



Buro Happold

022358 The EDGE

BREEAM for Offices (2006)

Preliminary Design & Procurement Assessment

February 2007

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author **Jonathan Goodliffe**

signature



date **21/02/2008**

approved **Jason Gardner**

signature



date **21/02/2008**

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1 Executive Summary

During this preliminary assessment the EDGE office development, York achieved a BREEAM for offices 2006 design and procurement rating of 'VERY GOOD' if assumptions guidelines stated in the report were followed.

Overview

- The building scores highly in most areas.
- Areas where there is room for improvement are 'materials' and 'pollution'.
- The preliminary rating has been calculated using information gained from the design team and assumptions which have been stated in the report. Details of all information collected can be found in the appendices.

2 Introduction

2.1 Building & Assessment Team

The EDGE is a contemporary two storey office building situated South of central York, approximately 150 metres east of the River Ouse and riverside walk which provides easy pedestrian/cycle access to the city. The footprint of the building occupies an area of 677m².

The building features mixed mode ventilation which includes an electrical VRF combined heating and comfort cooling system as well as openable windows and trickle vents. There are additional high efficiency electric heat emitters in the toilet and reception areas. Domestic hot water is provided by electric water heaters.

Development Address:	The EDGE Hospital Fields Road York YO10 4FE
Client:	Shepherd Developments Suite 17D Joseph's Well Hanover Walk Leeds LS3 1AB
BREEAM Consultants:	Buro Happold Engineers Ltd. 2 Brewery Place Brewery Wharf Leeds LS10 1NE

Any other contact details can be obtained by contacting the BREEAM Assessor directly.

2.2 Introduction to the BREEAM 2006 scheme

BREEAM (Building Research Establishment Environmental Assessment Method) is the leading tool for the assessment of the impact new developments, refurbishments of existing buildings or currently occupied premises may have on their environment.

The aim of BREEAM is to identify strengths and weaknesses the design, the performance and ultimately, the management of any building may have when considering and assessing its impact on the environment.

If a building is found to be in-line with or exceed current building regulations and best practices in regards to environmental issues then it is likely that a certificate can be awarded. The assessment does not need to be formalised immediately and clients may take advice from consultant on how to improve the likelihood of achieving a desired rating before a formal assessment is carried out.

It is by these methods that BREEAM aims to improve the understanding of environmental issues by all parties and can influence decisions in order to reduce the detrimental effect that a building may have on the environment.

There are three components to BREEAM, as shown in diagram overleaf, and either one or two of these components will be included in an assessment. It will depend on the current status of any building which components will be relevant to it, for example, if an empty building was to undergo BREEAM then only the core performance component should be considered as BREEAM cannot now have a bearing on any design issues and without any occupants it is impossible to assess or influence the management of the building. For an existing, occupied building, both the performance and the management and operation components can be included.



Existing vacant

Core Building Performance

New build and refurbishment

Design & Procurement

Existing and occupied

Management & Operation

The core performance component is central to BREEAM and is the only component that must always be included in an assessment. This component gives a building performance score when carried out alone. When carried out alongside one of the other two components the results of the assessment are expressed by the following scale:

- 'Excellent'
- 'Very Good'
- 'Good'
- 'Pass'

Each rating corresponds to a score that is calculated by the BREEAM Assessment tool.

3 Assessment Summary

The assessment summary gives an overview of how the building has performed in each category.

3.1 Results Breakdown

Section	Credits achieved	Total possible credits	Percentage credits achieved (%)	Overall weighted percentage (%)
Management	9	8	88.9	13.33
Health & Wellbeing	12	13	92.3	13.85
Energy & Transport	24	33	72.7	18.18
Water	4	6	66.7	3.33
Materials	2	12	16.7	1.67
Land Use & Ecology	3	10	30.0	4.50
Pollution	6	15	40.0	6.00

Score (%)	60.86
Rating	Very Good

3.2 Scoring

This section gives an overview of where the building scores highly and credits can be awarded and also where credits have been withheld. Refer to Appendix section for detailed breakdown.

