6.0 Appendix A. CSH Pre-assessments

Mansion Block



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
Posicode:	1
No. of Dwelling Typos:	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	Camden Council
Contact Name:	Kate Cornwall-Jones
Job Title:	Clients
Email:	
Tel:	
Address:	
City/Town:	
County:	
Postcode:	
Architect Details	
Company:	Maccreanor 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:	

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			ATELIE
able Homes eport (Report Reference:)	CATOMIC CONTRACTOR	Code for Sustainable Homes Pre-Assessment Report (Report Reference:)	
Address	Social Unit	Development Summary & Ratings	
1 01 Liddell Road	No	Dwelling ID Dwelling Type Description O1Liddell Road	Level Score 4 69.91
		Deviations from Standard	
		No deviations from standard	

ode for Sustainable Homes	Code for Sustainable Homes Pre-Assessment Report (Report Reference:)	CERPMAE REMARK
Score Sheet for Liddell Road - Block C (Mansion) ENE WAT MAT SUR WAS POL HEA MAN ECO Summary Dwelling ID 1 2 3 4 5 6 7 8 9 1 2 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 1 1 1 3 2 2 1 1 1 3 2 1	Summary Score Sheet Dwelling Type: 01 Liddell Road Dwelling ID: 1	
	Score Assessment Credit Credits Credits W Score Available Sub Total Available % Energy & CO2 Emissions	Veighting Points Factor Score
	ENE 1Dwelling Emission Rate410173154.84ENE 2Fabric Energy Efficiency399ENE 3Energy Display Device222ENE 4Drying Space111ENE 5Energy Labelled White Goods222ENE 6External Lighting222ENE 7Low or Zero Carbon Energy Technologies121ENE 8Cycle Storage121ENE 9Home Office111	36.4 19.96
	WaterWAT 1 Internal Water Use455683.33WAT 2 External Water Use111MaterialsMAT 1 Environmental Impact of Materials615102441.67	9 7.5 7.2 3
	MAT 2 Responsible Sourcing (Basic Building Elements) 2 6 MAT 3 Responsible Sourcing (Finishing Elements) 2 3 Surface Water Run-off 5 3 4 SUR 1 Management of Surface Water Run-Off from Site 1 2 3 4 SUR 2 Flood Risk 2 2 2 2 2	2.2 1.65
	WasteWAS 1 Household Waste Storage and Recycling Facilities4488100WAS 2 Construction Site Waste Management3334410WAS 3 Composting111111Pollution	6.4 6.4
	POL 1Global Warming Potential of Insulants112450POL 2NOx Emissions133450Health & Wellbeing	2.8 1.4
	HEA 1 Daylighting0381266.67HEA 2 Sound Insulation34HEA 3 Private Space11HEA 4 Lifetime Homes44	14 9.33
	Management3399100MAN 1 Home User Guide3399100MAN 2 Considerate Constructors Scheme222MAN 3 Construction Site Impacts222MAN 4 Security222	10 10
	ECODGYECO 1 Ecological Value of Site118988.89ECO 2 Ecological Enhancement111ECO 3 Protection of Ecological Features111ECO 4 Change of Ecological Value of Site344ECO 5 Building Footprint224	12 10.67
	Level Total Points Score Achieved: 4	d: 69.91

or Sustainable Homes essment Report (Report Reference:)	SIROMAED	Code for Sustainable Homes Pre-Assessment Report (Report Reference:)	
e for ENE 1 (Dwelling Emission Rate)		Evidence for WAT 1 (Internal Water Use)	
ment above Part L Building Regulations 2010. 4 credits allocated		Internal water use less than or equal to 90 litres per person per day	
ptions for ENE 1		Assumptions for WAT 1	
e for ENE 2 (Fabric Energy Efficiency)		Evidence for WAT 2 (External Water Use)	
ce allocated		Compliant communal rainwater collection system	
ions for ENE 2		Assumptions for WAT 2	
a for ENE 3 (Energy Display Device)		Evidence for MAT 1 (Environmental Impact of Materials)	
specified display device showing current primary heating fuel consumption data.		manuatory requirements met. At least 5 elements rated A+ to D, 6 creats scored	
specified display device showing current consumption data.		Assumptions for MAT 1	
		Evidence for MAT 2 (Responsible Sourcing (Basic Building Elements))	
e for ENE 4 (Drying Space)		2 credits scored	
internal drying space		Assumptions for MAT 2	
ions for ENE 4		Evidence for MAT 3 (Responsible Sourcing (Finishing Elements))	
a for ENE 5 (Energy Labelled White Goods)		2 credits scored	
I fridge & freezers or fridge/freezer		Assumptions for MAT 3	
washing machine and dishwasher, AND EITHER a tumble dryer (a washer-dryer would be an acceptable alternative to a st dryer) with a B rating or where a tumble dryer is not provided, the EU Energy Efficiency Labelling Scheme Information will	tandalone Il be provided.		
		Evidence for SUR 1 (Management of Surface Water Run-Off from Site)	
otions for ENE 5		Run-off from all hard surfaces shall receive an appropriate level of treatment (as per the SudS	; manual) to minimise risk of pollution.
ce for ENE 6 (External Lighting)		Accumultions for CID 1	
t space lighting		Assumptions for Sok 1	
it security lighting		Fuidence for SIID 2 (Flood Dick)	
tions for ENE 6		Low flood risk - zone 1	
		Assumptions for SUR 2	
e for ENE 7 (Low or Zero Carbon Energy Technologies)			
		Evidence for WAS 1 (Household Waste Storage and Recycling Facilities)	
cions for ENE 7		Mandatory requirements met: Adequate storage of household waste with accessibility in line w After collection sorting with appropriate internal storage of recyclable materials	vith checklist WAS 1. Local authority colle
e for ENE 8 (Cycle Storage)			
droom dwelling - Storage for 1 cycle per dwelling ms or more - Storage for 2 cycles per dwelling		Assumptions for WAS 1	
otions for ENE 8		Evidence for WAS 2 (Construction Site Waste Management)	
e for ENE 9 (Home Office)		Compliant site waste management plan containing benchmarks, procedures and commitments from landfill in line with the criteria and with Checklist WAS 2a, 2b & 2c	; for the minimizing and diverting 80% wa
t home office			
tions for ENE 9		Assumptions for WAS 2	
]		

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Code for Sustainable Homes	CERTIFIED	Code for Sustainable Homes	STROMA
Pre-Assessment Report (Report Reference:)	timine 🕐	Pre-Assessment Report (Report Reference:)	South or a
Evidence for WAS 3 (Composting)		Evidence for MAN 3 (Construction Site Impacts)	
Individual compositing facility/facilities		Monitor, report and set targets for CO2 production or energy use from site activities	
Local authority green waste collection scheme		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	
Assumptions for WAS 3		80% of timer reclaimed, re-used or responsibly sourced	
Evidence for POL 1 (Global Warming Potential of Insulants)		Assumptions for MAN 3	
All insulants have a GWP of less than 5			
Assumptions for POL 1		Evidence for MAN 4 (Security) Secured by design section 1.8.2 compliant	
Evidence for POL 2 (NOx Emissions)		Assumptions for MAN 4	
NUX emissions less than or equal to 100mg/kWh			
Assumptions for POL 2		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 qualified ecologist	ecological value by a suitably
Evidence for HEA 1 (Daylighting)			
Credit(s) not sought		Assumptions for ECO 1	
Assumptions for HEA 1		Fuidence for FCO 2 (Ecological Enhancement)	
		Key recommendations and 30% additional recommendations by a suitably qualified ecologist	
Evidence for HEA 2 (Sound Insulation)		Accumptions for ECO 2	
Accredited Part E sound testing has been undertaken		Assumptions for ECO 2	
Airborne 5dB higher, impact 5dB lower			
Assumptions for HEA 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 HEA 3 (Private Space)			
Assumptions for HEA 3		Evidence for ECO 4 (Change of Ecological Value of Site)	
		Minor enhancement: Greater than 3 and less than or equal to 9	
Fuidance for UFA A (1:Entire Harron)		Assumptions for ECO 4	
All criteria of Lifetime Homes in line with all 16 principals of Lifetime Homes			
Assumptions for HEA 4		Evidence for ECO 5 (Building Footprint) Weight ratio of housing and flats (2.3:1 and 4:1)	
Evidence for MAN 1 (Home User Guide)		Assumptions for ECO 5	
All criteria inline with checklist MAN 1 Part 1 - Operational Issues 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			

APPENDIX

or Sustainable Homes	
essment 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.

0056

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:

atelier ten

Ajay Shah Atelier Ten 24 November 2014

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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Code f

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ATELIER TEN



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.

APPENDIX



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

Energy & CO2 Emissions

ENE 1:Dwelling Emission Rate



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

Surface Water Run-off

SUR 1:Management of Surface Water Run-off Available Credits:2

Aim: To design surface water drainage for hous delay the discharge of rainfall run-off to waterco techniques. This will protect receiving waters fro and other environmental damage in watercourse

SUR 2: Flood Risk Available Credits:2

Aim: To promote housing development in low flo

the impact of flooding on houses built in areas v

Waste

WAS 1:Storage of non-recyclable waste and rec Available Credits:4

Aim: To promote resource efficiency via the effe

construction site waste. WAS 2:Construction Site Waste Management

Available Credits:3

Aim: To promote resource efficiency via the effe construction site waste.

WAS 3:Composting

Available Credits:1 Aim: To promote the provision of compost facilit

send to landfill.

Pollution

POL 1:Global Warming Potential of Insulants Available Credits:1 Aim: To promote the reduction of emissions of a manufacture, installation, use and disposal of for

POL 2:NOx Emissions Available Credits:3 Aim: To promote the reduction of nitrogen oxide

Health & Wellbeing

HEA 1:Daylighting Available Credits:3 Aim: To promote good daylighting and thereby energy to light the home. HEA 2:Sound Insulation Available Credits:4 Aim: To promote the provision of improved sour

complaints from neighbours. HEA 3: Private Space

Available Credits:1

Aim: To improve quality of life by promoting the at least partially private.

HEA 4:Lifetime Homes Available Credits:4

Aim: To encourage the construction of homes the the changing needs of current and future occup

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.

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from developments	
sing developments which avoid, reduce and burses and public sewers using SuDS om pollution and minimise the risk of flooding ies.	
ood risk areas, or to take measures to reduce with a medium or high risk of flooding.	
cyclable household waste	
ective and appropriate management of	
ective and appropriate management of	
ties to reduce the amount of household waste	
gases with high GWP associated with the barned thermal and acoustic insulating materials.	
e (NOX) emissions into the atmosphere.	
improve quality of life and reduce the need for	
nd insulation to reduce the likelihood of noise	
provision of an inclusive outdoor space which is	
hat are accessible and easily adaptable to meet ants.	

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

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.

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

Disclaimer

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APPENDIX





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



atelier ten

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



ou o	
Site Details	Liddoll Dood Block B (Towar)
Sile Name: Site Degistration:	LIDUEII ROAD - BIOCK B (TOWER)
Site Address:	Liddell Boad
one maarcos.	
City/Town:	London
County:	Greater London
Postcode:	
No. of Dwellings:	1
Planning Authority	Camden Council
Funding Body:	
5 5	
Assessor Details	Atalian Tan
Lompany:	Atelier I en
ASSESSOF INAME:	Ajay Shan
Jei i Number: Address:	
iuui USS.	
City/Town:	
County:	
Postcode:	
l el: Empili	
_111all.	
Client Details	
Company:	Camden Council
Contact Name:	Kate Cornwall-Jones
Job Title:	Clients
Email:	
Address:	
City/Town:	
County:	
POSICODE:	
Architect Details	
Company:	Maccreanor Lavington
Contact Name:	Ann Griffin
Job Title:	Architect
Email:	
I El:	
AUU/ESS:	
City/Town:	
County:	
Postcode:	
Developer Details	
Company:	Camden Council
Contact Name:	Kate Cornwall-Jones
Job Title:	Developer
Email:	
Tel:	
Address:	
City/Town:	
County:	

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'	

PROPOSED KINGSGATE SCHOOL I	EXPANSION AND REDEVEL	OPMENT OF LIDDELL ROAD -	SUSTAINABILITY & ENERGY S	FATEMENT

Dwelling ID Plot No.	Address	Social Unit
		INU

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	0.5.4	
evelopment Sur	nmary & Ratings	
Welling ID	Dwelling Type	Description
		01Liddell Road

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	IODS INDING
Level	Score
4	69.91

Summa	ry Score Sheet	
Dwelling	Type: 01 Liddell Road	
Dwalling	ID: 1	
Dweiling	ID: 1	
		Cred
Fnerav	& CO2 Emissions	Scor
ENE 1	Dwelling Emission Rate	4
ENE 2	Fabric Energy Efficiency	3
ENE 3	Energy Display Device	2
ENE 4	Drying Space	1
ENE 5	Energy Labelled White Goods	2
ENE 6	External Lighting	2
ENE 7	Low or Zero Carbon Energy Technologies	1
ENE 8	Cycle Storage	1
ENE 9	Home Office	1
Water		
WAT 1	Internal Water Use	4
WAT 2	External Water Use	1
Materia	als	
MAT 1	Environmental Impact of Materials	6
MAT 2	Responsible Sourcing (Basic Building Elements)	2
МАТ З	Responsible Sourcing (Finishing Elements)	2
Surface	e Water Run-off	
SUR 1 SUR 2	Management of Surface Water Run-Off from Site Flood Risk	1 2
Waste		
WAS 1	Household Waste Storage and Recycling Facilities	4
WAS 2	Construction Site Waste Management	3
WAS 3	Composting	1
Pollutio	on	
POL 1	Global Warming Potential of Insulants	1
POL 2	NOx Emissions	1
Health	& Wellbeing	
HEA 1	Daylighting	0
HEA 2	Sound Insulation	3
HEA 3	Private Space	1
HEA 4	Lifetime Homes	4
Manage	ement	
MAN 1	Home User Guide	3
MAN 2	Considerate Constructors Scheme	2
MAN 3	Construction Site Impacts	2
MAN 4	Security	2
Ecology	y	
ECO 1	Ecological Value of Site	1
ECO 2	Ecological Enhancement	1
ECO 3	Protection of Ecological Features	1
ECO 4	Change of Ecological Value of Site	3
ECO 5	Building Footprint	2

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 Score
 Sheet
 for
 Liddell
 Road
 Block
 B
 Tower

 Image: Score
 Image:

Code for Sustainable Homes

Pre-Assessment Report (Report Reference:)

