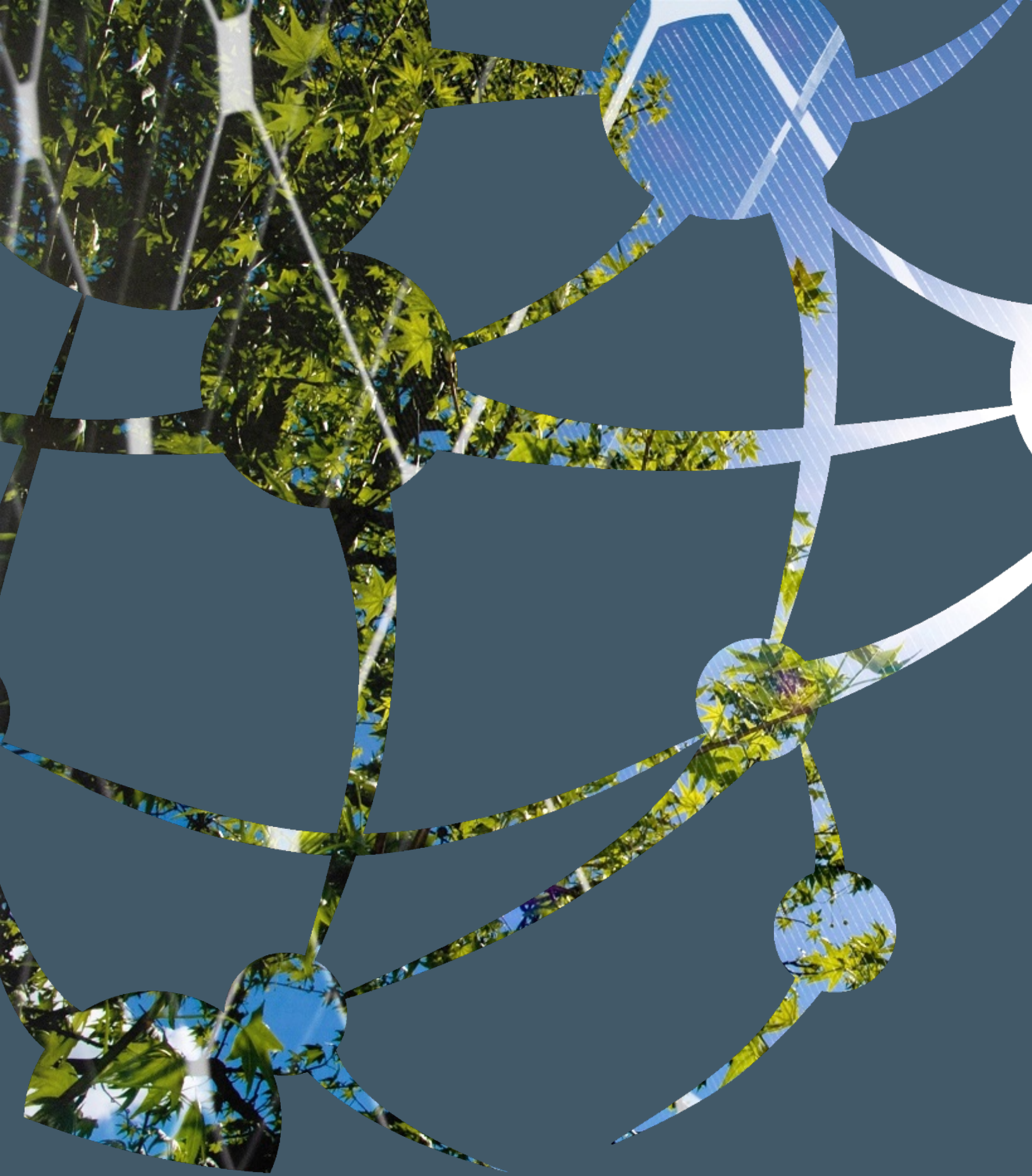


HALL SCHOOL
BREEAM PRE-ASSESSMENT
OCTOBER 2016

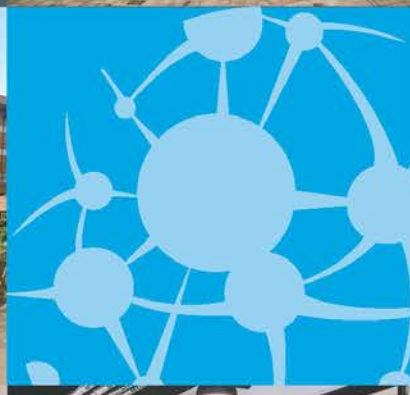
elementa
Member of Integral Group







BRUNSWICK





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DOCUMENT CONTROL

Issue	Description	Date	Prepared By	Signed Off
1.0	Draft for Review	06/10/2016	Ben Pratt	Nick Kennedy
1.1	Revised Section 2.4	10/10/2016	Ben Pratt	Nick Kennedy
1.2	Revised Scorecard	09/11/2016	Ben Pratt	Nick Kennedy

1 EXECUTIVE SUMMARY

Elementa consulting have been appointed to undertake a pre-assessment of the feasibility of achieving a BREEAM Certification for the construction of an extension to the Hall School in Camden

BREEAM is an environmental assessment method, certified by the Building Research Establishment. It sets a standard for sustainable building design that takes into account a variety of environmental factors including 'Health and Well Being', 'Energy' and 'Transport', amongst others.

The pre-assessment has drawn upon early stage design information. As a refurbishment, the appropriate method of assessment would be via the BREEAM UK New Construction 2014 system, which is the current system for this type of development.

It should be noted that under BREEAM, there are certain mandatory requirements that have to be met to achieve a desired rating, a table within section 3.2 of this report identifies the minimum standards that are applicable to the desired rating.

The London Borough of Camden states that all developments in the borough should be compliant with the energy and sustainability requirements of the London Plan, as well as Camden's Core Strategy and Development policies. This includes a minimum 35% reduction in regulated CO_2 emissions below the maximum threshold allowed under Part L 2013, and a 20% reduction in CO2 emissions through renewable technologies where feasible.

Next Steps:

- The decision on whether to pursue formal BREEAM Certification should be made prior to the end of RIBA Stage 1. This will ensure that any 'time critical' credits (i.e. credits that must completed before the end of a set RIBA stage) are available too the project, maximising the projects potential to obtain a rating.
- In addition, the design team will have to consider any additional costs of meeting BREEAM requirements, including registration costs, consultancy fees, additional capital expenditure and certification costs.
- If a BREEAM rating is desired post-planning, a number of activities will be triggered; this will include design stage workshop(s), formal registration of the project with the Building Research Establishment (BRE), and the creation of a tracker document, to ease the team through the process. BREEAM requirements will need to be incorporated within the contractor prelims with support provided to ensure that those tendering for the project are full aware of additional commitments.

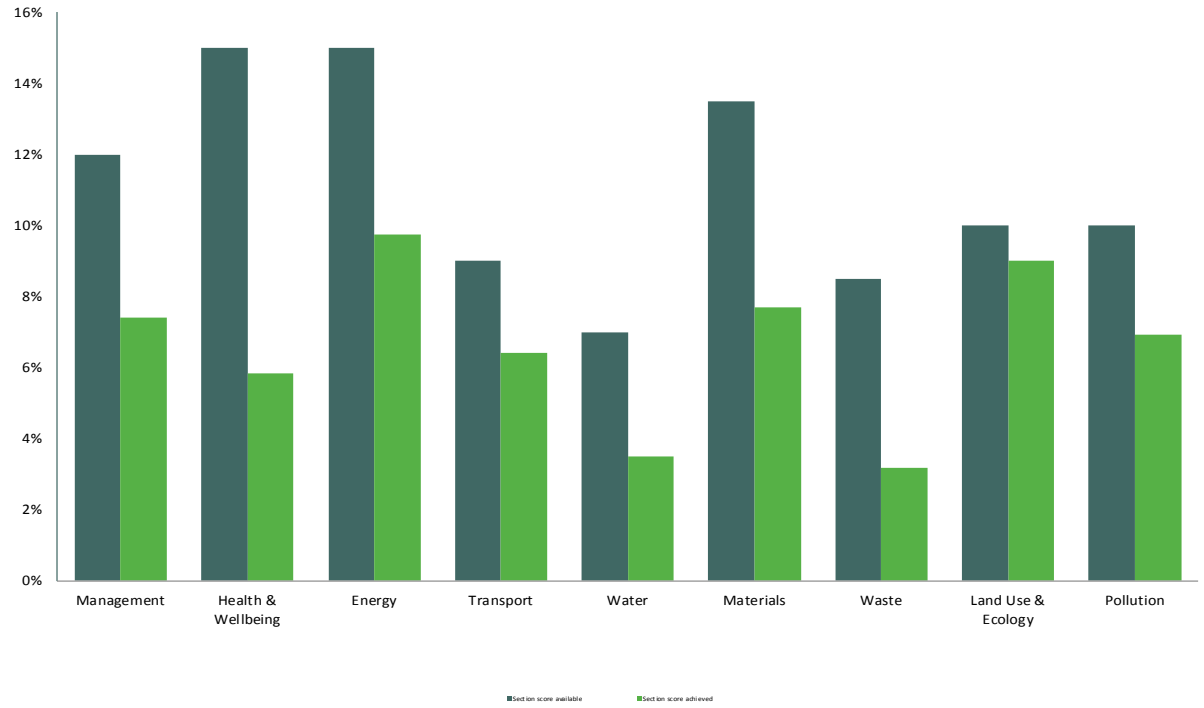
2 BREEAM SUMMARY SCORECARD

The scorecard below provides a summary score of the BREEAM rating, and highlights the various BREEAM concepts. An overall BREEAM rating of 60.7% has been calculated using the BRE online pre-assessment tool. In producing the report, Elementa has presumed that all of the 'mandatory requirements' are, and will be achieved. The score of 60.7% with the mandatory requirements met gives BREEAM: Very Good rating.

