

6.0 Appendix A. CSH Pre-assessments

Mansion Block

Code for Sustainable Homes
 Technical Guide November 2010 - Full Technical Guide
 Pre-Assessment Report






Report Reference:
Site Registration: 008302-140612-06-1104
Site Name: Liddell Road - Block C (Mansion)
Assessor Number:
Company: Atelier Ten
Assessor: Ajay Shah



Code for Sustainable Homes
 Pre-Assessment Report (Report Reference:)



Site Details	
Site Name:	Liddell Road - Block C (Mansion)
Site Registration:	008302-140612-06-1104
Site Address:	Liddell Road
City/Town:	London
County:	Greater London
Postcode:	
No. of Dwellings:	1
No. of Dwelling Types:	0
Planning Authority:	Camden Council
Funding Body:	

Assessor Details	
Company:	Atelier Ten
Assessor Name:	Ajay Shah
Cert Number:	
Address:	
City/Town:	
County:	
Postcode:	
Tel:	
Email:	

Client Details	
Company:	Camden Council
Contact Name:	Kate Cornwall-Jones
Job Title:	Clients
Email:	
Tel:	
Address:	
City/Town:	
County:	
Postcode:	

Architect Details	
Company:	Maccreevor Lavington
Contact Name:	Ann Griffin
Job Title:	Architect
Email:	
Tel:	
Address:	
City/Town:	
County:	
Postcode:	

Developer Details	
Company:	Camden Council
Contact Name:	Kate Cornwall-Jones
Job Title:	Developer
Email:	
Tel:	
Address:	
City/Town:	
County:	
Postcode:	

Code for Sustainable Homes
 Pre-Assessment Report (Report Reference:)



Dwelling ID	Plot No.	Address	Social Unit
1	1	01 Liddell Road	No

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Development Summary & Ratings

Dwelling ID	Dwelling Type	Description	Level	Score
		01Liddell Road	4	69.91

Deviations from Standard

No deviations from standard

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Score Sheet for Liddell Road - Block C (Mansion)

Dwelling ID	ENE									WAT			MAT			SUR			WAS			POL				HEA				MAN				ECO					Summary	
	1	2	3	4	5	6	7	8	9	1	2	1	2	3	1	2	3	1	2	3	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5	Score	Level	
1	4	3	2	1	2	2	1	1	1	4	1	6	2	2	1	2	4	3	1	1	1	1	1	1	0	3	1	4	3	2	2	2	1	1	1	3	2	69.91	4	

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Summary Score Sheet

Dwelling Type: 01 Liddell Road

Dwelling ID: 1

	Credit Score	Credits Available	Score Assessment				Weighting Factor	Points Score
			Sub Total	Credits Available	%			
Energy & CO2 Emissions								
ENE 1 Dwelling Emission Rate	4	10	17	31	54.84	36.4	19.96	
ENE 2 Fabric Energy Efficiency	3	9						
ENE 3 Energy Display Device	2	2						
ENE 4 Drying Space	1	1						
ENE 5 Energy Labelled White Goods	2	2						
ENE 6 External Lighting	2	2						
ENE 7 Low or Zero Carbon Energy Technologies	1	2						
ENE 8 Cycle Storage	1	2						
ENE 9 Home Office	1	1						
Water								
WAT 1 Internal Water Use	4	5	5	6	83.33	9	7.5	
WAT 2 External Water Use	1	1						
Materials								
MAT 1 Environmental Impact of Materials	6	15	10	24	41.67	7.2	3	
MAT 2 Responsible Sourcing (Basic Building Elements)	2	6						
MAT 3 Responsible Sourcing (Finishing Elements)	2	3						
Surface Water Run-off								
SUR 1 Management of Surface Water Run-Off from Site	1	2	3	4	75	2.2	1.65	
SUR 2 Flood Risk	2	2						
Waste								
WAS 1 Household Waste Storage and Recycling Facilities	4	4	8	8	100	6.4	6.4	
WAS 2 Construction Site Waste Management	3	3						
WAS 3 Composting	1	1						
Pollution								
POL 1 Global Warming Potential of Insulants	1	1	2	4	50	2.8	1.4	
POL 2 NOx Emissions	1	3						
Health & Wellbeing								
HEA 1 Daylighting	0	3	8	12	66.67	14	9.33	
HEA 2 Sound Insulation	3	4						
HEA 3 Private Space	1	1						
HEA 4 Lifetime Homes	4	4						
Management								
MAN 1 Home User Guide	3	3	9	9	100	10	10	
MAN 2 Considerate Constructors Scheme	2	2						
MAN 3 Construction Site Impacts	2	2						
MAN 4 Security	2	2						
Ecology								
ECO 1 Ecological Value of Site	1	1	8	9	88.89	12	10.67	
ECO 2 Ecological Enhancement	1	1						
ECO 3 Protection of Ecological Features	1	1						
ECO 4 Change of Ecological Value of Site	3	4						
ECO 5 Building Footprint	2	2						
							Level Achieved: 4	Total Points Scored: 69.91

Code for Sustainable Homes Pre-Assessment Report (Report Reference:)	
Evidence for ENE 1 (Dwelling Emission Rate)	Improvement above Part L Building Regulations 2010. 4 credits allocated
Assumptions for ENE 1	
Evidence for ENE 2 (Fabric Energy Efficiency)	Mid Terrace 3 credits allocated
Assumptions for ENE 2	
Evidence for ENE 3 (Energy Display Device)	Correctly specified display device showing current primary heating fuel consumption data. Correctly specified display device showing current consumption data.
Assumptions for ENE 3	
Evidence for ENE 4 (Drying Space)	Compliant internal drying space
Assumptions for ENE 4	
Evidence for ENE 5 (Energy Labelled White Goods)	A+ rated fridge & freezers or fridge/freezer A rated washing machine and dishwasher, AND EITHER a tumble dryer (a washer-dryer would be an acceptable alternative to a standalone tumble dryer) with a B rating or where a tumble dryer is not provided, the EU Energy Efficiency Labelling Scheme Information will be provided.
Assumptions for ENE 5	
Evidence for ENE 6 (External Lighting)	Compliant space lighting Compliant security lighting
Assumptions for ENE 6	
Evidence for ENE 7 (Low or Zero Carbon Energy Technologies)	Contribution of low or zero carbon technologies greater than or equal to 10%
Assumptions for ENE 7	
Evidence for ENE 8 (Cycle Storage)	2 or 3 bedroom dwelling - Storage for 1 cycle per dwelling 4 bedrooms or more - Storage for 2 cycles per dwelling
Assumptions for ENE 8	
Evidence for ENE 9 (Home Office)	Compliant home office
Assumptions for ENE 9	

Code for Sustainable Homes Pre-Assessment Report (Report Reference:)	
Evidence for WAT 1 (Internal Water Use)	Internal water use less than or equal to 90 litres per person per day
Assumptions for WAT 1	
Evidence for WAT 2 (External Water Use)	Compliant communal rainwater collection system
Assumptions for WAT 2	
Evidence for MAT 1 (Environmental Impact of Materials)	Mandatory requirements met: At least 3 elements rated A+ to D, 6 credits scored
Assumptions for MAT 1	
Evidence for MAT 2 (Responsible Sourcing (Basic Building Elements))	2 credits scored
Assumptions for MAT 2	
Evidence for MAT 3 (Responsible Sourcing (Finishing Elements))	2 credits scored
Assumptions for MAT 3	
Evidence for SUR 1 (Management of Surface Water Run-Off from Site)	Special Case: No change/decrease in impermeable area. Credits not available Run-off from all hard surfaces shall receive an appropriate level of treatment (as per the SudS manual) to minimise risk of pollution.
Assumptions for SUR 1	
Evidence for SUR 2 (Flood Risk)	Low flood risk - zone 1
Assumptions for SUR 2	
Evidence for WAS 1 (Household Waste Storage and Recycling Facilities)	Mandatory requirements met: Adequate storage of household waste with accessibility in line with checklist WAS 1. Local authority collection: After collection sorting with appropriate internal storage of recyclable materials
Assumptions for WAS 1	
Evidence for WAS 2 (Construction Site Waste Management)	Compliant site waste management plan containing benchmarks, procedures and commitments for the minimizing and diverting 80% waste from landfill in line with the criteria and with Checklist WAS 2a, 2b & 2c
Assumptions for WAS 2	

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Evidence for WAS 3 (Composting)	Individual composting facility/facilities Local authority green waste collection scheme
Assumptions for WAS 3	
Evidence for POL 1 (Global Warming Potential of Insulants)	All insulants have a GWP of less than 5
Assumptions for POL 1	
Evidence for POL 2 (NOx Emissions)	NOx emissions less than or equal to 100mg/kWh
Assumptions for POL 2	
Evidence for HEA 1 (Daylighting)	Credit(s) not sought
Assumptions for HEA 1	
Evidence for HEA 2 (Sound Insulation)	Accredited Part E sound testing has been undertaken Airborne 5dB higher, impact 5dB lower
Assumptions for HEA 2	
Evidence for HEA 3 (Private Space)	Individual private space provided.
Assumptions for HEA 3	
Evidence for HEA 4 (Lifetime Homes)	All criteria of Lifetime Homes in line with all 16 principals of Lifetime Homes
Assumptions for HEA 4	
Evidence for MAN 1 (Home User Guide)	All criteria inline with checklist MAN 1 Part 1 - Operational Issues will be met All criteria inline with checklist MAN 1 Part 2 - Site and Surroundings will be met
Assumptions for MAN 1	
Evidence for MAN 2 (Considerate Constructors Scheme)	Considerate constructors scheme: Significantly beyond best practise, a score of between 35 - 50, and at least a score of 7 in each section*
Assumptions for MAN 2	

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Evidence for MAN 3 (Construction Site Impacts)	Monitor, report and set targets for CO2 production or energy use from site activities Monitor, report and set targets for CO2 production or energy use from site related transport Monitor, report and set targets for water consumption from site activities Adopt best practise policies in respects to air (dust) pollution from site activities 80% of timer reclaimed, re-used or responsibly sourced
Assumptions for MAN 3	
Evidence for MAN 4 (Security)	Secured by design section 1 & 2 compliant
Assumptions for MAN 4	
Evidence for ECO 1 (Ecological Value of Site)	Land of low ecological value, achieved through checklist ECO 1. Development site has been identified as low ecological value by a suitably qualified ecologist
Assumptions for ECO 1	
Evidence for ECO 2 (Ecological Enhancement)	Key recommendations and 30% additional recommendations by a suitably qualified ecologist
Assumptions for ECO 2	
Evidence for ECO 3 (Protection of Ecological Features)	Land of low ecological value as identified under ECO 1
Assumptions for ECO 3	
Evidence for ECO 4 (Change of Ecological Value of Site)	Minor enhancement: Greater than 3 and less than or equal to 9
Assumptions for ECO 4	
Evidence for ECO 5 (Building Footprint)	Weight ratio of housing and flats (2.3:1 and 4:1)
Assumptions for ECO 5	

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Assessor Declaration

I Ajay Shah, can confirm that I have compiled this report to the best of my ability, I have based all findings on the information that is referenced within this report, and that this report is appropriate for the registered site.

To the best of my knowledge all the information contained within this report is correct and accurate. I have within my possession all the reference material that relates to this report, which is available for inspection by the client, the clients representative or Stroma Certification for Quality Assurance monitoring.

Signed:



Ajay Shah
Atelier Ten
24 November 2014

Core 1.0.0.222

Code for Sustainable Homes
Pre-Assessment Report (Report Reference:)



Information about Code for Sustainable Homes


The Code for Sustainable Homes (the Code) is an environmental assessment method for rating and certifying the performance of new homes. It is a national standard for use in the design and construction of new homes with a view to encouraging continuous improvement in sustainable home building. The Code is based on EcoHomes®.

It was launched in December 2006 with the publication of 'Code for Sustainable Homes: A stepchange in sustainable home building practice' (Communities and Local Government, 2006), and became operational in England from April 2007.

The Code for Sustainable Homes covers nine categories of sustainable design. Each category includes a number of environmental issues. Each issue is a source of impact on the environment which can be assessed against a performance target and awarded one or more credits. Performance targets are more demanding than the minimum standards needed to satisfy Building Regulations or other legislation. They represent good or best practice, are technically feasible, and can be delivered by the building industry. The issues and categories are as follows:

- Energy & CO2 Emissions
 - Dwelling Emission Rate
 - Building Fabric
 - Internal Lighting
 - Drying Space
 - Energy Labelled White Goods
 - External Lighting
 - Low or Zero Carbon Technologies
 - Cycle Storage
 - Home Office
- Water
 - Internal Water Use
 - External Water Use
- Materials
 - Environmental Impact of Materials
 - Responsible Sourcing of Materials - Basic Building Elements
 - Responsible Sourcing of Materials - Finishing Elements
- Surface Water Run-off
 - Management of Surface Water Run-off from the Development
 - Flood Risk
- Waste
 - Storage of Non-Recyclable Waste and Recyclable Household Waste
 - Construction Site Waste Management
 - Composting
- Pollution
 - Global Warming Potential of Insulants
 - NOx Emissions

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- Health & Wellbeing
 - Daylighting
 - Sound Insulation
 - Private Space
 - Lifetime Homes
- Management
 - Home User Guide
 - Considerate Constructors Scheme
 - Construction Site Impacts
 - Security
- Ecology
 - Ecological Value of Site
 - Ecological Enhancement
 - Protection of Ecological Features
 - Change in Ecological Value of Site
 - Building Footprint

The Code assigns one or more performance requirements (assessment criteria) to all of the above environmental issues. When each performance requirement is achieved a credit is awarded (with the exception of the four mandatory requirements which have no associated credits). The total number of credits available to a category is the sum of credits available for all the issues within it.

Mandatory minimum performance standards are set for some issues. For four of these, a single mandatory requirement is set which must be met, whatever Code level rating is sought. Credits are not awarded for these issues. Confirmation that the performance requirements are met for all four is a minimum entry requirement for achieving a level 1 rating. The four un-credited issues are:

- Environmental Impacts of Materials
- Management of Surface Water Run-off from Developments
- Storage of Non-Recyclable Waste and Recyclable Household Waste
- Construction Site Waste Management

If the mandatory minimum performance standard is met for the four un-credited issues, four further mandatory issues need to be considered. These are agreed to be such important issues that separate Government policies are being pursued to mitigate their effects. For two of these, credits are awarded for every level of achievement recognised within the Code, and minimum mandatory standards increase with increasing rating levels.

The two issues with increasing mandatory minimum standards are:

- Dwelling Emission Rate
- Indoor Water Use

For one issue a mandatory requirement at Level 5 or 6:

- Fabric Energy Efficiency


The final issue with a mandatory requirement for Level 6 of the Code is:

- Lifetime Homes

Further credits are available on a free-choice or tradable basis from other issues so that the developer may choose how to add performance credits (converted through weighting to percentage points) achieve the rating which they are aiming for.

The environmental impact categories within the Code are not of equal importance. Their relative value is conveyed by applying a consensus-based environmental weighting factor (see details below) to the sum of all the raw credit scores in a category, resulting in a score expressed as percentage points. The points for each category add up to 100.

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The weighting factors used in the Code have been derived from extensive studies involving a wide range of stakeholders who were asked to rank (in order of importance) a range of environmental impacts. Stakeholders included international experts and industry representatives.

It is also important to note that achieving a high performance in one category of environmental impact can sometimes result in a lower level of performance for another. For instance, if biomass is used to meet heating demands, credits will be available for performance in respect of energy supplied from a renewable source, but credits cannot be awarded for low NOX emission. It is therefore impossible to achieve a total percentage points score of 100.

The Code uses a rating system of one to six stars. A star is awarded for each level achieved. Where an assessment has taken place by where no rating is achieved, the certificate states that zero stars have been awarded:

Code Levels	Total Points Score (Equal to or Greater Than)
Level 1 ★☆☆☆☆	36 Points
Level 2 ★★☆☆☆	48 Points
Level 3 ★★★☆☆	57 Points
Level 4 ★★★★☆	68 Points
Level 5 ★★★★★	84 Points
Level 6 ★★★★★★	90 Points

Formal assessment of dwellings using the Code for Sustainable Homes may only be carried out using Certified assessors, who are qualified 'competent persons' for the purpose of carrying out Code assessments.