3.2.1 Management

The management section of BREEAM is concerned with ensuring that management structures are adequate to achieve maximum benefits and minimum environmental impact through correct commissioning.

The project can gain full credits in this area assuming that maximum scores for both the 'considerate constructor's scheme' and 'construction site impacts' are achieved.

The 'considerate constructor's scheme' is an independent rating of site performance created by the construction industry to improve its image. Ratings of 0 – 5 are given under eight categories, which are: Considerate, Environment, Cleanliness, Good Neighbour, Respectful, Safe, Responsible and Accountable. In order to gain the full BREEAM credits the combined score must be 32 or above out of a possible 40. If any one of the categories scores below 3 then no BREEAM credits can be obtained for this section. The Edge is awarded 1 credit under the considerate constructor's scheme.

There are 4 credits available for 'construction site impacts'. To gain the full amount the constructor must set up systems to set targets, monitor and report on 6 out of the following 7 impacts at site level: CO₂ emissions from energy used on site, CO₂ emissions from transport used on site, construction waste resulting from site activities, recycling of construction waste, site water consumption, air pollution and ground pollution. As well as this, to gain all 4 credits, 75% of timber used for temporary purposes must be from an accredited sustainable source. The Edge is awarded 4 credits.

Building commissioning is to be monitored by an appointed team member to ensure compliance with current building regulations, and seasonal commissioning is to be carried out within the first year of building occupancy. A simple guide to building operation is also to be provided to the tenant to assure correct management of building systems.

3.2.2 Health & Wellbeing

It is important to consider the health and wellbeing of the occupants and any neighbours and this is assessed in this section of the assessment.

The development scores very well in this section for the lighting, ventilation and thermal comfort categories, gaining the available credits in all but 2 areas. An additional credit could have been achieved by the fitting of external or internal blinds to control the effects of glare. Credit has also been awarded for acoustic performance, as the office space is in the 40 – 45 dBA range stated for an office with plan area of 40m² or more.

3.2.3 Energy & Transport

The energy used in buildings is an important factor to consider when assessing the environmental impact of a development, but possibly less obvious is the impact on the environment by energy uses transporting the occupants to the building. This section awards credits to a low energy design that utilises building fabric with high thermal resistances, the monitoring of energy consumption and low predicted CO₂ emissions.

According to the SBEM calculation undertaken by 'Morfitts building services', the building performs 20% better than the requirements outlined by part L2A of the 2006 building regulations, giving a score of 9 out 15.

The provision of 28 secure bicycle parking stands gains credit, although extra credit could have been gained by providing drying and changing facilities for cyclists affected by wet conditions. The transport section scores exceptionally well due to the frequent local services and the sites good links to local networks.

3.2.4 Water

Changing weather patterns make the consumption of water a major issue when assessing the environmental impact of a building both now and in the future.

The EDGE development scores well in this section due to the provision of pulsed water metering system and sanitary supply shut off. It only however scores 1 out 3 available credits for predicted potable water consumption, an area that could be targeted for improvement.

3.2.5 Materials

Approximately 10% of annual energy use is used in the production of building materials. If the materials used in a building are carefully chosen and, where appropriate, old materials recycled we can reduce the energy use of materials production and reduce the impact on the environment. It is at the design stage that the most benefit can be achieved in this section.

Sustainable sources should be used for the provision of any timber required in construction and the impact on land-use, biodiversity and pollution issues all need considering.

As this building is a new development no credits are attainable for the re-use of existing elements. The building scores poorly in this section due to the lack of 'A' rated* building elements.

**Building element ratings are referenced from 'the green guide to specification – the BRE'*

3.2.6 Land Use

In countries with high population density such as Great Britain there has been growing concern over the unnecessary use of previously unused land for new developments while existing derelict land remain unoccupied.