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					and an
Credits Available	Score As	sessment Credits Available	%	Weighting Factor	Points Score
10 9 2 1 2 2 2 2	17	31	54.84	36.4	19.96
2 1 5	5	6	83.33	9	7.5
1		-		-	
15 6 3	10	24	41.67	7.2	3
2 2	3	4	75	2.2	1.65
4 3 1	8	8	100	6.4	6.4
1 3	2	4	50	2.8	1.4
3 4 1 4	8	12	66.67	14	9.33
3 2 2 2	9	9	100	10	10
1 1 1 4	8	9	88.89	12	10.67
vel ved: 4	Тс	otal Poin	ts Sco	red: 69.9	1

for Sustainable Homes ssessment Report (Report Reference:)	CERTIFI
vidence for ENE 1 (Dwelling Emission Rate) nprovement above Part L Building Regulations 2010. 4 credits allocated	
ssumptions for ENE 1	
vidence for ENE 2 (Fabric Energy Efficiency)	
lid Terrace credits allocated	
ssumptions for ENE 2	
vidence for ENE 3 (Energy Display Device) orrectly specified display device showing current primary heating fuel consumption data.	
orrectly specified display device showing current consumption data.	
ssumptions for ENE 3	
vidence for ENE 4 (Drying Space)	
ompliant internal drying space	
ssumptions for ENE 4	
vidence for ENE 5 (Energy Labelled White Goods)	,
+ rated fridge & freezers or fridge/freezer rated washing machine and dishwasher. AND EITHER a tumble dryer (a washer-dryer would be an acceptable alternati	ve to a standalone
mble dryer) with a B rating or where a tumble dryer is not provided, the EU Energy Efficiency Labelling Scheme Inform	ation will be provided.
ssumptions for ENE 5	
vidence for ENE 6 (External Lighting)	
ompliant space lighting ompliant security lighting	
ssumptions for FNF 6	
vidence for ENE 7 (Low or Zero Carbon Energy Technologies)	
ontribution of low or zero carbon technologies greater than or equal to 10%	
ssumptions for ENE 7	
vidence for ENE 8 (Cycle Storage)	
or 3 bedroom dwelling - Storage for 1 cycle per dwelling bedrooms or more - Storage for 2 cycles per dwelling	
vidence for ENE 9 (Home Office)	
ompliant home office	
ssumptions 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 sc 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 Si Special Case: No change/decrease in impermeable area. Credits not available Run-off from all hard surfaces shall receive an appropriate level of treatment 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 Facili Mandatory requirements met: Adequate storage of household waste with acc After collection sorting with appropriate internal storage of recyclable materia

Assumptions for WAS 1

Evidence for WAS 2 (Construction Site Waste Management)

Compliant site waste management plan containing benchmarks, procedures from landfill in line with the criteria and with Checklist WAS 2a, 2b & 2c

Assumptions for WAS 2

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APPENDIX

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ored	
11	
ta)	
(as par the SudS manual) to minimize risk of pollution	
(as per the Suds manual) to minimise risk of politition.	
ies)	
essibility in line with checklist WAS 1. Local authority col Is	lection:
and commitments for the minimizing and diverting 80% v	waste

tainable Homes nt Report (Report Reference:)	CERTIFIED	Code for Sustainable Homes Pre-Assessment Report (Report Reference:)	
or WAS 3 (Composting)		Evidence for MAN 3 (Construction Site Impacts)	
npositing facility/facilities v green waste collection scheme		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 practice policies in respects to air (duct) pollution from site activities	
is for WAS 3		80% of timer reclaimed, re-used or responsibly sourced	
r DOI 1 (Clabal Warming Detential of Inculante)		Assumptions for MAN 3	
have a GWP of less than 5			
is for POL 1		Evidence for MAN 4 (Security)	
		Secured by design section 1 & 2 compliant	
or POL 2 (NOx Emissions)		Assumptions for MAN 4	
ns less than or equal to 100mg/kWh			
ns for POL 2		Evidence for ECO 1 (Ecological Value of Site)	s low ecological value by a si
		qualified ecologist	
or HEA 1 (Daylighting)		Assumptions for ECO 1	
Sought			
IS FOR HEA 1		Evidence for ECO 2 (Ecological Enhancement)	
or HEA 2 (Sound Insulation)		Key recommendations and 30% additional recommendations by a suitably qualified ecologist	
art E sound testing has been undertaken		Assumptions for ECO 2	
3 higher, impact 5dB lower			
ns for HEA 2		Land of low ecological value as identified under ECO 1	
		Assumptions for ECO 3	
rivate space provided.			
ns for HEA 3		Evidence for ECO 4 (Change of Ecological Value of Site)	
		Minor enhancement: Greater than 3 and less than or equal to 9	
or HEA 4 (Lifetime Homes)		Assumptions for ECO 4	
f Lifetime Homes in line with all 16 principals of Lifetime Homes			
ns for HEA 4		Evidence for ECO 5 (Building Footprint) Weight ratio of housing and flats (2.3:1 and 4:1)	
		Assumptions for ECO 5	
or MAN 1 (Home User Guide) line with checklist MAN 1 Part 1 - Operational Issues will be met			<u></u>
line with checklist MAN 1 Part 2 - Site and Surroundings will be met			
ns for MAN 1			
or MAN 2 (Considerate Constructors Scheme) constructors scheme: Significantly beyond best practise, a score of between 35 - 50, and at least a score of	of 7 in each section*		
ns for MAN 2			

50

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ATELIER TEN

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

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:

atelier ten

Ajay Shah Atelier Ten 24 November 2014

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

Core 1.0.0.222

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APPENDIX



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.

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Aim: To limit CO2 emissions arising from the operation of a dwelling and its services in line with

Code for Sustainable Homes	
Pre-Assessment Report (Report Reference	Δ.

Energy & CO2 Emissions ENE 1:Dwelling Emission Rate

Available Credits:10

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

Surface Water Run-off

SUR 1:Management of Surface Water Run-off from Available Credits:2

Aim: To design surface water drainage for housing d delay the discharge of rainfall run-off to watercourses techniques. This will protect receiving waters from po and other environmental damage in watercourses.

SUR 2:Flood Risk

Available Credits:2

Aim: To promote housing development in low flood r the impact of flooding on houses built in areas with a

Waste

WAS 1:Storage of non-recyclable waste and recycla Available Credits:4 Aim:To promote resource efficiency via the effective construction site waste. WAS 2:Construction Site Waste Management

Available Credits:3

Aim: To promote resource efficiency via the effective construction site waste.

WAS 3:Composting

Available Credits:1

Aim: To promote the provision of compost facilities t send to landfill.

Pollution

POL 1:Global Warming Potential of Insulants Available Credits:1 Aim:To promote the reduction of emissions of gase:

Aim: To promote the reduction of emissions of gases manufacture, installation, use and disposal of foame

POL 2:NOx Emissions Available Credits:3 Aim:To promote the reduction of nitrogen oxide (NC

Health & Wellbeing

 HEA 1:Daylighting

 Available Credits:3

 Aim: To promote good daylighting and thereby improenergy to light the home.

 HEA 2:Sound Insulation

 Available Credits:4

 Aim: To promote the provision of improved sound inscomplaints from neighbours.

 HEA 3:Private Space

 Available Credits:1

 Aim: To improve quality of life by promoting the proviat least partially private.

 HEA 4:Lifetime Homes

 Available Credits:4

 Aim: To encourage the construction of homes that an

Aim: To encourage the construction of homes that a the changing needs of current and future occupants.

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. I 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 Gredits:2
Am. To minit GOZ emissions and running costs ansing from the operation of a dwelling and its services by encouraging the specification of low and zero earbon energy courses to supply a
services by encouraging the specification of low and zero carbon energy sources to supply a significant proportion of energy demand
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.
Natar
Water
Available Credits:5
Aim: To reduce the consumption of potable water in the home from all sources. including
porehole 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
or external water uses.
Matoriale
MAT 1 Environmental Impact of Materials
Available Credits: 15
Aim: To specify materials with lower environmental impacts over their life-cvcle.
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.

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APPENDIX

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developments	
developments which avoid, reduce and s and public sewers using SuDS ollution and minimise the risk of flooding	
risk areas, or to take measures to reduce a medium or high risk of flooding.	
able nousenoid waste e and appropriate management of	
e and appropriate management of	
o reduce the amount of household waste	
s with high GWP associated with the ed thermal and acoustic insulating materials.	
DX) emissions into the atmosphere.	
ove quality of life and reduce the need for	
sulation to reduce the likelihood of noise	
vision of an inclusive outdoor space which is	
re accessible and easily adaptable to meet	
,	

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

Management

MAN 1:Home User Guide

home efficiently and make the best use of local facilities.

discourage the development of ecologically valuable sites.

the clearing of the site and the completion of construction works.

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

Aim: To enhance the ecological value of a site. **ECO 3:**Protection of ecological features

material use is optimised across the development.

ECO 4: Change in ecological value of site

MAN 2: Considerate Constructors Scheme

MAN 3:Construction Site Impacts

ECO 1:Ecological value of site Available Credits:1

ECO 2: Ecological enhancement

Available Credits:1

Available Credits:1

Available Credits:4

ECO 5:Building footprint Available Credits:2

Available Credits:3

Available Credits:3

of construction sites.

Available Credits:2

MAN 4:Security Available Credits:2

Ecology



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

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Aim: To promote the provision of guidance enabling occupants to understand and operate their

Aim: To promote the environmentally and socially considerate, and accountable management

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

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.

Aim: To promote the protection of existing ecological features from substantial damage during

Aim: To promote the most efficient use of a building's footprint by ensuring that land and

Aim: To promote development on land that already has a limited value to wildlife, and

ATELIER TEN

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ent produced by the licensed Code ny loss or damage sustained as a n.	
associated documentation are owned by the t.	

6.0 Appendix B. BREEAM Pre-Assessments

Primary School

BREEAM

REEAM 2011 New Construction Assessment Report: Ra	ting & Key Pe	rformance Inc	dicators	
is assessment and indicative BREEAM rating is not a formal certified BREE implified pre-formal BREEAM assessment and unverified commitments gi	AM assessment or ven at an early sta	rating and must no ge in the design pr	ot be communicat ocess.	ed as such. The score presented is indicative of a buildings potential performance and is based on
verall Indicative Building Performance				
Building name	3708 - Liddell Roa	ad - Primary School	1	
Indicative building score (%)	/5.38%			
Indicative BREEAM rating	Pre-Assessment	result indicates pot	ential for BREEAN	I Excellent rating
Indicative minimum standards level achieved	Pre-Assessment	result indicates the	minimum standa	rds for Outstanding level
mmary of Indicative Building Performance by Environmental	Section and Ass	sessment Issue	Indicative	
	Indicative no.	Indicative no.	contribution to	Materia destada harda de la sed
anagement MapO1 Sustainable Brocurement	credits available	credits Achieved	score	Minimum standards level achieved
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%	
alth & Wellbeing				
Hea01 Visual Comfort	3.0	1.0	1.00%	Pre-Assessment result indicates the minimum standards for Outstanding level
Hea02 Indoor Air Quality	4.0	3.0	3.00%	N/A
Hea03 Thermal Comfort	2.0	2.0	2.00%	N/A
Hea04 Water Quality	1.0	1.0	1.00%	Pre-Assessment result indicates the minimum standards for Outstanding level
Hea05 Acoustic Performance	3.0	3.0	3.00%	N/A
Heauto Safety and Security	2.0	12.0	12 00%	IN/A
rotar moleative environmental section performance	15.0	12.0	12.00%	
= 57 Ene01 Reduction of CO2 Emissions	15.0	10.0	7.31%	Pre-Assessment result indicates the minimum standards for Outstanding lovel
Energy Monitoring	1.0	10	0.73%	Pre-Assessment result indicates the minimum standards for Outstanding level
Enco2 Encry Monitoring Enco3 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%	
insport			2.000	
Tra01 Public Transport Accessibility	3.0	3.0	3.43%	N/A
Trau2 Proximity to Amenities	2.0	1.0	1 14%	N/A
Tra04 Maximum Car Parking Capacity	2.0 N/A	N/A	1.1476 N/Δ	N/A
Tra05 Travel Plan	1.0	1.0	1.14%	N/A
Total indicative environmental section performance	7.0	5.0	5.71%	
ater				
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%	
terials				
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
Total indicative environmental section performance	13.0	11.00	10.58%	0/0
rotar moleative environmental section performance	15.0	11.00	10.30%	
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%	
d 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%	
lution				
Pol01 Impact of Refrigerants	3.0	1.0	0.77%	N/A
Pol02 NOx Emissions	3.0	1.0	0.77%	N/A
PolO3 Surface Water Run off	5.0	4.0	3.08%	N/A
POID4 Reduction of Night Time Light Pollution	1.0	1.0	0.77%	N/A N/A
Total indicative environmental section performance	13.0	8.00	6.15%	
novation	13.0	0.00	0.13/6	
Inn01-Innovation	10.0	0.0	0.00%	N/A
Total indicative environmental section performance	10.0	0.00	0.00%	
Total maledave environmental section performance	2010	0.00	0.0070	

BREEAM 2011 Pre-Assessment Estimator

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BREEAM 2011 New Construction Pre-Assessment Estimator	
This assessment and indicative BREEAM rating is not a formal certified BREEAM assessment or rating and n performance and is based on a simplified pre-formal BREEAM assessment and unverified commitments giv	nust not be communicated as such. The score presented is indicative of a buildings potential ren 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

		an01 Sustainable Procurement
M credits available 8 Available contribution to overall score 4.36%	8	No. of BREEAM credits available
on credits available 1 Minimum standards applicable Yes	1	No. of BREEAM innovation credits available
Indicative credits		
Response Credits available achieved		e-Assessment question/criteria
e defined in accordance with BREEAM? Yes 1 1	ice with BREEAM?	Will roles, responsibilities and a training schedule be defined in accordan
ormance targets contractually agreed? Yes 1 1	tractually agreed?	Will a BREEAM AP be appointed at RIBA stage A/B and performance targets con
eport progress during RIBA stage B-E ? Yes 1 1	g RIBA stage B-E ?	Will a BREEAM AP be appointed to monitor and report progress durin
report progress during RIBA stage F-L? Yes 1 1	ng RIBA stage F-L?	Willa BREEAM AP be appointed to monitor and report progress duri
and any defects uncovered remedied? Yes 1 1	overed remedied?	Will a thermographic survey be conducted and any defects unco
ing of building services be carried out? Yes 1 1	es be carried out?	Will compliant commissioning of building servic
ing of building services be carried out? Yes 1 1	es be carried out?	Will compliant seasonal commissioning of building servic
care support provided for 12 months? Yes 1 1	ed for 12 months?	Will water/energy consumption data be recorded and aftercare support provide
eported for 3 years post construction? No 1 0	lost construction?	Will water/energy consumption be recorded/reported for 3 years p
M credits achieved 8	8	Total indicative BREEAM credits achieved
erall building score 4.36%	4.36%	Total indicative contribution to overall building score
on credits achieved 0	0	Total indicative BREEAM innovation credits achieved
m standard(s) level Pre-Assessment result indicates the minimum standards for Outstanding level	Pre-Assessment re	Indicative minimum standard(s) level
		omments/notes:
M credits achieved 8 erall building score 4.36% on credits achieved 0 m standard(s) level Pre-Assessment result indicates the minimum standards for Outstanding leve	8 4.36% 0 Pre-Assessment re:	Total indicative BREEAM credits achieved Total indicative contribution to overall building score Total indicative BREEAM innovation credits achieved Indicative minimum standard(s) level

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 pr	incipal contractor?	Considerate Constructors Scheme	
For the required scheme, what will be the target performance level set for the	he 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 re	sult indicates the minimum standards for Outstanding lev	el
Comments Instas			
comments/notes.			