Overall Building Performance

Building name	Hall School
Indicative BREEAM rating	Very Good
Indicative Total Score	60.7%
Min. standards level achieved	Outstanding level

Building Performance by Environment Section



Environmental Section	No. credits available	Indicative no. credits Achieved	% credits achieved	Section Weighting	Indicative Section Score
Management	21	13	61.90%	12.00%	7.42%
Health & Wellbeing	18	7	38.89%	15.00%	5.83%
Energy	20	13	65.00%	15.00%	9.75%
Transport	7	5	71.43%	9.00%	6.43%
Water	8	4	50.00%	7.00%	3.50%
Materials	14	8	57.14%	13.50%	7.71%
Waste	8	3	37.50%	8.50%	3.18%
Land Use & Ecology	10	9	90.00%	10.00%	9.00%
Pollution	13	9	69.23%	10.00%	6.92%
Innovation	10	1	10.00%	N/A	1

2.1 BASIS OF PRE-ASSESSMENT

- **The pre-assessment is not a guarantee of a rating under BREEAM.** Final ratings are provided by the Building Research Establishment (BRE). Evidence of compliance with BREEAM requirements is required. This must be provided too a licensed assessor, who will produce and submit their report too the BRE. The report and associated evidence is then subject to the BRE's Quality Assurance process.
- **The pre-assessment has been undertaken against v.SD5076: 4.0 of BREEM UK New Construction 2014**. This is the current version of the standard. If a new version is released prior to assessment of the project. This version would be used, along with any adaptions that feature within it.
- **Pre-assessment is subject to review.** Elementa has based the pre-assessment on credits that they believe to be achievable. A pre-assessment meeting will be scheduled with the design team to confirm these assumptions.
- **The scoring algorithm used by BREEAM automatically caps the BREEAM rating at the lowest of the 'Mandatory Requirements'** (i.e. if a building had a score of 90%, but only achieved the mandatory's for Good, it would get a rating of 50%).
- **The pre-assessment is not a guarantee of a rating under BREEAM**. Final ratings are provided by the Building Research Establishment (BRE). Evidence of compliance with BREEAM requirements is required. This must be provided to a licensed assessor, who will produce and submit their report to the BRE. The report and associated evidence is then subject to the BRE's Quality Assurance process

2.2 COSTS OF CERTIFICATION

At the time of writing, the costs of registration for a project under this scheme are as follows:

Registration:	£195
Design Interim Certification:	£950
Post Construction Final Certification:	£295
Total:	**£1,440**

The above costs do not include for consultancy and assessor services required to manage BREEAM documentation and support the team throughout the process. Furthermore, the costs are based on a project that is certified within 3 years of project registration, where this is not the case, the £295 Post Construction figure will increase too £415. It does not allow for other fees the BRE may charge due to excessive technical queries, re-submission of QA reports, fast-tracking the QA report, or any other additional BRE service.

2.3 ACHIEVABLE BREEAM RATING

This BREEAM pre-assessment signifies the team's intention to target a BREEAM rating of Very Good (55%), and the team are committed to developing the BREEAM strategy as the project develops in order to achieve this rating upon completion of the project.

The current score that is being targeted is 60.7%. We would normally recommend that a 'buffer' of 5% is included above the threshold score, in order to provide a degree of safety if credits become unavailable as the project develops. This buffer is to be established by the project team when a more in depth BREEAM review can be carried out, to identify further achievable credits.

2.4 POTENTIAL FOR BREEAM EXCELLENT

The Client has requested that an assessment be done as to whether BREEAM: Excellent (which may be the score required for planning approval) can be achieved.

The following credits (including a brief description of what this will entail) have been identified as potentials that could be included within the BREEAM strategy to raise the score beyond BREEAM Excellent (70%):

Credit	Requirement	Party	Points	Weight	Score
MAN 02: Elemental Level Life Cycle Costing	Component-level LCC plan developed by RIBA 4 in line with PD 156865:2008 and includes envelope, services, finishes and external spaces. Used to influence building systems design/ specification, and examples of this must be provided in LCC Plan	Architect / Cost Consultant	2	0.57%	**1.14**
MAN 02: Component Level Life Cycle Cost Plan	Component-level LCC plan developed by RIBA 4 in line with PD 156865:2008 and includes envelope, services, finishes and external spaces. Used to influence building systems design/ specification, and examples of this must be provided in LCC Plan	Architect / Cost Consultant	1	0.57%	**0.57**
MAN 03: Sustainability Champion (Construction)	The appointment of a 'Sustainability Champion' (either by Design Team or by Contractor) to monitor the project to ensure ongoing compliance with the BREEAM targets during construction, handover and close out	Contractor / Architect	1	0.57%	**0.57**
MAN 05: Aftercare Support	Undertake a Post-Occupancy Evaluation (to include programmed aftercare and quarterly analysis of operational energy and water consumption)	Client / Elementa	1	0.57%	**0.57**
HEA 02: Indoor Air Quality Plan	IAQ plan to influence design/installation actions that minimised indoor air pollution during occupation. It must include; removal of contaminant sources, dilution and control of contaminant sources, procedures for pre-occupancy flush out, third party testing and analysis, maintaining indoor air quality in use.	Architect	1	0.83%	**0.83**
ENE 08: Energy Efficient Equipment	Demonstrate a meaningful reduction in the total annual unregulated energy consumption of the building (All small power/plug in equipment to be 'energy star' rated or similar)	Client / Architect	2	0.75%	**1.5**
TRA 03: Cycle Storage	BREEAM compliant cyclist facilities will probably be less than that required by the planners (London Plan) regulations	Architect / Transport Consultant	1	1.29%	**1.29**

Credit	Requirement	Party	Points	Weight	Score
TRA 03: Cycle Facilities	Equivalent number of lockers, and suitable number of showers for staff	Architect / Client	1	1.29%	**1.29**
WAT03: Leak Detection System	Major Leak Detection from mains water supply too internal meter (audible when activated to notify a member of the buildings management)	Elementa	1	0.88%	**0.88**
WST05: Adaption to climate change - structural and fabric resilience	Architect conducts a climate change adaption strategy appraisal for structural and fabric resilience by RIBA Stage 2, to identify and evaluate the impact from extreme weather due to climate change (hazard identification, hazard assessment, risk estimation, risk evaluation and risk management)	Architect	1	1.06%	**1.06**
WST 06: Functional Adaptability	A building-specific adaption strategy study has been undertaken by the client and Design Team by RIBA stage 2, which includes recommendations for measures to be incorporated to facilitate future adaption.	Architect	1	1.06%	**1.06**
POL 03: Minimising water course pollution	There is no discharge from the site for rainfall up to 5mm. A comprehensive drainage plan is made available, along with maintenance responsibilities for SuDs as above.	Architect / Structural Engineer	1	0.77%	**0.77**
INN: Aftercare/Monitoring: 3 years	Ongoing Aftercare/Monitoring for 3 years (at quarterly interval); including energy and water data collection, setting targets to improve, feedback and provision of annual energy, water and occupier satisfaction to BRE.	Client	1	1.00%	**1**
TOTAL					**12.53**

The inclusion of these credits would provide an uplift in percentage to 73.2% (an increase of 12.5%), and (seeing as how the mandatory credit thresholds for BREEAM: Excellent have already been achieved) would allow the project to achieve BREEAM: Excellent certification

However, successful attainment of these additional credits may involve added costs (either in terms of additional design hours or increased fees from suppliers/contractors) or slight design changes, which would need to be agreed to by the Client and Design Team.

3 BREEAM SECTIONS

There are a variety of different issues that are assessed by BREEAM, that span over **10 sections - Management , Health & Wellbeing, Energy, Transport, Water, Materials, Waste. Land Use & Ecology, Pollution and Innovation.**

3.1 SECTION OVERVIEW

The BREEAM Standard is structured into 10 sections:

Management – This category encourages the adoption of sustainable management practices throughout all phases of the projects duration. Issues in this section focus on the integrating sustainable design through key stages from project conception to completion.

Health and Wellbeing – This category encourages designers to incorporate comfort, health and safety of the occupants and users of the building. The issues within the section aim to improve life quality within the building.

Energy – Within the energy section, BREEAM encourages energy efficient building solutions, systems and equipment. This is to support the sustainable use of energy, and associated management of energy during the buildings operation.

Transport – Encouraging access to sustainable transport for occupants influences the wider environment. There is a focus on accessibility of public transport and encouraging transport options that reduce car journeys, and hence congestion and emissions.

Water – The aim of this section is to encourage sustainable water use during the buildings operation. There is a focus on reducing water consumption through the specification of efficient features, as well minimising loss through leakage.

Materials – Reducing the impact of construction materials ensures they have a low embodied impact over their life cycle. The section also focuses on ensuring the materials are responsibly sourced.

Waste – Sustainable management of construction and operational waste encourages good design can optimise material reuse. Where materials cannot be re used, diverting them from landfill benefits the wider environment.

Land Use & Ecology – This section aims to encourage habitat protection and development. Improving the long term biodiversity of the site.

Pollution – Addressing the prevention and control of pollution and surface water run-off. These factors are influenced by reducing impacts on surrounding communities and environments from light pollution, noise, flooding and emissions.

Innovation – Bonus credits can be obtained under innovation where exemplary performance is demonstrated. The category supports innovation with sustainability related benefits which are not rewarded elsewhere.

