



EBN Schools, Manchester

BREEAM 2014 New Construction

Stage 2 Pre-Assessment Target Report

- REV 0

project number: 3234

date 13.09.17

revision: 0

BREEAM: 2014 New Construction

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Rev.	Date	Compiled / Checked by	Revision / Document Description
0	13.09.17	SS / WB	BREEAM Pre-Assessment Target Report

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1.0 Introduction

Scott Hughes Design have been appointed to undertake BREEAM 2014 New Construction Education assessments of the proposed development of five new school buildings within Manchester, forming part of the EBN Schools Programme.

The purpose of this report is to provide the Design & Construction Team with information relating to the key actions that should be carried out to ensure successful certification. The team should take cognisance of the information and guidance provided within this report and associated documentation, to assist them in ensuring that the design accounts for the full BREEAM requirements.

2.0 Meetings and Attendees

A Stage 1 Design Team Meeting for the EBN Schools programme was held on 17th November 2016 at the ISG offices in Salford, which was attended by Susie Sidley (BREEAM AP) during which initial BREEAM advice covering all schools within the programme was discussed.

A Stage 2 BREEAM pre-assessment meeting for the second wave of EBN Schools was held on 24th August 2017 at the ISG offices in Salford. The meeting was attended by:

- Craig Smith – ISG (Contractor)
- Raffaella Puricelli – ISG (Contractor)
- Dan Booth – ISG (Contractor)
- Marc Roberts – Lovelock Mitchell (Architect)
- Mohammed Shehzad – BCM (M&E)
- Susie Sidley - Scott Hughes Design (BREEAM Assessor & AP)

3.0 Project Description

The proposed developments comprise new buildings within the grounds of the following existing primary schools in Manchester:

- Ringway Primary School
- Crossacres Primary Academy
- St James C of E Primary School
- Lily Lane Primary School
- Webster Primary School

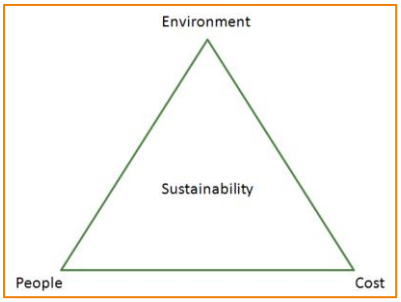
It is proposed that the buildings will all be modular construction and of a similar layout. The buildings will be naturally ventilated, and heating and hot water is to be provided by radiant panels and radiators, fed by a gas fired boiler.

4.0 Project Programme

Currently the design for all five schools is at RIBA Stage 2 with planning being submitted in October/November 2017.

5.0 Background to Sustainable Design and BREEAM

Sustainability is defined as the ability to meet the needs of today, without compromising the ability of future generations to provide for the needs of tomorrow. It can be described as the equilibrium between environmental and financial considerations, and the needs of the community. A truly sustainable development will achieve a balance between fitness-for-purpose, value-for-money and environmental impact and will achieve this via integration as part of a larger, sustainable community.



BREEAM (Building Research Establishment's Environmental Assessment Method) 2014 New Construction is a voluntary scheme that can be used to assess the environmental life cycle of new non-domestic buildings at the design and construction stages.

BREEAM 2014 assessments can be either undertaken in two stages: firstly the design stage, which leads to an Interim BREEAM certified rating; and secondly the post construction stage, which leads to a Final BREEAM certified rating or as a single Post Construction Assessment which leads to a Final BREEAM certified rating.

Buildings are assessed using a system of credits. The credits are grouped within the following categories:

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

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

BREEAM Section	% Weighting
Management	12%
Health & Wellbeing	15%
Energy	15%
Transport	9%
Water	7.0%
Materials	13.5%
Waste	8.5%
Land Use & Ecology	10%
Pollution	10%

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

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

6.0 BREEAM Strategy and Targets

There is a planning requirement for each new building to achieve a BREEAM certification level of 'Very Good'. The following report therefore outlines how this can be achieved. In all assessments we recommend a 5% score buffer to allow for unexpected changes or compliance issues as the project progresses.

It is proposed that the buildings will be assessed using the BREEAM 2014 New Construction, Education scheme. It is not anticipated that the BREEAM Simple Buildings criteria will be used, as the heating load of the buildings may be over 100kw. In order for Simple Buildings to be used the below criteria must be met:

- No air-conditioning system. Small scale cooling would be allowed so long as total system capacity of 12kw and less than 5kg refrigerant charge.
- No mechanical ventilation.
- Any renewable energy needs to be less than 50kw for electricity or 45kw for heat output.
- Heating is provided by a simple system with capacity less than 100kw.
- Building services commissioning is of limited complexity.