The EDGE development gains a credit for redevelopment of a previously used site, but the credit available for decontamination of site is not awarded as the site investigation did not identify the site as being contaminated.

3.2.7 Ecology

The ecological value of the site is considered in this section, numbers of species and the effect on this by the development is taken into account.

The project scores a credit in this section as the building is to be on land previously considered as land of low ecological value and the trees on the site are being retained. However, the absence of an appointment of an ecological consultant removes the possibility of the development scoring any further credits in sections relating to ecological enhancement and long term impacts.

3.2.8 Pollution

The main issues in the pollution section involve the use of ozone depleting chemicals and the production of NOx gasses.

The design of the building scored poorly in this section. The use of an electrical VRF heating and comfort cooling system only achieves 1 out of 3 credits for NOx emissions. The use of a refrigerant with a global warming potential value greater than 5 in the cooling system also counts against the score, although the inclusion of a refrigerant leak detection system does gain a single credit.

The development rates highly for its location regarding flooding potential and its urban drainage techniques. No credit is awarded for minimising the risk of pollution to the water course as there are no petrol interceptor/ filtration systems installed.

Credit is lost for the insulation material selection, which has a global warming potential rating of 5 or more. The lack of renewable energy technology also counts against the score in this section.

4 Recommendations to increase BREEAM rating

The current score of 'VERY GOOD' could potentially be improved to an 'EXCELLENT' rating by satisfying a few more of the criteria stated in the BREEAM assessment.

4.1 Health and Wellbeing

- The inclusion of external or internal blinds to control the effects of glare.

4.2 Transport

- Provide drying and changing facilities for cyclists.

4.3 Water

- Use of potable water used for sanitary use reduced to below 4m² per person per year.
- The installation of proximity sensors to control urinals and w/c's.
- A mains supply leak detection system.

4.4 Materials

- Provide information proving the responsible sourcing of materials.

4.5 Pollution

- The provision of automatic refrigerant pump down to a heat exchanger or isolation tank with isolation valves or where there is no refrigerant specified for the development.
- A feasibility study considering renewable and low emission energy to be carried out and the results implemented.

Appendix

- Design & Procurement Assessment tool
- Assessment Calculators

BREEAM Offices 2006 - D&P Assessment tool

Credit ref	Credit title	Credit Criteria	Number of credits achieved	Number of credits available	Credit Validation
Management Section					
M1	Commissioning	<p>First credit: Where evidence provided demonstrates that an appropriate project team member has been appointed to monitor commissioning on behalf of the client to ensure commissioning will be carried out in line with current Building Regulations and (where applicable), best practice.</p> <p>Second Credit: Where evidence provided demonstrates that seasonal commissioning will be carried out during the first year of occupation, post construction (or post fit out).</p>	2	2	
M4	Considerate Constructors	<p>First credit: Where evidence provided demonstrates that there is a commitment to comply with best practice site management principles.</p> <p>Second credit: Where evidence provided demonstrates that there is a commitment to go significantly beyond best practice site management principles.</p>	1	2	
M5	Construction Site Impacts	<p>Up to four credits are awarded where established good practice is adopted on site in line with the BREEAM Construction Site Impacts Checklist A3.</p> <p>Use the BREEAM calculators to determine the number of credits achieved</p> <p>Please input the number of points achieved from the Construction Site Impacts calculator</p>	4	4	
M12	Building Users Guide	<p>One credit is awarded where evidence provided demonstrates the provision of a simple guide that covers information relevant to the tenant/occupants and non-technical building manager on the operation and environmental performance of the building.</p>	1	1	