BREEAM 2011 New Construction Pre-Assessment Estimator

BREEAM 2011 Pre-Assessment Estimator

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BREEAM 2011 Pre-Assessment Estimator

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BREEAM®

Will the transport of construction materials and waste to/ Will timber be sourced in accordance with the Govern Will/does the principal contractor operate a compliant En Will the principal contractor adopt best practice pollut

BREEAM

-Assessment Estimator				BREEAM 2011 New Construction Pre-Assessment Estimator	
				Man04 Stakeholder Participation	
No. of BREEAM credits available	5	Available contribution to overall score	2.73%	No. of BREEAM credits available 4 Available contribution to overall score	2.18%
No. of BREEAM innovation credits available	D	Minimum standards applicable	No	No. of BREEAM innovation credits available 0 Minimum standards applicable	Yes
	Response	Indicative credits Credits available achieved		Indicative credit Pre-Assessment question/criteria Response Credits available achieved	
Will site energy consumption be metered/mo Will site water consumption be metered/mo of construction materials and waste to/from site be measured/mo sourced in accordance with the Government's Timber Procuremer cipal contractor operate a compliant Environmental Management contractor adopt best practice pollution prevention policies & pro Total indicative BREEAM credits achieved Total indicative contribution to overall building score	onitored? Yes onitored? Yes onitored? Yes the Policy? Yes cedures? Yes 5 3%	1 1 1 1 1 1 1 1 1 1 1 1		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 2.18% 1 1 Total indicative BREEAM credits achieved N/A N/A 0.18%]
Total indicative BREEAM innovation credits achieved N Indicative minimum standard(s) level N	/A /A			Comments/notes:	vei

BREEAM 2011 Pre-Assessment Estimator

BREEAM 2011 New Construction Pre-Assessment Estimator

Man03 Construction Site Impacts

Pre-Assessment question/criteria

Comments/notes:

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Section 2 - Page 3 BREEAM 2011 Pre-Assessment Estimator

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BREEAM

HEALTH & WELLBEING	Section Weighting	15.00%		Indicative	Section Score	12.
Hea01 Visual Comfort						
	No. of BREEAM credits available	3		Available contributio	n to overall score	3.0
	No. of BREEAM innovation credits available	1		Minimum sta	ndards applicable	Y
					Indicative credits	
Pre-Assessment question/criteria			Response	Credits available	achieved	
	Will all fluorescent lamps be fitted with high fre	quency ballasts?	Yes	N/A	N/A	
Will all relev	ant building areas be designed to achieve the appropriate d	aylight factor(s)?	No	1		
Wi	Il the design provide adequate glare control and view out fo	or building users?	No	1	0	
Will internal/external lighting b	be specified in accordance with the relevant CIBSE Guides/B	ritish Standards?	Yes	1	1	
Will all relev	ant building areas be designed to achieve exemplary level d	aylight factor(s)?	No	1	0	
	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	re-Assessment res	ult indicates the	minimum standards f	or Outstanding leve	1
Commonts Inotos:						

Dia

	No. of BREEAM credits available	3		Available contributio	n to overall score	1.64%
	No. of BREEAM innovation credits available	0		Minimum sta	ndards applicable	No
-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 to 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				
		.,				

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No. of BREEAM innovation credits available 0

Will an air quality plan be produced? Will the building be designed to minimise sources of internal air pollution? Will the relevant products be specified to meet the VOC testing and emission levels required? Will formaldehyde and total VOC levels be measured post construction? Will the building be designed to, or have the potential to provide, natural ventilation?

Total indicative BREEAM credits achieved

 Total indicative contribution to overall building score
 3.00%

 Total indicative BREEAM innovation credits achieved
 N/A

 Indicative minimum standard(s) level
 N/A

No. of BREEAM credits available 4 Available contribution to overall score 4.00%

Response

Yes

Yes

Yes

Yes

3

BREEAM

No

Minimum standards applicable

Credits available

1

1

1

1

Indicative credits

achieved

0

1

1

1

dards applicable ndicative credits achieved 1 1
ndicative credits achieved 1 1
1
1

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Hea02 Indoor Air Quality

Comments/notes

Pre-Assessment question/criteria

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BREEAM 2011 New Construction Pre-Assessment Estimator					BREEAM 2011 New Construction Pre-Assessment Estimator	
Hea04 Water Quality					Hea05 Acoustic Performance	
No. of BREEAM credits available No. of BREEAM innovation credits available C	1 D	Available contributi Minimum st	ion to overall score andards applicable	1.00% Yes	No. of BREEAM credits available No. of BREEAM innovation credits available	3 0
Pre-Assessment question/criteria Will all water systems be designed to comply with the relevant HSE Approved Code of Practice and Gr Where humidification is to be provided, will a failsafe humidification system be sy Will a wholesome supply of accessible, clean and fresh drinking water be supplied for buildir	Response uidance? Yes pecified? N/A ng users? Yes	Credits available	Indicative credits achieved		Pre-Assessment question/criteria Will/has a suitably qualified acoustician be appointed to provide appropriate de Will the building meet the relevant acoustic performance standards and testing rec	sign a quirer
Total indicative BREEAM credits achieved 1 Total indicative contribution to overall building score 1.0 Total indicative BREEAM innovation credits achieved N/	1 0% /A	a minimum standarddar	for Outstanding Jova		Total indicative contribution to overall building score Total indicative BREEAM innovation credits achieved Indicative minimum standard(s) level	3.00% N/A N/A
Indicative minimum standard(s) level Pre-Asses	ssment result indicates th	e minimum standards	for Outstanding leve		Comments/notes:	

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	ļ A	Available contribution	on to overall score	3.00%
		Minimum sta	indards applicable	No
			Indicative credits	
	Response	Credits available	achieved	
advice?	Yes			
ments?	Yes	3	3	
%				
4				
\				

Available contribution to overall score

Credits available

1

Response

Yes

Yes

Minimum standards applicable

Indicative credits

achieved

1

ENERGY Section Weighting 19.00% Indicative Section Score Ene01 Reduction of CO2 Emissions Ene01 Reduction of CO2 Emissions Indicative Section Score No. of BREEAM credits available 15 Available contribution to overall score No. of BREEAM innovation credits available 5 Minimum standards applicable 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
Ene01 Reduction of CO2 Emissions No. of BREEAM credits available 15 Available contribution to overall score No. of BREEAM innovation credits available 5 Minimum standards applicable 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
Ene01 Reduction of CO2 Emissions No. of BREEAM credits available 15 No. of BREEAM credits available 15 No. of BREEAM innovation credits available 5 Minimum standards applicable 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
No. of BREEAM credits available 15 Available contribution to overall score No. of BREEAM innovation credits available 5 Minimum standards applicable 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
No. of BREEAM credits available 15 Available contribution to overall score No. of BREEAM innovation credits available 5 Minimum standards applicable 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
No. of BREEAW innovation credits available 3 Winninger 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
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

Total indicative contribution to overall building score 2.00% Total indicative BREEAM innovation credits achieved

Where exte

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Comments/notes

Hea06 Safety and Security

Pre-Assessment question/criteria

No. of BREEAM credits available 2

igned for pedestrians and cyclists

2

N/A

N/A

No. of BREEAM innovation credits available 0

ted and sec

Total indicative BREEAM credits achieved

Indicative minimum standard(s) level

al site areas are present, will safe access be des

nt he ar

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APPENDIX

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	No. of BREEAM credits available	1		Available contributio Minimum sta	n to overall score
Pre-Assessment question/criteria			Response	Credits available	Indicative credits achieved
Will a BMS or sub Will a BMS or	 -meters be specified to monitor energy use from major building sub-meters be specified to monitor energy use by tenant/buildir 	services systems? ng function areas?	Yes	1 N/A	1 N/A
	Total indicative BREEAM credits achieved	1			
	Total indicative contribution to overall building score	0.73%			
	I otal indicative BREEAW Innovation credits achieved Indicative minimum standard(s) level	N/A Pre-Assessment res	sult indicates the	minimum standards f	or Outstanding leve
					Ū

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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

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No. of BREEAM innovation credits available 0

Total indicative BREEAM credits achieved 1
Total indicative contribution to overall building score 0.73%

Indicative minimum standard(s) level N/A

Total indicative BREEAM innovation credits achieved

teria Response Credits available achieved achieved Will external light fittings and controls be specified in accordance with the BREEAM criteria? Yes 1 1

N/A

No. of BREEAM credits available 1 Available contribution to overall score 0.73%

. .

BREEAM

Minimum standards applicable No

Indicative credits

No. of BREEAM innovation credits available	1		Minimum sta	andards applicable
Pre-Assessment question/criteria		Response	Credits available	Indicative credits achieved
Compliant LZC feasibility stu	dy to be undertaken	Yes	2	1
What will be the intended scope of t	he feasibility study?	Operational stage	carbon savings/em	lissions
Target percentage net reduction in operational s	tage CO2 emissions	0.00%	2	0
Please confirm the intended energy source of the Low and/or z	ero carbon system?	Combination of c	ne or more LZC ener	rgy sources
Evaporative coolin	ng, 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 re	sult indicates the r	ninimum standards	for Outstanding leve
Comments/notes:				
Total indicative BREEAM innovation credits achieved Indicative minimum standard(s) level	0 Pre-Assessment re	sult indicates the r	ninimum standards ⁴	for Outstanding

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Ene03 External Lighting

Pre-Assessment guestion/criteria

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BREEAM 2011 New Construction Pre-Assessment Estimator						BREEAM 2011 New Construction Pre-Assessment Estimator	
Ene05 Energy Efficient Cold Storage				Assessment Issue	Not Applicable	Ene06 Energy Efficient Transportation Systems	
No. of BREEAM credits available	N/A	Ava	vailable contributio	n to overall score	N/A	No. of BREEAM credits available	2
No. of BREEAM innovation credits available	N/A		Minimum star	ndards applicable	N/A	No. of BREEAM innovation credits available	0
Pre-Assessment question/criteria		Response	Credits available	Indicative credits achieved		Pre-Assessment question/criteria	
						Will a transportation system analysis be carried out to determine the optimum number and Will three energy-efficient features offering the greatest potential energy savings be part o	d size of f the sys
						Total indicative BREEAM credits achieved	2
Total indicative BREEAM credits achieved	N/A					Total indicative contribution to overall building score	1.46%
Total indicative Contribution to overall building score	N/A N/A					Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A					Indicative minimum standard(s) level	N/A
						Comments/notes:	
Comments/notes:							

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ssment Estimator				BREEAM 2011 New Construction Pre-Assessment Estimator	
		Assessment Issue	Not Applicable	Ene08 Energy Efficient Equipment	
No. of BREEAM credits available	N/A	Available contribution to overall score	N/A	No. of BREEAM credits available 2 Available contribution to overall score 1.44	6%
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A	No. of BREEAM innovation credits available 0 Minimum standards applicable N	0
		Response Credits available achieved		Pre-Assessment question/criteria Significant majority Which of the following will be present and likely to be a/the major contributor to 'unregulated' energy use: Present contributor Small power/plug in equipment? Yes Yes Yes Swimming pool? No Image: Significant contributor Communal laundry? No Image: Significant contributor Data centre? No Image: Significant contributor Healthcare? No Image: Significant contributor Kitchen and catering facilities? Yes No Indicative Indicative credits achieved	
				Will the significant majority contributor(s) to 'unregulated' energy use (above) meet the BREEAM criteria? Yes 2 2 Option	on 2
Total indicative BREEAM credits achieved indicative contribution to overall building score indicative BREEAM innovation credits achieved Indicative minimum standard(s) level	N/A N/A N/A N/A			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	

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Comments/notes:

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Ene07 Energy Efficient Laboratory Systems

Pre-Assessment question/criteria

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Total indicative contribution to overall building score

Total indicative BREEAM innovation credits achieved

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Assessment Issue Not Applicable

Minimum standards applicable N/A

No. of BREEAM credits available N/A Available contribution to overall score N/A

N/A

Response Credits available achieved

REEAM 2011 New Construction	Pre-Assessment Estimator			
RANSPORT	Section Weighting	8.00%	Indicative Section Score	5.71%
ra01 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
re-Assessment question/criteria		Der school Cohoo	I d I CLAR Karne	
What is the buildin	g type category (for the purpose of TraU1 issue assessment)?	Pre-school, School	l and/or Sixth form	
What is the de	gree of public transport provision for the building's location:	Excellent provision	1 of public transport, i.e. large urban/metropolitan city centi	/e
	Building S mailative Accessionity muex	10	i	
	Does the building have a dedicated bus service.		1	
	Total indicative BREEAM credits achieved	3	1	
	Total indicative contribution to overall building score	3.43%		
	Total indicative BREEAM innovation credits achieved	N/A		
	Indicative minimum standard(s) level	N/A		
omments/notes:				

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Ene09 Drying Space

Comments/notes:

Pre-Assessment guestion/criteria

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No. of BREEAM innovation credits available N/A

Total indicative BREEAM credits achieved N/A

Total indicative BREEAM innovation credits achieved N/A Indicative minimum standard(s) level N/A

Total indicative contribution to overall building score

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	()	_				

BREEAM 2011 New Construct	tion Pre-Assessment Estimator							BREEAM 2011 New Construction Pre-Assessment Estimator	
Tra02 Proximity to Amenities								Tra03 Cyclist facilities	
	No. of BREEAM credits available No. of BREEAM innovation credits available	1		Available contributi Minimum st	ion to overall score andards applicable	1.14% No		No. of BREEAM credits available No. of BREFAM innovation credits available	2
Pre-Assessment question/criteria	Will the building by to show accuration of and according to another		Response	Credits available	Indicative credits achieved			What is the building type category (for the purpose of Tra03 iss	sue asses
	Total indicative BREEAM credits achieved Total indicative BREEAM credits achieved	0 0.00%	NU					Pre-Assessment question/criteria Will cycle storage spa	ces be pr
	Total indicative BREEAM innovation credits achieved Indicative minimum standard(s) level	N/A N/A						Will cyclist facilit Total indicative BREEAM credits achieved	ies be pr 1
Comments/notes:							T	Total indicative contribution to overall building score Total indicative BREEAM innovation credits achieved Indicative minimum standard(s) level	1.14 N/. N/.
								Comments/notes:	

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			e de la constations.		2.20%
NO. OF BREEAM credits available	2	· · · · ·	Available contributio	on to overall score	2.29%
No. of BREEAM innovation credits available	0		Minimum sta	indards applicable	No
is the building type category (for the purpose of Tra03 is	sue assessment)?	Primary School			
0 /					
				Indicative credits	
		Response	Credits available	achieved	
Will cycle storage spa	aces be provided?	Yes	2	1	
Will cyclist facili	ties be provided?	No	2	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				

Assessment Issue Not Applicable

Minimum standards applicable N/A

Indicative credits achieved

Credits available

No. of BREEAM credits available N/A Available contribution to overall score N/A

Response

	No. of BREEAM credits available	1		Available contribution	on to overall score
	No. of BREEAM innovation credits available	0		Minimum sta	andards applicable
					Indicative credits
Pre-Assessment question/criteria			Response	Credits available	achieved
Will	a transport plan based on site specific travel survey/assessme	nt 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:					

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Buildin

Will the building meet BREEAM's maximum parking capacity criteria for this building type/Accessibility Index?

