accessibility Index (AI)	2	
02	Proximity to Amenities		Total 1 Distance must be measured via a safe walking route.
	Building is close to a range of amenities	1	
03	Cyclist Facilities		Total 1 One credit targeted for cycle racks (1 for every 10 staff) and wheelchair/electric buggy storage/charging points.
	Provision of cycle storage, or cycle storage and other cyclist facilities	1	
04	Maximum Car Parking Capacity		Total 1 Credit dependent upon number of building users.
	Car parking capacity is limited to encourage other forms of transport	1	
05	Travel Plan		Total 1 Travel plan to be developed during feasibility stages and must make reference to disabled building users.
	A travel survey and plan have influenced project design	1	

3.5 Water

01	Water Consumption		Total 2 One credit is minimum standard for Excellent level. No rainwater harvesting/greywater recycling, therefore additional credits unlikely.
	The water consumption (litres/person/day) has been compared with targets	2	
	Exemplary Credit: Improvement by 65% or more on the baseline performance	0	
02	Water Monitoring		Total 1 Water meter on the mains supply is a minimum standard for Excellent level.
	Consumption is monitored by a suitable meter (and, if appropriate, sub meters)	1	
03	Water Leak Detection		Total 2 Criteria only applicable to communal WCs, not residential or ensuite facilities.
	Leak detection system	1	
	Flow control devices	1	

3.6 Materials

01 C	Life Cycle Impacts		Total 4 Potential for 2 additional credits dependent upon materials specified.
	The Green Guide is used to assess the environmental life cycle impact of materials used	4	
	Exemplary Credit: Points scored Green Guide or life cycle assessment software reach exemplary level	0	

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02	Hard Landscaping and Boundary Protection		Total 1
	The Green Guide rating of 80% of these materials (by area) should be A or A+	1	
03	Responsible Sourcing of Materials		Total 3 Timber from a legal source is a minimum standard for Excellent level. One potential credit for higher percentage of responsibly sourced materials.
	PRE-REQUISITE: Legally harvested and traded timber	Y	
	Sustainable procurement plan	1	
	Responsible sourcing of materials	2	
	Exemplary credit:: 70+% of the available responsible sourcing points are achieved	0	
04	Insulation		Total 1
	Embodied impact	1	
05	Designing for Durability and Robustness		Total 1 Degradation of building fabric from environmental and biological factors needs to be considered.
	Protecting vulnerable parts of the building, Protecting exposed parts of the building from material degradation	1	
06	Material Efficiency		Total 1 BREEAM compliant reports required at every RIBA stage 1-5 (inclusive).
	Measures implemented to optimise the use of materials from design stage to end of life	1	

3.7 Waste

01	Construction Waste Management		Total 3 Two credits targeted for amount of construction waste (excluding demolition & excavation) generated. Waste figures are not to include waste from construction of Supported Living accommodation.
	Construction resource efficiency	2	
	Diversion of resources from landfill	1	
	Exemplary Credit: exceptional diversion from landfill and low waste production	0	
02	Recycled Aggregates		Total 0 Credit not targeted. Difficult to achieve in practice.
	Recycled aggregates	0	
	Exemplary Credit : Higher percentages of recycled aggregates used	0	
03	Operational Waste		Total 1 Minimum standard for Excellent. Recycling bins may be placed in a staff-only area if the communal space is not suitable.
	Operational waste	1	
05	Adaptation to Climate Change		Total 1 BREEAM complaint resilience appraisal required at RIBA stage 2.
	Structural and fabric resilience	1	
	Exemplary Credit: Responding to adaptation to climate change	0	
06	Functional Adaptability		Total 1 BREEAM complaint adaptation strategy required at RIBA stage 2.
	Functional adaptation strategy report and measures implemented	1	

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3.8 Land Use and Ecology

01	Site Selection		Total 1 75% of the development's footprint needs to be on land that was previously occupied by buildings or fixed surface infrastructure. Land is not contaminated.
	Previously occupied land	1	
	Contaminated land	0	
02	Ecological Value of Site and Protection of Ecological Features		Total 1 Initial Ecology Survey concludes the site is of some ecological value. Credit unavailable. Features of ecological value will be protected during construction.
	Ecological value of site	0	
	Protection of ecological features	1	
03	Minimising Impact on Existing Site Ecology		Total 2 No negative ecological change is a minimum standard for Excellent level. Ecologist to be appointed to report on plot types and species richness.
	Change in ecological value 1	1	
	Change in ecological value 2	1	
04	Enhancing Site Ecology		Total 2 Ecologist to be appointed and their recommendations to be followed. A large increase in plant species richness is targeted for the second credit.
	Ecologist's report and recommendations	1	
	Increase in ecological value	1	
05	Long Term Impact on Biodiversity		Total 2 The Contractor will be obliged to protect ecology and biodiversity on site.
	Ecologist appointed; management plan produced; contractor meets additional measures	2	

3.9 Pollution

01	Impact of Refrigerants		Total 0 Not targeted as refrigerants to be used in server room & treatment room, unlikely to comply with BREEAM requirements. One potential credit if each unit's refrigerant charge is less than 6kg.
	PRE-REQUISITE: All systems comply with BS EN 378:2008	-	
	Impact of refrigerant	0	
	Leak detection	0	
02	NO_x Emissions		Total 3 Three credits targeted for NO _x levels ≤40mg/kWh.
	Minimising NO _x emissions from heating and hot water	3	
03	Surface Water Run-Off		Total 4 One potential credit, although it is unlikely that 5mm can be retained onsite. Structural Engineer to confirm.
	Flood resilience	2	
	Surface water run-off PRE-REQUISITE: Appropriate consultant engaged	Y	
	Surface water run-off: Peak run-off not increased	1	
	Surface water run-off: Drainage failure will not cause flooding	1	
	Minimising watercourse pollution	0	

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04	Reduction of Night Time Light Pollution		Total 1 Lighting to follow ILP guidelines.
	Standards are followed and appropriate switching employed	1	
05	Reduction of Noise Pollution		Total 1 Acoustician to be appointed and any noise attenuation measures recommended to be installed.
	Noise from the building is controlled to prevent nuisance to neighbours	1	

3.10 Innovation

01	Innovation credits for exemplary performance in these issues:	Max 10	Total 1
	Man 03 Responsible construction practices	0	
	Man 05 Aftercare	1	See Man 05 comment.
	Hea 01 Visual Comfort	0	
	Hea 02 Indoor Air Quality	0	
	Ene 01 Reduction of Energy Use and Carbon Emissions	0	
	Wat 01 Water Consumption	0	
	Mat 01 Life Cycle Impacts	0	
	Mat 03 Responsible Sourcing of Materials	0	
	Wst 01 Construction Site Waste Management	0	
	Wst 02 Recycled Aggregates	0	
	Wst 05 Adaptation to Climate Change	0	