Health & Wellbeing Section

HW1	Daylighting	One credit is awarded where evidence provided demonstrates that at least 80% of net lettable office floor area is adequately daylight.	1	1	
HW2	View Out	One credit is awarded where evidence provided demonstrates that all desks are within a 7m radius of a window.	1	1	
HW3	Glare Control	One credit is awarded where evidence provided demonstrates that an occupant controlled glare control system (e.g. internal or external blinds) is fitted.	0	1	
HW4	High Frequency Lighting	One credit is awarded where evidence provided demonstrates that high frequency ballasts are installed on all fluorescent and compact fluorescent lamps.	1	1	
HW5	Internal and external lighting levels	One credit is awarded where evidence provided demonstrates that all internal and external lighting, where relevant, is specified in accordance with the appropriate maintained illuminance levels (in lux) recommended by CIBSE.	1	1	
HW6	Lighting Zones	One credit is awarded where evidence provided demonstrates that lighting, in all occupied areas, is zoned to allow separate control.	1	1	
HW8	Potential for Natural Ventilation	One credit is awarded where evidence provided demonstrates that external façade windows to all occupied areas are operable and at least on opposite sides for accommodation over 7m deep. The operable area should be equivalent to 5% of the gross floor area of the building. This should have an even distribution across the office area so as to promote adequate cross ventilation.	1	1	

HW9	Internal air pollution	One credit is awarded where evidence provided demonstrates that air intakes serving occupied areas avoid major sources of external pollution and recirculation of exhaust air.	1	1	
HW11	Ventilation Rates	One credit is awarded where evidence provided demonstrates that each space within the development achieves recommended minimum fresh air rates	1	1	
HW14	Thermal Comfort	One credit is awarded where evidence provided demonstrates that thermal comfort levels are assessed at design stage, this is used to evaluate appropriate servicing options, and appropriate thermal comfort levels are achieved.	1	1	
HW15	Thermal Zoning	One credit is awarded where evidence provided demonstrates that local control is available for temperature adjustment in each area to reflect differing load requirements.	1	1	
HW16	Microbial Contamination	One credit is awarded where evidence provided demonstrates that the risk of waterborne and airborne legionella contamination has been minimised. AND One credit is awarded where evidence provided demonstrates that no humidification is present, or only steam humidification is provided.	1	1	
HW17	Acoustic Performance	Where evidence provided demonstrates that the building design can be shown to achieve indoor ambient noise levels that fall within the following ranges in occupied offices: a) 35-40dB LAeqT in small offices b) 40-45dB LAeqT in medium offices c) 45-50dB LAeqT in large offices	1	1	

Energy Section

E1 Reduction of CO ₂ emissions	Up to 15 credits are available where evidence provided demonstrates that the building achieves a percentage improvement above the requirement for CO ₂ emissions as set out in the Building Regulations. ENTER the percentage improvement over 2006 Building Regulation requirement:	9	15	
		21		
E2 Sub-metering of Substantial Energy Uses	One credit is awarded where evidence is provided to demonstrate the provision of direct sub-metering of substantive energy uses within the building.	1	1	
E3 Sub-metering of Areas/Tenancy	One credit is awarded where evidence provided demonstrates sub-metering of energy use by tenancy/areas is installed within the building.	1	1	
E4 External Lighting	One credit is awarded where evidence provided demonstrates energy efficient external luminaires are specified and all light fittings controlled for the presence of daylight.	1	1	

Transport Section

<p>T1 Provision of Public Transport</p>	<p>First Credit: One credit is awarded where evidence provided demonstrates good access is available to and from public transport networks for commuting.</p> <p>Second Credit: One credit is awarded where evidence provided demonstrates there is good access to and from public transport networks for business travel.</p>	<p>2</p>	<p>2</p>	
<p>T2 Transport CO₂</p>	<p>Up to ten credits are available on the basis of net CO₂ emissions resulting from commuting. Using the BREEAM calculators ENTER CO₂ emissions (kg/person/year) =</p>	<p>8</p>	<p>10</p>	
		<p>508</p>		
<p>T5 Cyclist Facilities</p>	<p>First credit: Where evidence provided demonstrates that there is adequate provision of covered, secure and well lit cycle racks and showers.</p> <p>Second credit: Where in addition to the above, evidence provided demonstrates adequate provision of changing facilities and lockers for clothes or a dedicated drying space for wet clothes.</p>	<p>1</p>	<p>1</p>	
		<p>0</p>	<p>1</p>	
<p>T8 Travel Plan</p>	<p>One credit is awarded where evidence provided demonstrates that a travel plan has been developed and tailored to the specific needs of the users of the assessed development.</p>	<p>1</p>	<p>1</p>	