Tra04 Maximum Car Parking Capacity

Pre-Assessment question/criteria

Comments/notes

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No. of BREEAM innovation credits available N/A

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

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

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No. of BREEAM cree No. of BREEAM innovation cree Pre-Assessment question/criteria Will there be a water meter on the mains Will metering/monitoring equipment be specified on the water supply to an Will all specified wate If the site/building has an existing BMS connection, will all pulsed me Total indicative BREEAM cree Total indicative BREEAM cree Total indicative BREEAM innovation cree Indicative minimum stan	No. of BREEAM credits ava No. of BREEAM innovation credits ava Pre-Assessment question/criteria Will there be a water meter on the mains water Will metering/monitoring equipment be specified on the water supply to any relev Will all specified water meter If the site/building has an existing BMS connection, will all pulsed meters b Total indicative BREEAM credits ach Total indicative BREEAM innovation credits ach Total indicative BREEAM innovation credits ach Indicative minimum standard(s Comments/notes:	Wat02 Water Monitoring	
No. of BREEAM innovation crec Pre-Assessment question/criteria Will there be a water meter on the mains Will metering/monitoring equipment be specified on the water supply to an Will all specified wate If the site/building has an existing BMS connection, will all pulsed mu Total indicative BREEAM crec Total indicative contribution to overall bi Total indicative BREEAM innovation crec Indicative minimum stan	No. of BREEAM innovation credits ava Pre-Assessment question/criteria Will there be a water meter on the mains water Will metering/monitoring equipment be specified on the water supply to any relev Will all specified water meter If the site/building has an existing BMS connection, will all pulsed meters b Total indicative BREEAM credits ach Total indicative BREEAM innovation credits ach Total indicative BREEAM innovation credits ach Indicative minimum standard(s) Comments/notes:		No. of BREEAM credits ava
Pre-Assessment question/criteria Will there be a water meter on the mains Will metering/monitoring equipment be specified on the water supply to on Will all specified wat If the site/building has an existing BMS connection, will all pulsed me Total indicative BREEAM cree Total indicative BREEAM innovation cree Indicative minimum stan	Pre-Assessment question/criteria Will there be a water meter on the mains water Will metering/monitoring equipment be specified on the water supply to any relev Will all specified water met If the site/building has an existing BMS connection, will all pulsed meters b Total indicative BREEAM credits ach Total indicative contribution to overall building Total indicative BREEAM innovation credits ach Indicative minimum standard(s Comments/notes:		No. of BREEAM innovation credits available
Will there be a water meter on the mains Will metering/monitoring equipment be specified on the water supply to an Will all specified wate If the site/building has an existing BMS connection, will all pulsed m Total indicative BREEAM cree Total indicative BREEAM cree Total indicative BREEAM innovation cree Indicative minimum stan	Will there be a water meter on the mains water Will metering/monitoring equipment be specified on the water supply to any relev Will all specified water mete If the site/building has an existing BMS connection, will all pulsed meters b Total indicative BREEAM credits ach Total indicative BREEAM credits ach Total indicative BREEAM innovation credits ach Indicative minimum standard(s) Comments/notes:	Pre-Assessment question/criteria	
Will metering/monitoring equipment be specified on the water supply to an Will all specified wate If the site/building has an existing BMS connection, will all pulsed m Total indicative BREEAM cree Total indicative Contribution to overall bu Total indicative BREEAM innovation cree Indicative minimum stan	Will metering/monitoring equipment be specified on the water supply to any relev Will all specified water mete If the site/building has an existing BMS connection, will all pulsed meters b Total indicative BREEAM credits ach Total indicative contribution to overall building Total indicative BREEAM innovation credits ach Indicative minimum standard(s) Comments/notes:	The Assessment question/enterna	Will there be a water meter on the mains water
Will all specified wate If the site/building has an existing BMS connection, will all pulsed m Total indicative BREEAM cree Total indicative contribution to overall bi Total indicative BREEAM innovation cree Indicative minimum stan	Will all specified water mete If the site/building has an existing BMS connection, will all pulsed meters b Total indicative BREEAM credits ach Total indicative contribution to overall building Total indicative BREEAM innovation credits ach Indicative minimum standard(s) Comments/notes:	Will metering/monite	pring equipment be specified on the water supply to any releva
Total indicative BREEAM cree Total indicative contribution to overall b Total indicative BREEAM innovation crec Indicative minimum stan	Total indicative BREEAM credits ach Total indicative contribution to overall building Total indicative BREEAM innovation credits ach Indicative minimum standard(s Comments/notes:	If the site/bu	will all specified water mete Iding has an existing BMS connection, will all pulsed meters be
Total indicative BREEAM crec Total indicative contribution to overall b Total indicative BREEAM innovation crec Indicative minimum stan	Total indicative BREEAM credits ach Total indicative contribution to overall building Total indicative BREEAM innovation credits ach Indicative minimum standard(s Comments/notes:		
Total indicative contribution to overall bu Total indicative BREEAM innovation cred Indicative minimum stan	Total indicative contribution to overall building Total indicative BREEAM innovation credits ach Indicative minimum standard(s) Comments/notes:		Total indicative BREEAM credits achieved
Total indicative BREEAM innovation cred Indicative minimum stan	Total indicative BREEAM innovation credits ach Indicative minimum standard(s) Comments/notes:		Total indicative contribution to overall building
Indicative minimum stan	Indicative minimum standard(s)		Total indicative BREEAM innovation credits achi
	Comments/notes:		Indicative minimum standard(s)
Comments (notes:	connencyrotes.	Comments Inotes:	
comments/notes.		comments/notes.	

Add01 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 Yes Total indicative BREEAM credits achieved 3 3 Yes Yes Total indicative BREEAM credits achieved 3 3 Yes Yes Indicative BREEAM innovation credits achieved 0 0 Yes Yes	VATER	Section Weighting	6.00%	Indicative Section Score	4.67%
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 Yes Total indicative BREEAM credits achieved 3 3 Yes Total indicative BREEAM credits achieved 3 Yes Yes Indicative BREEAM innovation credits achieved 3 Yes Yes Total indicative BREEAM innovation credits achieved 3 Yes Yes Indicative BREEAM innovation credits achieved 0 Yes Yes Indicative minimum standard(s) level Yes Yes Yes	/at01 Water Consumption				
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 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		No. of BREEAM credits available	5	Available contribution to overall score	3.33%
Select the level that corresponds closely to the target or likely water component specification? Level 3 - Three credits 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		No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes
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	Select th	e level that corresponds closely to the target or likely water compor	nent specification?	2 Level 3 - Three credits	
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		Total indicative BREEAM credits achieved	3		
Total indicative BREEAM innovation credits achieved 0 Indicative minimum standard(s) level Pre-Assessment result indicates the minimum standards for Outstanding level		Total indicative contribution to overall building score	2.00%		
Indicative minimum standard(s) level Pre-Assessment result indicates the minimum standards for Outstanding level		Total indicative BREEAM innovation credits achieved	0		
		Indicative minimum standard(s) level	Pre-Assessment r	result indicates the minimum standards for Outstanding level	

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Wat03 Water Leak Detection and Prevention						_	Wat04 Water Efficient Equipment							
No. of BREEAM credits available	2		Available contribution	to overall score	1.33%			No. of BREEA	M credits available	1		Available contributio	on to overall score	0.67%
NO. OF BREEAW INNOVATION CREDITS AVAILABLE	U		Minimum stan	ndicative credits	NO			NO. OF BREEAM INNOVATION	on credits available	NO		Minimum sta	Indicative credits	NO
Pre-Assessment question/criteria		Response	Credits available	achieved			Pre-Assessment question/criteria				Response	Credits available	achieved	
Will a mains water leak detection system be installed on the building's ma Will flow control devices be installed in each sani	ains water supply? tary area/facility?	Yes Yes	1 1	1			Will w	water efficient irrigation methods and/or vehicle v	wash systems (if rele	vant) be installed?	Yes	1	1	
								Total indicative BREEA	M credits achieved	1				
Total indicative BREEAM credits achieved	2							Total indicative contribution to ov	erall building score	0.67%				
Total indicative Contribution to overall building score	1.33% N/A							Total indicative BREEAM innovation	on credits achieved	N/A				
Indicative DicEcki information creats achieved	N/A							Indicative minimu	m standard(s) level	N/A				
	,,,						Comments/notes:							
Comments/notes:						-								

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BREEAM 2011 New Construction Pre-As	sessment Estimator				BREEAM 2011 New Construction Pre-Assessment Estimator
MATERIALS	Section Weighting	12.50%	Indicative Section Score	10.58%	Mat02 Hard Landscaping and Boundary Protection
		12.50%		10.50%	No. of BREEAM credits available
Mat01 Life Cycle Impacts					No. of BREEAM innovation credits available
	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
Pre-Assessment question/criteria					Will ≥80% of all external hard landscaping and boundary protection achieve a Green Gu
How do you	u wish to assess the number of BREEAM credits achiev	ed for this issue? De	fine a target number of BREEAM credits to be achieved		Total indicative BREEAM credits achieved
Se	lect the number of BREEAM credits being targeted fo	r the Mat01 issue	5 BREEAM Innovation credits		Total indicative contribution to overall building score
					Total indicative BREEAM innovation credits achieved
					Indicative minimum standard(s) level
					Comments/notes:
					commency notes.
	Total indicative BREEAM credits achieved	5			
Tc	otal indicative contribution to overall building score	4.81%			
Тс	otal indicative BREEAM innovation credits achieved	0			
	Indicative minimum standard(s) level	N/A			
Comments/notes:					

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1	A	0.96%		
0		No		
			Indicative credits	
	Response	Credits available	achieved	
de A or A+ rating?	Yes	1	1	
1				
0.96%				
N/A				
N/A				

	BREEAM 2011 New Construction Pre-Assess	sment Estimator				BREEAM 2011 New Construction F	Pre-Assessment Estimator				
	Mat03 Responsible Sourcing					Mat04 Insulation					
		No. of BREEAM credits available No. of BREEAM innovation credits available	3 Available contr 1 Minimu	ribution to overall score 2. Im standards applicable	.88% Yes		No. of BREEAM credits available No. of BREEAM innovation credits available	2 0		Available contribution to overall score Minimum standards applicable	1.92% No
Total indicative BREAM credits achieved 2 Total indicative contribution to overall building score 19.2% Total indicative contribution to overall building score 0 Indicative minimum standard(s) level 0 Comments/notes:	Pre-Assessment question/criteria How do you wisi Select ti Will all timber used on the project be source	h to assess the number of BREEAM credits achieved fo the number of BREEAM credits being targeted for the I ced in accordance with the UK Govt's Timber Procuren	or this issue? Define a target number of BREE Mat03 issue 2 BRE ment Policy? Yes	AM credits EAM Innovation credits	0	Pre-Assessment question/criteria	Is the building targeting an insulating in Will the building's insulating materials be res Total indicative BREEAM credits achieved Total indicative contribution to overall building score Total indicative BREEAM innovation credits achieved Indicative minimum standard(s) level	idex of 2 or more? ponsibly sourced? 2 1.92% N/A N/A	Response Yes Yes	Indicative credits Credits available achieved 1 1 1 1 1]
Total indicative BREEAM credits achieved 1 Total indicative contribution to overall building score 1 Total indicative BREEAM innovation credits achieved 0 Indicative BREEAM innovation credits achieved Pre-Assessment result indicates the minimum standards for Outstanding level											
	Total in Total i Comments/notes:	Total indicative BREEAM credits achieved ndicative contribution to overall building score indicative BREEAM innovation credits achieved Indicative minimum standard(s) level Pre-As	2 1.92% 0 sssessment result indicates the minimum stand	lards for Outstanding level							
REFEAN 2011 Pre-Assessment Extingion Control C						RBFFAM 2011 Pre-Accessment Ectimator	@ BRE Global I td 26/1	1/2014			Section 2 - Page

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Available contribution to overall score 0.96%

Response Credits available achieved

Minimum standards applicable N/A

Indicative credits

TRASTE.	Section Weighting	7.50%	Indicative Section Score	
Wst01 Construction Waste Managemer	nt			
	No. of BREEAM credits available	4	Available contribution to overall score	
	No. of BREEAM innovation credits available	1	Minimum standards applicable	
Pre-Assessment question/criteria	How do you wish to procee the sumbar of DDFFAM and its satis	und for this issue?	Define a target number of RREEAM credits to be achieved	
	How do you wish to assess the number of BREEAW credits achiev	red for this issue?	Denne a target number of BREEAW credits to be achieved	_
	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 re	esult indicates the minimum standards for Outstanding level	l .
Comments/notes:				

Mat05 Designing for Robustness

Pre-Assessment question/criteria

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omments/notes:		

1

1

N/A

....