This can be reviewed at a later stage on a school by school basis. For full details please refer to:

http://www.breeam.com/BREEAMUK2014SchemeDocument/

Please note that within the pre assessment there may be issues which are outside of the current scope of works/specification. Attention must be paid to ALL credits listed within the Target Report, to ensure the necessary measures required to achieve the associated credits are feasible, and if so, incorporated within specifications.

It is sometimes the case that achievement of a particular BREEAM credit comes with a disproportionately increased cost, without offering equivalent advantages in functionality or sustainability. We would recommend that any such issues are identified early and that these issues are only incorporated within the design once a cost-benefit analysis has been carried out.

It is important to build a robust strategy for the BREEAM certification process into the project programme to ensure that the Client's requirements can be achieved. It was agreed that a 'Managed' Post Construction Assessment would be undertaken. A single report will be submitted for each building to the BRE following completion of the buildings, rather than separate interim (design stage) and final (post construction) submissions. This option provides a more streamlined approach to assessment. It has the benefit of continual assessment throughout the design and construction phases and allows changes to be picked up as they occur.

In order for the Certification to be a smooth process for all concerned, an Information Required Schedule will be issued, depicting all the required information with an indication of when it should be issued for assessment. It is by this approach that we ensure a constant flow of information and avoid credit time deadlines being missed and the BREEAM rating jeopardised.

7.0 Time Dependant Actions Required to Maximise BREEAM Score

There are various key actions that are time dependant. These include actions which must be completed within certain time periods and general early actions to help maximise the BREEAM potential. A number of these credits require action in the early stages (RIBA 1 & 2).

Ref	Credit	Requirement	Responsibility
RIBA STAGE 1			
Man 01	Sustainability Champion	BREEAM AP appointed during RIBA stage 1 to facilitate the setting and achievement of BREEAM targets.	SHD
LE 04	Enhancing Site Ecology	Suitably Qualified Ecologist to be appointed at RIBA stage 1.	ISG / Ecologist
RIBA STAGE 2			
Man 01	Stakeholder Consultation (Project Delivery)	Project delivery stakeholders have met to identify, and define roles, responsibilities and contributions during the key phases	ISG / MCC / LMA
Man 01	Sustainability Champion	BREEAM target needs to be formally agreed between client and project team.	MCC / ISG
Hea 06	Security of Site and Buildings	A Suitably Qualified Security Specialist (SQSS) conducts an evidence-based Security Needs Assessment (SNA) and if necessary, provides recommendations for incorporation into the design.	ISG / LMA
Ene04	Low Carbon Design (Possible credit)	Should these credits be sought, the Passive Design Analysis and Low & Zero Carbon Feasibility study need to be undertaken at Stage 2.	BCM (Credit not currently sought)
Tra 05	Travel Plan	Requires a transport assessment and travel plan to be produced, in accordance with BREEAM requirements, during the feasibility and design stage.	ISG
Wst06	Functional Adaptability (Possible credit)	Should this credit be sought, the Functional Adaptability study needs to be undertake by the end of Stage 2.	MCC / LMA (Credit not currently sought).
LE 04	Enhancing Site Ecology	Suitably Qualified Ecologist to produce Ecology Report with recommendations for enhancement	ISG / Ecologist

8.0 Key Issues to Achieve Certification

During the pre-assessment meeting, credits were identified worth 59.54% which would achieve a Very Good Certification with over 4% margin of safety. Appendix A provides detail on the specification targeted to achieve the above score and assumptions made. For the site-specific credits, the 'worst case' has been assumed (i.e. minimum number of credits likely to be scored). These credits will be reviewed on a site by site basis once all information on the sites is available.

The table within the following pages provide a brief summary of the issues required to achieve a 'Very Good' rating, organised by discipline. These should be read in conjunction with Appendix A and the current BRE Manual (see Link Below) which provides more detail on the requirements. Please note not all items are listed below.