Code for Sustainable Homes

Pre-Assessment Report (Report Reference:)


**Energy & CO2 Emissions****ENE 1: Dwelling Emission Rate****Available Credits:10****Aim:** To limit CO2 emissions arising from the operation of a dwelling and its services in line with current policy on the future direction of regulations.**ENE 2: Fabric Energy Efficiency****Available Credits:9****Aim:** To improve fabric energy efficiency performance thus future-proofing reductions in CO2 for the life of the dwelling.**ENE 3: Energy Display Device****Available Credits:2****Aim:** To promote the specification of equipment to display energy consumption data, thus empowering dwelling occupants to reduce energy use.**ENE 4: Drying Space****Available Credits:1****Aim:** To promote a reduced energy means of drying clothes.**ENE 5: Energy Labelled White Goods****Available Credits:2****Aim:** To promote the provision or purchase of energy efficient white goods, thus reducing the CO2 emissions from appliance use in the dwelling.**ENE 6: External Lighting****Available Credits:2****Aim:** To promote the provision of energy efficient external lighting, thus reducing CO2 emissions associated with the dwelling.**ENE 7: Low or Zero Carbon Technologies****Available Credits:2****Aim:** To limit CO2 emissions and running costs arising from the operation of a dwelling and its services by encouraging the specification of low and zero carbon energy sources to supply a significant proportion of energy demand.**ENE 8: Cycle Storage****Available Credits:2****Aim:** To promote the wider use of bicycles as transport by providing adequate and secure cycle storage facilities, thus reducing the need for short car journeys and the associated CO2 emissions.**ENE 9: Home Office****Available Credits:1****Aim:** To promote working from home by providing occupants with the necessary space and services thus reducing the need to commute.**Water****WAT 1: Indoor Water Use****Available Credits:5****Aim:** To reduce the consumption of potable water in the home from all sources, including borehole well water, through the use of water efficient fittings, appliances and water recycling systems.**WAT 2: External Water Use****Available Credits:1****Aim:** To promote the recycling of rainwater and reduce the amount of mains potable water used for external water uses.**Materials****MAT 1: Environmental Impact of Materials****Available Credits:15****Aim:** To specify materials with lower environmental impacts over their life-cycle.**MAT 2: Responsible Sourcing of Materials - Basic Building Elements****Available Credits:6****Aim:** To promote the specification of responsibly sourced materials for the basic building elements.**MAT 3: Responsible Sourcing of Materials - Finishing Elements****Available Credits:3****Aim:** To promote the specification of responsibly sourced materials for the finishing elements.

Code for Sustainable Homes

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**Surface Water Run-off****SUR 1: Management of Surface Water Run-off from developments****Available Credits:2****Aim:** To design surface water drainage for housing developments which avoid, reduce and delay the discharge of rainfall run-off to watercourses and public sewers using SuDS techniques. This will protect receiving waters from pollution and minimise the risk of flooding and other environmental damage in watercourses.**SUR 2: Flood Risk****Available Credits:2****Aim:** To promote housing development in low flood risk areas, or to take measures to reduce the impact of flooding on houses built in areas with a medium or high risk of flooding.**Waste****WAS 1: Storage of non-recyclable waste and recyclable household waste****Available Credits:4****Aim:** To promote resource efficiency via the effective and appropriate management of construction site waste.**WAS 2: Construction Site Waste Management****Available Credits:3****Aim:** To promote resource efficiency via the effective and appropriate management of construction site waste.**WAS 3: Composting****Available Credits:1****Aim:** To promote the provision of compost facilities to reduce the amount of household waste sent to landfill.**Pollution****POL 1: Global Warming Potential of Insulants****Available Credits:1****Aim:** To promote the reduction of emissions of gases with high GWP associated with the manufacture, installation, use and disposal of foamed thermal and acoustic insulating materials.**POL 2: NOx Emissions****Available Credits:3****Aim:** To promote the reduction of nitrogen oxide (NOX) emissions into the atmosphere.**Health & Wellbeing****HEA 1: Daylighting****Available Credits:3****Aim:** To promote good daylighting and thereby improve quality of life and reduce the need for energy to light the home.**HEA 2: Sound Insulation****Available Credits:4****Aim:** To promote the provision of improved sound insulation to reduce the likelihood of noise complaints from neighbours.**HEA 3: Private Space****Available Credits:1****Aim:** To improve quality of life by promoting the provision of an inclusive outdoor space which is at least partially private.**HEA 4: Lifetime Homes****Available Credits:4****Aim:** To encourage the construction of homes that are accessible and easily adaptable to meet the changing needs of current and future occupants.

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Management
<p>MAN 1:Home User Guide Available Credits:3 Aim: To promote the provision of guidance enabling occupants to understand and operate their home efficiently and make the best use of local facilities.</p>
<p>MAN 2:Considerate Constructors Scheme Available Credits:3 Aim: To promote the environmentally and socially considerate, and accountable management of construction sites.</p>
<p>MAN 3:Construction Site Impacts Available Credits:2 Aim: To promote construction sites managed in a manner that mitigates environmental impacts.</p>
<p>MAN 4:Security Available Credits:2 Aim: To promote the design of developments where people feel safe and secure- where crime and disorder, or the fear of crime, does not undermine quality of life or community cohesion.</p>
Ecology
<p>ECO 1:Ecological value of site Available Credits:1 Aim: To promote development on land that already has a limited value to wildlife, and discourage the development of ecologically valuable sites.</p>
<p>ECO 2:Ecological enhancement Available Credits:1 Aim: To enhance the ecological value of a site.</p>
<p>ECO 3:Protection of ecological features Available Credits:1 Aim: To promote the protection of existing ecological features from substantial damage during the clearing of the site and the completion of construction works.</p>
<p>ECO 4:Change in ecological value of site Available Credits:4 Aim: To minimise reductions and promote an improvement in ecological value.</p>
<p>ECO 5:Building footprint Available Credits:2 Aim: To promote the most efficient use of a building's footprint by ensuring that land and material use is optimised across the development.</p>

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Taller Residential Block

Code for Sustainable Homes
 Technical Guide November 2010 - Full Technical Guide
 Pre-Assessment Report



atelier ten

Report Reference:
Site Registration: 008302-140612-05-1103
Site Name: Liddell Road - Block B (Tower)
Assessor Number:
Company: Atelier Ten
Assessor: Ajay Shah



Code for Sustainable Homes

Pre-Assessment Report (Report Reference:)



Site Details

Site Name: Liddell Road - Block B (Tower)
Site Registration: 008302-140612-05-1103
Site Address: Liddell Road

City/Town: London
County: Greater London
Postcode:
No. of Dwellings: 1
No. of Dwelling Types: 0
Planning Authority: Camden Council
Funding Body:

Assessor Details

Company: Atelier Ten
Assessor Name: Ajay Shah
Cert Number:
Address:

City/Town:
County:
Postcode:
Tel:
Email:

Client Details

Company: Camden Council
Contact Name: Kate Cornwall-Jones
Job Title: Clients
Email:
Tel:
Address:

City/Town:
County:
Postcode:

Architect Details

Company: Maccreeanor Lavington
Contact Name: Ann Griffin
Job Title: Architect
Email:
Tel:
Address:


City/Town:
County:
Postcode:

Developer Details

Company: Camden Council
Contact Name: Kate Cornwall-Jones
Job Title: Developer
Email:
Tel:
Address:

City/Town:
County:
Postcode:

Code for Sustainable Homes
Pre-Assessment Report (Report Reference:)



Dwelling ID	Plot No.	Address	Social Unit
1	1	01 Liddell Road	No

Code for Sustainable Homes
Pre-Assessment Report (Report Reference:)



Development Summary & Ratings

Dwelling ID	Dwelling Type	Description	Level	Score
		01Liddell Road	4	69.91

Deviations from Standard

No deviations from standard



Score Sheet for Liddell Road - Block B (Tower)

Dwelling ID	ENE									WAT			MAT			SUR			WAS			POL				HEA				MAN				ECO					Summary	
	1	2	3	4	5	6	7	8	9	1	2	1	2	3	1	2	3	1	2	3	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5	Score	Level	
1	4	3	2	1	2	2	1	1	1	4	1	6	2	2	1	2	4	3	1	1	1	0	3	1	4	3	2	2	2	1	1	1	3	2	69.91	4				



Summary Score Sheet

Dwelling Type: 01 Liddell Road

Dwelling ID: 1

	Credit Score	Credits Available	Score Assessment				Weighting Factor	Points Score
			Sub Total	Credits Available	%			
Energy & CO2 Emissions								
ENE 1	Dwelling Emission Rate	4	10	17	31	54.84	36.4	19.96
ENE 2	Fabric Energy Efficiency	3	9					
ENE 3	Energy Display Device	2	2					
ENE 4	Drying Space	1	1					
ENE 5	Energy Labelled White Goods	2	2					
ENE 6	External Lighting	2	2					
ENE 7	Low or Zero Carbon Energy Technologies	1	2					
ENE 8	Cycle Storage	1	2					
ENE 9	Home Office	1	1					
Water								
WAT 1	Internal Water Use	4	5	5	6	83.33	9	7.5
WAT 2	External Water Use	1	1					
Materials								
MAT 1	Environmental Impact of Materials	6	15	10	24	41.67	7.2	3
MAT 2	Responsible Sourcing (Basic Building Elements)	2	6					
MAT 3	Responsible Sourcing (Finishing Elements)	2	3					
Surface Water Run-off								
SUR 1	Management of Surface Water Run-Off from Site	1	2	3	4	75	2.2	1.65
SUR 2	Flood Risk	2	2					
Waste								
WAS 1	Household Waste Storage and Recycling Facilities	4	4	8	8	100	6.4	6.4
WAS 2	Construction Site Waste Management	3	3					
WAS 3	Composting	1	1					
Pollution								
POL 1	Global Warming Potential of Insulants	1	1	2	4	50	2.8	1.4
POL 2	NOx Emissions	1	3					
Health & Wellbeing								
HEA 1	Daylighting	0	3	8	12	66.67	14	9.33
HEA 2	Sound Insulation	3	4					
HEA 3	Private Space	1	1					
HEA 4	Lifetime Homes	4	4					
Management								
MAN 1	Home User Guide	3	3	9	9	100	10	10
MAN 2	Considerate Constructors Scheme	2	2					
MAN 3	Construction Site Impacts	2	2					
MAN 4	Security	2	2					
Ecology								
ECO 1	Ecological Value of Site	1	1	8	9	88.89	12	10.67
ECO 2	Ecological Enhancement	1	1					
ECO 3	Protection of Ecological Features	1	1					
ECO 4	Change of Ecological Value of Site	3	4					
ECO 5	Building Footprint	2	2					
							Level Achieved: 4	Total Points Scored: 69.91

Code for Sustainable Homes Pre-Assessment Report (Report Reference:)	
Evidence for ENE 1 (Dwelling Emission Rate)	Improvement above Part L Building Regulations 2010. 4 credits allocated
Assumptions for ENE 1	
Evidence for ENE 2 (Fabric Energy Efficiency)	Mid Terrace 3 credits allocated
Assumptions for ENE 2	
Evidence for ENE 3 (Energy Display Device)	Correctly specified display device showing current primary heating fuel consumption data. Correctly specified display device showing current consumption data.
Assumptions for ENE 3	
Evidence for ENE 4 (Drying Space)	Compliant internal drying space
Assumptions for ENE 4	
Evidence for ENE 5 (Energy Labelled White Goods)	A+ rated fridge & freezers or fridge/freezer A rated washing machine and dishwasher, AND EITHER a tumble dryer (a washer-dryer would be an acceptable alternative to a standalone tumble dryer) with a B rating or where a tumble dryer is not provided, the EU Energy Efficiency Labelling Scheme Information will be provided.
Assumptions for ENE 5	
Evidence for ENE 6 (External Lighting)	Compliant space lighting Compliant security lighting
Assumptions for ENE 6	
Evidence for ENE 7 (Low or Zero Carbon Energy Technologies)	Contribution of low or zero carbon technologies greater than or equal to 10%
Assumptions for ENE 7	
Evidence for ENE 8 (Cycle Storage)	2 or 3 bedroom dwelling - Storage for 1 cycle per dwelling 4 bedrooms or more - Storage for 2 cycles per dwelling
Assumptions for ENE 8	
Evidence for ENE 9 (Home Office)	Compliant home office
Assumptions for ENE 9	

Code for Sustainable Homes Pre-Assessment Report (Report Reference:)	
Evidence for WAT 1 (Internal Water Use)	Internal water use less than or equal to 90 litres per person per day
Assumptions for WAT 1	
Evidence for WAT 2 (External Water Use)	Compliant communal rainwater collection system
Assumptions for WAT 2	
Evidence for MAT 1 (Environmental Impact of Materials)	Mandatory requirements met: At least 3 elements rated A+ to D, 6 credits scored
Assumptions for MAT 1	
Evidence for MAT 2 (Responsible Sourcing (Basic Building Elements))	2 credits scored
Assumptions for MAT 2	
Evidence for MAT 3 (Responsible Sourcing (Finishing Elements))	2 credits scored
Assumptions for MAT 3	
Evidence for SUR 1 (Management of Surface Water Run-Off from Site)	Special Case: No change/decrease in impermeable area. Credits not available Run-off from all hard surfaces shall receive an appropriate level of treatment (as per the SudS manual) to minimise risk of pollution.
Assumptions for SUR 1	
Evidence for SUR 2 (Flood Risk)	Low flood risk - zone 1
Assumptions for SUR 2	
Evidence for WAS 1 (Household Waste Storage and Recycling Facilities)	Mandatory requirements met: Adequate storage of household waste with accessibility in line with checklist WAS 1. Local authority collection: After collection sorting with appropriate internal storage of recyclable materials
Assumptions for WAS 1	
Evidence for WAS 2 (Construction Site Waste Management)	Compliant site waste management plan containing benchmarks, procedures and commitments for the minimizing and diverting 80% waste from landfill in line with the criteria and with Checklist WAS 2a, 2b & 2c
Assumptions for WAS 2	

Code for Sustainable Homes Pre-Assessment Report (Report Reference:)	
Evidence for WAS 3 (Composting)	Individual composting facility/facilities Local authority green waste collection scheme
Assumptions for WAS 3	
Evidence for POL 1 (Global Warming Potential of Insulants)	All insulants have a GWP of less than 5
Assumptions for POL 1	
Evidence for POL 2 (NOx Emissions)	NOx emissions less than or equal to 100mg/kWh
Assumptions for POL 2	
Evidence for HEA 1 (Daylighting)	Credit(s) not sought
Assumptions for HEA 1	
Evidence for HEA 2 (Sound Insulation)	Accredited Part E sound testing has been undertaken Airborne 5dB higher, impact 5dB lower
Assumptions for HEA 2	
Evidence for HEA 3 (Private Space)	Individual private space provided.
Assumptions for HEA 3	
Evidence for HEA 4 (Lifetime Homes)	All criteria of Lifetime Homes in line with all 16 principals of Lifetime Homes
Assumptions for HEA 4	
Evidence for MAN 1 (Home User Guide)	All criteria inline with checklist MAN 1 Part 1 - Operational Issues will be met All criteria inline with checklist MAN 1 Part 2 - Site and Surroundings will be met
Assumptions for MAN 1	
Evidence for MAN 2 (Considerate Constructors Scheme)	Considerate constructors scheme: Significantly beyond best practise, a score of between 35 - 50, and at least a score of 7 in each section*
Assumptions for MAN 2	

Code for Sustainable Homes Pre-Assessment Report (Report Reference:)	
Evidence for MAN 3 (Construction Site Impacts)	Monitor, report and set targets for CO2 production or energy use from site activities Monitor, report and set targets for CO2 production or energy use from site related transport Monitor, report and set targets for water consumption from site activities Adopt best practise policies in respects to air (dust) pollution from site activities 80% of timer reclaimed, re-used or responsibly sourced
Assumptions for MAN 3	
Evidence for MAN 4 (Security)	Secured by design section 1 & 2 compliant
Assumptions for MAN 4	
Evidence for ECO 1 (Ecological Value of Site)	Land of low ecological value, achieved through checklist ECO 1. Development site has been identified as low ecological value by a suitably qualified ecologist
Assumptions for ECO 1	
Evidence for ECO 2 (Ecological Enhancement)	Key recommendations and 30% additional recommendations by a suitably qualified ecologist
Assumptions for ECO 2	
Evidence for ECO 3 (Protection of Ecological Features)	Land of low ecological value as identified under ECO 1
Assumptions for ECO 3	
Evidence for ECO 4 (Change of Ecological Value of Site)	Minor enhancement: Greater than 3 and less than or equal to 9
Assumptions for ECO 4	
Evidence for ECO 5 (Building Footprint)	Weight ratio of housing and flats (2.3:1 and 4:1)
Assumptions for ECO 5	

Code for Sustainable Homes
Pre-Assessment Report (Report Reference:)




Assessor Declaration

I Ajay Shah, can confirm that I have compiled this report to the best of my ability, I have based all findings on the information that is referenced within this report, and that this report is appropriate for the registered site.