No. of BREEAM credits available

Total indicative BREEAM credits achieved

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

No. of BREEAM innovation credits available 0

Will suitable durability/protection measures be specified and installed to vulnerable areas of the building? Yes 1 1

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BREEAM 2011 New Construction Pre-Assessment Estimator	BREEAM 2011 New Construction Pre-Assessment Estimator
Wst02 Recycled Aggregates	Wst03 Operational Waste
No. of BREEAM credits available 1 Available contribution to overall score 1.25% No. of BREEAM innovation credits available 1 Minimum standards applicable No	No. of BREEAM credits available No. of BREEAM innovation credits available
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	Pre-Assessment question/criteria Will appropriate facilities for the storage of operational recyclable waste volumes be If relevant, will a static waste compactor(s) or baler(s) be specified If relevant, will a vessel for composting suitable organic waste be specified Will there be a school recycling policy and operational procedures provided when the building is
	Total indicative BREEAM credits achieved Total indicative contribution to overall building score Total indicative BREEAM innovation credits achieved Indicative minimum standard(s) level Pre-Ass
	Comments/notes:
Total indicative BREEAM credits achieved 0 Total indicative contribution to overall building score 0.00% Total indicative BREEAM innovation credits achieved 0	
Comments/notes:	

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AND USE & ECOLOGY	Section Weighting	10.00%		Indicativ	e Section Score	9.00
E01 Site Selection						
	No. of BREEAM credits available	2		Available contributio	on to overall score	2.00
	No. of BREEAM innovation credits available	0		Minimum sta	andards applicable	No
re-Assessment question/criteria			Response	Credits available	Indicative credits achieved	
Will at least 75% of the proposed developm	ent's footprint be located on previously been	developed land?	Yes	1	1	
	Is the site deemed to be significantl	y contaminated?	Yes	1	1	
	Total indicative BREEAM credits achieved	2				
Total indic	ative contribution to overall building score	2.00%				
Total indic	ative BREEAM innovation credits achieved	N/A				
	Indicative minimum standard(s) level	N/A				
`omments/notes						
.omments/notes:						

	No. of BREEAM credits available	N/A		Available contributi	on to overall score	N/A
	No. of BREEAM innovation credits available	N/A		Minimum st	andards applicable	N/A
Pre-Assessment question/criteria			Response	Credits available	Indicative credits achieved	
	Total indicative BRFFAM 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				

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LE02 Ecological Value of Site and Protection of Ecological Features				LE03 Mitigating Ecological Impact
No. of BREEAM credits available	1	Available contribution to overall score	1.00%	No. of BREEAM credits available 2 Available contribution to overall score 2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No	No. of BREEAM innovation credits available 0 Minimum standards applicable Yes
Pre-Assessment question/criteria Can the land within the construction zone be defined as 'land of low e Will all features of ecological value surrounding the construction zone/site bounda Total indicative BREEAM credits achieved Total indicative contribution to overall building score Total indicative BREEAM innovation credits achieved Indicative minimum standard(s) level	ecological value'? ry be protected? 1 1.00% N/A N/A	Response Credits available Indicative credits Yes 1 1 Yes 1 1		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 BREEAM innovation credits achieved Pre-Assessment result indicates the minimum standards for Outstanding level
Comments/notes:				

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BREEAM 2011 New Construction Pre-Assessment Estimator						BREEAN	A 2011 New Constructio
LE04 Enhancing Site Ecology						LE05 Long	Term Impact on Biodiversity
No. of BREEAM credits available	3		Available contribution t	to overall score	3.00%		
No. of BREEAM innovation credits available	0		Minimum stand	ards applicable	No		
Pre-Assessment question/criteria Will a suitably qualified ecologist be appointed to report on enhancing and protec Will the suitably qualified ecologists general recommendations What is the targeted/intended improvement in ecological value as a result of enha Total indicative BREEAM credits achieved	cting site ecology? be implemented? ncement actions? 2	Response Yes Yes Small improvem	In Credits available 3 ent in plant species richt	dicative credits achieved 2 ness		Pre-Assess	ment question/criteria Will a Biodiversity Cha Will the contractor pr Will the contractor record a
I otal indicative contribution to overall building score Total indicative RREEAM innovation credits achieved	2.00%						Will a part
Indicative initiation of the second seco	N/A						
Comments/notes:						1	
						Comment:	s/notes:

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Total indicative BREEAM credits achieved

Indicative minimum standard(s) level

Total indicative BREEAM innovation credits achieved

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Pre-Assessment question/criteria Please enter the target/maximum NO ₄ emission level Please enter the target/maximum NO ₄ emission level for Total indicative BREEAM credits ach Total indicative contribution to overall building Total indicative BREEAM innovation credits ach Indicative minimum standard(s		No. of BREEAM credits ava
Pre-Assessment question/criteria Please enter the target/maximum NO, emission level Please enter the target/maximum NO, emission level for Total indicative BREEAM credits act Total indicative contribution to overall building Total indicative BREEAM innovation credits act Indicative minimum standard(s		
Please enter the target/maximum NO, emission level Please enter the target/maximum NO, emission level for Total indicative BREEAM credits ach Total indicative contribution to overall building Total indicative BREEAM innovation credits ach Indicative minimum standard(s	Pre-Assessment question/criteria	
Total indicative BREEAM credits ach Total indicative contribution to overall building Total indicative BREEAM innovation credits ach Indicative minimum standard(s)		Please enter the target/maximum NO _x emission level Please enter the target/maximum NO _x emission level for t
Total indicative contribution to overall building Total indicative BREEAM innovation credits ach Indicative minimum standard(s)		Total indicative BREEAM credits ach
Total indicative BREEAM innovation credits achi Indicative minimum standard(s)		Total indicative contribution to overall building
Indicative minimum standard(s)		Total indicative BREEAM innovation credits achieved achie
		Indicative minimum standard(s) I

OLLUTION	Section Weighting	10.00%		Indicative	Section Score	6.15%
ol01 Impact of Refrigerants						
	No. of BREEAM credits available	3		Available contributio	n to overall score	2.31%
	No. of BREEAM innovation credits available	0		Minimum sta	ndards applicable	No
re-Assessment question/criteria			Response	Credits available	Indicative credits achieved	
	Will refrigerant containing systems be installed in the as	sessed building?	Yes	2	1	
	What is the target range Direct Effect Life Cycle CO ₂ eg, emission	for the system?	101-1000	kgCO2ea/kW coolt	h capacity	
	Will a refrigerant leak detection and containment system be sp	cified/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				

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		В	REEAM
3		Available contribution to overall scor	e 2.31%
0		Minimum standards applicabl	e No
-	Response	-	
ting system	90.00	mg/kWh	
ing system		iiig/ kvvii	
1			
).77%			
N/A			
N/A			

BREEAM 2011 New Construction Pre-Assessment Estimator					BREEAM 2011 New Constructi	ion Pre-Assessment Estimator						
Pol03 Surface Water Run off					_	Pol04 Reduction of Night Time Light Poll	lution					
No. of BREEAM credits availat No. of BREEAM innovation credits availat	ile 5 ile 0		Available contribution to overall Minimum standards appli	score 3.85% icable No			No. of BREEAM credits available No. of BREEAM innovation credits available	1 0		Available contributi Minimum st	on to overall score andards applicable	0.77% No
Pre-Assessment question/criteria What is the actual/likely annual probability of flooding Will a compliant Flood Risk Assess Will the site meet the BREAM criteria for peak rate ' Will the site meet the criteria for surface water run off volume, attenuation and, Will the site be designed to minimise watercourse pollution in accordance with Total indicative BREAM credits achiev Total indicative contribution to overall building sco	for the assessed site? ment be undertaken? urface water run off? or limiting discharge? the BREEAM criteria? ed 4 3.08%	Response Low Yes Yes Yes No	Indicative of credits available achieve 2 2 1 1 1 1 0 0	d		Pre-Assessment question/criteria	Will the external lighting be designed to rec Total indicative BREEAM credits achieved Total indicative contribution to overall building score Total indicative BREEAM innovation credits achieved Indicative minimum standard(s) level	uce light pollution? 1 0.77% N/A N/A	Response Yes	Credits available	achieved	
Comments/notes:	el N/A]							

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Available contribution to overall score 0.77%

Response Credits available

Yes 1 Yes

Minimum standards applicable No

Indicative credits

1

achieved

Inn01 Innovation						
	No. of BREEAM innovation credits available	10		Available contributi	on to overall score	1
				Minimum sta	andards applicable	
			Constant and a second		to diseasing sounds.	
Pre-Assessment question/criteria			achieved	Credits available	achieved	
ric / bocosment question/encent	Man01 Sustaina	ble Procurement	No	1	0	
	Man02 Responsible Cons	truction Practices	No	1	0	
	Head	1 Visual Comfort	No	1	0	
	Ene01 Reduction	of CO2 Emissions	No	5	0	
	Ene04 Low and Zero Ca	rbon Technology	No	1	0	
	Eneus Energy Effic	ient Cold Storage	N/A	N/A 1	N/A 0	
	Mator Wa	ife Cycle Impacts	No	1	0	
	Mat03 Responsible Sou	rcing of Materials	No	1	0	
	Wst01 Construction Wa	ste Management	No	1	0	
	Wst02 Red	vcled Aggregates	No	1	0	
		,	-		<u> </u>	
	Total indicative BREEAM credits achieved	0				
	Total indicative contribution to overall building score	0.00%				
	Indicative minimum standard(s) level	N/A				
Comments/notes:						

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Pol05 Noise Attenuation

Pre-Assessment question/criteria

Comments/notes:

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No. of BREEAM credits available 1

1

No. of BREEAM innovation credits available 0

Total indicative BREEAM credits achieved

 Total indicative contribution to overall building score
 0.77%

 Total indicative BREEAM innovation credits achieved
 N/A

Indicative minimum standard(s) level N/A

Will there be, or is there noise-sensitive areas/buildings within 800m radius of the development Will a noise impact assessment be completed and, if applicable, noise attenuation measures specified

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BREEAM

Workspace Building

BREEAM

implified pre-formal BREEAM assessment and unverified commitments gi	ven at an early stag	ge in the design pro	ocess.	
verall Indicative Building Performance				
Building name	3708 - Liddell Roa	d - Office		
Indicative building score (%)	71.55%			
Indicative BREEAM rating	Pre-Assessment r	esult indicates pote	ential for BREEAN	I Excellent rating
Indicative minimum standards level achieved	Pre-Assessment r	esult indicates the	minimum standa	rds for Excellent level
mmary of Indicative Building Performance by Environmental	Section and Ass	essment Issue		
	to Protice as	to Protect and	Indicative	
anagement	Indicative no. credits available	credits Achieved	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
Total indicative environmental section performance	22.0	19.0	10.36%	N/A
Ith & Wellbeing				
Hea01 Visual Comfort	3.0	1.0	1.07%	Pre-Assessment result indicates the minimum standards for Outstanding level
Hea02 Indoor Air Quality	4.0	3.0	3.21%	N/A
Hea03 Thermal Comfort	2.0	2.0	2.14%	N/A
Hea04 Water Quality	1.0	1.0	1.07%	Pre-Assessment result indicates the minimum standards for Outstanding level
HeaO6 Safety and Security	2.0	2.0	2.14%	N/A
Total indicative environmental section performance	14.0	11.0	11.79%	
rgy				
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
Energy Efficient Transportation Sustame	N/A	N/A	N/A 1.41%	N/A
Eneoo Energy Efficient Laboratory Systems	N/A	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%	
nsport				
Tra01 Public Transport Accessibility	3.0	3.0	2.67%	N/A
Tra03 Cyclist facilities	2.0	2.0	1 78%	N/A 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%	
ter				
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	0.6/%	Pre-Assessment result indicates the minimum standards for Outstanding level
Watos water Leak Detection and Prevention Wat04 Water Efficient Equipment	1.0	1.0	0.67%	N/A N/A
Total indicative environmental section performance	9.0	7.0	4.67%	
erials				
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
Matus Designing for Robustness Total indicative environmental section nerformance	12.0	8,00	8,33%	N/A
te	-1.0		0.55%	
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%	
Use and Ecology	2.0	2.0	2 000/	M/A
LEUI Site Selection LEO2 Ecological Value of Site and Protection of Ecological Features	2.0	2.0	1.00%	N/A 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%	
ution				
Pol01 Impact of Refrigerants	3.0	1.0	0.77%	N/A
Pol02 NOX Emissions Pol02 Surface Water Pum off	3.0	1.0	3.0%	N/A N/Δ
Polos Surface Water Run off Polo4 Reduction of Night Time Light Pollution	1.0	1.0	0.77%	N/A
Pol05 Noise <u>Attenuation</u>	1.0	1.0	0.77%	N/A
Total indicative environmental section performance	13.0	8.00	6.15%	
wation				
Inn01 Innovation	10.0	0.0	0.00%	N/A
Total indicative and sectors to be a first and the sector of the sector	10.0	0.00	0.00%	

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This assessment and indicative BREEAM rating is not a formal certified BREEAM assessment or rating and r performance and is based on a simplified pre-formal BREEAM assessment and unverified commitments gives a second	must not be communicated as such. The score presented is indicative of a buildings potential ven at an early stage in the design process.
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	e Section Score	10.36%
Man01 Sustainable Procu	rement					
	No. of BREEAM credits available	8		Available contributio	on to overall score	4.36%
	No. of BREEAM innovation credits available	1		Minimum sta	indards applicable	Yes
					Indicative credits	Shall & Core
Pre-Assessment question/	'criteria		Response	Credits available	achieved	option?
	Will roles, responsibilities and a training schedule be defined in accordar	nce with BREEAM?	Yes	1	1	N/A
	Will a BREEAM AP be appointed at RIBA stage A/B and performance targets con	tractually agreed?	Yes	1	1	N/A
	Will a BREEAM AP be appointed to monitor and report progress durin	ng RIBA stage B-E?	Yes	1	1	N/A
	Willa BREEAM AP be appointed to monitor and report progress duri	ing RIBA stage F-L?	Yes	1	1	N/A
	Will a thermographic survey be conducted and any defects unc	overed remedied?	Yes	1	1	N/A
	Will compliant commissioning of building service	ces be carried out?	Yes	1	1	N/A
	Will compliant seasonal commissioning of building service	ces be carried out?	Yes	1	1	N/A
	Will water/energy consumption data be recorded and aftercare support provid	ed 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 BRFFAM credits achieved	8				
	Total indicative contribution to overall building score	4 36%				
	Total indicative Contribution to overall balance schere	4.50%				
	Total Indicative BREEAW Innovation credits achieved	0				
	Indicative minimum standard(s) level	Pre-Assessment res	sult indicates the	minimum standards	for Outstanding lev	el
Comments/notes:						
connents/notes.						