3.2 BREEAM SCORING

The BREEAM rating benchmarks for projects assessed using the 2014 version of BREEAM UK Refurbishment and Fit-Out are as follows:

BREEAM Rating	% Score
Outstanding	≥85
Excellent	≥70
Very Good	≥55
Good	≥45
Pass	≥30
Unclassified	<30

3.3 MINIMUM STANDARDS

Within these sections, there are certain pre-requisites that need to be met – these are mandatory requirements for various BREEAM ratings. The mandatory requirements for each rating can be seen below:

Minimum Standard by BREEAM rating level					
BREEAM Issue	**Pass**	**Good**	**Very Good**	**Excellent**	**Outstanding**
MAN 03: Responsible Construction Practices				One Credit (Considerate Construction)	Two Credits (Considerate Construction)
MAN 04: Commissioning and Handover	None	None	None	Building User Guide	Building User Guide
MAN 05: Aftercare	None	None	None	Seasonal Commissioning	Seasonal Commissioning
ENE 01: Reduction of energy use and carbon emissions	None	None	None	Five Credits (out of 12)	Eight Credits (out of 12)
ENE 02: Energy Monitoring	None	None	One Credit (First Sub-metering credit)	One Credit (First Sub-metering credit)	One Credit (First Sub -metering credit)
WAT 01: Water Consumption	None	One Credit (out of 5)	One Credit (out of 5)	One Credit (out of 5)	Two Credits (out of 5)
WAT 02: Water Monitoring	None	Mains Water Meter (Pulsed)	Mains Water Meter (Pulsed)	Mains Water Meter (Pulsed)	Mains Water Meter (Pulsed)
MAT 03: Responsible Sourcing of Materials	Legally Sourced Timber	Legally Sourced Timber	Legally Sourced Timber	Legally Sourced Timber	Legally Sourced Timber
WST 01: Construction Waste Management	None	None	None	None	One Credit (out of 4)
WST 03: Operational Waste	None	None	None	One Credit (out of 1)	One Credit (out of 1)
LE 03: Minimising Impact on existing site ecology	None	None	One Credit (out of 2)	One Credit (out of 2)	One Credit (out of 2)

4 CONCLUSION

This pre-assessment illustrates the score and rating that is believed to be feasible under the BREEAM UK New Construction 2014 method of assessment. A score of 60.7% (BREEAM: Very Good) has been established as possible given the site and current design concept.

The Client has requested that an assessment be done as to whether BREEAM: Excellent (which may be the score required for planning approval) can be achieved. Analysis of the credits has identified an additional 12.5% of score that could be available – which would take the score to 73.2%. However, successful attainment of these credits may involve added costs (either in terms of additional design hours or increased fees from suppliers/contractors) or slight design changes.

Formal assessment and certification of the ratings requires submission of design stage and post construction reports to the BRE. The aim would be too submit the interim design report at the end of RIBA Stage 4, and for the final construction report to be submitted during RIBA Stage 6.

We would normally recommend that a 5% buffer is included within the target score, giving protection against any credits that may become unachievable as the design develops. This allows the project to maximise chances of certification at both the interim design, and final construction stages of assessment.
With that in mind, discussion with the design team is desired to identify additional credits that are feasible, so a buffer over the target rating can be established.

If a BREEAM rating is pursued by the design team, the immediate next step would be to confirm the strategy, and register the project with the BRE, and begin the Design Stage Assessment stage of the process.

Disclaimer:
To provide an overview of BREEAM requirements this report extensively references and paraphrases content from the BREEAM® UK Refurbishment and Fit-Out 2014 Copyright© by BRE Global Ltd 2014. BREEAM® is a registered trademark of BRE Global Ltd 2014.

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This BREEAM pre-assessment in no way forms a guarantee of a final BREEAM rating, that is subject to assessment by a licensed assessor, and the BRE's quality assurance processes.

5 APPENDIX

5.1 APPENDIX A – BREEAM SUMMARY PRE-ASSESSMENT

HALL SCHOOL NEW BUILD
BREEAM 2014 PRE-ASSESSMENT

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P15-265
HALL SCHOOL
Pre Assessment / Strategy
09/11/2016

TARGET	Very Good		55%						MANDATORY CREDIT FOR TARGET SCORE
ISSUE	Sub - Issues	Title	Credits	% / Credit		Available Credits	Issue Summary	Role	Notes
ENE 01	1	Energy Performance	9	0.75%	6.75%	12	5 Credits are being targeted here; To obtain these credits, a copy of the submissions to Building Control (BRUKL) and an ENE 01 compliance checker is required. The 3 credit target requires an EPRnc value of 0.375	ELEMENTA	
ENE 02	1	Sub-Metering of major energy consuming systems	2	0.75%	1.50%	2	Energy monitoring systems must be in place that enable at least 90% of the estimated annual energy consumption of each fuel to be assigned to the various end-use categories of energy consuming systems. The system that is used for this, is dependant on the floor area of the building; Where floor area is >1000m^2 it should be monitored through a BEMS. For a smaller building, pulsed sub meters can be used. The end energy consuming uses are identifiable to the building users (labelling or data outputs)	ELEMENTA	
ENE 03	1	External Lighting	1	0.75%	0.75%	1	The average Initial luminous efficacy of external lighting >=60Lumens/Watt. All external light fittings are automatically controlled for prevention of use in daylight hours, and PIR systems are used in areas of intermittent pedestrian traffic	ELEMENTA	
ENE 04	1	Passive Design Analysis	0	0.75%	0.00%	1	RIBA stage 2 analysis conducted to identify opportunities to implement passive design solutions, and reduce demands for energy consuming building services. Passive design measures should be used to reduce the total mechanical and electrical energy consumption, and the analysis is to show a meaningful reduction	ELEMENTA	
ENE 04	2	Free Cooling	1	0.75%	0.75%	1	Passive Design Analysis to include an analysis of free cooling and identifies opportunities to implement it. The building must then use one of the BREEAM listed free cooling methods	ELEMENTA	Revisting work - potential
ENE 04	3	LZC Feasibility Study	1	0.75%	0.75%	1	LZC Feasibility Study which reccomends a suitable LZC technology for the site, the reccomended technology must then be specified for the building, which results in a meaningful reduction in CO2 emissions.	ELEMENTA	
ENE 06	1	Energy Efficient Transportation Systems			0.00%	0			
ENE 08	1	Energy Efficent Equipment	0	0.75%	0.00%	2	Demonstrate a meaningful reduction in the total annual unregulated energy consumption of the building (All small power/plug in equipment to be 'energy star' rated, OR procured in accordance with the Government Buying Standards)	Client	This credit is subject to the equipment that the school plans to retain from the old building
HEA 01	1	Glare Control	1	0.83%	0.83%	1	The specification of blinds on all glazed areas within the building should award the credit here.	NORR/SCHOOL	Installation of blinds will form part of the schools FFE Schedule.
HEA 01	2	Daylighting	0	0.83%	0.00%	2	Relevant building areas to meet good practice daylighting guidelines as set out in BREEAM 2014		
HEA 01	3	View Out	0	0.83%	0.00%	1	95% of floor area to be within 7m of area with window, where the window is at least 20% of the surrounding wall area. Where the room is > 7m in depth, refer to table 1.0 in BS 8206.	NORR	Atrium space contains workstations, however it may be that this space falls within the 5% that does not obtain a suitable view out.
HEA 01	4	Internal and External lighting levels, zoning and control	1	0.83%	0.83%	1	All lighting is to operate with high frequency ballasts, and lighting should be designed in accordance with CIBSE lighting guides, additionally, external lighting should be designed in accordance with BS 5489-1:2013 and BS EN 12464-2:2014. Internal lighting should be zoned for the relevant areas present in the building.	ELEMENTA	
HEA 02	1	Indoor Air Quality Plan	0	0.83%	0.00%	1	Indoor Air Quality plan to be produced to influence design/installation actions that minimised indoor air pollution during occupation. It must include; removal of contaminant sources, dilution and control of contaminant sources, procedures for pre-occupancy flush out, third party testing and analysis, maintaining indoor air quality in use.	TBC	may be a future option
HEA 02	2	Ventilation	0	0.83%	0.00%	1	For a mechanically ventilated building, Buildings are intakes and exhausts to be at least 10m apart, and all intakes to be at least 20m from sources of external pollution. For a naturally ventilated building, intakes must be 10m from sources of external pollution.		
HEA 02	3	Volatile Organic Compound emission levels (products)	1	0.83%	0.83%	1	All decorative paints and varnishes to meet the criteria of BREEAM 2014 Table-18	NORR	
HEA 02	4	Volatile Organic Compound emission levels (post construction)	1	0.83%	0.83%	1	VOC levels post construction to meet BREEAM criteria	contractor/ architect	
HEA 02	5	Potential for Natural Ventilation	0	0.83%	0.00%	1	Room depths to be designed in accordance with CIBSE AM10. The openable window area = 5% of the gross internal floor area of that room/floor plate. The natrual vent strategy should enable sufficent cross flow to maintain thermal comfort and ventilation. Windows are to provided two forms of opening that are user controlled.		
HEA 04	1	Thermal Modelling	0	0.83%	0.00%	1	Thermal model to show CIBSE Guide A compliance and to be conducted with CIBSE AM11 compliant software.	ELEMENTA	
HEA 04	2	Adaptability for a project climate change scenario	0	0.83%	0.00%	1	The thermal modelling demonstrates that the relevant requirements set out are achieved for a projected climate change environment		
HEA 04	3	Thermal Zoning and Controls	0	0.83%	0.00%	1	Heating strategy to have acceptable zones within the building, that can efficently heat and cool individual areas. The heating strategy should address both the above, and the levels of user control, based on discussions with the end user.	ELEMENTA	
HEA 05	1	Acoustic Performance	2	0.83%	1.67%	3	The building meets appropriate acoustic standards and testing requirements with regards to sound insulation, indoor ambient noise level, reverberation times.	RAMBOLL	
HEA 06	1	Safe Access	1	0.83%	0.83%	1	Providing 'safe' access to the entrance to the building within the sites boundary. i.e. walkway lighting, cycle lanes to storage, zebra crossings, lowered kerbs, etc.	NORR	
HEA 06	2	Security of Site and Building	0	0.83%	0.00%	1	Adoption of reccomendations regarding security from suitably qualified security consultant/ALO/CPDA	NORR	
INN	1	Innovation Approved by BRE Global	0	1.00%	0.00%	1	Innovation that is not listed but would be considered innovative by BRE		
INN	1	Zero regulated carbon / carbon negative	0	1.00%	0.00%	5	Zero Regulated Carbon / Carbon Negative		
INN	1	Exemplary Level	0	1.00%	0.00%	1	Exemplary Daylighting		