http://www.breeam.com/BREEAMUK2014SchemeDocument/

Issues for Architect & Landscape Architect – Lovelock Mitchell			
Ref	**Credit**	**Risk**	**Summary of Risk**
Man 01 Req 1-3	Stakeholder Consultation	Medium	Requires evidence confirming project team early collaboration. Also requires evidence to demonstrate that changes have been made to the design as a result of consultation with key members of team.
Hea 01 Req 4-6	View Out	Low	Requires all areas where close work may be undertaken to be within 7m of a window (20% of external wall) / comply with BS8206 Table 1.0.
Hea 06 Req 11-13	Security of Site and Building	Medium	Requires appointment of a Suitably Qualified Security Specialist (SQSS) to complete a Security Needs Assessment prior to Stage 2 and the implementation of all their recommendations.
Tra 03	Cyclist Facilities	Medium	Requires BREEAM compliant, covered cycle spaces (5 per form entry).
Wat 04	Water Efficient Equipment	Low	Requires compliant method for irrigation or specification of plants which will not need irrigation.
Mat 05	Designing for Durability and Resilience	Medium	Requires inclusion of protection measures for vulnerable areas of the building, plus evidence to show how material degradation from environmental factors has been addressed.
Wst 03	Operational Waste	Low Medium	Requires a dedicated recycling area, which is a suitable size to deal with all waste from the development. Also requires provision of a facility for storage of compostable waste, including a tap.
LE03	Change in Ecological Value	Medium	Requires planting to ensure that loss in ecological value is no greater than -9 species.
LE04	Enhancing Site Ecology	Medium	Requires all ecologist's recommendations to be included.
LE05	Long Term Impact on Biodiversity	Medium	Requires that a 5 year landscape and habitat management plan be produced, in accordance with ecologist's recommendations.

Issues for Civil Engineers (SHD)			
Ref	**Credit**	**Risk**	**Summary of Risk**
Pol 03 Req 1-4	Flood Risk Assessment	Medium	Requires a FRA to be undertaken, taking all current and future sources of flooding into consideration.
Pol 03 Req 4-7	Surface Water Run-Off	Medium	Requires drainage measures specified to ensure that the peak rate of run-off from the site to the watercourses (natural or municipal) is no greater for the developed site than it was for the pre-development site. This should comply at the 1-year and 100-year return period events.

Issues for M&E (BCM)			
Ref	**Credit**	**Risk**	**Summary of Risk**
Man 04 Req 1-6	Commissioning Building and Design	Low	Requires commissioning schedule to be produced and a Commissioning Monitor to be appointed to ensure all systems planned and commissioned appropriately. In addition, appointment for a specialist commissioning manager for any complex systems.
Man 05 Req 3	Seasonal Commissioning	Medium	Requires seasonal commissioning over the first 12 months of occupation.
Hea 01 Req 7-11	Internal & External Lighting Levels	Medium	Requires SLL & CIBSE compliant lighting design, and BREEAM compliant control & zones (manual switching and separate teacher control of whiteboard area required).
Hea 02 Req 1	Indoor Air Quality	Medium	Requires production of an Indoor Air Quality Plan.
Hea 04 Req 1-4	Thermal Modelling	Medium	Requires dynamic thermal modelling to be carried out in accordance with CIBSE AM11, demonstrating that building is designed to limit the risk of overheating in accordance with CIBSE TM52.
Hea 04 Req 9-11	Thermal Zoning & Controls	Medium	Requires the thermal model to inform a temperature control strategy addressing the issues detailed within the BREEAM guidance.
Ene 01	Energy Performance	Medium	Requires an Energy Performance Ratio of 0.30 or greater.
Ene 02	Sub Metering	Medium	Require provision of sub-meters to cover at least 90% of the energy consumption of each fuel type by end use.
Ene 03	External Lighting	High	Requires all external lighting to be controlled via time clock/daylight sensor and have less than 60 lamp lumens per circuit watt plus PIRs to areas with intermittent pedestrian use.
Wat 01	Water Consumption	Medium	Requires careful sanitary ware specification in order to demonstrate a 25% reduction in water consumption over baseline levels.
Wat 02	Water Monitoring	Low - Medium	Requires a pulsed meter to the water supply of the building, plus pulsed sub-meter to kitchen.
Wat 03 Req 1	Leak Detection System	Medium	Requires a BREEAM compliant water leak detection system.

Issues for M&E (BCM)			
Ref	**Credit**	**Risk**	**Summary of Risk**
Wat 03 Req 2	Flow Control Devices	Medium	Requires PIR on toilet areas connected to solenoid value to enable sanitary supply shut off.
Mat 04	Insulation	Low	Requires specification of A+ / A rated building services insulation materials.
Pol 01	Impact of Refrigerants	Medium	Assumes no refrigerants specified. If refrigerants are specified, credits still available if systems are under 6kg charge and Direct Effect Life Cycle CO2 equivalent emissions are 100kgCO2e/kW cooling capacity or less.
Pol 02	NOx Emissions	Medium	Requires specification of a boiler which has 40mg/kWh of NOx or less.
Pol 04	Reduction of Night-time Light Pollution	Medium	Requires that all external areas are designed in accordance with ILP guidance notes.
Pol 05	Reduction of Noise Pollution	Low	Requires plant to specified in accordance with acoustician's recommendations to ensure no significant increase in background noise level.be