To the best of my knowledge all the information contained within this report is correct and accurate. I have within my possession all the reference material that relates to this report, which is available for inspection by the client, the clients representative or Stroma Certification for Quality Assurance monitoring.


Signed:



Ajay Shah
Atelier Ten
24 November 2014

Core 1.0.0.222

Code for Sustainable Homes
Pre-Assessment Report (Report Reference:)



Information about Code for Sustainable Homes

The Code for Sustainable Homes (the Code) is an environmental assessment method for rating and certifying the performance of new homes. It is a national standard for use in the design and construction of new homes with a view to encouraging continuous improvement in sustainable home building. The Code is based on EcoHomes®.

It was launched in December 2006 with the publication of 'Code for Sustainable Homes: A stepchange in sustainable home building practice' (Communities and Local Government, 2006), and became operational in England from April 2007.

The Code for Sustainable Homes covers nine categories of sustainable design. Each category includes a number of environmental issues. Each issue is a source of impact on the environment which can be assessed against a performance target and awarded one or more credits. Performance targets are more demanding than the minimum standards needed to satisfy Building Regulations or other legislation. They represent good or best practice, are technically feasible, and can be delivered by the building industry. The issues and categories are as follows:

- Energy & CO2 Emissions
 - Dwelling Emission Rate
 - Building Fabric
 - Internal Lighting
 - Drying Space
 - Energy Labelled White Goods
 - External Lighting
 - Low or Zero Carbon Technologies
 - Cycle Storage
 - Home Office
- Water
 - Internal Water Use
 - External Water Use
- Materials
 - Environmental Impact of Materials
 - Responsible Sourcing of Materials - Basic Building Elements
 - Responsible Sourcing of Materials - Finishing Elements
- Surface Water Run-off
 - Management of Surface Water Run-off from the Development
 - Flood Risk
- Waste
 - Storage of Non-Recyclable Waste and Recyclable Household Waste
 - Construction Site Waste Management
 - Composting
- Pollution
 - Global Warming Potential of Insulants
 - NOx Emissions

Code for Sustainable Homes
Pre-Assessment Report (Report Reference:)



- Health & Wellbeing
 - Daylighting
 - Sound Insulation
 - Private Space
 - Lifetime Homes
- Management
 - Home User Guide
 - Considerate Constructors Scheme
 - Construction Site Impacts
 - Security
- Ecology
 - Ecological Value of Site
 - Ecological Enhancement
 - Protection of Ecological Features
 - Change in Ecological Value of Site
 - Building Footprint

The Code assigns one or more performance requirements (assessment criteria) to all of the above environmental issues. When each performance requirement is achieved a credit is awarded (with the exception of the four mandatory requirements which have no associated credits). The total number of credits available to a category is the sum of credits available for all the issues within it.

Mandatory minimum performance standards are set for some issues. For four of these, a single mandatory requirement is set which must be met, whatever Code level rating is sought. Credits are not awarded for these issues. Confirmation that the performance requirements are met for all four is a minimum entry requirement for achieving a level 1 rating. The four un-credited issues are:

- Environmental Impacts of Materials
- Management of Surface Water Run-off from Developments
- Storage of Non-Recyclable Waste and Recyclable Household Waste
- Construction Site Waste Management

If the mandatory minimum performance standard is met for the four un-credited issues, four further mandatory issues need to be considered. These are agreed to be such important issues that separate Government policies are being pursued to mitigate their effects. For two of these, credits are awarded for every level of achievement recognised within the Code, and minimum mandatory standards increase with increasing rating levels.

The two issues with increasing mandatory minimum standards are:

- Dwelling Emission Rate
- Indoor Water Use

For one issue a mandatory requirement at Level 5 or 6:

- Fabric Energy Efficiency

The final issue with a mandatory requirement for Level 6 of the Code is:

- Lifetime Homes

Further credits are available on a free-choice or tradable basis from other issues so that the developer may choose how to add performance credits (converted through weighting to percentage points) achieve the rating which they are aiming for.

The environmental impact categories within the Code are not of equal importance. Their relative value is conveyed by applying a consensus-based environmental weighting factor (see details below) to the sum of all the raw credit scores in a category, resulting in a score expressed as percentage points. The points for each category add up to 100.

Code for Sustainable Homes
Pre-Assessment Report (Report Reference:)




The weighting factors used in the Code have been derived from extensive studies involving a wide range of stakeholders who were asked to rank (in order of importance) a range of environmental impacts. Stakeholders included international experts and industry representatives.


It is also important to note that achieving a high performance in one category of environmental impact can sometimes result in a lower level of performance for another. For instance, if biomass is used to meet heating demands, credits will be available for performance in respect of energy supplied from a renewable source, but credits cannot be awarded for low NOX emission. It is therefore impossible to achieve a total percentage points score of 100.

The Code uses a rating system of one to six stars. A star is awarded for each level achieved. Where an assessment has taken place by where no rating is achieved, the certificate states that zero stars have been awarded:

Code Levels	Total Points Score (Equal to or Greater Than)
Level 1 ★☆☆☆☆	36 Points
Level 2 ★★☆☆☆	48 Points
Level 3 ★★★☆☆	57 Points
Level 4 ★★★★☆	68 Points
Level 5 ★★★★★	84 Points
Level 6 ★★★★★★	90 Points

Formal assessment of dwellings using the Code for Sustainable Homes may only be carried out using Certified assessors, who are qualified 'competent persons' for the purpose of carrying out Code assessments.

Code for Sustainable Homes Pre-Assessment Report (Report Reference:)	
	
Energy & CO2 Emissions	
ENE 1: Dwelling Emission Rate Available Credits: 10	Aim: To limit CO2 emissions arising from the operation of a dwelling and its services in line with current policy on the future direction of regulations.
ENE 2: Fabric Energy Efficiency Available Credits: 9	Aim: To improve fabric energy efficiency performance thus future-proofing reductions in CO2 for the life of the dwelling.
ENE 3: Energy Display Device Available Credits: 2	Aim: To promote the specification of equipment to display energy consumption data, thus empowering dwelling occupants to reduce energy use.
ENE 4: Drying Space Available Credits: 1	Aim: To promote a reduced energy means of drying clothes.
ENE 5: Energy Labelled White Goods Available Credits: 2	Aim: To promote the provision or purchase of energy efficient white goods, thus reducing the CO2 emissions from appliance use in the dwelling.
ENE 6: External Lighting Available Credits: 2	Aim: To promote the provision of energy efficient external lighting, thus reducing CO2 emissions associated with the dwelling.
ENE 7: Low or Zero Carbon Technologies Available Credits: 2	Aim: To limit CO2 emissions and running costs arising from the operation of a dwelling and its services by encouraging the specification of low and zero carbon energy sources to supply a significant proportion of energy demand.
ENE 8: Cycle Storage Available Credits: 2	Aim: To promote the wider use of bicycles as transport by providing adequate and secure cycle storage facilities, thus reducing the need for short car journeys and the associated CO2 emissions.
ENE 9: Home Office Available Credits: 1	Aim: To promote working from home by providing occupants with the necessary space and services thus reducing the need to commute.
Water	
WAT 1: Indoor Water Use Available Credits: 5	Aim: To reduce the consumption of potable water in the home from all sources, including borehole well water, through the use of water efficient fittings, appliances and water recycling systems.
WAT 2: External Water Use Available Credits: 1	Aim: To promote the recycling of rainwater and reduce the amount of mains potable water used for external water uses.
Materials	
MAT 1: Environmental Impact of Materials Available Credits: 15	Aim: To specify materials with lower environmental impacts over their life-cycle.
MAT 2: Responsible Sourcing of Materials - Basic Building Elements Available Credits: 6	Aim: To promote the specification of responsibly sourced materials for the basic building elements.
MAT 3: Responsible Sourcing of Materials - Finishing Elements Available Credits: 3	Aim: To promote the specification of responsibly sourced materials for the finishing elements.

Code for Sustainable Homes Pre-Assessment Report (Report Reference:)	
	
Surface Water Run-off	
SUR 1: Management of Surface Water Run-off from developments Available Credits: 2	Aim: To design surface water drainage for housing developments which avoid, reduce and delay the discharge of rainfall run-off to watercourses and public sewers using SuDS techniques. This will protect receiving waters from pollution and minimise the risk of flooding and other environmental damage in watercourses.
SUR 2: Flood Risk Available Credits: 2	Aim: To promote housing development in low flood risk areas, or to take measures to reduce the impact of flooding on houses built in areas with a medium or high risk of flooding.
Waste	
WAS 1: Storage of non-recyclable waste and recyclable household waste Available Credits: 4	Aim: To promote resource efficiency via the effective and appropriate management of construction site waste.
WAS 2: Construction Site Waste Management Available Credits: 3	Aim: To promote resource efficiency via the effective and appropriate management of construction site waste.
WAS 3: Composting Available Credits: 1	Aim: To promote the provision of compost facilities to reduce the amount of household waste sent to landfill.
Pollution	
POL 1: Global Warming Potential of Insulants Available Credits: 1	Aim: To promote the reduction of emissions of gases with high GWP associated with the manufacture, installation, use and disposal of foamed thermal and acoustic insulating materials.
POL 2: NOx Emissions Available Credits: 3	Aim: To promote the reduction of nitrogen oxide (NOX) emissions into the atmosphere.
Health & Wellbeing	
HEA 1: Daylighting Available Credits: 3	Aim: To promote good daylighting and thereby improve quality of life and reduce the need for energy to light the home.
HEA 2: Sound Insulation Available Credits: 4	Aim: To promote the provision of improved sound insulation to reduce the likelihood of noise complaints from neighbours.
HEA 3: Private Space Available Credits: 1	Aim: To improve quality of life by promoting the provision of an inclusive outdoor space which is at least partially private.
HEA 4: Lifetime Homes Available Credits: 4	Aim: To encourage the construction of homes that are accessible and easily adaptable to meet the changing needs of current and future occupants.

**Management****MAN 1:Home User Guide****Available Credits:3**

Aim: To promote the provision of guidance enabling occupants to understand and operate their home efficiently and make the best use of local facilities.

MAN 2:Considerate Constructors Scheme**Available Credits:3**

Aim: To promote the environmentally and socially considerate, and accountable management of construction sites.

MAN 3:Construction Site Impacts**Available Credits:2**

Aim: To promote construction sites managed in a manner that mitigates environmental impacts.

MAN 4:Security**Available Credits:2**

Aim: To promote the design of developments where people feel safe and secure- where crime and disorder, or the fear of crime, does not undermine quality of life or community cohesion.

Ecology**ECO 1:Ecological value of site****Available Credits:1**

Aim: To promote development on land that already has a limited value to wildlife, and discourage the development of ecologically valuable sites.

ECO 2:Ecological enhancement**Available Credits:1**

Aim: To enhance the ecological value of a site.

ECO 3:Protection of ecological features**Available Credits:1**

Aim: To promote the protection of existing ecological features from substantial damage during the clearing of the site and the completion of construction works.

ECO 4:Change in ecological value of site**Available Credits:4**

Aim: To minimise reductions and promote an improvement in ecological value.

ECO 5:Building footprint**Available Credits:2**

Aim: To promote the most efficient use of a building's footprint by ensuring that land and material use is optimised across the development.

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6.0 Appendix B. BREEAM Pre-Assessments

Primary School



BREEAM 2011 New Construction Assessment Report: Rating & Key Performance Indicators

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 buildings potential performance and is based on a simplified pre-formal BREEAM assessment and unverified commitments given at an early stage in the design process.

Overall Indicative Building Performance	
Building name	3708 - Liddell Road - Primary School
Indicative building score (%)	75.38%
Indicative BREEAM rating	Pre-Assessment result indicates potential for BREEAM Excellent rating
Indicative minimum standards level achieved	Pre-Assessment result indicates the minimum standards for Outstanding level

Summary of Indicative Building Performance by Environmental Section and Assessment Issue

Management	Indicative no. credits available	Indicative no. credits Achieved	Indicative contribution to score	Minimum standards level achieved
Man01 Sustainable Procurement	8.0	8.0	4.36%	Pre-Assessment result indicates the minimum standards for Outstanding level
Man02 Responsible Construction Practices	2.0	2.0	1.09%	Pre-Assessment result indicates the minimum standards for Outstanding level
Man03 Construction Site Impacts	5.0	5.0	2.73%	N/A
Man04 Stakeholder Participation	4.0	4.0	2.18%	Pre-Assessment result indicates the minimum standards for Outstanding level
Man05 Life cycle cost and service life planning	3.0	0.0	0.00%	N/A
Total indicative environmental section performance	22.0	19.0	10.36%	
Health & Wellbeing				
Head1 Visual Comfort	3.0	1.0	1.00%	Pre-Assessment result indicates the minimum standards for Outstanding level
Head2 Indoor Air Quality	4.0	3.0	3.00%	N/A
Head3 Thermal Comfort	2.0	2.0	2.00%	N/A
Head4 Water Quality	1.0	1.0	1.00%	Pre-Assessment result indicates the minimum standards for Outstanding level
Head5 Acoustic Performance	3.0	3.0	3.00%	N/A
Head6 Safety and Security	2.0	2.0	2.00%	N/A
Total indicative environmental section performance	15.0	12.0	12.00%	
Energy				
Ene01 Reduction of CO2 Emissions	15.0	10.0	7.31%	Pre-Assessment result indicates the minimum standards for Outstanding level
Ene02 Energy Monitoring	1.0	1.0	0.73%	Pre-Assessment result indicates the minimum standards for Outstanding level
Ene03 External Lighting	1.0	1.0	0.73%	N/A
Ene04 Low and Zero Carbon Technology	5.0	2.0	1.46%	Pre-Assessment result indicates the minimum standards for Outstanding level
Ene05 Energy Efficient Cold Storage	N/A	N/A	N/A	N/A
Ene06 Energy Efficient Transportation Systems	2.0	2.0	1.46%	N/A
Ene07 Energy Efficient Laboratory Systems	N/A	N/A	N/A	N/A
Ene08 Energy Efficient Equipment	2.0	2.0	1.46%	N/A
Ene09 Drying Space	N/A	N/A	N/A	N/A
Total indicative environmental section performance	26.0	18.00	13.15%	
Transport				
Tra01 Public Transport Accessibility	3.0	3.0	3.43%	N/A
Tra02 Proximity to Amenities	1.0	0.0	0.00%	N/A
Tra03 Cyclist facilities	2.0	1.0	1.14%	N/A
Tra04 Maximum Car Parking Capacity	N/A	N/A	N/A	N/A
Tra05 Travel Plan	1.0	1.0	1.14%	N/A
Total indicative environmental section performance	7.0	5.0	5.71%	
Water				
Wat01 Water Consumption	5.0	3.0	2.00%	Pre-Assessment result indicates the minimum standards for Outstanding level
Wat02 Water Monitoring	1.0	1.0	0.67%	Pre-Assessment result indicates the minimum standards for Outstanding level
Wat03 Water Leak Detection and Prevention	2.0	2.0	1.33%	N/A
Wat04 Water Efficient Equipment	1.0	1.0	0.67%	N/A
Total indicative environmental section performance	9.0	7.0	4.67%	
Materials				
Mat01 Life Cycle Impacts	6.0	5.0	4.81%	N/A
Mat02 Hard Landscaping and Boundary Protection	1.0	1.0	0.96%	N/A
Mat03 Responsible Sourcing	3.0	2.0	1.92%	Pre-Assessment result indicates the minimum standards for Outstanding level
Mat04 Insulation	2.0	2.0	1.92%	N/A
Mat05 Designing for Robustness	1.0	1.0	0.96%	N/A
Total indicative environmental section performance	13.0	11.00	10.58%	
Waste				
Wst01 Construction Waste Management	4.0	2.0	2.50%	Pre-Assessment result indicates the minimum standards for Outstanding level
Wst02 Recycled Aggregates	1.0	0.0	0.00%	N/A
Wst03 Operational Waste	1.0	1.0	1.25%	Pre-Assessment result indicates the minimum standards for Outstanding level
Wst04 Speculative Floor and Ceiling Finishes	N/A	N/A	N/A	N/A
Total indicative environmental section performance	6.0	3.00	3.75%	
Land Use and Ecology				
LE01 Site Selection	2.0	2.0	2.00%	N/A
LE02 Ecological Value of Site and Protection of Ecological Features	1.0	1.0	1.00%	N/A
LE03 Mitigating Ecological Impact	2.0	2.0	2.00%	Pre-Assessment result indicates the minimum standards for Outstanding level
LE04 Enhancing Site Ecology	3.0	2.0	2.00%	N/A
LE05 Long Term Impact on Biodiversity	2.0	2.0	2.00%	N/A
Total indicative environmental section performance	10.0	9.00	9.00%	
Pollution				
Pol01 Impact of Refrigerants	3.0	1.0	0.77%	N/A
Pol02 NOx Emissions	3.0	1.0	0.77%	N/A
Pol03 Surface Water Run off	5.0	4.0	3.08%	N/A
Pol04 Reduction of Night Time Light Pollution	1.0	1.0	0.77%	N/A
Pol05 Noise Attenuation	1.0	1.0	0.77%	N/A
Total indicative environmental section performance	13.0	8.00	6.15%	
Innovation				
Inn01 Innovation	10.0	0.0	0.00%	N/A
Total indicative environmental section performance	10.0	0.00	0.00%	



BREEAM 2011 New Construction Pre-Assessment Estimator

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 buildings potential performance and is based on a simplified pre-formal BREEAM assessment and unverified commitments given at an early stage in the design process.