HALL SCHOOL NEW BUILD
BREEAM 2014 PRE-ASSESSMENT

P15-265
HALL SCHOOL
Pre Assessment / Strategy
09/11/2016

TARGET	Very Good	55%							MANDATORY CREDIT FOR TARGET SCORE
ISSUE	Sub - Issues	Title	Credits	% / Credit		Available Credits	Issue Summary	Role	Notes
INN	1	VOC emissions (post construction): exemplary levels	0	1.00%	0.00%	2	Exemplary VOC levels		
INN	1	Considerate Construction	0	1.00%	0.00%	1	Exemplary performance on a compliant considerate construction scheme. i.e. CCS >40 with 7 in each category		
INN	1	Aftercare/Monitoring: 3 years	0	1.00%	0.00%	1	Aftercare/Monitoring - 3 years at quarterly intervals, including energy and water data collection, setting targets to improve, feedback and provision of annual energy, water and occupier satisfaction to BRE.	Client	
INN	1	Green Guide to Specification	1	1.00%	1.00%	1	Exemplary performance of materials as per the Green Guide to Specification - OR Compliant life cycle assessment software tools (Whole building approach)	DAR	
INN	1	Exemplary Responsible Sourcing	0	1.00%	0.00%	1	Where at least 70% of the Responsible Sourcing points are achieved		
INN	1	Exemplary Levels	0	1.00%	0.00%	1	Exemplary Water consumption levels		
INN	1	Resource Efficiency/Diversion of waste from landfill:	0	1.00%	0.00%	1	<=1.6 m^3 of waster per 100m^2 of gross internal floor area (=<1.9 tonnes per 100m^2) - Diversion from landfill of (volume) 85% non demolition, 85% demolition and 95% excavation waster (90%, 95%, 95% tonnage)		
INN	1	Recycled Aggregates, Exemplary Performance	0	1.00%	0.00%	1	Percentage of high grade aggregate that is recycled or secondary aggregate must meet exemplary levels. Cannot have travelled more than 30km by road.		
INN	1	Responding to adapation to climate change	0	1.00%	0.00%	1	A holistic approach to the design and construction of the current buildings life cycle, to mitigate against the impacts of climate change		
LE 01	1	Previously Occupied Land	1	1.00%	1.00%	1	Pre/Post Construction design drawings to show that 75% of the proposed developments footprint is on previouisly developed land	NORR	

HALL SCHOOL NEW BUILD
BREEAM 2014 PRE-ASSESSMENT

P15-265
HALL SCHOOL
Pre Assessment / Strategy
09/11/2016

TARGET	Very Good	55%						MANDATORY CREDIT FOR TARGET SCORE
ISSUE	Sub - Issues	Title	Credits	% / Credit		Available Credits	Issue Summary	Role	Notes
LE 01	2	Contaminated Land	0	1.00%	0.00%	1	Contaminated land specialist deems the site to be affected by contamination. Specialist remediation plan is undertaken.		
LE 02	1	Ecological Value of site	1	1.00%	1.00%	1	Suitably Qualifed Ecologist determines that the land is of 'low ecological value'	Ecologist	
LE 02	2	Protection of Ecological	1	1.00%	1.00%	1	All existing features of ecological value within the construction zone are to be protected in line with BS 42020:2013, and any other reccomendations on	Ecologist	
LE 03	1	Change in Ecological Value	1	1.00%	1.00%	2	Ecologist to provide calculations that show the change in ecological value of the site is greater than or equal to 0 plant species.	Ecologist	
LE 04	1	Ecologists report and reccomendations	1	1.00%	1.00%	1	Ecologist appointed to advise on ecology from RIBA stage 1, and their reccomendations are for the enhancement of site ecology, have or will be implemented.	Ecologist	
LE 04	2	Increase in Ecological Value	1	1.00%	1.00%	1	Increase in Ecological Value of 6 species	Ecologist	
LE 05	1	Long Term Impact on Biodiversity	2	1.00%	2.00%	2	A 5 year management plan is produced, to be handed over to the grounds maintenance staff, in accordance with BS 42020:2013, and 4 of the BREEAM additional measures are complied with.	Ecologist	
MAN 01	1	Stakeholder Consultation (project delivery)	1	0.57%	0.57%	1	Developer/Architect to provide minutes of RIBA Stage 2 meeting minutes or otherwise) where all roles engaged discussed their role in delivering a BREEAM rating. Schedule of roles and responsibilities for each party required as evidence.	NORR/GVA	
MAN 01	2	Stakeholder Consultation (third party)	1	0.57%	0.57%	1	Relevant third party stakeholders have been consulted by the design team with the minimum consultation content, and the team must demonstrate how their contributions have influenced the initial project brief and design. Consultation feedback must be given to, and received by all relevant third parties. This consultation exercise must use a method conducted by an independent party.	GVA	
MAN 01	3	Sustainability Champion (design)	0	0.57%	0.00%	1	Appointment of Sustainability Champion to attend key meetings at every stage of design construction and handover. Target score set today must be achieved both at the Design (interim) and Construction (final) stage Assessments.		
MAN 01	4	Sustainability Champion (Monitoring Progress)	0	0.57%	0.00%	1	Sustainability Champion is appointed to monitor progress during design against the agreed BREEAM performance targets, and formally report progress to the design and client team.		
MAN 02	3	Capital Cost Reporting	1	0.57%	0.57%	1	Report the capital cost for the building in pounds per square metre (£/m^2)	GVA	
MAN 02	1	Elemental Life Cycle Cost (LCC)	0	0.57%	0.00%	2	An elemental life cycle cost analysis has been carried out at Process stage 2 (RIBA 2) in line with 'Standardised method for life cycle costing for construction procurement PD 156865:2008)	NORR / Cost Consultant	
MAN 02	2	Component Level LCC plan	0	0.57%	0.00%	1	Component level LCC plan developed by process stage 4 (RIBA 4) in line with PD 156865:2008 and includes envelope, services, finishes and external spaces. This must be used to influence building systems design/sepcification and examples of this must be provided	NORR / Cost Consultant	
MAN 03	1	Environmental Management	1	0.57%	0.57%	1	Principal contractor to hold ISO14001 or equivalent EMS and PPG6 compliant procedures on dust and spills.	GVA	
MAN 03	3	Considerate Construction	2	0.57%	1.14%	2	Prelims to confirm requirement for main contractor to register site with CCS and commit to score.	GVA	
MAN 03	4	Monitoring of construction site impacts - Utility	1	0.57%	0.57%	1	Prelims to confirm requirement for main contractor to set KPI targets for energy and water use for all on-site construction processess. Responsibility assigned to an individual for monitoring, recording and reporting this data	GVA	
MAN 03	5	Monitoring of construction site impacts - Transport of	1	0.57%	0.57%	1	Monitoring and recording of data on all site transport movements. Particularly, deliveries to the site, and waste removal from the site. Total fuel consumption (litres) and total CO2 emissions (kgCO2 eq.) must be reported	GVA	
MAN 03	2	Sustainability Champion (Construction)	0	0.57%	0.00%	1	Appointment of a 'Sustainability Champion' to monitor the project to ensure ongoing compliance with the BREEAM targets during construction, handover and close out. Monitoring must be done sufficently to ensure risks of non compliance are minimised.	Client / Contractor	
MAN 04	1	Commissioning schedule and responsibilities	1	0.57%	0.57%	1	Schedule of commissioning and testing to be provided, and that appropriate standards will be followed (Building regs, CIBSE, BSRIA, and/or other appropriate standards. An appropriate team member is to monitor and programme, pre commissioning, commissioning and re-commissioning if	ELEMENTA/GVA	
MAN 04	2	Comissioning Building Services	1	0.57%	0.57%	1	Specialist Commissioning Manager Appointment for complex building systems and services, is appointed during the design stage.	ELEMENTA/GVA	
MAN 04	4	Handover	1	0.57%	0.57%	1	Provision of non-technical Building User Guide and an additional schedule of training which includes; the buildings design intent, availble aftercare	GVA	
MAN 04	3	Comissioning Building Fabric	0	0.57%	0.00%	1	Conduction of a thermographic survey, with defects rectified accordingly.		
MAN 05	1	Aftercare Support	0	0.57%	0.00%	1	Post Occupancy Evaluation (programmed aftercare and quarterly analysis of operational energy and water consumption).	Client	
MAN 05	2	Seasonal Comissioning	1	0.57%	0.57%	1	Seasonal Commissioning over 12 months from occupation,	GVA	
MAN 05	3	Post Occupancy Evaluation	1	0.57%	0.57%	1	Post Occupancy Evaluation one year after occupation - a review of design intent and construction process. Information dissemination of the buildings performance post-occupancy	Various	
MAT 01	1	Life cycle impact of main building elements	3	0.96%	2.89%	6	Credits awarded based on materials quantified environmental life cycle impact (external walls, windows, roof, upper floor slab, internal walls and floor finishes) - provision of A or higher rated materials as per the Green Guide should award the credits here.	NORR	
MAT 02	1	Hard Landscaping and Boundary Protection	1	0.96%	0.96%	1	80% of all boundary protection and hard landscaping in the construction zone to have an A or A+ rating from the Green Guide	NORR	
MAT 03	1	Sustainable Procurement Plan	1	0.96%	0.96%	1	Principal contractor sources materials in accordance with a documented sustainable procurement plan, that sets out a clear framework for responsible sourcing.	GVA	
MAT 03	2	Responsible Sourcing of Materials	2	0.96%	1.93%	3	All timber products to be 'legally harvested and traded timber'. 2 credits will be awarded where materials are sourced in accordance with BREEAM methodology.	GVA	
MAT 03	-	Timber Pre-Req.	1		0.00%	-	All timber products to be 'legally harvested and traded timber'.	GVA	