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
			Shell & Core
Pre-Assessment question/criteria			option?
Which considerate construction scheme will be used or required to be used by the	rincipal 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.	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) leve	Pre-Assessment re	sult indicates the minimum standards for Outstanding lev	rel
Comments/notes:			

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Man03 Construction Site Impacts					Man04 Stakeholder Participation	
No. of BREEAM credits available 5		Available contribut	ion to overall score	2.73%	No. of BREEAM credits available 4 Available contribution to overall score 2.18	3%
No. of BREEAM innovation credits available 0		Minimum st	tandards applicable	No	No. of BREEAM innovation credits available 0 Minimum standards applicable Ye	S
Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?	Indicative credits Shell & Response Credits available achieved optic	Core on?
Will site energy consumption be metered/monitored	? Yes	1	1	N/A	Will an appropriate level of consultation activities be undertaken? Yes 1 N/.	A
Will site water consumption be metered/monitored	? Yes	1	1	N/A	Will an access statement be developed and appropriate building user facilities provided? Yes 1 1 N/A	A
Will the transport of construction materials and waste to/from site be measured/monitored	Yes	1	1	N/A	Will building user guides and relevant user information be provided? Yes 1 1	
Will timber be sourced in accordance with the Government's Timber Procurement Policy	Yes	1	1	N/A	Will a post occupancy evaluation assessment be undertaken and information disseminated? Yes 1 1	
Will does the principal contractor operate a compliant Environmental Management System Will the principal contractor adopt best practice pollution prevention policies & procedures	Yes	1	1	N/A	Total indicative RRFFAM credits achieved 4	
				1	Total indicative contribution to overall huiding score 2,19%	
Total indicative BREEAM credits achieved 5					Total indicative on BPEFAM innovation reading score 2.1006	
Total indicative contribution to overall building score 2.73%					rotar indecerce on Carting in the second acting to the second acting the second acti	
Total indicative BREEAM innovation credits achieved N/A					moleative minimum standard(s) rever in exasessment result indicates the minimum standards for outstanding rever	
Indicative minimum standard(s) level N/A					Comments/notes:	
Commonts/notos						
comments/notes.						

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BREEAM

1.64%

No

N/A

N/A

N/A

Indicative credits Shell & Core achieved option?

0

0

0

Available contribution to overall score Minimum standards applicable

Credits available

1

1

Response

No

No

0

0.00%

N/A

No

HEALTH & WELLBEING	Section Weighting	15.00%		Indicative	e Section Score	11.79
Hea01 Visual Comfort						
	No. of BREEAM credits available	3		Available contributio	on to overall score	3.219
	No. of BREEAM innovation credits available	1		Minimum sta	indards applicable	Yes
					Indicative credits	Shell &
Pre-Assessment question/criteria			Response	Credits available	achieved	optio
	Will all fluorescent lamps be fitted with high fr	equency ballasts?	Yes	N/A	N/A	N/A
Will all rele	evant building areas be designed to achieve the appropriate	daylight factor(s)?	No	1		N/A
١	Vill the design provide adequate glare control and view out f	or building users?	No	1	0	N/A
Will internal/external lighting	g be specified in accordance with the relevant CIBSE Guides/	British Standards?	Yes	1	1	N/A
Will all rele	evant building areas be designed to achieve exemplary level	daylight factor(s)?	No	1	0	N//
	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 res	ult indicates the	minimum standards	for Outstanding lev	el

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Man05 Life cycle cost and service life planning

Pre-Assessment question/criteria

Comments/notes

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No. of BREEAM credits available 3

Indicative minimum standard(s) level N/A

No. of BREEAM innovation credits available 0

Will a feasibility stage Life Cycle Cost (LCC) analysis be commissioned and completed Will a strategic and system level LCC be commissioned and completed

Total indicative BREEAM credits achieved

Will a technical design LCC to be

Total indicative contribution to overall building score

Total indicative BREEAM innovation credits achieved

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No. of BREEAM innovation credits available 0

Will an air quality plan be produced? Will the building be designed to minimise sources of internal air pollution? Will the relevant products be specified to meet the VOC testing and emission levels required? Will formaldehyde and total VOC levels be measured post construction? Will the building be designed to, or have the potential to provide, natural ventilation?

Total indicative BREEAM credits achieved

 Total indicative contribution to overall building score
 3.21%

 Total indicative BREEAM innovation credits achieved
 N/A

 Indicative minimum standard(s) level
 N/A

No. of BREEAM credits available 4 Available contribution to overall score 4.29%

Response

Yes

Yes

Yes

Yes

3

BREEAM

No

option?

N/A

N/A

N/A

N/A

Indicative credits Shell & Core

٦Г

achieved

0

1

1

1

Minimum standards applicable

Credits available

1

1

1

1

Pre-Assessment question/criteria Indicative credits Stachieved 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 BREEAM innovation credits achieved N/A Indicative minimum standard(s) level N/A	Pre-Assessment question/criteria						
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 2.14% Total indicative BREEAM innovation credits achieved N/A Indicative minimum standard(s) level N/A				Response	Credits available	Indicative credits achieved	Shell & opti
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 2.14% Total indicative BREEAM innovation credits achieved N/A Indicative minimum standard(s) level N/A		Will thermal modelling of the desig	n be carried out?	Yes	1	1	N
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	Will the modelling inform	the development of a thermal zoning and	control strategy?	Yes	1	1	N
Total indicative contribution to overall building score 2.14% Total indicative BREEAM innovation credits achieved N/A Indicative minimum standard(s) level N/A		otal indicative BREEAM credits achieved	2				
Total indicative BREEAM innovation credits achieved N/A Indicative minimum standard(s) level N/A	Total indicat	ive contribution to overall building score	2.14%				
Indicative minimum standard(s) level N/A	Total indica	tive BREEAM innovation credits achieved	N/A				
		Indicative minimum standard(s) level	N/A				
Comments/notes:	Comments/notes:						

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Hea02 Indoor Air Quality

Comments/notes

Pre-Assessment question/criteria

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BREEAM 2011 New Construction Pre-Assessment Estimator						BREEAM 2011 New Construction Pre-Assessment Estimator	
Hea04 Water Quality						Hea05 Acoustic Performance	
No. of BREEAM credits available No. of BREEAM innovation credits available	1 0		Available contributio Minimum sta	on to overall score andards applicable	1.07% Yes	No. of BREEAM credits available No. of BREEAM innovation credits available	2
Pre-Assessment question/criteria		Response	Credits available	Indicative credits achieved	Shell & Core option?	Pre-Assessment question/criteria	design
Will all water systems be designed to comply with the relevant H5L approved Lode of Practice's Where humidification is to be provided, will a failsafe humidification system Will a wholesome supply of accessible, clean and fresh drinking water be supplied for I	n be specified? building users?	N/A Yes	1	1	N/A N/A N/A	Will/has a suitably qualified acoustician be appointed to provide appropriate Will the building meet the relevant acoustic performance standards and testing	requiren
Total indicative BREEAM credits achieved Total indicative contribution to overall building score	1					Total indicative BREEAM credits achieved Total indicative contribution to overall building score Total indicative BREEAM innovation credits achieved	2 2.14% N/A
Total indicative BREFAM innovation credits achieved Indicative minimum standard(s) level Pre	N/A -Assessment rest	ult indicates the	minimum standards	for Outstanding lev	el	Indicative minimum standard(s) level	N/A
Comments/notes:						Comments/notes:	

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	A	Available contribution	on to overall score	2.14%
		Minimum sta	andards applicable	No
advice?	Response Yes	Credits available	Indicative credits achieved	Shell & Core option?
ments?	Yes	2	2	N/A
% 4 4				

option?

N/A

N/A

Available contribution to overall score 2.14%

Response

Yes

Yes

2

N/A

N/A

Credits available

1

Minimum standards applicable No

achieved

1

1

Indicative credits Shell & Core

ENERGY	Section Weighting	19.00%	Indicative Section Scor
Ene01 Reduction of CO ₂ Emissions			
	No. of BREEAM credits available	15	Available contribution to overall score
	No. of BREEAM innovation credits available	5	Minimum standards applicable
How do you wish to assess	the number of BREEAM credits achieved for this issue?	Define a target n	umber of BREEAM credits achieved
Select the	e target number of BREEAM credits for the Ene01 issue	6	BREEAM Innovation credits

Hea06 Safety and Security

Pre-Assessment question/criteria

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Where exte

ments/notes:

No. of BREEAM credits available 2

No. of BREEAM innovation credits available 0

nal site areas are present, will safe access be designed for pedestrians and cyclists

Total indicative BREEAM credits achieved Total indicative contribution to overall building score 2.14%

Indicative minimum standard(s) level

Total indicative BREEAM innovation credits achieved

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Pre-Assessment question/criteria Indicative credits Sk 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? Yes 1 1 Total indicative Contribution to overall building score 1.41% 1.41% 1.41%		No. of BREEAM credits available No. of BREFAM innovation credits available	2		Available contributio	on to overall score	1
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? Yes 1 1 Total indicative BREEAM credits achieved 2 Total indicative contribution to overall building score 1.41% Total indicative BREEAM innovation credits achieved N/A	Pre-Assessment question	on/criteria		Response	Credits available	Indicative credits achieved	Shel oj
Total indicative BREEAM credits achieved 2 Total indicative contribution to overall building score 1.41% Total indicative BREEAM innovation credits achieved N/A		Will a BMS or sub-meters be specified to monitor energy use from major building Will a BMS or sub-meters be specified to monitor energy use by tenant/build	g services systems? ing function areas?	Yes Yes	1	1	
Total indicative contribution to overall building score 1.41% Total indicative BREEAM innovation credits achieved N/A		Total indicative BREEAM credits achieved	2				
		Total indicative contribution to overall building score	1.41%				
Indicative minimum standard(s) level Pre-Assessment result indicates the minimum standards for Outstanding level		Indicative BRCEAW Innovation Credits achieved	Pre-Assessment re	sult indicates the	minimum standards	for Outstanding lev	el

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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

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No. of BREEAM innovation credits available 0

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

No. of BREEAM credits available 1 Available contribution to overall score 0.70%

. .

teria Response Credits available achieved option? Will external light fittings and controls be specified in accordance with the BREEAM criteria? Yes 1 1 N/A

BREEAM

Minimum standards applicable No

Indicative credits Shell & Core

NO. OF BREEAM CREDItS available	5	, 	Minimum sta	andards applicable	3.52% Yes
	1	Destronge	Credite eveileble	Indicative credits	Shell & Co
rie-Assessment question/criteria	to he undertaken	Vec	2	1	N/A
What will be the intended scope of the	feasibility study?	Operational stage	carbon savings/em	issions	N/A
Target percentage net reduction in operational star	ze CO2 emissions	0.00%	2	0	N/A
Please confirm the intended energy source of the Low and/or zero	carbon system?	Combination of o	ne or more LZC ene	rgy sources	
Evaporative cooling,	direct or indirect	Yes	1	1	N/A
Total indicative BREEAM credits achieved Total indicative contribution to overall building score Total indicative BREEAM innovation credits achieved	2 1.41% 0				
Indicative minimum standard(s) level	re-Assessment re	sult indicates the n	ninimum standards	for Outstanding lev	el
Comments/notes:					
Comments/notes:					

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Ene03 External Lighting

Pre-Assessment guestion/criteria

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BREEAM 2011 New Construction Pre-Assessment Estimator						BREEAM 2011 New Construction Pre-Assessment Estimator	
Ene05 Energy Efficient Cold Storage				Assessment Issu	ue Not Applicable	Ene06 Energy Efficient Transportation Systems	
No. of BREEAM credits available	N/A	Å	Available contributio	on to overall score	N/A	No. of BREEAM credits available 2 Available contribution to overall scor	1.41%
No. of BREEAM innovation credits available	N/A		Minimum sta	ndards applicable	N/A	No. of BREEAM innovation credits available 0 Minimum standards applicabl	N/A
Pre-Assessment question/criteria		Response	Credits available	Indicative credits achieved	Shell & Core option?	Indicative credit Pre-Assessment question/criteria Response Credits available achieved	Shell & Core option?
						Will a transportation system analysis be carried out to determine the optimum number and size of lifts?Yes11Will three energy-efficient features offering the greatest potential energy savings be part of the system?Yes11	N/A N/A
Total indicative DDEFAM condits achieved	NI/A					Total indicative BREEAM credits achieved 2	
Total indicative BREEAW Clears achieved	N/A					Total indicative contribution to overall building score 1.41%	
Total indicative BREEAM innovation credits achieved	N/A					I oddi indicative BKEEAWI information credits achieved N/A	
Indicative minimum standard(s) level	N/A						
Comments/notes:						Comments/notes:	

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No. of BREEAM credits available N/A

No. of BREEAM innovation credits available N/A

Total indicative BREEAM credits achieved

Indicative minimum standard(s) level

Total indicative contribution to overall building score

Total indicative BREEAM innovation credits achieved

N/A

N/A

N/A N/A Response

BREEAM

Available contribution to overall score

Credits available

	BREEAM 2011 New Construction Pre-Assessment Estimator				
Assessment Issue Not Applicable	Ene08 Energy Efficient Equipment				
able contribution to overall score N/A	No. of RREEAM credits available		Available contributi	on to overall score	1 /11%
Minimum standards applicable N/A	No. of BREEAM innovation credits available 0		Minimum st	andards applicable	No
Indicative credits Shell & Core edits available achieved option?	Pre-Assessment question/criteria Which of the following will be present and likely to be a/the major contributor to 'unregulated' energy use: Small power/plug in equipment? Swimming pool? Communal laundry? Data centre? IT-intensive operation areas? Residential areas? Healthcare?	Present Yes No No Yes No Yes	Significant majority contributor Yes No		
		Indicative compliance?	Credits available	Indicative credits achieved	Shell & Core option?
	Will the significant majority contributor(s) to 'unregulated' energy use (above) meet the BREEAM criteria?	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				

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Comments/notes:

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Ene07 Energy Efficient Laboratory Systems

Pre-Assessment question/criteria

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Assessment Issue Not Applicable

Minimum standards applicable N/A

Indicative credits Shell & Core Response Credits available achieved option?

No. of BREEAM credits available N/A Available contribution to overall score N/A

N/A

RANSPORT	Section Weighting	8.00%	Indicative Section Score	7.11
a01 Public Transport Accessibility				
	No. of BRFFAM credits available	3	Available contribution to overall score	2.67
	No. of BREEAM innovation credits available	0	Minimum standards applicable	No
e-Assessment question/criteria What is the building	g type category (for the purpose of Tra01 issue assessment)?	Business (office/industria	5I)	
What is the de	gree of public transport provision for the building's location?	Excellent provision of pu	blic 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		
mments/notes				
innertely notes.				