Building name	3708 - Liddell Road - Primary School
Indicative building score (%)	75.38%
Indicative BREEAM rating	Pre-Assessment result indicates potential for BREEAM Excellent rating
Indicative minimum standards level achieved	Pre-Assessment result indicates the minimum standards for Outstanding level

MANAGEMENT Section Weighting 12.00% Indicative Section Score 10.36%

Man01 Sustainable Procurement

No. of BREEAM credits available	8	Available contribution to overall score	4.36%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Pre-Assessment question/criteria

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved
Will roles, responsibilities and a training schedule be defined in accordance with BREEAM?	Yes	1	1
Will a BREEAM AP be appointed at RIBA stage A/B and performance targets contractually agreed?	Yes	1	1
Will a BREEAM AP be appointed to monitor and report progress during RIBA stage B-E?	Yes	1	1
Will a BREEAM AP be appointed to monitor and report progress during RIBA stage F-L?	Yes	1	1
Will a thermographic survey be conducted and any defects uncovered remedied?	Yes	1	1
Will compliant commissioning of building services be carried out?	Yes	1	1
Will compliant seasonal commissioning of building services be carried out?	Yes	1	1
Will water/energy consumption data be recorded and aftercare support provided for 12 months?	Yes	1	1
Will water/energy consumption be recorded/reported for 3 years post construction?	No	1	0

Total indicative BREEAM credits achieved	8
Total indicative contribution to overall building score	4.36%
Total indicative BREEAM innovation credits achieved	0
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Man02 Responsible Construction Practices

No. of BREEAM credits available	2	Available contribution to overall score	1.09%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Pre-Assessment question/criteria

Which considerate construction scheme will be used or required to be used by the principal contractor?	Considerate Constructors Scheme
For the required scheme, what will be the target performance level set for the site/contractor?	A CCS score between 32 and 35.5.

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	1.09%
Total indicative BREEAM innovation credits achieved	0
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Man03 Construction Site Impacts

No. of BREEAM credits available	5	Available contribution to overall score	2.73%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved
Will site energy consumption be metered/monitored?	Yes	1	1
Will site water consumption be metered/monitored?	Yes	1	1
Will the transport of construction materials and waste to/from site be measured/monitored?	Yes	1	1
Will timber be sourced in accordance with the Government's Timber Procurement Policy?	Yes	1	1
Will/does the principal contractor operate a compliant Environmental Management System?	Yes	1	1
Will the principal contractor adopt best practice pollution prevention policies & procedures?	Yes	1	1
Total indicative BREEAM credits achieved		5	
Total indicative contribution to overall building score		2.73%	
Total indicative BREEAM innovation credits achieved		N/A	
Indicative minimum standard(s) level		N/A	

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Man04 Stakeholder Participation

No. of BREEAM credits available	4	Available contribution to overall score	2.18%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved
Will an appropriate level of consultation activities be undertaken?	Yes	1	1
Will an access statement be developed and appropriate building user facilities provided?	Yes	1	1
Will building user guides and relevant user information be provided?	Yes	1	1
Will a post occupancy evaluation assessment be undertaken and information disseminated?	Yes	1	1
Total indicative BREEAM credits achieved		4	
Total indicative contribution to overall building score		2.18%	
Total indicative BREEAM innovation credits achieved		N/A	
Indicative minimum standard(s) level		Pre-Assessment result indicates the minimum standards for Outstanding level	

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Man05 Life cycle cost and service life planning

No. of BREEAM credits available	3	Available contribution to overall score	1.64%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved
Will a feasibility stage Life Cycle Cost (LCC) analysis be commissioned and completed?	No	1	0
Will a strategic and system level LCC be commissioned and completed?	No	1	0
Will a technical design LCC be commissioned and completed?	No	1	0

Total indicative BREEAM credits achieved	0
Total indicative contribution to overall building score	0.00%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

HEALTH & WELLBEING Section Weighting 15.00% Indicative Section Score 12.00%

Hea01 Visual Comfort

No. of BREEAM credits available	3	Available contribution to overall score	3.00%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved
Will all fluorescent lamps be fitted with high frequency ballasts?	Yes	N/A	N/A
Will all relevant building areas be designed to achieve the appropriate daylight factor(s)?	No	1	0
Will the design provide adequate glare control and view out for building users?	No	1	0
Will internal/external lighting be specified in accordance with the relevant CIBSE Guides/British Standards?	Yes	1	1

Will all relevant building areas be designed to achieve exemplary level daylight factor(s)?	No	1	0
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Total indicative BREEAM credits achieved	1
Total indicative contribution to overall building score	1.00%
Total indicative BREEAM innovation credits achieved	0

Indicative minimum standard(s) level: Pre-Assessment result indicates the minimum standards for Outstanding level

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Hea02 Indoor Air Quality

No. of BREEAM credits available	4	Available contribution to overall score	4.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Indicative credits	
		Credits available	achieved
Will an air quality plan be produced?	Yes	1	0
Will the building be designed to minimise sources of internal air pollution?	No		
Will the relevant products be specified to meet the VOC testing and emission levels required?	Yes	1	1
Will formaldehyde and total VOC levels be measured post construction?	Yes	1	1
Will the building be designed to, or have the potential to provide, natural ventilation?	Yes	1	1

Total indicative BREEAM credits achieved	3
Total indicative contribution to overall building score	3.00%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Hea03 Thermal Comfort

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Indicative credits	
		Credits available	achieved
Will thermal modelling of the design be carried out?	Yes	1	1
Will the modelling inform the development of a thermal zoning and control strategy?	Yes	1	1

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	2.00%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Hea04 Water Quality

No. of BREEAM credits available	1	Available contribution to overall score	1.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Pre-Assessment question/criteria	Response	Indicative credits	
		Credits available	achieved
Will all water systems be designed to comply with the relevant HSE Approved Code of Practice and Guidance?	Yes		
Where humidification is to be provided, will a failsafe humidification system be specified?	N/A	1	1
Will a wholesome supply of accessible, clean and fresh drinking water be supplied for building users?	Yes		

Total indicative BREEAM credits achieved	1
Total indicative contribution to overall building score	1.00%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Hea05 Acoustic Performance

No. of BREEAM credits available	3	Available contribution to overall score	3.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Indicative credits	
		Credits available	achieved
Will/has a suitably qualified acoustician be appointed to provide appropriate design advice?	Yes		
Will the building meet the relevant acoustic performance standards and testing requirements?	Yes	3	3

Total indicative BREEAM credits achieved	3
Total indicative contribution to overall building score	3.00%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Hea06 Safety and Security

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved
Where external site areas are present, will safe access be designed for pedestrians and cyclists?	Yes	1	1
Will a suitably qualified security consultant be appointed and security considerations accounted for?	Yes	1	1

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	2.00%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

ENERGY	Section Weighting	19.00%	Indicative Section Score	13.15%
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Ene01 Reduction of CO₂ Emissions

No. of BREEAM credits available	15	Available contribution to overall score	10.96%
No. of BREEAM innovation credits available	5	Minimum standards applicable	Yes

How do you wish to assess the number of BREEAM credits achieved for this issue?	Define a target number of BREEAM credits achieved
Select the target number of BREEAM credits for the Ene01 issue	10
	BREEAM innovation credits



BREEAM 2011 New Construction Pre-Assessment Estimator

Total indicative BREEAM credits achieved	10
Total indicative contribution to overall building score	7.31%
Total indicative BREEAM Innovation credits achieved	0
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Ene02 Energy Monitoring

No. of BREEAM credits available	1	Available contribution to overall score	0.73%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved
Will a BMS or sub-meters be specified to monitor energy use from major building services systems?	Yes	1	1
Will a BMS or sub-meters be specified to monitor energy use by tenant/building function areas?		N/A	N/A

Total indicative BREEAM credits achieved	1
Total indicative contribution to overall building score	0.73%
Total indicative BREEAM Innovation credits achieved	N/A
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Ene03 External Lighting

No. of BREEAM credits available	1	Available contribution to overall score	0.73%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved
Will external light fittings and controls be specified in accordance with the BREEAM criteria?	Yes	1	1
Total indicative BREEAM credits achieved		1	
Total indicative contribution to overall building score		0.73%	
Total indicative BREEAM innovation credits achieved		N/A	
Indicative minimum standard(s) level		N/A	

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Ene04 Low and Zero Carbon Technology

No. of BREEAM credits available	5	Available contribution to overall score	3.65%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved
Compliant LZC feasibility study to be undertaken	Yes	2	1
What will be the intended scope of the feasibility study?	Operational stage carbon savings/emissions		
Target percentage net reduction in operational stage CO2 emissions	0.00%	2	0
Please confirm the intended energy source of the Low and/or zero carbon system?	Combination of one or more LZC energy sources		
Evaporative cooling, direct or indirect	Yes	1	1
Total indicative BREEAM credits achieved		2	
Total indicative contribution to overall building score		1.46%	
Total indicative BREEAM innovation credits achieved		0	
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level		

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Ene05 Energy Efficient Cold Storage Assessment Issue Not Applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Pre-Assessment question/criteria	Response	Indicative credits	
		Credits available	achieved

Total indicative BREEAM credits achieved	N/A
Total indicative contribution to overall building score	N/A
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Ene06 Energy Efficient Transportation Systems

No. of BREEAM credits available	2	Available contribution to overall score	1.46%
No. of BREEAM innovation credits available	0	Minimum standards applicable	N/A

Pre-Assessment question/criteria	Response	Indicative credits	
		Credits available	achieved
Will a transportation system analysis be carried out to determine the optimum number and size of lifts?	Yes	1	1
Will three energy-efficient features offering the greatest potential energy savings be part of the system?	Yes	1	1

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	1.46%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Ene07 Energy Efficient Laboratory Systems Assessment Issue Not Applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved

Total indicative BREEAM credits achieved	N/A
Total indicative contribution to overall building score	N/A
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Ene08 Energy Efficient Equipment

No. of BREEAM credits available	2	Available contribution to overall score	1.46%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Present	Significant majority contributor
Which of the following will be present and likely to be a/the major contributor to 'unregulated' energy use:		
Small power/plug in equipment?	Yes	Yes
Swimming pool?	No	
Communal laundry?	No	
Data centre?	No	
IT-intensive operation areas?	Yes	Yes
Residential areas?	No	
Healthcare?	No	
Kitchen and catering facilities?	Yes	No

Will the significant majority contributor(s) to 'unregulated' energy use (above) meet the BREEAM criteria?	Indicative compliance?	Credits available	Indicative credits achieved	Option 2
	Yes	2	2	Option 2

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	1.46%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Ene09 Drying Space Assessment Issue Not Applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Pre-Assessment question/criteria	Response	Indicative credits	
		Credits available	achieved

Total indicative BREEAM credits achieved	N/A
Total indicative contribution to overall building score	N/A
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

TRANSPORT Section Weighting 8.00% Indicative Section Score 5.71%

Tra01 Public Transport Accessibility

No. of BREEAM credits available	3	Available contribution to overall score	3.43%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	
What is the building type category (for the purpose of Tra01 issue assessment)?	Pre-school, School and/or Sixth form
What is the degree of public transport provision for the building's location?	Excellent provision of public transport, i.e. large urban/metropolitan city centre
Building's indicative Accessibility Index	18
Does the building have a dedicated bus service?	
Total indicative BREEAM credits achieved	3
Total indicative contribution to overall building score	3.43%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Tra02 Proximity to Amenities

No. of BREEAM credits available	1	Available contribution to overall score	1.14%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved
Will the building be in close proximity of and accessible to applicable amenities?	No	1	0
Total indicative BREEAM credits achieved		0	
Total indicative contribution to overall building score		0.00%	
Total indicative BREEAM innovation credits achieved		N/A	
Indicative minimum standard(s) level		N/A	

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Tra03 Cyclist facilities

No. of BREEAM credits available	2	Available contribution to overall score	2.29%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

What is the building type category (for the purpose of Tra03 issue assessment)?

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved
Will cycle storage spaces be provided?	Yes	2	1
Will cyclist facilities be provided?	No		
Total indicative BREEAM credits achieved		1	
Total indicative contribution to overall building score		1.14%	
Total indicative BREEAM innovation credits achieved		N/A	
Indicative minimum standard(s) level		N/A	

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Tra04 Maximum Car Parking Capacity Assessment Issue Not Applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Building type category (for the purpose of Tra04 issue)?	
Buildings indicative Accessibility Index (sourced from issue Tra01)	

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved
Will the building meet BREEAM's maximum parking capacity criteria for this building type/Accessibility Index?			
Total indicative BREEAM credits achieved		N/A	
Total indicative contribution to overall building score		N/A	
Total indicative BREEAM innovation credits achieved		N/A	
Indicative minimum standard(s) level		N/A	

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Tra05 Travel Plan

No. of BREEAM credits available	1	Available contribution to overall score	1.14%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved
Will a transport plan based on site specific travel survey/assessment be developed?	Yes	1	1
Total indicative BREEAM credits achieved		1	
Total indicative contribution to overall building score		1.14%	
Total indicative BREEAM innovation credits achieved		N/A	
Indicative minimum standard(s) level		N/A	

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

WATER	Section Weighting	6.00%	Indicative Section Score	4.67%
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Wat01 Water Consumption

No. of BREEAM credits available	5	Available contribution to overall score	3.33%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Select the level that corresponds closely to the target or likely water component specification?