HALL SCHOOL NEW BUILD
BREEAM 2014 PRE-ASSESSMENT

P15-265
HALL SCHOOL
Pre Assessment / Strategy
09/11/2016

TARGET	Very Good	55%						MANDATORY CREDIT FOR TARGET SCORE
ISSUE	Sub - Issues	Title	Credits	% / Credit		Available Credits	Issue Summary	Role	Notes
MAT 04	1	Embodied Impact	1	0.96%	0.96%	1	Requires all insulation specified (external walls, ground floor, roof, building servies) to be highly efficient (insulation index > 2.5).	NORR/ELEMENTA	
MAT 05	1	Protecting vulnerable parts of the building from damage & protecting exposed parts of the building from material degradation	1	0.96%	0.96%	1	Severe Duty Corridor walls/lobbies, easy-clean hard-wearing floors, kick plates, external protection to the building façade where required (within 1m of vehicular movement/2m for delivery areas).	NORR	
MAT 06	1	Material Efficacy	0	0.96%	0.00%	1	Optimisation of materials in building design, procurement, construction, maintenance and enf of life.This carried out at RIBA stages; preparation and brief, concept design, developed design, technical design, construction	VARIOUS	
POL 01	1	Refrigerant Selection, leak	0	0.77%	0.00%	3	Three credits would be awarded where the building does not require the use of refrigerants. Two awarded where it has < 100 kgCO2/KW	ELEMENTA	
POL 02	1	Nox Emissions (heating)	3	0.77%	2.31%	3	70mg/kWh dry air-free NOx emissions from space heating boilers. Engineer to calculate that direct electric hot water demand will be <= 10% of total energy demand of the operational building. NOx emissions of cooling plant to be reported, but not assessed.	ELEMENTA	
POL 03	1	Flood Risk	2	0.77%	1.54%	2	Confirmation that the site is in an area with a 'low annual probability of flooding' (in accordance with current best planning guidance)[must consider flooding from: rivers, tide, surface water, ground water, sewers and artificial sources.]	ELLIOTT WOOD	Elliot Wood - Once we undertake the Flood Risk Assessment we will be able to confirm number of credits achieved
POL 03	2	Surface Water Run-Off	2	0.77%	1.54%	2	An appropriate consultant is appointed to confirm that peak run off from the site to watercourses is no greater than it was pre development, This should comply at the 1 in 100 year return period events. Maintenance responsibilities assigned for any SuDs solutions. Calculations should include an	ELLIOTT WOOD	Elliott Wood - 1 credit currently targeted. I'd suggest we can only achieve 1 credit at this stage, we may not be able to achieve the second credit which is related to flood risk to the building, if we have to
POL 03	3	Minimising water course pollution	0	0.77%	0.00%	1	There is no discharge from the site from the developed site for rainfall up to 5mm (confirmed by the appropriate consultant). A comprehensive and up to date drainage plan is made available, along with maintenance responsibilities for SuDs as above.	ELLIOTT WOOD	Elliott Wood - 1 credit currently targeted. We will not be able to achieve this credit as the first 5mm of rainfall will enter the offsite sewer
POL 04	1	Reduction of Night Time Light Pollution	1	0.77%	0.77%	1	External lighting to be designed and installed in line with the Tables 2.0 of the ILP Guidance on avoiding obtrusive light. Lighting should be on a timer to turn off between 2300 and 0700. (Security lighting can be dimmed during this time in line with table 2.0 of the ILP guidance)	ELEMENTA	
POL 05	1	Reduction of noise pollution	1	0.77%	0.77%	1	A suitably qualified acoustician is apoointed to conduct a noise impact assessment in line with BS 7445, and determines the background noise and noise from the development. Noise levels should not exceed +5dB (day) and +3dB (night) compared to background noise levels.	ACOUSTICIAN	
TRA 01	1	Public Transport Accessibility	3	1.29%	3.86%	3	Dependant on public transport facilities in local area	NORR	
TRA 02	1	Proximity to local amenities	1	1.29%	1.29%	1	Food Outlet/Cash Point/Sports facility (2 of) within 500m and an option of one other outdoor space/postal facility/community facility/pharmacy within 500m. Map to show this via. a safe walking route.	NORR	
TRA 03	1	Cycle Storage	0	1.29%	0.00%	1	BREEAM compliant cyclist facilities. Covered and Lit to BS 5489-1:2008	NORR / Transport Consultant	
TRA 03	2	Cyclist Facilities	0	1.29%	0.00%	1	Equivelent number of lockers, and suitable number of showers	NORR	
TRA 05	1	Travel Plan	1	1.29%	1.29%	1	Travel plan developed as a part of the feasibility and design stages, structured to meet the needs of the particular site, and should cover the BREEAM list of requirements.	GVA	
WAT 01	1	Water Consumption	2	0.88%	1.75%	5	40% below Part G compliance required. Efficency levels of WC's, Urinals, Taps, Showers, Baths, Dishwashers and Washing Machines required. Example ffective levels that would achieve this level can be provided.	NORR / Elementa	
WAT 02	1	Water Monitoring	1	0.88%	0.88%	1	Pulsed output water meter on all incoming mains supplies. Areas that consume >10% of the developments water should be sub metered with a pulsed output.	ELEMENTA	
WAT 03	1	Leak Detection System	0	0.88%	0.00%	1	Major Leak Detection from mains water supply too internal meter (audible when activated to notify a member of the buildings management)	ELEMENTA	
WAT 03	2	Flow Control Devices	0	0.88%	0.00%	1	Specification of solenoids (or otherwise) to regulate water supply to WC areas according to demand		
WST 01	1	Construction Resource	1	1.06%	1.06%	3	SWMP required with targets to reduce waste production and maximise recovery rates.	GVA	
WST 01	2	Diversion of Resources from	1	1.06%	1.06%	1	Diversion of Resources From Landfill - 70% of non demoliton, and 80 % demoltion (volume) to be diverted. (80%/90% respectively for tonnage)	GVA	
WST 02	1	Recycled Aggregates	0	1.06%	0.00%	1			
WST 03	1	Operational Waste	1	1.06%	1.06%	1	2m^2 per 1000m^2 net floor area of space dedicated to the sepration and segregation of waste (this must be labelled, easily accessible for deposit and collection). Where organic waste is being stored, a water outlet is provided for cleaning.	NORR/School	
WST 05	1	Adaption to climate change - structural and fabric resilience	0	1.06%	0.00%	1	Conduct a climate change adaption strategy appraisal for structural and fabric resilience by RIBA Stage 2, to identify and evaluate the impact from extreme weather due to climate change, that covers: hazard identification, hazard assessment, risk estimation, risk evaluation and risk management	Architect	
WST 06	1	Functional Adaptability	0	1.06%	0.00%	1	A building-specific adaption strategy study has been undertaken by the client and DT by RIBA stage 2, which includes reccomendations for measures to be incorporated to facilitate future adaption.	Architect	

TARGET		
60.60%	Very Good	60.60%
64.60%	Actual	

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5.2 APPENDIX B – BREEAM PRE-ASSESSMENT (OFFICIAL)

BREEAM UK New Construction 2014 Pre-Assessment Estimator: Assessment Issue Scoring

BREEAM® UK

Building name	Hall School
Building score (%)	60.70%
Building rating	Very Good
Minimum standards level achieved	Outstanding level

MANAGEMENT

Man 01 Project brief and design

No. of BREEAM credits available	4	Available contribution to overall score	2.29%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will stakeholder consultation (project delivery) take place?	Yes	1	1
Will stakeholder consultation (third party) take place?	Yes	1	1
Will a sustainability champion (design) be assigned?	No	1	0
Will a sustainability champion (monitoring progress) be assigned?	No	1	0

Total BREEAM credits achieved	2
Total contribution to overall building score	1.14%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

Man 02 Life cycle cost and service life planning

No. of BREEAM credits available	4	Available contribution to overall score	2.29%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will an elemental life cycle cost (LCC)analyses be carried out?	No	2	0
Will a component level LCC plan be developed?	No	1	0
Will the predicted capital cost be reported?	Yes	1	1
Expected capital cost of the project (if available)	£100	£/m^2	

Total BREEAM credits achieved	1
Total contribution to overall building score	0.57%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Man 03 Responsible construction practices

No. of BREEAM credits available	6	Available contribution to overall score	3.43%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Is all site timber used in the project 'legally harvested and traded timber'?	Yes		
Will/does the principal contractor operate a compliant Environmental Management System?	Yes	1	1
Will a construction stage sustainability champion be assigned?	No	1	0
Will a considerate construction scheme be used by the principal contractor? (One credit where 'compliance' has been achieved. Two credits where 'compliance' is significantly exceeded.)	2	2	2
Will construction site impacts be metered/monitored?	Yes		
Will site utility consumption be metered/monitored?	Yes	1	1
Will transport of construction materials and waste be metered/monitored?	Yes	1	1
Will exemplary level criteria be met?	No	1	0

Key Performance Indicators: Construction site energy use

Energy consumption (total) - site processes		Information not available at design stage
Energy consumption (intensity) - site processes		Information not available at design stage
Distance (total) - materials transport to site		Information not available at design stage
Distance (total) -waste transport from site		Information not available at design stage
Energy consumption (total) - materials transport to site		Information not available at design stage
Energy consumption (total) - waste transport from site		Information not available at design stage
Energy consumption (intensity) - materials transport to site		Information not available at design stage
Energy consumption (intensity) - waste transport from site		Information not available at design stage