Issues for Main Contractor (ISG)			
Ref	**Credit**	**Risk**	**Summary of Risk**
Man 01 Req 1-3	Stakeholder Consultation	Medium	Requires evidence confirming project team early collaboration. Also requires evidence to demonstrate that changes have been made to the design as a result of consultation with key members of team.
Man 01 Req 8-10	Sustainability Champion (Design)	Low	Requires BREEAM targets to be formally agreed with team before end of RIBA Stage 2.
Man 02 Req 6	Capital cost reporting	Low	Requires provision of project capital cost to Assessor for reporting to BRE
Man 03 Req 1	Responsible Construction Practices – Pre-requisite	Low	All timber needs to be legally & responsibly sourced i.e. FSC or PEFC.
Man 03 Req 2-3	Environmental Management	Low	Requires the main contractor to have ISO 14001 & operate within the PPG6 guidance recommendations.
Man 03 Req 7	Responsible Construction Practices – Considerate Construction	Low	Requires a Considerate Constructors Scheme score of 35 or above and a min section score of 7 to be achieved in the final site monitor's report
Man 03 Req 8-17	Monitoring of Construction Site Impacts	Low	Requires the monitoring of water, energy use and transport data on-site against a site target.
Man 04 Req 10-11	Handover	Low	Requires production of simple building user guide & training for the relevant building users.
Man 05 Req 1-2	Aftercare Support	Low	Requires facilities management training and aftercare support for the first 12 months from occupation.

Issues for Main Contractor (ISG)			
Ref	**Credit**	**Risk**	**Summary of Risk**
Hea 05	Acoustic Performance	Medium	Requires acoustician to be appointed to undertake acoustic testing in accordance with BREEAM guidance.
Hea 06 Req 11-13	Security of Site and Building	Medium	Requires appointment of a Suitably Qualified Security Specialist (SQSS) to complete a Security Needs Assessment prior to Stage 2 and the implementation of all their recommendations.
Tra 03	Cyclist Facilities	Medium	Requires BREEAM compliant, covered cycle spaces (5 per form entry).
Tra 05	Travel Plan	Medium	Requires a transport assessment and travel plan to be produced, in accordance with BREEAM requirements, during the design stage.
Mat 02	Hard Landscaping & Boundary Protection	Medium	Requires a recycled sub-base under hard landscaped areas.
Mat 03 Req 3	Sustainable Procurement Plan	Low	Materials are sourced in accordance with a documented BREEAM compliant Sustainable Procurement Plan.
Mat 03 Req 4	Responsible Sourcing	Medium	Requires sourcing of materials within major elements from suppliers with appropriate certification (e.g. BES6001 / ISO14001 / FSC / CSA / MTCC / PEFC / SFI etc.).
Wst 01	Construction Site Waste Management	Medium	A resource management plan (formerly SWMP) needs to be produced to include waste produced both on & off-site and a maximum of 11.1 tonnes of waste to be produced per 100m2. Also requires 70% by volume (80% by weight) of non-hazardous construction waste and 80% by volume (90% by weight) of demolition waste to be diverted from landfill.
LE 04	Enhancing Site Ecology	Medium	Requires implementation of the ecologist's recommendations.
LE05	Long term impact on Biodiversity	Medium	Requires various actions such as appointment of Biodiversity Champion, maintaining biodiversity records, timing works appropriately and biodiversity training.
Pol 05	Reduction of Noise Pollution	Low	Requires acoustician appointed to provide noise impact assessment based on actual plant installed.

Issues for Client (Manchester City Council)			
Ref	**Credit**	**Risk**	**Summary of Risk**
Man 05 Req 3	Seasonal Commissioning	Medium	Requires seasonal commissioning over the first 12 months of occupation.
Man 05 Req 4-5	Post-Occupancy Evaluation	Medium	Requires an independent third party to undertake a Post Occupancy Evaluation one year after occupation.

Issues for Client (Manchester City Council)			
Man 05 Req 6	Aftercare - Exemplary Level	Medium	Requires quarterly collection of energy and water consumption and occupant satisfaction data for analysis, feedback to the design team and provision of data to the BRE.
Tra 05	Travel Plan	Medium	Requires commitment to adopt travel plan measures.
Wst 01	Construction Site Waste Management	Medium	Requires pre-demolition audit of any existing buildings on site, plus % figures for demolition waste diverted from landfill.
Wst 03	Operational Waste	Medium	Requires food waste collection system to be in place (as with St Margaret's).