Total indicative BREEAM credits achieved	3
Total indicative contribution to overall building score	2.00%
Total indicative BREEAM innovation credits achieved	0
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Wat02 Water Monitoring

No. of BREEAM credits available	1	Available contribution to overall score	0.67%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved
Will there be a water meter on the mains water supply to the building(s)?	Yes	1	1
Will metering/monitoring equipment be specified on the water supply to any relevant plant/building areas?	Yes		
Will all specified water meters have a pulsed output?	Yes		
If the site/building has an existing BMS connection, will all pulsed meters be connected to the BMS?	Yes		

Total indicative BREEAM credits achieved	1
Total indicative contribution to overall building score	0.67%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Wat03 Water Leak Detection and Prevention

No. of BREEAM credits available	2	Available contribution to overall score	1.33%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Indicative credits	
		Credits available	achieved
Will a mains water leak detection system be installed on the building's mains water supply?	Yes	1	1
Will flow control devices be installed in each sanitary area/facility?	Yes	1	1

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	1.33%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Wat04 Water Efficient Equipment

No. of BREEAM credits available	1	Available contribution to overall score	0.67%
No. of BREEAM innovation credits available	No	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Indicative credits	
		Credits available	achieved
Will water efficient irrigation methods and/or vehicle wash systems (if relevant) be installed?	Yes	1	1

Total indicative BREEAM credits achieved	1
Total indicative contribution to overall building score	0.67%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

MATERIALS	Section Weighting	12.50%	Indicative Section Score	10.58%
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Mat01 Life Cycle Impacts

No. of BREEAM credits available	6	Available contribution to overall score	5.77%
No. of BREEAM innovation credits available	1	Minimum standards applicable	No

Pre-Assessment question/criteria

How do you wish to assess the number of BREEAM credits achieved for this issue?	Define a target number of BREEAM credits to be achieved		
Select the number of BREEAM credits being targeted for the Mat01 issue	5	BREEAM innovation credits	

Total indicative BREEAM credits achieved	5
Total indicative contribution to overall building score	4.81%
Total indicative BREEAM innovation credits achieved	0
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Mat02 Hard Landscaping and Boundary Protection

No. of BREEAM credits available	1	Available contribution to overall score	0.96%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Indicative credits	
		Credits available	achieved
Will ≥80% of all external hard landscaping and boundary protection achieve a Green Guide A or A+ rating?	Yes	1	1

Total indicative BREEAM credits achieved	1
Total indicative contribution to overall building score	0.96%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Mat03 Responsible Sourcing

No. of BREEAM credits available	3	Available contribution to overall score	2.88%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Pre-Assessment question/criteria

How do you wish to assess the number of BREEAM credits achieved for this issue?	Define a target number of BREEAM credits		
Select the number of BREEAM credits being targeted for the Mat03 issue	2	BREEAM Innovation credits	0
Will all timber used on the project be sourced in accordance with the UK Govt's Timber Procurement Policy?	Yes		

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	1.92%
Total indicative BREEAM innovation credits achieved	0
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Mat04 Insulation

No. of BREEAM credits available	2	Available contribution to overall score	1.92%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved
Is the building targeting an insulating index of 2 or more?	Yes	1	1
Will the building's insulating materials be responsibly sourced?	Yes	1	1

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	1.92%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Mat05 Designing for Robustness

No. of BREEAM credits available	1	Available contribution to overall score	0.96%
No. of BREEAM innovation credits available	0	Minimum standards applicable	N/A

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved
Will suitable durability/protection measures be specified and installed to vulnerable areas of the building?	Yes	1	1

Total indicative BREEAM credits achieved	1
Total indicative contribution to overall building score	0.96%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

WASTE	Section Weighting	7.50%	Indicative Section Score	3.75%
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Wst01 Construction Waste Management

No. of BREEAM credits available	4	Available contribution to overall score	5.00%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved
How do you wish to assess the number of BREEAM credits achieved for this issue?	Define a target number of BREEAM credits to be achieved		
Select the number of BREEAM credits being targeted for the Wst01 issue	2	BREEAM Innovation credits	

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	2.50%
Total indicative BREEAM innovation credits achieved	0
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Wst02 Recycled Aggregates

No. of BREEAM credits available	1	Available contribution to overall score	1.25%
No. of BREEAM innovation credits available	1	Minimum standards applicable	No

Pre-Assessment question/criteria

How do you wish to assess the number of BREEAM credits achieved for this issue?	Define a target number of BREEAM credits to be achieved		
Select the number of BREEAM credits being targeted for the Wst02 issue	0	BREEAM Innovation credits	

Total indicative BREEAM credits achieved	0
Total indicative contribution to overall building score	0.00%
Total indicative BREEAM innovation credits achieved	0
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Wst03 Operational Waste

No. of BREEAM credits available	1	Available contribution to overall score	1.25%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Pre-Assessment question/criteria

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved
Will appropriate facilities for the storage of operational recyclable waste volumes be provided?	Yes	1	1
If relevant, will a static waste compactor(s) or baler(s) be specified/installed?	N/A		
If relevant, will a vessel for composting suitable organic waste be specified/installed?	Yes		
Will there be a school recycling policy and operational procedures provided when the building is complete?	Yes		

Total indicative BREEAM credits achieved	1
Total indicative contribution to overall building score	1.25%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Wst04 Speculative Floor and Ceiling Finishes Assessment Issue Not Applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved

Total indicative BREEAM credits achieved	N/A
Total indicative contribution to overall building score	N/A
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

LAND USE & ECOLOGY Section Weighting 10.00% Indicative Section Score 9.00%

LE01 Site Selection

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved
Will at least 75% of the proposed development's footprint be located on previously been developed land?	Yes	1	1
Is the site deemed to be significantly contaminated?	Yes	1	1

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	2.00%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

LE02 Ecological Value of Site and Protection of Ecological Features

No. of BREEAM credits available	1	Available contribution to overall score	1.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Indicative credits	
		Credits available	achieved
Can the land within the construction zone be defined as 'land of low ecological value'?	Yes		
Will all features of ecological value surrounding the construction zone/site boundary be protected?	Yes	1	1
Total indicative BREEAM credits achieved 1			
Total indicative contribution to overall building score 1.00%			
Total indicative BREEAM innovation credits achieved N/A			
Indicative minimum standard(s) level N/A			

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

LE03 Mitigating Ecological Impact

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Pre-Assessment question/criteria	
What is the likely change in ecological value (plant species richness) as a result of the sites development?	No negative change or improvement in plant species richness
Total indicative BREEAM credits achieved 2	
Total indicative contribution to overall building score 2.00%	
Total indicative BREEAM innovation credits achieved N/A	
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

LE04 Enhancing Site Ecology

No. of BREEAM credits available	3	Available contribution to overall score	3.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Indicative credits	
		Credits available	achieved
Will a suitably qualified ecologist be appointed to report on enhancing and protecting site ecology?	Yes	3	2
Will the suitably qualified ecologists general recommendations be implemented?	Yes		
What is the targeted/intended improvement in ecological value as a result of enhancement actions?	Small improvement in plant species richness		
Total indicative BREEAM credits achieved		2	
Total indicative contribution to overall building score		2.00%	
Total indicative BREEAM innovation credits achieved		N/A	
Indicative minimum standard(s) level		N/A	

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

LE05 Long Term Impact on Biodiversity

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Indicative credits	
		Credits available	achieved
Will the building meet BREEAM's mandatory criteria for this BREEAM issue?	Yes	2	2
Will a Biodiversity Champion be appointed to monitor/minimise impacts of site activities on biodiversity?	Yes		
Will the contractor provide training for the site workforce on how to protect ecology during the project?	Yes		
Will the contractor record actions to protect biodiversity and monitor their effectiveness during construction?	Yes		
Will a new ecologically valuable habitat, appropriate to the local area, be created?	No		
Where flora/fauna habitats exist on site, will the contractor programme site works to minimise disturbance?	Yes		
Will a partnership be set up by the design team with a local group that has wildlife expertise?	Yes		
Total indicative BREEAM credits achieved		2	
Total indicative contribution to overall building score		2.00%	
Total indicative BREEAM innovation credits achieved		N/A	
Indicative minimum standard(s) level		N/A	

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

POLLUTION	Section Weighting	10.00%	Indicative Section Score	6.15%
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Pol01 Impact of Refrigerants

No. of BREEAM credits available	3	Available contribution to overall score	2.31%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved
Will refrigerant containing systems be installed in the assessed building?	Yes	2	1
Is the Global Warming Potential of the specified refrigerant(s) likely to be 10 or less?	No		
What is the target range Direct Effect Life Cycle CO ₂ eq. emissions for the system?	101-1000	kgCO ₂ eq/kW coolth capacity	
Will a refrigerant leak detection and containment system be specified/installed?	No	1	0
Total indicative BREEAM credits achieved		1	
Total indicative contribution to overall building score		0.77%	
Total indicative BREEAM innovation credits achieved		N/A	
Indicative minimum standard(s) level		N/A	

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Pol02 NO_x Emissions

No. of BREEAM credits available	3	Available contribution to overall score	2.31%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response
Please enter the target/maximum NO _x emission level for space heating system	90.00 mg/kWh
Please enter the target/maximum NO _x emission level for the water heating system	mg/kWh

Total indicative BREEAM credits achieved	1
Total indicative contribution to overall building score	0.77%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Pol03 Surface Water Run off

No. of BREEAM credits available	5	Available contribution to overall score	3.85%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Indicative credits	
		Credits available	achieved
What is the actual/likely annual probability of flooding for the assessed site?	Low	2	2
Will a compliant Flood Risk Assessment be undertaken?	Yes	1	1
Will the site meet the BREEAM criteria for peak rate surface water run off?	Yes	1	1
Will the site meet the criteria for surface water run off volume, attenuation and/or limiting discharge?	Yes	1	1
Will the site be designed to minimise watercourse pollution in accordance with the BREEAM criteria?	No	1	0

Total indicative BREEAM credits achieved	4
Total indicative contribution to overall building score	3.08%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Pol04 Reduction of Night Time Light Pollution

No. of BREEAM credits available	1	Available contribution to overall score	0.77%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Indicative credits	
		Credits available	achieved
Will the external lighting be designed to reduce light pollution?	Yes	1	1

Total indicative BREEAM credits achieved	1
Total indicative contribution to overall building score	0.77%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Pol05 Noise Attenuation

No. of BREEAM credits available	1	Available contribution to overall score	0.77%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Indicative credits	
		Credits available	achieved
Will there be, or is there noise-sensitive areas/buildings within 800m radius of the development?	Yes	1	1
Will a noise impact assessment be completed and, if applicable, noise attenuation measures specified?	Yes		

Total indicative BREEAM credits achieved	1
Total indicative contribution to overall building score	0.77%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

INNOVATION	Section Weighting	10.00%	Indicative Section Score	0.00%
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Inn01 Innovation

No. of BREEAM innovation credits available	10	Available contribution to overall score	10.00%
		Minimum standards applicable	No

Pre-Assessment question/criteria	Exemplary level achieved	Credits available	Indicative credits achieved
Man02 Responsible Construction Practices	No	1	0
Hea01 Visual Comfort	No	1	0
Ene01 Reduction of CO2 Emissions	No	5	0
Ene04 Low and Zero Carbon Technology	No	1	0
Ene05 Energy Efficient Cold Storage	N/A	N/A	N/A
Wat01 Water Consumption	No	1	0
Mat01 Life Cycle Impacts	No	1	0
Mat03 Responsible Sourcing of Materials	No	1	0
Wst01 Construction Waste Management	No	1	0
Wst02 Recycled Aggregates	No	1	0

Total indicative BREEAM credits achieved	0
Total indicative contribution to overall building score	0.00%
Indicative minimum standard(s) level	N/A

Comments/notes:

Workspace Building



BREEAM 2011 New Construction Assessment Report: Rating & Key Performance Indicators

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 buildings potential performance and is based on a simplified pre-formal BREEAM assessment and unverified commitments given at an early stage in the design process.

Overall Indicative Building Performance

Building name	3708 - Liddell Road - Office
Indicative building score (%)	71.55%
Indicative BREEAM rating	Pre-Assessment result indicates potential for BREEAM Excellent rating
Indicative minimum standards level achieved	Pre-Assessment result indicates the minimum standards for Excellent level

Summary of Indicative Building Performance by Environmental Section and Assessment Issue

Section	Indicative no. credits available	Indicative no. credits Achieved	Indicative contribution to score	Minimum standards level achieved
Management				
Man01 Sustainable Procurement	8.0	8.0	4.36%	Pre-Assessment result indicates the minimum standards for Outstanding level
Man02 Responsible Construction Practices	2.0	2.0	1.09%	Pre-Assessment result indicates the minimum standards for Outstanding level
Man03 Construction Site Impacts	5.0	5.0	2.73%	N/A
Man04 Stakeholder Participation	4.0	4.0	2.18%	Pre-Assessment result indicates the minimum standards for Outstanding level
Man05 Life cycle cost and service life planning	3.0	0.0	0.00%	N/A
Total indicative environmental section performance	22.0	19.0	10.36%	
Health & Wellbeing				
Head1 Visual Comfort	3.0	1.0	1.07%	Pre-Assessment result indicates the minimum standards for Outstanding level
Head2 Indoor Air Quality	4.0	3.0	3.21%	N/A
Head3 Thermal Comfort	2.0	2.0	2.14%	N/A
Head4 Water Quality	1.0	1.0	1.07%	Pre-Assessment result indicates the minimum standards for Outstanding level
Head5 Acoustic Performance	2.0	2.0	2.14%	N/A
Head6 Safety and Security	2.0	2.0	2.14%	N/A
Total indicative environmental section performance	14.0	11.0	11.79%	
Energy				
Ene01 Reduction of CO2 Emissions	15.0	6.0	4.22%	Pre-Assessment result indicates the minimum standards for Excellent level
Ene02 Energy Monitoring	2.0	2.0	1.41%	Pre-Assessment result indicates the minimum standards for Outstanding level
Ene03 External Lighting	1.0	1.0	0.70%	N/A
Ene04 Low and Zero Carbon Technology	5.0	2.0	1.41%	Pre-Assessment result indicates the minimum standards for Outstanding level
Ene05 Energy Efficient Cold Storage	N/A	N/A	N/A	N/A
Ene06 Energy Efficient Transportation Systems	2.0	2.0	1.41%	N/A
Ene07 Energy Efficient Laboratory Systems	N/A	N/A	N/A	N/A
Ene08 Energy Efficient Equipment	2.0	1.0	0.70%	N/A
Ene09 Drying Space	N/A	N/A	N/A	N/A
Total indicative environmental section performance	27.0	14.00	9.85%	
Transport				
Tra01 Public Transport Accessibility	3.0	3.0	2.67%	N/A
Tra02 Proximity to Amenities	1.0	0.0	0.00%	N/A
Tra03 Cyclist facilities	2.0	2.0	1.78%	N/A
Tra04 Maximum Car Parking Capacity	2.0	2.0	1.78%	N/A
Tra05 Travel Plan	1.0	1.0	0.89%	N/A
Total indicative environmental section performance	9.0	8.0	7.11%	
Water				
Wat01 Water Consumption	5.0	3.0	2.00%	Pre-Assessment result indicates the minimum standards for Outstanding level
Wat02 Water Monitoring	1.0	1.0	0.67%	Pre-Assessment result indicates the minimum standards for Outstanding level
Wat03 Water Leak Detection and Prevention	2.0	2.0	1.33%	N/A
Wat04 Water Efficient Equipment	1.0	1.0	0.67%	N/A
Total indicative environmental section performance	9.0	7.0	4.67%	
Materials				
Mat01 Life Cycle Impacts	5.0	2.0	2.08%	N/A
Mat02 Hard Landscaping and Boundary Protection	1.0	1.0	1.04%	N/A
Mat03 Responsible Sourcing	3.0	2.0	2.08%	Pre-Assessment result indicates the minimum standards for Outstanding level
Mat04 Insulation	2.0	2.0	2.08%	N/A
Mat05 Designing for Robustness	1.0	1.0	1.04%	N/A
Total indicative environmental section performance	12.0	8.00	8.33%	
Waste				
Wst01 Construction Waste Management	4.0	2.0	2.14%	Pre-Assessment result indicates the minimum standards for Outstanding level
Wst02 Recycled Aggregates	1.0	0.0	0.00%	N/A
Wst03 Operational Waste	1.0	1.0	1.07%	Pre-Assessment result indicates the minimum standards for Outstanding level
Wst04 Speculative Floor and Ceiling Finishes	1.0	1.0	1.07%	N/A
Total indicative environmental section performance	7.0	4.00	4.29%	
Land Use and Ecology				
LE01 Site Selection	2.0	2.0	2.00%	N/A
LE02 Ecological Value of Site and Protection of Ecological Features	1.0	1.0	1.00%	N/A
LE03 Mitigating Ecological Impact	2.0	2.0	2.00%	Pre-Assessment result indicates the minimum standards for Outstanding level
LE04 Enhancing Site Ecology	3.0	2.0	2.00%	N/A
LE05 Long Term Impact on Biodiversity	2.0	2.0	2.00%	N/A
Total indicative environmental section performance	10.0	9.00	9.00%	
Pollution				
Pol01 Impact of Refrigerants	3.0	1.0	0.77%	N/A
Pol02 NOx Emissions	3.0	1.0	0.77%	N/A
Pol03 Surface Water Run off	5.0	4.0	3.08%	N/A
Pol04 Reduction of Night Time Light Pollution	1.0	1.0	0.77%	N/A
Pol05 Noise Attenuation	1.0	1.0	0.77%	N/A
Total indicative environmental section performance	13.0	8.00	6.15%	
Innovation				
Inn01 Innovation	10.0	0.0	0.00%	N/A
Total indicative environmental section performance	10.0	0.00	0.00%	