Key Performance Indicators: Construction site greenhouse gas emissions

Process greenhouse gas emissions (total) - site processes		Information not available at design stage
Greenhouse gas emissions (intensity) - site processes		Information not available at design stage
Greenhouse gas emissions (total) - materials transport to site		Information not available at design stage
Greenhouse gas emissions (total) - waste transport from site		Information not available at design stage
Greenhouse gas emissions (intensity) - materials transport to site		Information not available at design stage
Greenhouse gas emissions (intensity) - waste transport from site		Information not available at design stage

Key Performance Indicators: Construction site use of freshwater resources

Use of freshwater resource (total) - site processes		Information not available at design stage
Use of freshwater resource (intensity) - site processes		Information not available at design stage

Total BREEAM credits achieved	5
Total contribution to overall building score	2.86%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Comments/notes:

Man 04 Commisioning and handover

No. of BREEAM credits available	4	Available contribution to overall score	2.29%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will commissioning schedule and responsibilities be developed & accounted for?	Yes	1	1
Will a commissioning manager be appointed?	Yes	1	1
Will the building fabric be commissioned?	No	1	0
Will a building user guide be developed prior to handover?	Yes	1	1
Will a training schedule be prepared for building occupiers/managers?	Yes		

Total BREEAM credits achieved	3
Total contribution to overall building score	1.71%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Comments/notes:

Man 05 Aftercare

No. of BREEAM credits available	3	Available contribution to overall score	1.71%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will aftercare support be provided to building occupiers?	No	1	0
Will seasonal commissioning occur over 12months once substantially occupied?	Yes	1	1
Will a post occupancy evaluation be carried out 1 year after occupation?	Yes	1	1
Will exemplary level criteria be met?	No	1	0

Total BREEAM credits achieved	2
Total contribution to overall building score	1.14%

Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Comments/notes:

HEALTH & WELLBEING

Hea 01 Visual Comfort

No. of BREEAM credits available	5	Available contribution to overall score	4.17%
No. of BREEAM innovation credits available	1	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will the design provide adequate glare control for building users?	Yes	1	1
How many credits will be targeted for the daylighting criteria?	0	2	0
Will the design provide adequate view out for building users?	No	1	0
Will internal/external lighting levels, zoning and controls be specified in accordance with the relevant CIBSE Guides/British Standards?	Yes	1	1
Will exemplary level criteria be met?	No	1	0

Total BREEAM credits achieved	2
Total contribution to overall building score	1.67%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

Hea 02 Indoor Air Quality

No. of BREEAM credits available	5	Available contribution to overall score	4.17%
No. of BREEAM innovation credits available	2	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will an air quality plan be produced and building designed to minimise air pollution?	No	1	0
Will building be designed to minimise the concentration and recirculation of pollutants in the building?	Yes	1	1

Will the relevant products be specified to meet the VOC testing and emission levels required?	Yes	1	1
Will formaldehyde and total VOC levels be measured post construction?	No	1	0
Will the building be designed to, or have the potential to provide, natural ventilation?	No	1	0
Will exemplary level VOCs (products)criteria be met?		2	0

Key Performance Indicators: Indoor air quality

Concentration levels of formaldehyde	INA	Information not available at design stage
Total volatile organic compound (TVOC) concentration	INA	Information not available at design stage

Total BREEAM credits achieved	2
Total contribution to overall building score	1.67%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

Hea 03 Safe containment in laboratories

Assessment issue not applicable

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

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will an objective risk assessment of proposed laboratory facilities' design be completed?			
Will the manufacture & installation of fume cupboards and containment devices meet best practice standards?			
Will containment level 2 & 3 labs meet best practice safety & performance criteria?			

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

Comments/notes:

Hea 04 Thermal comfort

No. of BREEAM credits available	3	Available contribution to overall score	2.50%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will thermal modelling of the design be carried out?	No	1	0
Will the building design be adapted for a projected climate change scenario?		1	0
Will the modelling inform the development of a thermal zoning and control strategy?	Yes	1	0

Key Performance Indicators: Thermal comfort

Predicted Mean Vote (PMV)	
Predicted Percentage Dissatisfied (PPD)	

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

Comments/notes:

Hea 05 Acoustic Performance

No. of BREEAM credits available	3	Available contribution to overall score	2.50%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Credits	Credits available	Credits achieved
Will the building meet the appropriate acoustic performance standards and testing requirements for: a. Sound insulation b. Indoor ambient noise level c. Reverberation times?	2	3	2

Total BREEAM credits achieved	2
Total contribution to overall building score	1.67%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Hea 06 Safety and Security

No. of BREEAM credits available	2	Available contribution to overall score	1.67%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Where external site areas are present, will safe access be designed for pedestrians and cyclists?	Yes	1	1
Will a suitably qualified security consultant be appointed and security considerations accounted for?	No	1	0

Total BREEAM credits achieved	1
Total contribution to overall building score	0.83%
Total BREEAM innovation credits achieved	N/A

Minimum standard(s) level	N/A

Comments/notes:

ENERGY

Ene 01 Reduction of energy use and carbon emissions

No. of BREEAM credits available	12	Available contribution to overall score	9.00%
No. of BREEAM innovation credits available	5	Minimum standards applicable	Yes

How do you wish to assess the number of BREEAM credits achieved for this issue?	Define a target number of BREEAM credits achieved
Select the target number of BREEAM credits for the Ene01 issue:	9

Ene 01 Calculator

Country of the UK where the building is located		Confirm building regulation and version to be used:	

New Construction (Fully fitted)

Building floor area		m2
Notional building heating and cooling energy demand		MJ/m2yr
Actual building heating and cooling energy demand		MJ/m2yr
Notional building primary energy consumption		kWh/m2yr
Actual building primary energy consumption		kWh/m2yr
Target emission rate (TER)		kgCO2/m2yr
Building emission rate (BER)		kgCO2/m2yr
Building emission rate improvement over TER		
Heating & cooling demand energy performance ratio (EPR_{ED})		
Primary consumption energy performance ratio (EPR_{PC})		
CO_2 Energy performance ratio (EPR_{CO2})		
Overall building energy performance ratio (EPR_{NC})		

Where specified, please confirm the energy production from onsite or near site energy generation technologies	
Equivalent % of the building's 'regulated' energy consumption generated by carbon neutral sources and used to meet energy demand from 'unregulated' building systems or processes?	
Is the building designed to be 'carbon negative' ?	
If the building is defined as 'carbon negative' what is the total (modelled) renewable/carbon neutral energy generated and exported?	

Total BREEAM credits achieved	9
Total contribution to overall building score	6.75%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Comments/notes:

Ene 02 Energy monitoring

No. of BREEAM credits available	2	Available contribution to overall score	1.50%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment criteria	Compliant?	Credits available	Credits achieved
Will a BMS or sub-meters be specified to monitor energy use from major building services systems?	Yes	1	1
Will a BMS or sub-meters be specified to monitor energy use by tenant/building function areas?	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	1.50%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Comments/notes:

Ene 03 External lighting

No. of BREEAM credits available	1	Available contribution to overall score	0.75%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

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

Total BREEAM credits achieved	1
Total contribution to overall building score	0.75%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Ene 04 Low carbon design

No. of BREEAM credits available	3	Available contribution to overall score	2.25%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment criteria	Compliant?	Credits available	Credits achieved
Will passive design measures be used in line with an analysis be carried out during concept design stage (RIBA stage 2 or equivalent)?	No	1	0
Will free cooling measures be implemented in the whole building in line with the passive design analysis?	No	1	0
Will a LZC technology be specified in line with a feasibility study carried out by the completion of the Concept Design stage (RIBA Stage 2 or equivalent)?	Yes	1	1

KPI - Low and/or zero carbon energy generation

Total on-site and/or near-site LZC energy generation	INA	kWh/yr

Total BREEAM credits achieved	1
Total contribution to overall building score	0.75%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Ene 05 Energy efficient cold storage

Assessment issue not applicable

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

Assessment criteria	Compliant?	Credits available	Credits achieved

Will the refrigeration system be designed, installed & commissioned in accrodance with BREEAM criteria?		N/A	N/A
Will the refrigeration system demonstrate a saving in indirect greenhouse gas emissions?		N/A	N/A

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

Comments/notes:

Ene 06 Energy efficient transportation systems

Assessment issue not applicable

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

Assessment criteria	Compliant?	Credits available	Credits achieved
Will a transportation system analysis be carried out to determine and specify the optimum number, size and type of lifts that is most energy efficient?			
Will the relevant energy-efficient features criteria be met?			

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

Comments/notes:

Ene 07 Energy efficient laboratory systems

Assessment issue not applicable

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

Assessment criteria	Compliant?	Credits available	Credits achieved
Pre-requisite: Criterion 1 of Hea 03 - risk assessment of laboratory facilities			
Have the occupants' laboratory requirements & performance criteria been confirmed during the preparation of the initial project brief to minimise energy demand?			
Best Practice Energy Practices in Laboratories (table 27)			
Will the laboratory meet criteria item b) Fan power?			
Will the laboratory criteria item c) Fume cupboard volume flow rates?			
Will the lab meet item d) Grouping / isolation of high filtration/ventilation activities?			
Will the laboratory meet criteria item e) Energy recovery - heat?			
Will the laboratory meet criteria item f) Energy recovery - cooling?			

Will the laboratory meet criteria item g) Grouping of cooling loads?	
Will the laboratory meet criteria item h) Free cooling?	
Will the laboratory meet criteria item i) Load responsiveness?	
Will the laboratory meet criteria item j) Cleanrooms?	
Will the laboratory meet criteria item k) Diversity?	
Will the laboratory meet criteria item l) Room air-change rates?	