Issues for Modular Contractor (Premier Modular)			
Ref	**Credit**	**Risk**	**Summary of Risk**
Man 04 Req 1-6	Commissioning Building and Design	Low	Requires commissioning schedule to be produced and a Commissioning Monitor to be appointed to ensure all systems planned and commissioned appropriately. In addition, appointment for a specialist commissioning manager for any complex systems.
Man 05 Req 3	Seasonal Commissioning	Medium	Requires seasonal commissioning over the first 12 months of occupation.
Hea 01 Req 7-11	Internal & External Lighting Levels	Medium	Requires SLL & CIBSE compliant lighting design, and BREEAM compliant control & zones (manual switching and separate teacher control of whiteboard area required).
Hea 02 Req 1	Indoor Air Quality	Medium	Requires production of an Indoor Air Quality Plan.
Hea 02 Req 6-7	VOC Emissions	Medium	Requires careful specification of paints, varnishes and other fixtures and fittings to ensure that VOC emissions comply with BREEAM requirements.
Hea 02 Req 13-14	Adaptability for Natural Ventilation	Medium	Requires all occupied spaces will have room depths designed in accordance with CIBSE AM10 (section 2.4). The openable window area in each occupied space will be equivalent to 5% of the gross internal floor area of that room/floor plate.
Hea 04 Req 1-4	Thermal Modelling	Medium	Requires dynamic thermal modelling to be carried out in accordance with CIBSE AM11, demonstrating that building is designed to limit the risk of overheating in accordance with CIBSE TM52.
Hea 04 Req 9-11	Thermal Zoning & Controls	Medium	Requires the thermal model to inform a temperature control strategy addressing the issues detailed within the BREEAM guidance.
Hea 05	Acoustic Performance	Medium	Requires full compliance with Sound Insulation, Indoor Ambient Noise Levels and Reverberation requirements within BB93 (see guidance for full details).
Ene 01	Energy Performance	Medium	Requires an Energy Performance Ratio of 0.30 or greater.

Issues for Modular Contractor (Premier Modular)			
Ref	**Credit**	**Risk**	**Summary of Risk**
Ene 02	Sub Metering	Medium	Require provision of sub-meters to cover at least 90% of the energy consumption of each fuel type by end use.
Ene 03	External Lighting	High	Requires all external lighting to be controlled via time clock/daylight sensor and have less than 60 lamp lumens per circuit watt plus PIRs to areas with intermittent pedestrian use.
Wat 01	Water Consumption	Medium	Requires careful sanitary ware specification in order to demonstrate a 25% reduction in water consumption over baseline levels.
Wat 02	Water Monitoring	Low - Medium	Requires a pulsed meter to the water supply of the building, plus pulsed sub-meter to kitchen.
Wat 03 Req 1	Leak Detection System	Medium	Requires a BREEAM compliant water leak detection system.
Wat 03 Req 2	Flow Control Devices	Medium	Requires PIR on toilet areas connected t solenoid value to enable sanitary supply shut off.
Mat 01	Life cycle impacts	Low	Requires specification of A+ / A rated materials where possible for key building elements. Also requires provision of a detailed breakdown of materials and measurement of areas.
Mat 03 Pre-Requisite	Responsible Construction Practices – Pre-requisite	Low	All timber needs to be legally & responsibly sourced i.e. FSC or PEFC.
Mat 03 Req 1	Responsible Sourcing	Medium	Requires sourcing of materials within major elements from suppliers with appropriate certification (e.g. BES6001 / ISO14001 / FSC / CSA / MTCC / PEFC / SFI etc.).
Mat 04	Insulation	Low	Requires specification of A+ / A rated insulation materials.
Wst 01	Construction Site Waste Management	Medium	Requires provision of waste figures for modular building to ISG to include within RMP.
Pol 01	Impact of Refrigerants	Medium	Assumes no refrigerants specified. If refrigerants are specified, credits still available if systems are under 6kg charge and Direct Effect Life Cycle CO2 equivalent emissions are 100kgCO2e/kW cooling capacity or less.
Pol 02	NOx Emissions	Medium	Requires specification of a boiler which has 40mg/kWh of NOx or less.
Pol 04	Reduction of Night-time Light Pollution	Medium	Requires that all external areas are designed in accordance with ILP guidance notes.
Pol 05	Reduction of Noise Pollution	Low	Requires plant to specified in accordance with acoustician's recommendations to ensure no significant increase in background noise level.be

9.0 Summary & Recommendations

The required measures for achieving a BREEAM 'VERY GOOD' are set out within Appendix A further to a review by the team. All BREEAM requirements should, where possible be incorporated into the relevant contractual, sub-contractual and specification documentation.