BREEAM 2011 New Construction Pre-Assessment Estimator

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Building name	3708 - Liddell Road - Office
Indicative building score (%)	71.55%
Indicative BREEAM rating	Pre-Assessment result indicates potential for BREEAM Excellent rating
Indicative minimum standards level achieved	Pre-Assessment result indicates the minimum standards for Excellent level

MANAGEMENT	Section Weighting	12.00%	Indicative Section Score	10.36%
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Man01 Sustainable Procurement

No. of BREEAM credits available	8	Available contribution to overall score	4.36%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Pre-Assessment question/criteria

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will roles, responsibilities and a training schedule be defined in accordance with BREEAM?	Yes	1	1	N/A
Will a BREEAM AP be appointed at RIBA stage A/B and performance targets contractually agreed?	Yes	1	1	N/A
Will a BREEAM AP be appointed to monitor and report progress during RIBA stage B-E?	Yes	1	1	N/A
Will a BREEAM AP be appointed to monitor and report progress during RIBA stage F-L?	Yes	1	1	N/A
Will a thermographic survey be conducted and any defects uncovered remedied?	Yes	1	1	N/A
Will compliant commissioning of building services be carried out?	Yes	1	1	N/A
Will compliant seasonal commissioning of building services be carried out?	Yes	1	1	N/A
Will water/energy consumption data be recorded and aftercare support provided for 12 months?	Yes	1	1	N/A
Will water/energy consumption be recorded/reported for 3 years post construction?	No	1	0	N/A

Total indicative BREEAM credits achieved	8
Total indicative contribution to overall building score	4.36%
Total indicative BREEAM innovation credits achieved	0
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Man02 Responsible Construction Practices

No. of BREEAM credits available	2	Available contribution to overall score	1.09%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Pre-Assessment question/criteria

Which considerate construction scheme will be used or required to be used by the principal contractor?	Considerate Constructors Scheme	Shell & Core option?	
For the required scheme, what will be the target performance level set for the site/contractor?	A CCS score between 32 and 35.5.		N/A

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	1.09%
Total indicative BREEAM innovation credits achieved	0
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Man03 Construction Site Impacts

No. of BREEAM credits available	5	Available contribution to overall score	2.73%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will site energy consumption be metered/monitored?	Yes	1	1	N/A
Will site water consumption be metered/monitored?	Yes	1	1	N/A
Will the transport of construction materials and waste to/from site be measured/monitored?	Yes	1	1	N/A
Will timber be sourced in accordance with the Government's Timber Procurement Policy?	Yes	1	1	N/A
Will/does the principal contractor operate a compliant Environmental Management System?	Yes	1	1	N/A
Will the principal contractor adopt best practice pollution prevention policies & procedures?	Yes	1	1	N/A
Total indicative BREEAM credits achieved		5		
Total indicative contribution to overall building score		2.73%		
Total indicative BREEAM innovation credits achieved		N/A		
Indicative minimum standard(s) level		N/A		

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Man04 Stakeholder Participation

No. of BREEAM credits available	4	Available contribution to overall score	2.18%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will an appropriate level of consultation activities be undertaken?	Yes	1	1	N/A
Will an access statement be developed and appropriate building user facilities provided?	Yes	1	1	N/A
Will building user guides and relevant user information be provided?	Yes	1	1	
Will a post occupancy evaluation assessment be undertaken and information disseminated?	Yes	1	1	
Total indicative BREEAM credits achieved		4		
Total indicative contribution to overall building score		2.18%		
Total indicative BREEAM innovation credits achieved		N/A		
Indicative minimum standard(s) level		Pre-Assessment result indicates the minimum standards for Outstanding level		

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Man05 Life cycle cost and service life planning

No. of BREEAM credits available	3	Available contribution to overall score	1.64%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will a feasibility stage Life Cycle Cost (LCC) analysis be commissioned and completed?	No	1	0	N/A
Will a strategic and system level LCC be commissioned and completed?	No	1	0	N/A
Will a technical design LCC be commissioned and completed?	No	1	0	N/A
Total indicative BREEAM credits achieved		0		
Total indicative contribution to overall building score		0.00%		
Total indicative BREEAM innovation credits achieved		N/A		
Indicative minimum standard(s) level		N/A		

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

HEALTH & WELLBEING Section Weighting 15.00% Indicative Section Score 11.79%

Hea01 Visual Comfort

No. of BREEAM credits available	3	Available contribution to overall score	3.21%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will all fluorescent lamps be fitted with high frequency ballasts?	Yes	N/A	N/A	N/A
Will all relevant building areas be designed to achieve the appropriate daylight factor(s)?	No	1		N/A
Will the design provide adequate glare control and view out for building users?	No	1	0	N/A
Will internal/external lighting be specified in accordance with the relevant CIBSE Guides/British Standards?	Yes	1	1	N/A
Will all relevant building areas be designed to achieve exemplary level daylight factor(s)?	No	1	0	N/A
Total indicative BREEAM credits achieved		1		
Total indicative contribution to overall building score		1.07%		
Total indicative BREEAM innovation credits achieved		0		
Indicative minimum standard(s) level		Pre-Assessment result indicates the minimum standards for Outstanding level		

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Hea02 Indoor Air Quality

No. of BREEAM credits available	4	Available contribution to overall score	4.29%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will an air quality plan be produced?	Yes	1	0	N/A
Will the building be designed to minimise sources of internal air pollution?	No			
Will the relevant products be specified to meet the VOC testing and emission levels required?	Yes	1	1	N/A
Will formaldehyde and total VOC levels be measured post construction?	Yes	1	1	N/A
Will the building be designed to, or have the potential to provide, natural ventilation?	Yes	1	1	N/A

Total indicative BREEAM credits achieved	3
Total indicative contribution to overall building score	3.21%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Hea03 Thermal Comfort

No. of BREEAM credits available	2	Available contribution to overall score	2.14%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will thermal modelling of the design be carried out?	Yes	1	1	N/A
Will the modelling inform the development of a thermal zoning and control strategy?	Yes	1	1	N/A

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	2.14%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Hea04 Water Quality

No. of BREEAM credits available	1	Available contribution to overall score	1.07%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will all water systems be designed to comply with the relevant HSE Approved Code of Practice and Guidance?	Yes			N/A
Where humidification is to be provided, will a failsafe humidification system be specified?	N/A	1	1	N/A
Will a wholesome supply of accessible, clean and fresh drinking water be supplied for building users?	Yes			N/A

Total indicative BREEAM credits achieved	1
Total indicative contribution to overall building score	1.07%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Hea05 Acoustic Performance

No. of BREEAM credits available	2	Available contribution to overall score	2.14%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will/has a suitably qualified acoustician be appointed to provide appropriate design advice?	Yes			N/A
Will the building meet the relevant acoustic performance standards and testing requirements?	Yes	2	2	N/A

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	2.14%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Hea06 Safety and Security

No. of BREEAM credits available	2	Available contribution to overall score	2.14%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Where external site areas are present, will safe access be designed for pedestrians and cyclists?	Yes	1	1	N/A
Will a suitably qualified security consultant be appointed and security considerations accounted for?	Yes	1	1	N/A
Total indicative BREEAM credits achieved		2		
Total indicative contribution to overall building score			2.14%	
Total indicative BREEAM innovation credits achieved			N/A	
Indicative minimum standard(s) level			N/A	

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

ENERGY	Section Weighting	19.00%	Indicative Section Score	9.85%
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Ene01 Reduction of CO₂ Emissions

No. of BREEAM credits available	15	Available contribution to overall score	10.56%
No. of BREEAM innovation credits available	5	Minimum standards applicable	Yes

How do you wish to assess the number of BREEAM credits achieved for this issue?	Define a target number of BREEAM credits achieved
Select the target number of BREEAM credits for the Ene01 issue	6
	BREEAM innovation credits



BREEAM 2011 New Construction Pre-Assessment Estimator

Total indicative BREEAM credits achieved	6
Total indicative contribution to overall building score	4.22%
Total indicative BREEAM Innovation credits achieved	0
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Excellent level

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Ene02 Energy Monitoring

No. of BREEAM credits available	2	Available contribution to overall score	1.41%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will a BMS or sub-meters be specified to monitor energy use from major building services systems?	Yes	1	1	N/A
Will a BMS or sub-meters be specified to monitor energy use by tenant/building function areas?	Yes	1	1	N/A

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	1.41%
Total indicative BREEAM Innovation credits achieved	N/A
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Ene03 External Lighting

No. of BREEAM credits available	1	Available contribution to overall score	0.70%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will external light fittings and controls be specified in accordance with the BREEAM criteria?	Yes	1	1	N/A
Summary				
Total indicative BREEAM credits achieved	1			
Total indicative contribution to overall building score	0.70%			
Total indicative BREEAM innovation credits achieved	N/A			
Indicative minimum standard(s) level	N/A			

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Ene04 Low and Zero Carbon Technology

No. of BREEAM credits available	5	Available contribution to overall score	3.52%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Compliant LZC feasibility study to be undertaken	Yes	2	1	N/A
What will be the intended scope of the feasibility study?				
Operational stage carbon savings/emissions				
Target percentage net reduction in operational stage CO2 emissions	0.00%	2	0	N/A
Please confirm the intended energy source of the Low and/or zero carbon system?				
Combination of one or more LZC energy sources				
Evaporative cooling, direct or indirect	Yes	1	1	N/A
Summary				
Total indicative BREEAM credits achieved	2			
Total indicative contribution to overall building score	1.41%			
Total indicative BREEAM innovation credits achieved	0			
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level			

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Ene05 Energy Efficient Cold Storage Assessment Issue Not Applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?

Total indicative BREEAM credits achieved	N/A
Total indicative contribution to overall building score	N/A
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Ene06 Energy Efficient Transportation Systems

No. of BREEAM credits available	2	Available contribution to overall score	1.41%
No. of BREEAM innovation credits available	0	Minimum standards applicable	N/A

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will a transportation system analysis be carried out to determine the optimum number and size of lifts?	Yes	1	1	N/A
Will three energy-efficient features offering the greatest potential energy savings be part of the system?	Yes	1	1	N/A

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	1.41%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Ene07 Energy Efficient Laboratory Systems Assessment Issue Not Applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?

Total indicative BREEAM credits achieved	N/A
Total indicative contribution to overall building score	N/A
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Ene08 Energy Efficient Equipment

No. of BREEAM credits available	2	Available contribution to overall score	1.41%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Significant majority contributor	
	Present	contributor
Which of the following will be present and likely to be a/the major contributor to 'unregulated' energy use:		
Small power/plug in equipment?	Yes	Yes
Swimming pool?	No	
Communal laundry?	No	
Data centre?	No	
IT-intensive operation areas?	Yes	No
Residential areas?	No	
Healthcare?	No	
Kitchen and catering facilities?	Yes	No

Will the significant majority contributor(s) to 'unregulated' energy use (above) meet the BREEAM criteria?	Indicative compliance?	Credits available	Indicative credits achieved	Shell & Core option?
	Yes	2	1	Option 2

Total indicative BREEAM credits achieved	1
Total indicative contribution to overall building score	0.70%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Ene09 Drying Space Assessment Issue Not Applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Total indicative BREEAM credits achieved		N/A		
Total indicative contribution to overall building score		N/A		
Total indicative BREEAM innovation credits achieved		N/A		
Indicative minimum standard(s) level		N/A		

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

TRANSPORT Section Weighting 8.00% Indicative Section Score 7.11%

Tra01 Public Transport Accessibility

No. of BREEAM credits available	3	Available contribution to overall score	2.67%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response
What is the building type category (for the purpose of Tra01 issue assessment)?	Business (office/industrial)
What is the degree of public transport provision for the building's location?	Excellent provision of public transport, i.e. medium urban centre
Building's indicative Accessibility Index	12
Does the building have a dedicated bus service?	
Total indicative BREEAM credits achieved	3
Total indicative contribution to overall building score	2.67%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Tra02 Proximity to Amenities

No. of BREEAM credits available	1	Available contribution to overall score	0.89%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will the building be in close proximity of and accessible to applicable amenities?	No	1	0	N/A
Total indicative BREEAM credits achieved		0		
Total indicative contribution to overall building score		0.00%		
Total indicative BREEAM innovation credits achieved		N/A		
Indicative minimum standard(s) level		N/A		

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Tra03 Cyclist facilities

No. of BREEAM credits available	2	Available contribution to overall score	1.78%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

What is the building type category (for the purpose of Tra03 issue assessment)? **Business - offices, Industrial**

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will cycle storage spaces be provided?	Yes	2	2	N/A
Will cyclist facilities be provided?	Yes			N/A
Total indicative BREEAM credits achieved		2		
Total indicative contribution to overall building score		1.78%		
Total indicative BREEAM innovation credits achieved		N/A		
Indicative minimum standard(s) level		N/A		

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Tra04 Maximum Car Parking Capacity

No. of BREEAM credits available	2	Available contribution to overall score	1.78%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Building type category (for the purpose of Tra04 issue)?	Business - offices, Industrial
Buildings indicative Accessibility Index (sourced from issue Tra01)	12

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will the building meet BREEAM's maximum parking capacity criteria for this building type/Accessibility Index?	Yes	2	2	N/A
Total indicative BREEAM credits achieved		2		
Total indicative contribution to overall building score		1.78%		
Total indicative BREEAM innovation credits achieved		N/A		
Indicative minimum standard(s) level		N/A		

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Tra05 Travel Plan

No. of BREEAM credits available	1	Available contribution to overall score	0.89%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will a transport plan based on site specific travel survey/assessment be developed?	Yes	1	1	N/A
Total indicative BREEAM credits achieved		1		
Total indicative contribution to overall building score		0.89%		
Total indicative BREEAM innovation credits achieved		N/A		
Indicative minimum standard(s) level		N/A		

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

WATER	Section Weighting	6.00%	Indicative Section Score	4.67%
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Wat01 Water Consumption

No. of BREEAM credits available	5	Available contribution to overall score	3.33%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes
Select the level that corresponds closely to the target or likely water component specification?		Level 3 - Three credits	N/A
Shell & Core option?			
Total indicative BREEAM credits achieved		3	
Total indicative contribution to overall building score		2.00%	
Total indicative BREEAM innovation credits achieved		0	
Indicative minimum standard(s) level		Pre-Assessment result indicates the minimum standards for Outstanding level	

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Wat02 Water Monitoring

No. of BREEAM credits available	1	Available contribution to overall score	0.67%	
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes	
Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will there be a water meter on the mains water supply to the building(s)?	Yes	1	1	N/A
Will metering/monitoring equipment be specified on the water supply to any relevant plant/building areas?	Yes			
Will all specified water meters have a pulsed output?	Yes			
If the site/building has an existing BMS connection, will all pulsed meters be connected to the BMS?	Yes			
Total indicative BREEAM credits achieved		1		
Total indicative contribution to overall building score		0.67%		
Total indicative BREEAM innovation credits achieved		N/A		
Indicative minimum standard(s) level		Pre-Assessment result indicates the minimum standards for Outstanding level		

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Wat03 Water Leak Detection and Prevention

No. of BREEAM credits available	2	Available contribution to overall score	1.33%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will a mains water leak detection system be installed on the building's mains water supply?	Yes	1	1	N/A
Will flow control devices be installed in each sanitary area/facility?	Yes	1	1	N/A

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	1.33%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Wat04 Water Efficient Equipment

No. of BREEAM credits available	1	Available contribution to overall score	0.67%
No. of BREEAM innovation credits available	No	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will water efficient irrigation methods and/or vehicle wash systems (if relevant) be installed?	Yes	1	1	N/A