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Ene09 Drying Space

Comments/notes

Pre-Assessment guestion/criteria

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No. of BREEAM innovation credits available N/A

Total indicative BREEAM credits achieved N/A

Total indicative BREEAM innovation credits achieved N/A Indicative minimum standard(s) level N/A

Total indicative contribution to overall building score

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BREEAM 2011 New Construc	tion Pre-Assessment Estimator					
Tra02 Proximity to Amenities						
··· · · · · · · · · · · · · · · · · ·	No. of BREEAM credits available	1		Available contributi	on to overall score	0.89%
	No. of BREEAM innovation credits available	0		Minimum sta	andards 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 applie	cable 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:						

No. of BREEAM credits available No. of BREEAM innovation credits available	2 0		Available contributi Minimum st	on to overall score andards applicable	1.78% No
What is the building type category (for the purpose of Tra03	issue assessment)?	Business - offices	, Industrial		
-Assessment question/criteria		Response	Credits available	Indicative credits achieved	Shell & Core option?
Will cycle storage s Will cyclist fac	paces be provided? ilities be provided?	Yes Yes	2	2	N/A N/A
Total indicative BREEAM credits achieved	2				
Total indicative contribution to overall building score Total indicative BREEAM innovation credits achieved	1.78% N/A				
Indicative minimum standard(s) level	N/A				
nments/notes:					

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BREEAM 2011 New Constru	iction Pre-Assessment Estimator					
Tra05 Travel Plan						
	No. of BREEAM credits available	1	ļ	Available contributi	on to overall score	0.89%
	No. of BREEAM innovation credits available	0		Minimum sta	andards 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/assessme	ent 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:						

	No. of DDEEAM or alter a with the	2				1 700/
	NO. OF BREEAM Credits available No. of BREEAM innovation credits available	2		Minimum sta	andards applicable	1.78% No
	Building type category (for the purpos	e of Tra04 issue)?	Business - offices	, Industrial		
	Buildings indicative Accessibility Index (sourced	from issue Tra01)	12			
					Indicative credits	Shell & Co
e-Assessment question/criteria			Response	Credits available	achieved	option
Will the building meet BREE	M's maximum parking capacity criteria for this building type/Ac	ccessibility Index?	Yes	2	2	N/A
	Total indicative BREEAM credits achieved	2				
	Total indicative contribution to overall building score	1.78%				
	Total indicative RREEAM innovation credits achieved	N/A				
	TOtal indicative BREEAW Innovation credits achieved	1.7				

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Pre-Assessment question/criteria Will there be a water meter on the mains water s Will metering/monitoring equipment be specified on the water supply to any releva Will all specified water mete If the site/building has an existing BMS connection, will all pulsed meters be Total indicative BREEAM credits achi Total indicative contribution to overall building s Total indicative BREEAM innovation credits achi Indicative minimum standard(s)		
Will there be a water meter on the mains water s Will metering/monitoring equipment be specified on the water supply to any releva Will all specified water meter If the site/building has an existing BMS connection, will all pulsed meters be Total indicative BREEAM credits achi Total indicative BREEAM credits achi Total indicative BREEAM innovation credits achi Indicative minimum standard(s)	Pre-Assessment question/criteria	
Total indicative BREEAM credits achie Total indicative contribution to overall building s Total indicative BREEAM innovation credits achie Indicative minimum standard(s) I	Will metering/monitoring equipme If the site/building has an e	Will there be a water meter on the mains water su ent be specified on the water supply to any relevan Will all specified water meter existing BMS connection, will all pulsed meters be
Total indicative contribution to overall building s Total indicative BREEAM innovation credits achie Indicative minimum standard(s) l		Total indicative BREEAM credits achie
Total indicative BREEAM innovation credits achie Indicative minimum standard(s) l		Total indicative contribution to overall building so
		Total indicative BREEAM innovation credits achier Indicative minimum standard(s) le
Comments/notes:	Comments/notes-	

/ATER	Section Weighting	6.00%	Indicative Section Score	4.67%
at01 Water Consun	nption			
	No. of BREEAM credits available	5	Available contribution to overall score	3.33%
	No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes
				Shell & Co option?
	Select the level that corresponds closely to the target or likely water compor	ent specification	? Level 3 - Three credits	N/A
	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 leve	el

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Wat03 Water Leak Detection and Prevention					Wat04 Water Efficient Equipment	
No. of BREEAM credits available 2		Available contributi	on to overall score	1.33%	No. of BREEAM credits available	1
No. of BREEAM innovation credits available 0		Minimum st	andards applicable	No	No. of BREEAM innovation credits available	No
	_		Indicative credits	Shell & Core		
Pre-Assessment question/criteria	Response	Credits available	achieved	option?	Pre-Assessment question/criteria	
Will a mains water leak detection system be installed on the building's mains water supp Will flow control devices be installed in each sanitary area/facili	ity? Yes	1 1	1 1	N/A N/A	Will water efficient irrigation methods and/or vehicle wash systems (if relevant)	be inst
					Total indicative BREEAM credits achieved	1
I otal indicative BREEAM credits achieved 2					Total indicative contribution to overall building score	0.67%
Total indicative Contribution to overall building score 1.33%					Total indicative BREEAM innovation credits achieved	N/A
Indicative BREZAWI Inflovation Credits achieved N/A					Indicative minimum standard(s) level	N/A
					Comments/notes:	
Comments/notes:						

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1	A	vailable contribution	on to overall score	0.67%
No		Minimum sta	andards applicable	No
	Response	Credits available	Indicative credits achieved	Shell & Core option?
ant) be installed?	Yes	1	1	N/A
1 0.67% N/A N/A				

					BREEAM 2011 New Construction Pre-Assessment Estimator
MATERIALS	Section Weighting	12.50%	Indicative Section Score	8.33%	Mat02 Hard Landscaping and Boundary Protection
					No. of BREEAM credits available
Mat01 Life Cycle Impacts					No. of BREEAM innovation credits available
	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
Pre-Assessment question/criteria					Will ≥80% of all external hard landscaping and boundary protection achieve a Green Guide A
How do y	you wish to assess the number of BREEAM credits achiev	ed for this issue? Define	a target number of BREEAM credits to be achieved		Total indicative BREEAM credits achieved
	Select the number of BREEAM credits being targeted for	r the Mat01 issue	2 BREEAM Innovation credits		Total indicative contribution to overall building score
					Total indicative BREEAM innovation credits achieved
					Indicative minimum standard(s) level
					Comments/notes:
	Total indicative BREEAM credits achieved	2			
	Total indicative contribution to overall building score	2.08%			
	Indicative minimum standard(s) level	N/A			
Comments/notes:					
L					

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1	ļ 4	vailable contributio	on to overall score	1.04%
0		Minimum sta	andards applicable	No
	Response	Credits available	Indicative credits achieved	Shell & Core option?
de A or A+ rating?	Yes	1	1	N/A
1				
1.04%				
N/A				
N/A				

BREEAM 2011 New Construction Pre-Asses	ssment Estimator			BREEAM 2011 New Construction P	re-Assessment Estimator					
Mat03 Responsible Sourcing				Mat04 Insulation						
	No. of BREEAM credits available 3 No. of BREEAM innovation credits available 1	Available contribution to overall score Minimum standards applicable	3.13% Yes		No. of BREEAM credits available No. of BREEAM innovation credits available	2 0		Available contribut Minimum s	tion to overall score tandards applicable	2.08% No
Pre-Assessment question/criteria How do you wi Select Will all timber used on the project be sour	ish to assess the number of BREEAM credits achieved for this issue? Defin the number of BREEAM credits being targeted for the Mat03 issue rced in accordance with the UK Govt's Timber Procurement Policy?	e a target number of BREEAM credits 2 BREEAM Innovation credits Yes	0	Pre-Assessment question/criteria	Is the building targeting an insulating inn Will the building's insulating materials be resp Total indicative BREEAM credits achieved Total indicative contribution to overall building score Total indicative BREEAM innovation credits achieved Indicative minimum standard(s) level	dex of 2 or more? ponsibly sourced? 2 2.08% N/A N/A	Response Yes Yes	Credits available	Indicative credits achieved 1 1	Shell & Core option? N/A N/A
Total Total Comments/notes:	Total indicative BREEAM credits achieved 2 indicative contribution to overall building score 2.08% lindicative BREEAM innovation credits achieved 0 Indicative minimum standard(s) level Pre-Assessment result integration of the standard standar	dicates the minimum standards for Outstanding level								
BREEAM 2011 Pre-Assessment Estimator	© BRE Global Ltd 26/11/2014		Section 2 - Page 33	BREEAM 2011 Pre-Assessment Estimator	© BRE Global Ltd 26/11	1/2014				Section 2 - Page

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e 34

option?

Available contribution to overall score 1.04%

Response Credits available achieved

Minimum standards applicable N/A

Indicative credits Shell & Core

WASIE	Section Weighting	7.50%		Indicative Section Score	ŕ
Wst01 Construction Waste Manage	ement				
	No. of BREEAM credits available	4	Av	ailable contribution to overall score	
	No. of BREEAM innovation credits available	1		Minimum standards applicable	
Pre-Assessment question/criteria	How do you wish to assess the number of RRFFAM credits achiev	ed for this issue?	Define a target num	her of BREEAM credits to be achieved	4
	Select the number of RRFFAM credits being targeted for	the Wst01 issue	2	BREEAM Innovation credits	<u> </u>
	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	re-Assessment re	sult indicates the mir	nimum standards for Outstanding leve	А
Comments/notes:					

Mat05 Designing for Robustness

Pre-Assessment question/criteria

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

1

1

1.04%

Will suitable durability/protection measures be specified and installed to vulnerable areas of the building? Yes 1 1 N/A

....

No. of BREEAM credits available

Total indicative BREEAM credits achieved

No. of BREEAM innovation credits available 0

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BREEAM 2011 New Construction Pre-Assessment Estimator	BREEAM 2011 New Construction Pre-Assessment Estimator
Wst02 Recycled Aggregates	Wst03 Operational Waste
No. of BREEAM credits available 1 Available contribution to overall score 1.07% No. of BREEAM innovation credits available 1 Minimum standards applicable No	No. of BREEAM credits available No. of BREEAM innovation credits available
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	Pre-Assessment question/criteria Will appropriate facilities for the storage of operational recyclable waste volumes be If relevant, will a static waste compactor(s) or baler(s) be specified If relevant, will a vessel for composting suitable organic waste be specified
	Total indicative BREEAM credits achieved Total indicative contribution to overall building score Total indicative BREEAM innovation credits achieved Indicative minimum standard(s) level Pre-Ass Comments/notes:
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:	_

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No. of BREEAM innovation credits available 0

Total indicative BREEAM credits achieved

Total indicative BREEAM innovation credits achieved

Total indicative contribution to overall building score 1.07%

Indicative minimum standard(s) level N/A

No. of BREEAM credits available 1 Available contribution to overall score 1.07%

1

N/A

BREEAM®

Minimum standards applicable No

 Indicative credits
 Shell & Core

 Response
 Credits available
 achieved
 option?

Yes 1 1 N/A

LAND USE & ECOLOGY	Section Weighting	10.00%		Indicative	e Section Score	
LE01 Site Selection						
	No. of BREEAM credits available	2		Available contributio	on to overall score	
	No. of BREEAM innovation credits available	0		Minimum sta	indards applicable	
					Indicative credits	c
Pre-Assessment question/criteria			Response	Credits available	achieved	5
Will at least 75% of the proposed de	evelopment's footprint be located on previously beer	developed land?	Yes	1	1	
	Is the site deemed to be significant	ly contaminated?	Yes	1	1	
	Total indicative BREFAM credits achieved	2				
To	tal indicative contribution to overall building score	2.00%				
Ti	otal indicative BREEAM innovation credits achieved	N/A				
	Indicative minimum standard(s) level	N/A				
Comments/notes:						

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The building's occupant(s)/tenant(s) will specify floor/ceiling finishes

Wst04 Speculative Floor and Ceiling Finishes

Pre-Assessment question/criteria

Comments/notes

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BREEAM 2011 New Construction Pre-Assessment Estimator		BREEAM 2011 New Construction Pre-Assessment Estimator
LE02 Ecological Value of Site and Protection of Ecological Features		LE03 Mitigating Ecological Impact
No. of BREEAM credits available 1 No. of BREEAM innovation credits available 0	Available contribution to overall score 1.00% Minimum standards applicable No	No. of BREEAM credits available No. of BREEAM innovation credits available
Pre-Assessment question/criteria Can the land within the construction zone be defined as 'land of low ecological val Will all features of ecological value surrounding the construction zone/site boundary be protect	Indicative credits Shell & Core Response Credits available achieved option? ve?? Yes 1 N/A ved? Yes 1 N/A	Pre-Assessment question/criteria What is the likely change in ecological value (plant species richness) as a result of the sites devel Total indicative BREEAM credits achieved
Total indicative BREEAM credits achieved 1 Total indicative contribution to overall building score 1.00% Total indicative BREEAM innovation credits achieved N/A		Total indicative contribution to overall building score 2.0 Total indicative BREEAM innovation credits achieved N Indicative minimum standard(s) level Pre-Asset
Indicative minimum standard(s) level N/A Comments/notes:		Comments/notes:

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Yes

No. of BREEA	b. of BREEAM credits available M innovation credits available	0		Available contribution Minimum sta	on to overall score andards applicable	2.00 No
Pre-Assessment question/criteria			Response	Credits available	Indicative credits achieved	Shell & optic
Will the building meet BR	EEAM's mandatory criteria for this	BREEAM issue?	Yes	2	2	N/
Will a Biodiversity Champion be appointed to monitor/	minimise impacts of site activities	on biodiversity?	Yes			
Will the contractor provide training for the site workfo	rce on how to protect ecology du	ring the project?	Yes	4		
Will the contractor record actions to protect biodiversity and	I monitor their effectiveness durin	ng construction?	Yes	-		
Will a new ecologically valuable	nabitat, appropriate to the local a	rea, be created?	NO	4		
Total indic	ative BREEAM credits achieved	2				
Total indicative contrib	ution to overall building score	2.00%				
I otal indicative BREEA	M innovation credits achieved	N/A				
		NI/A				

LE04 Enhancing Site Ecology					
No. of BREEAM credits available	3		Available contributio	on to overall score	3.00%
No. of BREEAM innovation credits available	0		Minimum sta	indards applicable	No
				Indicative credits	Shell & Core
Pre-Assessment question/criteria		Response	Credits available	achieved	option?
Will a suitably qualified ecologist be appointed to report on enhancing and prote	ecting site ecology?	Yes	3	2	N/A
Will the suitably qualified ecologists general recommendations	s be implemented?	Yes			
What is the targeted/intended improvement in ecological value as a result of enh	ancement actions?	Small improveme	ent in plant species ri	ichness	
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:					

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	No. of BREEAM credits avail No. of BREEAM innovation credits avail
Pre-Assessment question/criteria	
	Please enter the target/maximum NO _x emission level for
	Total indicative BREEAM credits achiev
	Total indicative contribution to overall building sco Total indicative BREFAM innovation credits achiev
	Indicative minimum standard(s) le
Comments/notes:	