Ideally the information should be submitted for certification as early as possible. Certification can be achieved once evidence into credit achievement has been incorporated into the contract documentation. This can be done using drawings, specifications, contract preliminaries etc.

There are certain studies/calculations that must be completed during specified RIBA stages or before the design is complete. These are highlighted in Appendix A.

Please also be aware that the required mandatory credits / pre-requisites must be achieved to receive BREEAM certification, as highlighted within Appendix A.

It is recommended that:

- A target of Very Good BREEAM Certification is set for the new school buildings;
- Stage 2 reports and studies are provided ASAP for review by the Assessor;
- Relevant BREEAM specific clauses/facilities should be added to the tender documents.

Appendix A – BREEAM Target





EBN Schools, Manchester- Generic BREEAM Pre-Assessment

PASS	30
GOOD	45
VERY GOOD	55
EXCELLENT	70
OUTSTANDING	85

Report Prepared By: Susie Sidley
Report Checked By: Wendy Broomhead
Date: 13.09.17

Results Summary

Sector	Total Available	Weighting	Pre-Assessment Score
Management	21	12.0%	8.57%
Health & Wellbeing	18	15.0%	9.17%
Energy	19	15.0%	4.74%
Transport	7	9.0%	5.14%
Water	9	7.0%	4.67%
Materials	14	13.5%	10.61%
Waste	8	8.5%	3.19%
Land Use & Ecology	10	10.0%	4.00%
Pollution	13	10.0%	8.46%
Total Predicted Score			**58.54%**
Innovation	10	10.0%	**1.00%**
Total Score			**59.54%**
BREEAM Rating			**VERY GOOD**

Key to Responsibilities

Role	Company	Ref
Client	Manchester City Council	**MCC**
Architect	Lovelock Mitchell Architects	**LMA**
M&E Consultant	BCM	**BCM**
Structural & Civil Eng	Scott Hughes Design	**SHD**
Acoustician	TBC	**Acous**
Ecologist	TBC	**Eco**
BREEAM Assessor & AP	SHD	**SHD**
Main Contractor	ISG	**ISG**
Modular Contractor	Premier Modular	**Mod**

Notes:

1) **Shading Denotes Mandatory Credit**

2) This document is to be read in conjunction with the current BREEAM Manual available online, which gives full details of credit requirements -

https://www.breeam.com/BREEAMUK2014SchemeDocument/

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Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information	Pre-Assessment Score	Risk	Responsibility
MANAGEMENT							
Man01	**Project Brief and Design**			**Minimum standard: None**			
Req 1-3	Stakeholder Consultation (Project Delivery)	1	0.57	It is assumed that, prior to the end of RIBA Stage 2 all the project delivery stakeholders will meet, identify and define roles responsibilities & contributions during the key phases. In addition, the project team will demonstrate how stakeholder contributions have influenced or changes the initial project brief.	1	Medium	LMA / ISG
Req 4-6	Stakeholder Consultation (Third Party)	1	0.57	It is assumed that, while a significant level of consultation is proposed with all relevant stakeholders, consultation will NOT be carried out by an independent party using a compliant method e.g. DQI, AEDET.			
Req 8-10	Sustainability Champion (Design)	1	0.57	At RIBA Stage 1 SHD were appointed to provide advice during the briefing period. It is assumed that the BREEAM target will be formally agreed between the Client & Design team prior to the end of RIBA Stage 2.	1	Low	SHD / ISG
Req 11-12	Sustainability Champion (Monitoring Progress)	1	0.57	A BREEAM AP will NOT be appointed to provide extensive support during RIBA stage 2, 3 & 4.			
Man02	**Life Cycle Cost and Service Life Planning**			**Minimum standard: None**			
Req 1-3	Elemental Life Cost	2	0.57	It is assumed that an elemental life cycle costing analysis together with elemental options appraisals will NOT be carried out at RIBA Stage 2.			
Req 4-5	Component Level LCC Plan	1	0.57	Prior to the end of RIBA Stage 4 a **component level LCC plan** will NOT be developed in line with PD 156865:2008 & includes: envelope, services, finishes & External hard landscaping & boundary protection.			
Req 6	Capital Cost Reporting	1	0.57	It is assumed that the capital cost for the building will be reported via the BREEAM Spreadsheet in £k/m2.	1	Low	ISG
Man03	**Responsible Construction Practices**			**Minimum standard: One Credit of Excellent, Two for Outstanding**			
Req 1	Pre-requisite: Timber			It is assumed that all timber and timber based products used on the project will be 'Legally harvested and traded timber'.		Low	ISG
Req 2-3	Environmental Management	1	0.57	It is assumed that: - The main contractor operates a certified Environmental Management System. - Best practice pollution prevention policies and procedures will be implemented on site	1	Low	ISG
Req 4-6	Sustainability Champion (Construction)	1	0.57	It is assumed that during RIBA Stages 5 & 6 a Sustainability Champion is appointed to monitor; ensure ongoing compliance with the relevant sustainability performance/process criteria, and therefore BREEAM target(s). The Sustainability Champion will be site based or visit . They will carry out spot checks, monitor site activities & report on progress at relevant project team meetings. The BREEAM target should be included in the main contractor's contract.	1	Low	SHD
Req 7	Considerate Construction	2	0.57	It is assumed that the contractor will comply with the Considerate Constructors Scheme and will achieve a score of at least 35 under formal certification, with no section scoring under 7.	2	Low	ISG
Req 8	Monitoring of Construction- Site Impacts- Pre-requisite			It is assumed that responsibility will be assigned to an individual(s) for monitoring, recording and reporting energy use, water consumption and transport data throughout the build programme.		Low	ISG
Req 9-14	Monitoring of Construction- Site Impacts (Energy and Water)	1	0.57	It is assumed that the contractor's nominated individual will monitor and report data on energy & water consumption on site.	1	Low	ISG
Req 15-17	Monitoring of Construction- Site Impacts (Transport)	1	0.57	It is assumed that the contractor will monitor and report data on transport of construction materials and waste	1	Low	ISG