Total indicative BREEAM credits achieved	1
Total indicative contribution to overall building score	0.67%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

MATERIALS	Section Weighting	12.50%	Indicative Section Score	8.33%
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Mat01 Life Cycle Impacts

No. of BREEAM credits available	5	Available contribution to overall score	5.21%
No. of BREEAM innovation credits available	1	Minimum standards applicable	No

Pre-Assessment question/criteria

How do you wish to assess the number of BREEAM credits achieved for this issue?	Define a target number of BREEAM credits to be achieved		
Select the number of BREEAM credits being targeted for the Mat01 issue	2	BREEAM innovation credits	

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	2.08%
Total indicative BREEAM innovation credits achieved	0
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Mat02 Hard Landscaping and Boundary Protection

No. of BREEAM credits available	1	Available contribution to overall score	1.04%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will ≥80% of all external hard landscaping and boundary protection achieve a Green Guide A or A+ rating?	Yes	1	1	N/A

Total indicative BREEAM credits achieved	1
Total indicative contribution to overall building score	1.04%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Mat03 Responsible Sourcing

No. of BREEAM credits available	3	Available contribution to overall score	3.13%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Pre-Assessment question/criteria

How do you wish to assess the number of BREEAM credits achieved for this issue?	Define a target number of BREEAM credits		
Select the number of BREEAM credits being targeted for the Mat03 issue	2	BREEAM Innovation credits	0
Will all timber used on the project be sourced in accordance with the UK Govt's Timber Procurement Policy?	Yes		

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	2.08%
Total indicative BREEAM innovation credits achieved	0
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Mat04 Insulation

No. of BREEAM credits available	2	Available contribution to overall score	2.08%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Is the building targeting an insulating index of 2 or more?	Yes	1	1	N/A
Will the building's insulating materials be responsibly sourced?	Yes	1	1	N/A

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	2.08%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Mat05 Designing for Robustness

No. of BREEAM credits available	1	Available contribution to overall score	1.04%
No. of BREEAM innovation credits available	0	Minimum standards applicable	N/A

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will suitable durability/protection measures be specified and installed to vulnerable areas of the building?	Yes	1	1	N/A

Total indicative BREEAM credits achieved	1
Total indicative contribution to overall building score	1.04%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

WASTE	Section Weighting	7.50%	Indicative Section Score	4.29%
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Wst01 Construction Waste Management

No. of BREEAM credits available	4	Available contribution to overall score	4.29%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Pre-Assessment question/criteria	Response	BREEAM Innovation credits
How do you wish to assess the number of BREEAM credits achieved for this issue?	Define a target number of BREEAM credits to be achieved	
Select the number of BREEAM credits being targeted for the Wst01 issue	2	

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	2.14%
Total indicative BREEAM innovation credits achieved	0
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Wst02 Recycled Aggregates

No. of BREEAM credits available	1	Available contribution to overall score	1.07%
No. of BREEAM innovation credits available	1	Minimum standards applicable	No

Pre-Assessment question/criteria

How do you wish to assess the number of BREEAM credits achieved for this issue?	Define a target number of BREEAM credits to be achieved		
Select the number of BREEAM credits being targeted for the Wst02 issue	0	BREEAM Innovation credits	

Total indicative BREEAM credits achieved	0
Total indicative contribution to overall building score	0.00%
Total indicative BREEAM innovation credits achieved	0
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Wst03 Operational Waste

No. of BREEAM credits available	1	Available contribution to overall score	1.07%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Pre-Assessment question/criteria

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will appropriate facilities for the storage of operational recyclable waste volumes be provided?	Yes	1	1	N/A
If relevant, will a static waste compactor(s) or baler(s) be specified/installed?	N/A			N/A
If relevant, will a vessel for composting suitable organic waste be specified/installed?	Yes			N/A

Total indicative BREEAM credits achieved	1
Total indicative contribution to overall building score	1.07%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Wst04 Speculative Floor and Ceiling Finishes

No. of BREEAM credits available	1	Available contribution to overall score	1.07%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
The building's occupant(s)/tenant(s) will specify floor/ceiling finishes	Yes	1	1	N/A
Summary:				
Total indicative BREEAM credits achieved		1		
Total indicative contribution to overall building score			1.07%	
Total indicative BREEAM innovation credits achieved		N/A		
Indicative minimum standard(s) level		N/A		

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

LAND USE & ECOLOGY	Section Weighting	10.00%	Indicative Section Score	9.00%
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LE01 Site Selection

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will at least 75% of the proposed development's footprint be located on previously been developed land?	Yes	1	1	N/A
Is the site deemed to be significantly contaminated?	Yes	1	1	N/A
Summary:				
Total indicative BREEAM credits achieved		2		
Total indicative contribution to overall building score			2.00%	
Total indicative BREEAM innovation credits achieved		N/A		
Indicative minimum standard(s) level		N/A		

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

LE02 Ecological Value of Site and Protection of Ecological Features

No. of BREEAM credits available	1	Available contribution to overall score	1.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Can the land within the construction zone be defined as 'land of low ecological value'?	Yes			N/A
Will all features of ecological value surrounding the construction zone/site boundary be protected?	Yes	1	1	N/A
Total indicative BREEAM credits achieved		1		
Total indicative contribution to overall building score		1.00%		
Total indicative BREEAM innovation credits achieved		N/A		
Indicative minimum standard(s) level		N/A		

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

LE03 Mitigating Ecological Impact

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Pre-Assessment question/criteria

What is the likely change in ecological value (plant species richness) as a result of the sites development?	No negative change or improvement in plant species richness
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Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	2.00%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

LE04 Enhancing Site Ecology

No. of BREEAM credits available	3	Available contribution to overall score	3.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will a suitably qualified ecologist be appointed to report on enhancing and protecting site ecology?	Yes	3	2	N/A
Will the suitably qualified ecologists general recommendations be implemented?	Yes			
What is the targeted/intended improvement in ecological value as a result of enhancement actions?	Small improvement in plant species richness			
Total indicative BREEAM credits achieved		2		
Total indicative contribution to overall building score		2.00%		
Total indicative BREEAM innovation credits achieved		N/A		
Indicative minimum standard(s) level		N/A		

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

LE05 Long Term Impact on Biodiversity

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will the building meet BREEAM's mandatory criteria for this BREEAM issue?	Yes	2	2	N/A
Will a Biodiversity Champion be appointed to monitor/minimise impacts of site activities on biodiversity?	Yes			
Will the contractor provide training for the site workforce on how to protect ecology during the project?	Yes			
Will the contractor record actions to protect biodiversity and monitor their effectiveness during construction?	Yes			
Will a new ecologically valuable habitat, appropriate to the local area, be created?	No			
Where flora/fauna habitats exist on site, will the contractor programme site works to minimise disturbance?	Yes			
Total indicative BREEAM credits achieved		2		
Total indicative contribution to overall building score		2.00%		
Total indicative BREEAM innovation credits achieved		N/A		
Indicative minimum standard(s) level		N/A		

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

POLLUTION	Section Weighting	10.00%	Indicative Section Score	6.15%
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Pol01 Impact of Refrigerants

No. of BREEAM credits available	3	Available contribution to overall score	2.31%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will refrigerant containing systems be installed in the assessed building?	Yes	2	1	Option 2
Is the Global Warming Potential of the specified refrigerant(s) likely to be 10 or less?	Yes			
What is the target range Direct Effect Life Cycle CO ₂ eq. emissions for the system?		kgCO ₂ eq/kW coolth capacity		
Will a refrigerant leak detection and containment system be specified/installed?	No	1	0	N/A

Total indicative BREEAM credits achieved	1
Total indicative contribution to overall building score	0.77%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Pol02 NO_x Emissions

No. of BREEAM credits available	3	Available contribution to overall score	2.31%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Shell & Core option?
Please enter the target/maximum NO _x emission level for space heating system	70.00 mg/kWh	Option 2

Total indicative BREEAM credits achieved	1
Total indicative contribution to overall building score	0.77%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Pol03 Surface Water Run off

No. of BREEAM credits available	5	Available contribution to overall score	3.85%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
What is the actual/likely annual probability of flooding for the assessed site?	Low	2	2	N/A
Will a compliant Flood Risk Assessment be undertaken?	Yes	1	1	N/A
Will the site meet the BREEAM criteria for peak rate surface water run off?	Yes	1	1	N/A
Will the site meet the criteria for surface water run off volume, attenuation and/or limiting discharge?	Yes	1	1	N/A
Will the site be designed to minimise watercourse pollution in accordance with the BREEAM criteria?	No	1	0	N/A

Total indicative BREEAM credits achieved	4
Total indicative contribution to overall building score	3.08%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Pol04 Reduction of Night Time Light Pollution

No. of BREEAM credits available	1	Available contribution to overall score	0.77%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will the external lighting be designed to reduce light pollution?	Yes	1	1	N/A

Total indicative BREEAM credits achieved	1
Total indicative contribution to overall building score	0.77%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

Pol05 Noise Attenuation

No. of BREEAM credits available	1	Available contribution to overall score	0.77%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will there be, or is there noise-sensitive areas/buildings within 800m radius of the development?	Yes	1	1	
Will a noise impact assessment be completed and, if applicable, noise attenuation measures specified?	Yes			N/A

Total indicative BREEAM credits achieved	1
Total indicative contribution to overall building score	0.77%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:



BREEAM 2011 New Construction Pre-Assessment Estimator

INNOVATION	Section Weighting	10.00%	Indicative Section Score	0.00%
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Inn01 Innovation

No. of BREEAM innovation credits available	10	Available contribution to overall score	10.00%
		Minimum standards applicable	No

Pre-Assessment question/criteria	Exemplary level achieved	Credits available	Indicative credits achieved
Man01 Sustainable Procurement	No	1	0
Man02 Responsible Construction Practices	No	1	0
Hea01 Visual Comfort	No	1	0
Ene01 Reduction of CO2 Emissions	No	5	0
Ene04 Low and Zero Carbon Technology	No	1	0
Ene05 Energy Efficient Cold Storage	N/A	N/A	N/A
Wat01 Water Consumption	No	1	0
Mat01 Life Cycle Impacts	No	1	0
Mat03 Responsible Sourcing of Materials	No	1	0
Wst01 Construction Waste Management	No	1	0
Wst02 Recycled Aggregates	No	1	0

Total indicative BREEAM credits achieved	0
Total indicative contribution to overall building score	0.00%
Indicative minimum standard(s) level	N/A

Comments/notes:

6.0 Appendix C. SAP Preliminary Calculations

Typical dwellings have been modelled according to The Government's Standard Assessment Procedure for Energy Rating of Dwellings 2012 (SAP 2012, vers. 9.92). This procedure is used to assess the energy performance of domestic buildings required by Part L 2013 of the Building Regulations, as described in the Approved Document L1A (ADL1A) 2013 ("Conservation of fuel and power in new dwellings").

As the RIBA Stage 4 detailed design of the buildings has not been undertaken yet, reasonable assumptions about the performance of the building envelopes and services have been carried out. In particular, the building envelopes have been considered complying with the Building Regulations 2013 standards, as described in the ADL1A 2013 and going beyond the U-values and design air permeability set out in the ADL1A 2013.

Modelling has been carried out using Stroma FSAP 2012 (vers. 1.0.1.14) tested by the Building Research Establishment (BRE) and approved by the Department for Communities and Local Government (DCLG).

The assumptions made for the building envelopes and services and the results of the initial calculations are summarised in the tables in the next pages showing the estimated floor-weighted average improvement of the DER over the TER according to Part L 2013. These assumptions as well as the achievements in terms of energy consumption and CO₂ emissions are subject to changes and further refinement as the design develops.

The typical dwellings were chosen to represent the worst case scenarios, they are indicated by the code explained in Fig. 6.C.1.

{RESIDENTIAL ASSUMPTIONS, SUBJECT TO FURTHER REFINEMENT.}

Residential Assumptions

Description	Taller Block			Terraced Block		
	Lean	Clean	Green	Lean	Clean	Green
Building Fabric						
Opaque elements						
Floor U-value			0.12W/(m ² .K)			
Wall U-Value			0.12W/(m ² .K)			
Roof U-Value			0.12W/(m ² .K)			
Openings						
Window U-value			1.2 - 1.4 W/(m ² .K)			
Glazing g-value			0.6			
Frame Factor			0.8			
Air Tightness and Thermal Bridging						
Design air permeability			3m ³ /(h.m ²) @ 50Pa			
Thermal Bridging: γ-Value			0.1 (m.K)			
Building Services						
Ventilation						
Mechanical ventilation			Balanced whole house with heat recovery			
Heat recovery efficiency			75%			
SFP			0.42			
Ducting type			rigid			
Duct insulation			Yes			
Space Heating						
Heating system 1			Community Boilers			
Heating system 1 Efficiency			95%			
Heating fuel 1			Mains Gas			
Heating emitter			Underfloor Heating			
Heating controls			Charging system linked to use of community heating, programmer and TRVs			
Pump in heated space			Yes			
Boiler interlock			Yes			
Water heating						
System 1	Community Boilers	Community CHP	Community CHP	Community Boilers	Community CHP	Community CHP
Efficiency	95%	86%	86%	95%	86%	86%
Heating fuel	Mains Gas	Heat from CHP	Heat from CHP	Mains Gas	Heat from CHP	Heat from CHP
Heat to power ratio	-	1.68	1.68	-	1.68	1.68
Heating fraction	100%	90%	90%	100%	90%	90%
System 2	-	Community Boilers	Community Boilers	-	Community Boilers	Community Boilers
Efficiency	-	95%	95%	-	95%	95%
Heating fuel	-	Mains Gas	Mains Gas	-	Mains Gas	Mains Gas
Heating fraction	-	10%	10%	-	10%	10%
Cooling						
Cooling system			No Cooling			
Lighting						
Low energy lights			100% of fixed light outlets			
Renewable Technology						
PV	-	-	21.76 kWp (total)	-	-	40.17 kWp (total)

Part I. 2013 Results Summary												
Unit Type	No. of Units	Floor Area [m ²]	Total Floor Area [m ²]	Unregulated Load [kgCO ₂ /m ² /year]	TER [kgCO ₂ /m ² /year]	DER (Lean) [kgCO ₂ /m ² /year]	DER (Lean) / TER [%]	DER (Clean) [kgCO ₂ /m ² /year]	DER (Clean) / TER [%]	DER (Green PV) [kgCO ₂ /m ² /year]	DER (Green) / TER [%]	
Mansion Block (Market)												
M75A3	1	75	75	0.0180	17.51	16.25		13.19		9.69		
M48A1	2	48	96	0.0201	17.36	16.87		12.21		8.74		
M75A2	1	75	75	0.0180	17.51	16.25		13.19		9.69		
M104A2	2	104	208	0.0180	17.51	16.25		13.19		9.69		
M116A2	1	116	116	0.0180	17.51	16.25		13.19		9.69		
M75B3	3	75	225	0.0180	16.47	14.63		10.92		7.63		
M52B1	8	52	416	0.0198	15.72	13.22		8.82		5.68		
M53B2	9	53	477	0.0198	15.72	13.22		8.82		5.68		
M75B2	14	75	1,050	0.0180	16.47	14.63		10.92		7.63		
M102B2	3	102	306	0.0180	16.47	14.63		10.92		7.63		
M66B2	3	66	198	0.0180	16.47	14.63		10.92		7.63		
M87B2	3	87	261	0.0180	16.47	14.63		10.92		7.63		
M89C3	1	89	89	0.0170	16.77	15.90		13.91		10.56		
M53C1	2	53	106	0.0197	17.29	15.56		11.22		7.76		
M73C2	6	73	438	0.0170	16.77	15.90		13.91		10.56		
M88C1	2	88	176	0.0197	17.29	15.56		11.22		7.76		
M112C3	1	112	112	0.0170	16.77	15.90		13.91		10.56		
Mansion Block (Social Rent)												
SR126A2	1	126	126	0.0180	17.51	16.25		13.19		9.69		
SR104A2	1	104	104	0.0180	17.51	16.25		13.19		9.69		
SR52B1	1	52	52	0.0198	15.72	13.22		8.82		5.68		
SR75B2	1	75	75	0.0180	16.47	14.63		10.92		7.63		
Total	66		4,781	0.0188	16.58	14.86	-10.38%	11.29	-31.94%	7.97	-51.94%	
Taller Blocks												
TM74A2	1	74	74.00	0.0170	19.07	15.87		12.40		8.59		
TM73A2	1	73	73.00	0.0170	19.07	15.87		12.40		8.59		
TM89A2	1	89	89.00	0.0170	15.79	14.01		10.66		7.50		
TM76A2	1	76	76.00	0.0170	15.79	14.01		10.66		7.50		
TM74B2	6	74	444.00	0.0170	17.43	14.30		10.83		7.35		
TM73B2	4	73	292.00	0.0170	17.43	14.30		10.83		7.35		
TM89B2	4	89	356.00	0.0170	14.25	12.77		9.48		6.63		
TM76B2	4	76	304.00	0.0170	14.25	12.77		9.48		6.63		
TM59B2	2	55	110.00	0.0170	17.43	14.30		10.83		7.35		
TM78B2	2	78	156.00	0.0170	14.25	12.77		9.48		6.63		
TM85B2	2	85	170.00	0.0170	14.25	12.77		9.48		6.63		
TM53C2	2	53	106.00	0.0170	17.43	14.30		10.83		7.35		
TM52C2	2	52	104.00	0.0170	17.43	14.30		10.83		7.35		
TM86C2	2	86	172.00	0.0170	14.25	12.77		9.48		6.63		
TM85C2	2	85	170.00	0.0170	14.25	12.77		9.48		6.63		
TM53C2	1	53	53.00	0.0197	22.96	20.86		16.51		11.92		
TM52C2	1	52	52.00	0.0197	22.96	20.86		16.51		11.92		
TM86C2	1	86	86.00	0.0172	18.78	17.67		13.51		9.75		
TM85C2	1	85	85.00	0.0172	18.78	17.67		13.51		9.75		
Total	40		2,972	0.0171	16.27	14.10	-13.33%	10.65	-34.53%	7.40	-54.53%	
Whole Residential Development												
Total			7,753	0.0188								
Weighted average					15.77	13.97	-11.38%	10.58	-32.88%	7.43	-52.88%	