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

Comments/notes:

Ene 08 Energy efficient equipment

No. of BREEAM credits available	2	Available contribution to overall score	1.50%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment criteria

Which of the following will be present and likely to be a/the major contributor to 'unregulated' energy use?	Present	Major impact
Ref A Small power and plug in equipment?	Yes	Yes
Ref B Swimming pool?	Yes	Yes
Ref C Communal laundry?	No	
Ref D Data centre?	No	
Ref E IT-intensive operation areas?	No	
Ref F Residential areas?	No	
Ref G Healthcare?	No	
Ref H Kitchen and catering facilities?	No	

	Compliant	Credits available	Credits achieved
Will the significant majority contributor(s) to 'unregulated' energy use above meet the BREEAM criteria?	No	2	0

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

Comments/notes:

Ene 09 Drying space

Assessment issue not applicable

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

Assessment criteria Compliant? Credits available Credits achieved

Will internal/external drying space and fixings be provided?			

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

Comments/notes:

TRANSPORT

Tra 01 Public Transport Accessibility

No. of BREEAM credits available	3	Available contribution to overall score	3.86%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Building type category (for purpose of Tra01 issue assessment)	Pre-school, School and/or Sixth form

Assessment Criteria	Compliant	Credits available	Credits achieved
Indicative public transport accessibility index (AI):	20.21	3	3
Will the building have a dedicated bus service?			N/A

AI	Indicative Accessibility Index for pre-assessment
0	Poor or no public transport provision
1	A single BREEAM compliant public transport node available
2	Some BREEAM compliant public transport nodes/services available
4	A selection of BREEAM compliant public transport nodes/services available
8	Good provision of public transport i.e. small urban centre / suburban area
10	Very Good provision of public transport i.e. small/medium urban centre
12	Excellent provision of public transport, i.e. medium urban centre
18	Excellent provision of public transport, i.e. large urban/metropolitan city centre

Total BREEAM credits achieved	3
Total contribution to overall building score	3.86%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Tra 02 Proximity to Amenities

No. of BREEAM credits available	1	Available contribution to overall score	1.29%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will the building be in close proximity of and accessible to applicable amenities?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	1.29%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Tra 03 Cyclist facilities

No. of BREEAM credits available	2	Available contribution to overall score	2.57%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Building type category (for purpose of Tra03 issue assessment)	Secondary schools & sixth form
How many compliant cycle storage spaces will be provided?	
What cyclist facilities will be provided?	Please select

Assessment Criteria	Compliant?	Credits available	Credits achieved
Cycle storage spaces		2	0
Cyclist facilities			

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

Comments/notes:

Tra 04 Maximum Car Parking Capacity

Assessment issue not applicable

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

Building type category (for purpose of Tra04 issue)	
Building's indicative Accessibility Index (sourced from issue Tra01)	

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will BREEAM's maximum parking capacity criteria for the building type/Accessibility Index be met?			

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

Comments/notes:

Tra 05 Travel Plan

No. of BREEAM credits available	1	Available contribution to overall score	1.29%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a transport plan based on site specific travel survey/assessment be developed?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	1.29%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

WATER

Wat 01 Water Consumption

No. of BREEAM credits available	5	Available contribution to overall score	4.38%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

How do you wish to assess the BREEAM credits to be achieved for this issue?	Define a target % improvement over baseline sanitary fittings
What is the target for % reduction in potable water consumption for sanitary use in the building?	25% - two credits
Please select the calculation procedure used	

Standard approach data

Water Consumption from building micro-components	

Water demand met via greywater/rainwater sources	
Total net water consumption	
Improvement on baseline performance	

Key Performance Indicator - use of freshwater resource

Total net Water Consumption	
Default building occupancy	

Alternative approach data

Overall microcomponent performance level achieved	

Total BREEAM credits achieved	2
Total contribution to overall building score	1.75%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Comments/notes:

Wat 02 Water Monitoring

No. of BREEAM credits available	1	Available contribution to overall score	0.88%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

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

Total BREEAM credits achieved	1
Total contribution to overall building score	0.88%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Comments/notes:

Wat 03 Water Leak Detection and Prevention

No. of BREEAM credits available	2	Available contribution to overall score	1.75%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a mains water leak detection system be installed on the building's mains water supply?	Yes	1	1
Will flow control devices be installed in each sanitary area/facility?	No	1	0

Total BREEAM credits achieved	1
Total contribution to overall building score	0.88%
Total BREEAM innovation credits achieved	N/A

Minimum standard(s) level	N/A

Comments/notes:

Wat 04 Water Efficient Equipment

Assessment issue not applicable

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

Assessment Criteria	Compliant?	Credits available	Credits achieved
Has a meaningful reduction in unregulated water demand been achieved?			

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

Comments/notes:

MATERIALS

Mat 01 Life Cycle Impacts

No. of BREEAM credits available	6	Available contribution to overall score	5.79%
No. of BREEAM innovation credits available	3	Minimum standards applicable	No

How do you wish to assess the number of BREEAM credits to be achieved for this issue?	Define the number of Mat 01 credits achieved

Assessment Criteria

Predicted total Mat01 credits achieved	3
Predicted total Mat01 points achieved	
Number of building elements assessed	
Green Guide exemplary level compliant?	Yes
Has IMPACT compliant software been used?	

Key Performance Indicator - embodied green house gas emissions by element	Total area of element m^2	Total impact $kgCO_2$ eq.	Area of element impact data relevant to m^2
External walls			

Windows			
Roof			
Upper floor construction			
Internal wall			
Floor finishes/coverings			

Key Performance Indicator - embodied green house gas emissions for building (assessed elements only)

Total embodied green house gas emissions for building (by assessed elements)	Missing data	$kgCO_2$ eq.		$kgCO_2$ eq./m^2
Proportion of applicable building elements that data reported covers				

Total BREEAM credits achieved	3
Total contribution to overall building score	2.89%
Total BREEAM innovation credits achieved	1
Minimum standard(s) level	N/A

Comments/notes:

Mat 02 Hard Landscaping and Boundary Protection

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

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will ≥80% of all external hard landscaping and boundary protection achieve a Green Guide A or A+ rating?	Yes	1	1

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

Comments/notes:

Mat 03 Responsible Sourcing

No. of BREEAM credits available	4	Available contribution to overall score	3.86%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria	Compliant	Credits available	Credits achieved
All timber and timber based products are 'Legally harvested and trader timber'	Yes		
Is there a documented sustainable procurement plan?	Yes	1	1
Percentage of available responsible sourcing of materials points achieved	22.00%	3	1

Please confirm the route used to assess Mat03	Please select

Total BREEAM credits achieved	2
Total contribution to overall building score	1.93%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Comments/notes:

Mat 04 Insulation

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

Assessment Criteria		Credits available	Credits achieved	
What is the building's targeted insulating index?	16.00	1	1	Note: An insulatio

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

Comments/notes:

Mat 05 Designing for durability and resilience

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

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will suitable durability/protection measures be specified and installed to vulnerable areas of the building?	Yes	1	1
Will suitable durability/protection measures be specified and installed to exposed parts of the building?	Yes		

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

Comments/notes:

Mat 06 Material efficiency

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

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will material efficiency measures be identified & implemented during all RIBA stages?	No	1	0

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

Comments/notes:

WASTE

Wst 01 Construction Waste Management

No. of BREEAM credits available	4	Available contribution to overall score	4.25%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

How do you wish to assess the number of BREEAM credits to be achieved for this issue?	Define a target number of BREEAM credits		
Select the number of BREEAM credits being targeted for issue Wst 01:	2	BREEAM Wst01 Innovation credits:	

Assessment Criteria	Compliant?
Construction resource management plan	
Compliant Pre-demolition audit	
Does the excavation waste meet the exemplary level requirements?	

Key Performance Indicators - Construction Waste

Measure/units for the data being reported		
Non-hazardous construction waste (excluding demolition/excavation)		
Total non-hazardous construction waste generated		Note: At the pre-assessment stage this
Non-hazardous non-demolition const. waste diverted from landfill		Note: At this stage this will be a target b
Total non-hazardous non-demolition const. waste diverted from landfill		Note: At the pre-assessment stage this
Total non-hazardous demolition waste generated		Note: At this stage this will be a target b
Non-hazardous demolition waste diverted from landfill		Note: At this stage this will be a target b
Total non-hazardous demolition waste to disposal		Note: At the pre-assessment stage this
Material for reuse		Note: At this stage this will be a target b
Material for recycling		Note: At this stage this will be a target b
Material for energy recovery		Note: At this stage this will be a target b
Hazardous waste to disposal		Note: At this stage this will be a target b

Total BREEAM credits achieved	2
Total contribution to overall building score	2.13%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Comments/notes:

Wst 02 Recycled Aggregates

No. of BREEAM credits available	1	Available contribution to overall score	1.06%
No. of BREEAM innovation credits available	1	Minimum standards applicable	No

Assessment Criteria	Total
What is the target total % of high-grade aggregate that will be recycled/secondary aggregate?	