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information	Pre-Assessment Score	Risk	Responsibility
Man04	**Commissioning and Handover**			**Minimum Standard: BUG for Excellent and Outstanding**			
Req 1-4	Commissioning and Testing Schedule and Responsibilities	1	0.57	It is assumed that : -there will be a 'Schedule of commissioning' which identifies systems and standards to which all elements should be commissioned -The client will appoint a 'Commissioning Monitor' to ensure systems are planned & commissioned appropriately. -The contractor will allow sufficient and appropriate time and funds for all systems to be commissioned.	1	Low	**BCM / Mod**
Req 5-6	Commissioning Building and Design	1	0.57	It is assumed that: For buildings with complex building services and systems, a specialist commissioning manager will be appointed during the design stage with responsibility for: a. Undertaking design reviews and giving advice on suitability for ease of commissioning. b. Providing commissioning management input to construction programming and during installation stages. c. Management of commissioning, performance testing and handover/post-handover stages. Where there are simple building services, this role can be carried out by an appropriate project team member, provided they are not involved in the general installation works for the building services system(s).	1	Low	**BCM / Mod**
Req 7-9	Testing and Inspecting Building Fabric	1	0.57	It is currently assumed that while air tightness testing will be carried out, thermographic survey will NOT be carried out due to cost. If this credit is sought, the survey must be undertaken by a suitably qualified professional, plus site inspection to prove adequate construction of the building fabric. In addition, rectification of any defects found is required, with supporting evidence to demonstrate this.	0	Possible	**ISG**
Req 10-11	Handover	1	0.57	It is assumed that: - A simple, standalone building user guide covering all aspects described within the BREEAM 2014 Manual will be produced that is suitable for general building users as well as the facilities management team. - A schedule of training will be identified for the occupiers at handover to cover all points set out within the BREEAM manual	1	Low	**ISG**
Man05	**Aftercare**			**Minimum Standard: One Credit Seasonal Commissioning for Excellent and Above**			
Req 1-2	Aftercare Support	1	0.57	It is assumed that: -There will be a meeting programmed to occur with the building occupier/management (prior to initial occupation) to explain the aftercare support, including the Building User Guide and training schedule AND Present building information. - There will be On-site facilities management training, including building walkabout and familiarisation with the building systems, controls and operation. - Initial aftercare frequent support will be provided for at least the first month of building occupation, followed by longer term support for at least the first 12 months from occupation. - There will be collection and monitoring of energy and water consumption data for a minimum of 12 months, once the building is occupied and systems adjusted accordingly.	1	Low	**ISG**
Req 3	Seasonal Commissioning	1	0.57	It is assumed that seasonal commissioning will be undertaken as follows: - Be completed over a minimum 12-month period, once the building becomes substantially occupied. - Include complex and simple systems. - Take place under full and part load conditions (spring/autumn) and during periods of extreme (high or low) occupancy. - Include occupant feedback and recommissioning and revisions to O&M Manuals.	1	Medium	**ISG / BCM / Mod / MCC**
Req 4-5	Post Occupancy Evaluation	1	0.57	It is assumed that a Post Occupancy Evaluation will be undertaken by an independent third party one year after building occupation, to gain building performance feedback and to disseminate this information via a case study in order to share good practice and lessons learned.	1	Medium	**MCC**