Water Section

W1 Water Consumption	Up to three credits can be awarded on the basis of the predicted potable water consumption for sanitary use within the building. Using the BREEAM calculators ENTER consumption in m ³ /person/year =	1	3	
		4.76		
W2 Water Meter	One credit is awarded where evidence provided demonstrates that a water meter with a pulsed output will be installed on the mains supply to each building.	1	1	
W3 Major Leak Detection	One credit is awarded where evidence provided demonstrates that a leak detection system is specified or installed and is capable of identifying major leaks both within the building and between the building and the site boundary, and should cover all mains water supplies to the building.	1	1	
W4 Sanitary Supply Shut Off	One credit where evidence provided demonstrates that proximity detection shut off is provided to the water supply to all urinals and WC's.	1	1	

Materials Section

MW1	Materials Specification - Major Building Elements	Up to four credits are available where evidence provided demonstrates that the major building elements specified have an 'A rating', as defined in the Green Guide to Specification.	1	4	
MW3	Floor Finishes	One credit is awarded where evidence provided demonstrates that carpets and other floor finishes are specified by the future occupant or, in tenant areas of speculative buildings, where carpets or floor finishes are installed in a limited show area only.	0	1	
MW5	Reuse of Building Façade	One credit is awarded where evidence provided demonstrates that at least 50% of the total façade (by area) is reused and at least 80% of the reused façade (by mass) comprises in-situ reused material.	0	1	
MW6	Reuse of Building Structure	One credit is awarded where evidence provided demonstrates that a design reuses at least 80% of an existing primary structure and for part refurbishment and part new build, the volume of the reused structure comprises at least 50% of the final structure's volume.	0	1	
MW7	Recycled Aggregates	One credit is awarded where evidence provided demonstrates significant use of crushed aggregate, crushed masonry or alternative aggregates (manufactured from recycled materials) are specified for 'high grade' aggregate uses (such as the building structure, ground slabs, roads, etc.).	0	1	
MW8	Responsible Sourcing of Materials	Up to three credits are awarded where evidence provided demonstrates materials used in structural and non-structural elements are responsibly sourced.	0	3	
MW12	Storage of Recyclable Waste	One credit is awarded where evidence provided demonstrates that a central, dedicated storage space is provided for materials that can be recycled. This can be either within the building itself, or on site using skips, (provided there is good access for collections and it is within easy reach of the building).	1	1	