	No. of BREEAM credits available	3		Available contributi	on 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 & Cor option?
	Will refrigerant containing systems be installed in the a	ssessed 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. emissior	s for the system?		kgCO2eq/kW coo		
	Will a refrigerant leak detection and containment system be sp	ecified/installed?	No	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				

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		BREEAM					
		Available contribution to overall sco	re 2.31%				
		Minimum standards applicab	le No				
	Response		Shell & Core option?				
system	70.00	mg/kWh	Option 2				
%							

BREEAN 2011 New Construction Pre-Assessment Estimator						BREEAM 2011 New Construct	tion Pre-Assessment Estimator						
Pol03 Surface W	ater Run off						Pol04 Reduction of Night Time Light Po	ollution					
	No. of BREEAM credits available	5		Available contribution	on to overall score	3.85%		No. of BREEAM credits available	1		Available contributio	n to overall score	0.77%
	No. of BREEAM innovation credits available	0		Minimum sta	andards applicable	No		No. of BREEAM innovation credits available	0		Minimum sta	ndards applicable	No
					Indicative credits	Shell & Core				_		Indicative credits	Shell & Core
Pre-Assessment	question/criteria		Response	Credits available	achieved	option?	Pre-Assessment question/criteria			Response	Credits available	achieved	option?
	What is the actual/likely annual probability of flooding for	the assessed site?	Low	2	2	N/A		Will the external lighting be designed to red	uce light pollution?	Yes	1	1	N/A
	Will the site meet the BRFFAM criteria for neak rate surf	ace water run off?	Yes	1	1	N/A N/A		Total indicative BREEAM credits achieved	1				
	Will the site meet the criteria for surface water run off volume, attenuation and/or l	imiting discharge?	Yes	1	1	N/A		Total indicative contribution to overall huilding score	0.77%				
	Will the site be designed to minimise watercourse pollution in accordance with the	BREEAM criteria?	No	1	0	N/A		Total indicative BREFAM innovation credits achieved	N/A				
								Indicative minimum standard(s) level	N/A				
	Total indicative BREEAM credits achieved	4							,				
	Total indicative contribution to overall building score	3.08%					Comments/notes:						
	Total indicative BREEAM innovation credits achieved	N/A											
	Indicative minimum standard(s) level	N/A											
Comments/note	S'												
connentsynote													

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						0.
Inn01 Innovation						
	No. of BREEAM innovation credits available	10	ļ	Available contributi	on to overall score	10
				Minimum st	andards applicable	1
			Examplant loval		Indicativo crodito	
Pre-Assessment guestion/criteria			achieved	Credits available	achieved	
	Man01 Sustain	able Procurement	No	1	0	
	Man02 Responsible Cons	truction Practices	No	1	0	
	Head	01 Visual Comfort	No	1	0	
	Ene01 Reduction	of CO2 Emissions	No	5	0	
	Eneu4 Low and Zero Ca Eneu5 Energy Effi	arbon Technology	NO N/A	1 N/A	U N/A	
	Wat01 W	ater Consumption	N/A No	1 N/ A	0	
	Mat01	life Cycle Impacts	No	1	0	
	Mat03 Responsible Sou	rcing of Materials	No	1	0	
	Wst01 Construction Wa	aste Management	No	1	0	
	Wst02 Re	cycled Aggregates	No	1	0	
	Total indicative RDEFAM credits achieved	0				
	Total indicative contribution to overall building score	0.00%				
	Indicative contribution to overall building score	N/A				
	multative minimum standaru(s) rever	IN/A				
Comments/notes:						
						-

No. of DDEEAM cradits available	1		Available contributiv	on to overall coore	0.779/
No. of RDEFAM innovation credits available	0	Minimum standards applicable			0.77%
	0		IVIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	andarus applicable	NO
				Indicative credits	Shell & Core
re-Assessment question/criteria		Response	Credits available	achieved	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 m	easures specified?	Yes		l	N/A
Total indicative DDEEAM condite achieved	1				
Total indicative onceansi indicative onceansi huiding score	1				
Total indicative contribution to overall building score	0.77%				
	N/A				
indicative minimum standard(s) level	N/A				
omments/notes:					

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Pol05 Noise Attenuation

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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

		Taller Block		Terraced Block						
Description	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: y-Value			0.1 ((m.K)						
Building Services										
Ventilation										
Mechanical ventilation			Balanced whole hous	se with heat recovery						
Heat recovery efficiency			75	5%						
SFP			0.	42						
Ducting type			ri	gid						
Duct insulation			Y	es						
Space Heating										
Heating system 1		Community Boilers								
Heating system 1 Efficiency	95%									
Heating fuel 1	Mains Gas									
Heating emitter			Underloo	or Heating						
Heating controls		Charging syst	em linked to use of com	munity heating, program	mer and TRVs					
Pump in heated space			Y	es						
Boiler interlock			Y	es						
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 Boiler				
Efficiency	-	95%	95%	-	95%	95%				
Heating fuel	-	Mains Gas	Mains Gas	-	Mains Gas	Mains Gas				
Heating fraction	- 10% 10% - 10%									
Cooling										
Cooling system			No Co	ooling						
Lighting				-						
Low energy lights			100% of fixed	d light outlets						
Renewable Technology										
~			21 76 k/M/p (total)			40.47 100/12 (tata)				

(RESIDENTIAL ASSUMPTIONS, SUBJECT TO FURTHER REFINEMENT.]

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				Pai	rt L 2013 Results Sum	imary					
Unit Type	No. of Units	Floor Area	Total Floor Area	Unregulated Load	TER	DER (Lean)	DER (Lean) / TER	DER (Clean)	DER (Clean) / TER	DER (Green PV)	DER (Green) / TER
Mansion Block (Market)		լույ	լույ	[ngoo2/III-/ year]	[kgo02/iii /year]	[ngoo2/m//jedi]	[/0]	[ngoo2/m/Jear]	[~]	[ngoo2/iii / year]	[74]
M7543	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	
M7583	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	
M5281	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	
MEGER2	3	66	108	0.0180	16.47	14.63		10.02		7.63	
M87R2	3	87	261	0.0180	16.47	14.63		10.92		7.63	
M80C3	1	80	201	0.0130	16.77	15.00		13.01		10.56	
M5303	2	53	106	0.0197	17.29	15.50		11.22		7 76	
M3301	6	72	120	0.0137	16.77	15.00		12.01		10.56	
M0201	0	73	430	0.0170	17.00	15.90		11.91		10.50	
Milloco	2	00	110	0.0197	17.29	15.50		11.22		1.10	
Manalan Black (Social Pant)	I	112	112	0.0170	10.77	15.90		13.91		10.56	
CD10CAO	1	100	100	0.0190	17.51	10.05		12.10		0.00	
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	/5	/5	0.0180	16.47	14.63		10.92		7.63	
I OTAI Weidthod everage	00		4,781	8/.88	16 59	14.98	10.29%	11.00	21.04%	7.07	E1 049/
Tailer Blocks				0.0104	10.00	14.00	-10.36%	11.29	-31.94%	1.91	-01.94%
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	
TM55B2	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	
TM8502	1	85	85.00	0.0172	18.78	17.67		13.51		9.75	
Total	40	00	2,972	50.85	10.10	11.01		10.01		5.15	
Weighted average			2,012	0.0171	16.27	14.10	-13.33%	10.65	-34.53	7.40	-54.53%
Whole Residential Development											
Total			7,753	138.73							
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

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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 nondomestic 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 CO_2 emissions are subject to changes and further refinement as the design develops.

School Building

PHASE 1

	After Passive & Active Design	After Renewable Technology	
Description	Measures	Measures	
	"Lean Measures"	"Green Measures"	
Puilding Envelope	Specification		
	0.15.0	N/m ² K)	
Window and reaflights LL value	0.15 (V	$W/(m^2 K)$	
Claring a value	1.2 - 1.4	vv/(m .k)	
Glazing g-value	0.4	- 0.6	
Glass light trasmittance	0.45.0	1.0 A (/2 /c)	
Ground floor U-value	0.15 (V	V/m ⁻ .K)	
Roof U-value	0.15 (V	² O 50D	
Design air permeability	3 m²/(n.m	r) @ 50Pa	
Building Services			
Ventilation			
System 1 Mechanical ventilation with heat	Classrooms and	Resource Rooms	
recovery			
Heat recovery efficiency	7	5%	
	10	M///c	
SFF Duet leekere	1.0	www.	
Duct leakage	Cla	SS B	
AHU leakage	Constant aroud	SS L2	
Fullp type	Tailata Shawara Kit	wanable speed	
System 2 Mochanical extract only	Tollets, Showers, Kit	chen and BOH Spaces	
SEP	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	99	5%	
Cooling			
Cooling system	No C	cooling	
DHW Heating			
DHW system	Central heating using water I	inked to main heating system	
Lighting			
System 1	Classrooms and Resource Rooms		
Lighting efficacy	60 lumens per circuit watt		
Daylight contol	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 contol	Ν	ło	
Constant illuminance control	1	10	
Occupancy sensing	Man On, Auto Off		
Renewable Energy	No	Vec	
Total kWp capacity	-	18	
· · · · · · · · · · · · · · · · · · ·		.•	

Part L 2013 Resu	Its Summary - I	Primary Schoo	ol		
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	
CO ₂ emissions (kgCO ₂ /m ² /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.]

ATELIER TEN



PHASE 2

FIAJE 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 trasmittance		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 Mechanical ventilation with heat recovery		Classrooms and Resource Rooms	3	
Heat recovery efficiency		75%		
SFP		1.0 W/I/s		
Duct leakage		Class B		
AHU leakage		Class L2		
Pump type	Constant speed	Variable Speed	Variable speed	
System 2	Toile	ets, Showers, Kitchen and BOH Sp	aces	
Mechanical extract only				
SFP		0.3 - 0.4 W/I/s		
Duct leakage		Class B		
AHUleakage		Class I 2		
Pump type		Constant Speed		
System 3		Office Spaces		
Natural ventilation		onice opaces		
Space Heating				
System 1	Classrooms	Resource Rooms Toilets Offices	and Kitchen	
Heating system		Ciassrooms, Resource Rooms, Tollets, Unices and Nitchen		
Heat source		I THW Boiler		
indit course	Central Time Control. Optimum start/s	top. Local Time Control. Local tempe	erature control. Weather compensation	
Heating controls	···· · · · · · · · · · · · · · · · · ·	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 I	neating from CHP	
Heat source	n/a	Comn	nunity CHP	
Efficiency	n/a	85.5%		
Heating fuel	n/a	Nat	ural Gas	
Heat to power ratio	n/a		1.68	
Heating fraction	n/a		100%	
Lighting	., a			
System 1		Classrooms and Resource Rooms	1	
Lighting efficacy		60 lumens per circuit watt		
Light output ratio		0.5		
Davlight contol		Ves		
Constant illuminance control		Voc		
		Man On Auto Off		
Suntan 2	T-**	Inter Officer Kitcher and POUL	2000	
Jystelli 2	101	60 lumons per sizeuit wett	1005	
		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	
CO ₂ emissions (kgCO ₂ /m ² /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.]

APPENDIX

Workspace Block

	After Passive & Active Design	After Energy Efficient	After Renewable Technology
Description	Measures	Technology Measures	Measures
Description	"Lean Measures"	"Clean Measures"	"Green Measures"
		Specification	
Building Envelope			
Wall U-value		0.15 (W/m ² .K)	
Window II valuo		$1.4 W/(m^2 K)$	
		1.4 W/(III.R)	
		0.4 - 0.8	
Glass light trasmittance		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 m³/(h.m²) @ 50Pa	
Building Services			
Ventilation			
System 1		Office and Lobby Spaces	
Centralised mechanical ventilation with heat recovery			
Heat recovery efficiency		75%	
SEP		1.8 W/l/s	
Budt loakado		Class R	
		Class B	
AHU leakage	Constant around	Class L2	Variable aread
Pump type	Constant speed	variable Speed	variable speed
System 2	101	lets, Snowers, Kitchen and BOH Sp	aces
Mechanical extract only			
SFP		0.3 - 0.4 W/I/s	
Duct leakage		Class B	
AHU leakage		Class L2	
Pump type		Constant Speed	
Space Heating			
System 1		Office, Lobbies, Toilets and Kitche	n
Heating system	Gas Boilers	Energy centre	ASHP
Heat source	Gas - LTHW Boilers	Gas - Heat from CHP	Electricity - Heat from ASHP
	Central Time Control, Optimum start/s	stop, Local Time Control, Local tempe	erature control, Weather compensation
Heating controls		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 FER	3.2	3.2	3.2
DHW Heating	5.2	5.2	5.2
System 1	0#	ice Lobbies Toilets Kitchens and	POH
System I	Same as appear heating system 1	Community	both
Heat course	Same as space nearing system 1	Com	
Efficiency	n/a	Com	
Efficiency	n/a	5	35.5%
Heating fuel	n/a	Nat	ural 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 contol		Yes	
Constant illuminance control		Yes	
Occupancy sensing		Man On, Auto Off	
System 2	Toi	lets, Showers, Kitchen and BOH Sn	aces
Lighting efficacy		60 lumens per circuit watt	
Daylight contol		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 201	.3 Results Summa	ary - Office		
Area (m ²)		4039.00		
	Notional	Lean	Clean	
Energy Consumption (kWh/m²/year)				
Heating	12.30	6.31	7.64	
Cooling	2.71	2.86	4.59	
Auxillary	4.19	7.38	7.38	
Lighting	15.64	9.68	9.68	
DHW	20.15	15.09	15.09	
Renewables	0.00	0.00	-2.62	
Total (Excl. Small Power)	54.99	41.32	41.76	
Small Power	46.15	46.15	46.15	
Total (Inc. Small Power)	101.14	87.47	87.91	
CO ₂ emissions (kgCO ₂ /m ² /year)				
Heating	2.66	1.36	1.65	
Cooling	0.59	0.62	0.99	
Auxillary	2.12	3.74	3.74	
Lighting	7.91	4.90	4.90	
DHW	10.19	7.64	7.64	
Renewables	0.00	0.00	-1.39	
Total (Excl. Small Power)	23.47	18.26	17.53	
Small Power	23.25	23.25	23.25	
Total (Inc. Small Power)	46.72	41.51	40.78	
Carbon Savings (Excl. Small Power)				
Carbon Saving over TER (%)	-	22.2%	25.3%	
Carbon Savings (%)	-	-	4.0%	

{WORKSPACE ASSUMPTIONS, SUBJECT TO FURTHER REFINEMENT.]

ATELIER TEN

Green
2.16
4.61
7.38
9.68
15.09
-6.35
32.57
46.15
78.72
0.97
1.00
3.74
4.90
7.64
-3.36
14.89
23.25
38.14
36.6%
15.1%