Figure 6.C.2 Summary of the SAP Results and PV calculation for the Residential Units of Liddell Road

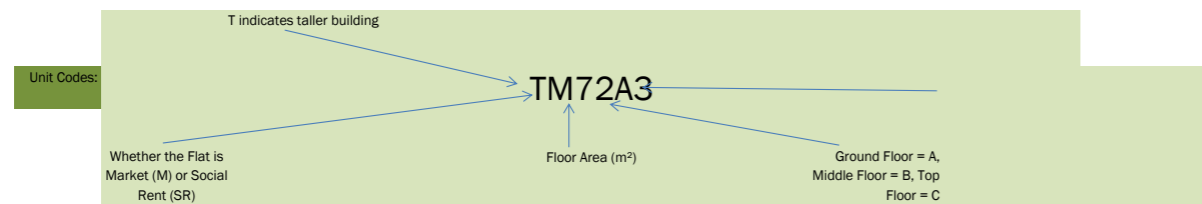


Figure 6.C.1 Explanation of the unit codes used in the calculations

6.0 Appendix D. IES Preliminary Calculations

The school and workspace buildings have been modelled according to the latest version of the National Calculation Methodology (NCM) for assessing the energy performance of non-domestic buildings required by the Building Regulations Part L 2013, as described in the Approved Document L2A (ADL2A) 2013 ("Conservation of fuel and power in new buildings other than dwellings").

As the RIBA Stage 4 detailed design of the buildings/units has not been undertaken yet, reasonable assumptions about the performance of the building envelopes and services have been carried out. In particular, the building envelopes have been considered complying with the Building Regulations standards, as described in the ADL2A 2013 and going beyond the U-values and design air permeability set out in the ADL2A 2013.

Modelling has been carried out using the latest version (ver. 7.0.0.0) of the IES Virtual Environment (VE) 2014 software tool. This software package includes the VE Compliance application, which follows the NCM and is approved by the Department for Communities and Local Government (DCLG).

The assumptions made for the building envelopes and services and the results of the initial calculations are summarised in the tables in the next pages showing the estimated improvement of the BER over the TER for each building/unit according to Part L 2013. These assumptions as well as the achievements in terms of energy consumption and CO₂ emissions are subject to changes and further refinement as the design develops.

School Building

PHASE 1

Description	After Passive & Active Design Measures "Lean Measures"	After Renewable Technology Measures "Green Measures"
	Specification	
Building Envelope		
Wall U-value	0.15 (W/m ² .K)	
Window and rooflights U-value	1.2 - 1.4 W/(m ² .K)	
Glazing g-value	0.4 - 0.6	
Glass light transmittance	0.6	
Ground floor U-value	0.15 (W/m ² .K)	
Roof U-value	0.15 (W/m ² .K)	
Design air permeability	3 m ³ /(h.m ²) @ 50Pa	
Building Services		
Ventilation		
System 1 Classrooms and Resource Rooms		
Mechanical ventilation with heat recovery		
Heat recovery efficiency	75%	
SFP	1.0 W/l/s	
Duct leakage	Class B	
AHU leakage	Class L2	
Pump type	Constant speed	Variable speed
System 2 Toilets, Showers, Kitchen and BOH Spaces		
Mechanical extract only		
SFP	0.3 - 0.4 W/l/s	
Duct leakage	Class B	
AHU leakage	Class L2	
Pump type	Constant Speed	
System 3 Office Spaces		
Natural ventilation		
Space Heating		
System 1 Classrooms, Resource Rooms, Toilets, Offices and Kitchen		
Heating system	Gas Boilers	
Heat source	LTHW Boiler	
Heating controls	Central Time Control, Optimum start/stop, Local Time Control, Local temperature control, Weather compensation control	
Heating fuel	Natural Gas	
Heating efficiency	95%	
Cooling		
Cooling system	No Cooling	
DHW Heating		
DHW system	Central heating using water linked to main heating system	
Lighting		
System 1 Classrooms and Resource Rooms		
Lighting efficacy	60 lumens per circuit watt	
Daylight control	Yes	
Constant illuminance control	Yes	
Occupancy sensing	Man On, Auto Off	
System 2 Toilets, Offices, Kitchen and BOH Spaces		
Lighting efficacy	60 lumens per circuit watt	
Daylight control	No	
Constant illuminance control	No	
Occupancy sensing	Man On, Auto Off	
Renewable Energy		
Photovoltaic panels	No	Yes
Total kWp capacity	-	18

Part L 2013 Results Summary - Primary School				
Area (m ²)	2636.19			
	Notional	Lean	Clean	Green
Energy Consumption (kWh/m²/year)				
Heating	31.44	9.67	9.67	9.67
Cooling	8.38	8.45	8.45	8.45
Auxillary	0.00	0.00	0.00	0.00
Lighting	4.44	5.42	5.42	5.42
DHW	10.16	11.13	11.13	11.13
Renewables	0.00	0.00	0.00	-5.22
Total (Excl. Small Power)	54.42	34.67	34.67	29.45
Small Power	25.48	25.48	25.48	25.48
Total (Inc. Small Power)	79.90	60.15	60.15	54.93
CO₂ emissions (kgCO₂/m²/year)				
Heating	6.79	2.09	2.09	2.09
Cooling	1.81	1.83	1.83	1.83
Auxillary	0.00	0.00	0.00	0.00
Lighting	2.25	2.74	2.74	2.74
DHW	5.14	5.63	5.63	5.63
Renewables	0.00	0.00	0.00	-2.71
Total (Excl. Small Power)	15.99	12.29	12.29	9.58
Small Power	12.89	12.89	12.89	12.89
Total (Inc. Small Power)	28.88	25.18	25.18	22.47
Carbon Savings (Excl. Small Power)				
Carbon Saving over TER (%)	-	23.1%	23.1%	40.1%
Carbon Savings (%)	-		0.0%	22.1%

{SCHOOL ASSUMPTIONS, SUBJECT TO FURTHER REFINEMENT.}

PHASE 2

Description	After Passive & Active Design Measures "Lean Measures"	After Energy Efficient Technology Measures "Clean Measures"	After Renewable Technology Measures "Green Measures"
	Specification		
Building Envelope			
Wall U-value		0.15 (W/m ² .K)	
Window and rooflights U-value		1.2 - 1.4 W/(m ² .K)	
Glazing g-value		0.4 - 0.6	
Glass light transmittance		0.6	
Ground floor U-value		0.15 (W/m ² .K)	
Roof U-value		0.15 (W/m ² .K)	
Design air permeability		3 m ³ /(h.m ²) @ 50Pa	
Building Services			
Ventilation			
System 1 Classrooms and Resource Rooms			
Mechanical ventilation with heat recovery			
Heat recovery efficiency		75%	
SFP		1.0 W/l/s	
Duct leakage		Class B	
AHU leakage		Class L2	
Pump type	Constant speed	Variable Speed	Variable speed
System 2 Toilets, Showers, Kitchen and BOH Spaces			
Mechanical extract only			
SFP		0.3 - 0.4 W/l/s	
Duct leakage		Class B	
AHU leakage		Class L2	
Pump type		Constant Speed	
System 3 Office Spaces			
Natural ventilation			
Space Heating			
System 1 Classrooms, Resource Rooms, Toilets, Offices and Kitchen			
Heating system		Gas Boilers	
Heat source		LTHW Boiler	
Heating controls	Central Time Control, Optimum start/stop, Local Time Control, Local temperature control, Weather compensation control		
Heating fuel		Natural Gas	
Heating efficiency		95%	
Cooling			
Cooling system		No Cooling	
DHW Heating			
System 1 Classrooms, Resource Rooms, Toilets, Offices and Kitchen			
Heating system	Same as space heating system 1	Community heating from CHP	
Heat source	n/a	Community CHP	
Efficiency	n/a	85.5%	
Heating fuel	n/a	Natural Gas	
Heat to power ratio	n/a	1.68	
Heating fraction	n/a	100%	
Lighting			
System 1 Classrooms and Resource Rooms			
Lighting efficacy		60 lumens per circuit watt	
Light output ratio		0.5	
Daylight control		Yes	
Constant illuminance control		Yes	
Occupancy sensing		Man On, Auto Off	
System 2 Toilets, Offices, Kitchen and BOH Spaces			
Lighting efficacy		60 lumens per circuit watt	
Daylight control		No	
Constant illuminance control		No	
Occupancy sensing		Man On, Auto Off	
Renewable Energy			
Photovoltaic panels	No	No	Yes
Total kWp capacity	-	-	18

Part L 2013 Results Summary - Primary School				
Area (m ²)	2636.19			
	Notional	Lean	Clean	Green
Energy Consumption (kWh/m²/year)				
Heating	31.44	9.67	9.67	9.67
Cooling	8.38	8.45	14.20	14.20
Auxillary	0.00	0.00	0.00	0.00
Lighting	4.44	5.42	5.42	5.42
DHW	10.16	11.13	11.13	11.13
Renewables	0.00	0.00	-4.65	-9.44
Total (Excl. Small Power)	54.42	34.67	35.77	30.98
Small Power	25.48	25.48	25.48	25.48
Total (Inc. Small Power)	79.90	60.15	61.25	56.46
CO₂ emissions (kgCO₂/m²/year)				
Heating	6.79	2.09	2.09	2.09
Cooling	1.81	1.83	3.07	3.07
Auxillary	0.00	0.00	0.00	0.00
Lighting	2.25	2.74	2.74	2.74
DHW	5.14	5.63	5.63	5.63
Renewables	0.00	0.00	-2.41	-4.90
Total (Excl. Small Power)	15.99	12.29	11.12	8.63
Small Power	12.89	12.89	12.89	12.89
Total (Inc. Small Power)	28.88	25.18	24.01	21.52
Carbon Savings (Excl. Small Power)				
Carbon Saving over TER (%)	-	23.1%	30.5%	46.0%
Carbon Savings (%)	-	-	9.5%	22.4%

[SCHOOL ASSUMPTIONS, SUBJECT TO FURTHER REFINEMENT.]

Workspace Block

Description	After Passive & Active Design Measures "Lean Measures"	After Energy Efficient Technology Measures "Clean Measures"	After Renewable Technology Measures "Green Measures"
	Specification		
Building Envelope			
Wall U-value		0.15 (W/m ² .K)	
Window U-value		1.4 W/(m ² .K)	
Glazing g-value		0.4 - 0.6	
Glass light transmittance		0.6	
Ground floor U-value		0.20 (W/m ² .K)	
Roof U-value		0.20 (W/m ² .K)	
Design air permeability		3 m ³ /(h.m ²) @ 50Pa	
Building Services			
Ventilation			
System 1 Office and Lobby Spaces			
Centralised mechanical ventilation with heat recovery			
Heat recovery efficiency		75%	
SFP		1.8 W/l/s	
Duct leakage		Class B	
AHU leakage		Class L2	
Pump type	Constant speed	Variable Speed	Variable speed
System 2 Toilets, Showers, Kitchen and BOH Spaces			
Mechanical extract only			
SFP		0.3 - 0.4 W/l/s	
Duct leakage		Class B	
AHU leakage		Class L2	
Pump type		Constant Speed	
Space Heating			
System 1 Office, Lobbies, Toilets and Kitchen			
Heating system	Gas Boilers	Energy centre	ASHP
Heat source	Gas - LTHW Boilers	Gas - Heat from CHP	Electricity - Heat from ASHP
Heating controls	Central Time Control, Optimum start/stop, Local Time Control, Local temperature control, Weather compensation control		
Heating fuel		Natural Gas	
Heating efficiency	95%	85%	320%
Cooling			
System 1 Office and Lobby Spaces			
Cooling system	FCUs	FCUs	FCUs
Cooling type	Air Cooled	Air Cooled	Air Cooled
EER	3.2	3.2	3.2
System Seasonal EER	3.2	3.2	3.2
DHW Heating			
System 1 Office, Lobbies, Toilets, Kitchens and BOH			
Heating system	Same as space heating system 1	Community heating from CHP	
Heat source	n/a	Community CHP	
Efficiency	n/a	85.5%	
Heating fuel	n/a	Natural Gas	
Heat to power ratio	n/a	1.68	
Heating fraction	n/a	100%	
Lighting			
System 1 Office and Lobby Spaces			
Lighting efficacy	60 lumens per circuit watt		
Daylight control	Yes		
Constant illuminance control	Yes		
Occupancy sensing	Man On, Auto Off		
System 2 Toilets, Showers, Kitchen and BOH Spaces			
Lighting efficacy	60 lumens per circuit watt		
Daylight control	No		
Constant illuminance control	No		
Occupancy sensing	Man On, Auto Off		
Renewable Energy			
Photovoltaic panels	No	No	Yes
Total kWp capacity	-	-	23.25

Part L 2013 Results Summary - Office				
Area (m ²)	4039.00			
	Notional	Lean	Clean	Green
Energy Consumption (kWh/m²/year)				
Heating	12.30	6.31	7.64	2.16
Cooling	2.71	2.86	4.59	4.61
Auxillary	4.19	7.38	7.38	7.38
Lighting	15.64	9.68	9.68	9.68
DHW	20.15	15.09	15.09	15.09
Renewables	0.00	0.00	-2.62	-6.35
Total (Excl. Small Power)	54.99	41.32	41.76	32.57
Small Power	46.15	46.15	46.15	46.15
Total (Inc. Small Power)	101.14	87.47	87.91	78.72
CO₂ emissions (kgCO₂/m²/year)				
Heating	2.66	1.36	1.65	0.97
Cooling	0.59	0.62	0.99	1.00
Auxillary	2.12	3.74	3.74	3.74
Lighting	7.91	4.90	4.90	4.90
DHW	10.19	7.64	7.64	7.64
Renewables	0.00	0.00	-1.39	-3.36
Total (Excl. Small Power)	23.47	18.26	17.53	14.89
Small Power	23.25	23.25	23.25	23.25
Total (Inc. Small Power)	46.72	41.51	40.78	38.14
Carbon Savings (Excl. Small Power)				
Carbon Saving over TER (%)	-	22.2%	25.3%	36.6%
Carbon Savings (%)	-	-	4.0%	15.1%

{WORKSPACE ASSUMPTIONS, SUBJECT TO FURTHER REFINEMENT.}