Land Use & Ecology

LE1	Reuse of Land	One credit is awarded where evidence provided demonstrates that the footprint of the proposed development largely falls within the boundary of land previously developed.	1	1	
LE2	Contaminated Land	One credit is awarded where evidence provided demonstrates that the land used for the new development has, prior to development, been defined as contaminated, and where adequate remedial steps have been taken to decontaminate the site prior to construction.	0	1	
LE3	Ecological Value of Land and Protection of Ecological Features	One credit is awarded where evidence provided demonstrates that the construction zone is defined as land of low ecological value and all existing features of ecological value will be fully protected from damage during site preparation and construction works.	1	1	
LE4	Mitigating Ecological Impacts	<p>First Credit: One credit is awarded where evidence provided demonstrates the change in ecological value of the site, as a result of development, is less than zero and equal to, or greater than, minus nine species, i.e. a small negative change.</p> <p>Second Credit: Once credit is awarded where evidence provided demonstrates there is no negative change in the ecological value of the site as a result of development, i.e. equal to, or greater than, zero species.</p> <p>Using the BREEAM calculators ENTER Change in Ecological Value =</p>	0	2	
LE5	Enhancing Site Ecology	<p>First Credit: One credit is awarded where evidence provided demonstrates that the design team (or client) has i) appointed a professional to advise and report on enhancing and protecting the ecological value of the site; and ii) implemented the professional's recommendations for general enhancement and protection for site ecology.</p> <p>Additional credits: Up to two credits are awarded where in addition to the above, evidence provided demonstrates a positive increase in the ecological value of the site.</p>	0	1	
			0	2	
LE6	Long Term Impact on Biodiversity	<p>First Credit: One credit is awarded where evidence provided demonstrates that the client has committed to achieving the mandatory requirements and at least two of the additional requirements as listed in the credit Compliance Requirements.</p> <p>Second Credit: One credit is awarded where evidence provided demonstrates that the client has committed to achieving the mandatory requirements and at least four of the additional requirements as listed in the credit Compliance Requirements.</p>	1	2	

Pollution Section

P1	Refrigerant GWP - Building Services	Where evidence provided demonstrates the use of refrigerants with a global warming potential (GWP) of less than 5 or where there are no refrigerants specified for use in building services.	0	1	
P2	Preventing Refrigerant Leaks	<p>First Credit: One credit is awarded where evidence provided demonstrates that refrigerant leaks can be detected or where there are no refrigerants specified for use in the building or development.</p> <p>Second Credit: One credit is awarded where evidence provided demonstrates that the provision of automatic refrigerant pump down is made to a heat exchanger (or dedicated storage tanks) with isolation valves or where there are no refrigerants specified for the development.</p>	1	2	
P4	Insulant GWP	One credit is awarded where evidence provided demonstrates that the specification of insulating materials avoids the use of substances with a global warming potential (GWP) of 5 or more in either manufacture or composition	0	1	
P6	NOx Emissions of Heating Source	<p>Up to three credits available, depending on the dry NOx emissions from delivered space heating energy:</p> <p>1 credit where dry NOx emissions are ≤100 mg/kWh (at 0% excess O2); 2 credits where dry NOx emissions are ≤70 mg/kWh (at 0% excess O2); 3 credits where dry NOx emissions are ≤40 mg/kWh (at 0% excess O2).</p> <p>ENTER NOx emission rate (mg/kWh) –</p>	1	3	
P7	Flood Risk / Water Run-off	<p>Two credits are awarded where evidence provided demonstrates that the assessed development is situated in a flood zone that is defined as having a <u>low annual probability</u> of flooding.</p> <p>OR</p> <p>One credit is awarded where evidence provided demonstrates that the assessed development is located in a zone defined as having a <u>medium annual probability</u> of flooding and the ground level of the building, car parking and access is above the design flood level for the site's location.</p> <p>Additional credit: Where evidence provided demonstrates that Sustainable Urban Drainage techniques are specified to minimise the risk of localised flooding, resulting from a loss of flood storage on site through development.</p>	2	2	
P8	Minimising Water Course Pollution	One credit is awarded where evidence provided demonstrates that on site treatment such as oil separators/interceptors or filtration have been specified for areas at risk from pollution, i.e. vehicle manoeuvring areas, car parks, waste disposal facilities, delivery facilities or plant areas.	0	1	
P11	Renewable & Low Emission Energy	<p>First Credit: Once credits is awarded where evidence provided demonstrates that a feasibility study considering renewable and low emission energy has been carried out and the results implemented.</p> <p>Additional Credits: Up to two credits are awarded where the first credit is achieved and where evidence provided demonstrates that a percentage of total energy demand for the building/development is supplied from local renewable, or low emission energy, sources.</p>	0	1	
P12	Reduction of night time light pollution	One credit is awarded where evidence provided demonstrates that the external lighting design is in compliance with the guidance in the Institution of Lighting Engineers (ILE) Guidance notes for the reduction of obtrusive light, 2005.	1	1	