% of high-grade aggregate that is recycled/secondary aggregate - by application

Structural frame	
Bitumen/hydraulically bound base, binder and surface courses	
Building foundations	
Concrete road surfaces	
Pipe bedding	
Granular fill and capping	

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

Comments/notes:

Wst 03 Operational Waste

No. of BREEAM credits available	1	Available contribution to overall score	1.06%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will operational recyclable waste volumes be segregated and stored?	Yes	1	1
Will static waste compactor(s) or baler(s) be specified where appropriate?	Yes		
Will vessel(s) for composting suitable organic waste where appropriate?	Yes		

Total BREEAM credits achieved	1
Total contribution to overall building score	1.06%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Comments/notes:

Wst 04 Speculative Floor and Ceiling Finishes

Assessment issue not applicable

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

Assessment Criteria	Compliant?	Credits available	Credits achieved

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

Comments/notes:

Wst 05 Adaption to climate change

No. of BREEAM credits available	1	Available contribution to overall score	1.06%
No. of BREEAM innovation credits available	1	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a climate change adaptation strategy appraisal for structural and fabric resilience be conducted by the end of Concept Design (RIBA Stage 2 or equivalent)?		1	0
Will exemplary level criteria – Responding to adaptation to climate change be met?		1	0

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

Comments/notes:

Wst 06 Functional adaptability

No. of BREEAM credits available	1	Available contribution to overall score	1.06%
No. of BREEAM innovation credits available	0	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a building specific functional adaptation strategy appraisal be conducted by Concept Design (RIBA Stage 2 or equivalent) and will functional adaptation measures be implemented?		1	0

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

Comments/notes:

LAND USE & ECOLOGY

LE 01 Site Selection

No. of BREEAM credits available	2	Available contribution to overall score	2.00%

No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will at least 75% of the proposed development's footprint be located on previously occupied land?	Yes	1	1
Is the site deemed to be significantly contaminated?		1	0

Total BREEAM credits achieved	1
Total contribution to overall building score	1.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

LE 02 Ecological Value of Site and Protection of Ecological Features

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

Ecological value of the land defined using	Please select

Assessment Criteria	Compliant?	Credits available	Credits achieved
Can the land within the construction zone be defined as 'land of low ecological value'?	Yes	1	1
Will all features of ecological value surrounding the construction zone/site boundary be protected?	Yes	1	1

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

Comments/notes:

LE 03 Mitigating Ecological Impact

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

Data sourced for calculating the change in ecological value from	Suitably Qualified Ecologist site survey of plant species

Assessment Criteria

What is the likely change in ecological value as a result of the sites development?	≥0 species (i.e. no negative change)	Plant species richn

Total BREEAM credits achieved	2
Total contribution to overall building score	2.00%

Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Comments/notes:

LE 04 Enhancing Site Ecology

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

Assessment Criteria	Compliant?	Credits available	Credits achieved	
Will a suitably qualified ecologist be appointed to report on enhancing and protecting site ecology?	Yes	2	2	
Will the suitably qualified ecologist's general recommendations be implemented?	Yes			
What is the targeted/intended improvement in ecological value as a result of enhancement actions?	≥6 species (large positive change)			Plant species richr

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

Comments/notes:

LE 05 Long Term Impact on Biodiversity

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

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a Suitably Qualified Ecologist be appointed to monitor/minimise impacts of site activities on biodiversity?	Yes	2	2
Will a landscape and habitat management plan be produced covering at least the first five years after project completion in accordance with British Standards?	Yes		
Number of applicable measures to improve biodiversity confirmed by SQE:	2		
Number of applicable measures implemented:	2		

Total BREEAM credits achieved	2
Total contribution to overall building score	2.00%

Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

POLLUTION

Pol 01 Impact of Refrigerants

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

Assessment Criteria		Credits available	Credits achieved
Refrigerant containing systems installed in the assessed building?	Yes	2	0
Do all systems (with electric compressors) comply with the requirements of BS EN 378:2008 (parts 2 & 3) & where refrigeration systems containing ammonia are installed, the IoR Ammonia Refrigeration Systems Code of Practice?	Yes		
Global Warming Potential of the specified refrigerant(s) 10 or less?	No		
What is the target range Direct Effect Life Cycle CO2eq. emissions for the system?	1050	kgCO2eq/kW coolth capacity	
Cooling/Heating capacity of the system	1050	kW	
Will a refrigerant leak detection and containment system be specified/installed?		1	0

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

Comments/notes:

Pol 02 NO_x Emissions

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

Assessment Criteria

NO_x emission level - space heating	12.00	mg/kWh
NO_x emission level - cooling	12.00	mg/kWh

NOx emission level - water heating	12.00	mg/kWh
Does this building meet BREEAM's definition of a highly insulated building?	N/A	
Energy consumption: heating and hot water		kWh/m2 yr

Total BREEAM credits achieved	3
Total contribution to overall building score	2.31%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Pol 03 Surface Water Run off

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

Assessment Criteria	Compliant?	Credits available	Credits achieved
What is the actual/likely annual probability of flooding for the assessed site?	Low	2	2
Will a Flood Risk Assessment be undertaken?	Yes		
Will the site meet the BREEAM criteria for peak rate surface water run off?	Yes	1	1
Will the site meet the criteria for surface water run off volume, attenuation and/or limiting discharge?		1	0
Will the site be designed to minimise watercourse pollution in accordance with the BREEAM criteria?	Yes	1	1

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

Comments/notes:

Pol 04 Reduction of Night Time Light Pollution

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

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will the external lighting specification be designed to reduce light pollution?	Yes	1	1

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

Comments/notes:

Pol 05 Noise Attenuation

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

Assessment Criteria	Compliant	Credits available	Credits achieved
Will there be noise-sensitive areas/buildings within 800m radius of the development?	Yes	1	1
Will a noise impact assessment be carried out and, if applicable, noise attenuation measures specified?	Yes		

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

Comments/notes:

INNOVATION

Inn 01 Innovation

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

Assessment Criteria	Compliant?	Credits available	Credits achieved
Man 03 Responsible construction practices	No	1	0
Man 05 Aftercare	No	1	0
Hea 01 Visual Comfort	No	1	0
Hea 02 Indoor Air Quality	No	2	0
Ene 01 Reduction of energy use and carbon emissions	No	5	0
Wat 01 Water Consumption	No	1	0
Mat01 Life Cycle Impacts	Yes	3	1
Mat03 Responsible Sourcing of Materials	No	1	0

Wst01 Construction Waste Management	No	1	0
Wst02 Recycled Aggregates	No	1	0
Wst 05 Adaption to climate change	No	1	0

Number of 'approved' innovation credits achieved?	

Total BREEAM innovation credits achieved	1
Total contribution to overall building score	1.00%
Minimum standard(s) level	N/A

Comments/notes:

BUILDING SERVICES & ENVIRONMENTAL

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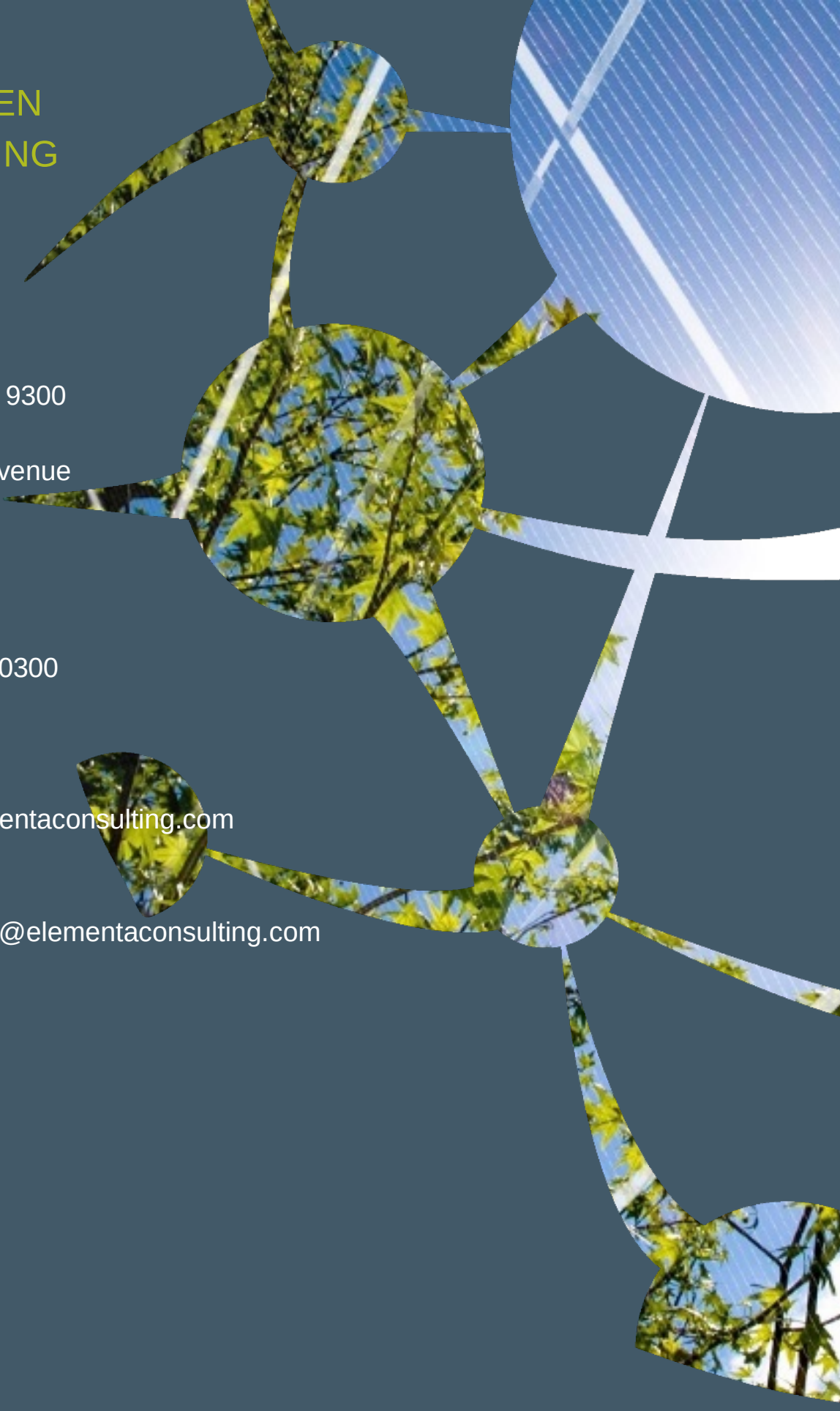

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