BREEAM Offices 2006 - Assessment Calculators

MW1: Materials Specification - Major Building Elements

Please select the appropriate method used to assess MW1 from the drop down menu

Green Guide to Specification

Green Guide to Specification

Description of Elements	Area (m ²)	Area that is 'A' rated (m ²)	Mid 'A' factor	Potential Ecopoints	Achieved Ecopoints 'A' material
External Walls	960.00	0.00	0.885	849.60	0.00
Roof	672.00	672.00	1.08	725.76	725.76
Upper floor Slab	672.00	0.00	1.36	913.92	0.00
Windows	120.00	0.00	0.71	85.20	0.00
SUM				2574.48	725.76

Assessed/Target

Credits using the Green Guide

invest



Please Enter the number of Ecopoint/m2 achieved for the building

Description of Elements

Upper Floor Slabs

Windows

External Wall

Roof

Credits using invest

BREEAM Offices 2006 - Assessment Calculators

T2: Transport CO₂ emissions calculator

Please select the appropriate stage of assessment from the drop down menu

Design stage Assessment ▼

Please select the type of area that best describes the proximity of the assessed building from the drop down menu

Medium urban cover 25k - 250k ▼ * Refer to the assessment manual for a detailed description of each location.

Please select the UK region/country in which the assessed building is located (see map on right)

Yorkshire & Humberside ▼

Please Enter the Net Lettable Area m2

130

Please enter the total number of car parking spaces

34

Predicted transport CO₂ emissions

1199.45 [kg/person/yr]

Number of Credits Achieved

2

BREEAM Offices 2006 - Assessment Calculators

W1: Water Consumption Calculator

	litres per use	Proportion (by % or No. of fittings)	uses/day/person	m3/yr
WC's				
9 litre flush WCs	9	<input type="text"/>	2.3	0.00
7.5 litre flush WCs	7.5	<input type="text"/>	2.3	0.00
6 litre flush WCs	6	7	2.3	3.49
4.5 litre flush WCs	4.5	<input type="text"/>	2.3	0.00
6/4 litre Dual Flush W/Cs	4.26	<input type="text"/>	2.3	0.00
4/2 litre Dual flush W/Cs	2.26	<input type="text"/>	2.3	0.00
waterless WCs	0	<input type="text"/>	2.3	0.00
Urinals				
No controls	9	<input type="text"/>	2	0.00
Pressure control device	5	<input type="text"/>	2	0.00
I.R. proximity control	4	<input type="text"/>	2	0.00
Waterless urinal	0	<input type="text"/>	2	0.00
Wash Hand Basins with taps				
regular taps	1	<input type="text"/>	2.5	0.00
flow regulator	0.5	<input type="text"/>	2.5	0.00
auto shut off	0.5	<input type="text"/>	2.5	0.00
aerating taps	0.5	3	2.5	0.32
Showers				
≥15ltrs/min	112.5	<input type="text"/>	0.1	0.00
<15&≥9ltrs/min	60	<input type="text"/>	0.1	0.00
<9&≥6 ltrs/min	37.5	1	0.1	0.95
<6&>4.5ltrs/min	26.5	<input type="text"/>	0.1	0.00
<4.5 ltrs/min	22.5	<input type="text"/>	0.1	0.00
CONSUMPTION PER PERSON		4.76	m3/person/year	
CREDITS ACHIEVED		1		

J. Goodliffe
Buro Happold Limited
2 Brewery Place
Brewery Wharf
Leeds
LS10 1NE
UK

Telephone: +44 (0)113 204 2200
Facsimile: +44 (0)870 787 4144

Email: jonathan.goodliffe@burohappold.com