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information	Pre-Assessment Score	Risk	Responsibility
HEALTH & WELLBEING							
Hea01	**Visual Comfort**			**Minimum Standard: None**			
Req 1-2	Glare Control	1	0.83	It is assumed that while some glare control blinds are proposed, it is not known whether these will have a transmittance of <0.1.	0	Possible	MCC
Req 3-4	Daylighting	2	0.83	It is assumed that relevant building areas will NOT fully achieve the good practice daylighting criteria: - Typically 2% daylighting factor over 80% of area - Plus: Uniformity ratios, minimum point daylight factors, view of the sky or room depth criterion.	0		
Req 4-6	View Out	1	0.83	It is assumed that an adequate view out will be provided for all relevant areas If within 7m >20% of the external wall is window or <7m compiles with table 1.0 BS 8206.	1	Medium	LMA
Req 7-11	Internal and External Lighting Levels, Zoning and Control	1	0.83	It is asumed that: - Internal lighting will be specified in accordance with the appropriate maintained Illuminance levels (in LUX) recommended by SLL Code for Lighting 2012. - Areas with computer screens to comply with CIBSE G7 sections 2.4, 2.20, 6.10 - 6.20.. - Areas to be zoned and manually controlled appropriate for their use and location - Teaching/seminar & lecture rooms to have controls in accordance with CIBSE Lighting Guide 5 - For External lighting, areas within the construction zone to comply with BS5489-1:2013+BS12464-2:2014 PT 2 Please note that this credit was not achieved at St Margaret's due to a lack of manual switching in the office.	1	Medium	BCM / Mod
Hea02	**Indoor Air Quality**			**Minimum Standard: None**			
Req 1	Indoor Air Quality	1	0.83	It is assumed that an indoor air quality plan will be produced, detailing actions that minimise indoor air pollution during occupation of the building. The plan must consider: removal of contaminant sources; dilution and control of contaminant sources; procedures for pre-occupancy flush out; third party testing and analysis and maintaining indoor air quality in-use.	1	Medium	BCM / Mod
Req 2-5	Ventilation	1	0.83	It is assumed that this credit will not be achieved. If sought, the building must be designed to minimise the concentration and recirculation of pollutants by: 1. Providing fresh air into the building in accordance with the criteria of the relevant standard for ventilation. 2. Designing ventilation pathways to minimise build-up of air pollutants as follows: b. In naturally ventilated buildings: openable windows/ventilators are over 10m from sources of external pollution. 3. HVAC systems must incorporate suitable filtration to minimise external air pollution, as defined in BS EN 13779:2007 Annex A3. 4. Areas subject to large/unpredictable/variable occupancy patterns have carbon dioxide (CO2) or air quality sensors specified and: b. In naturally ventilated buildings/spaces: sensors either alert the building owner/manager when CO2 levels exceed the recommended set point, or are linked to controls to adjust the quantity of fresh air, i.e. automatic opening windows/roof vents.	0		
Req 6-7	VOC Emission Levels (Products)	1	0.83	It is currently assumed that emissions of VOCs from paints and varnishes and at least 5 of 7 other key internal finishes and fittings, as detailed within table 18 of the BREEAM 2014 Manual will comply with testing & emission requirements. This requires careful specification at the design stage, plus formal confirmation from manufacturers at the post construction stage, which can be onerous.	1	Medium	Mod
Req 8-12	VOC Emission Levels (Post Construction)	1	0.83	It is assumed that post construction, pre occupation testing of formaldehyde concentration and VOC emissions will NOT be undertaken.	0	Possible	ISG
Req 13-14	Adaptability-Potential for Natural Ventilation	1	0.83	It is assumed that all occupied spaces will have room depths designed in accordance with CIBSE AM10 (section 2.4). The openable window area in each occupied space will be equivalent to 5% of the gross internal floor area of that room/floor plate. There will be no spaces with a plan depth >15m. The natural ventilation strategy will be capable of providing at least two levels of user-control on the supply of fresh air to the occupied space. Any opening mechanisms must be easily accessible and provide adequate user-control over air flow rates to avoid draughts.	1	Medium	Mod

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information	Pre-Assessment Score	Risk	Responsibility
Hea04	**Thermal Comfort**			**Minimum standard: None**			
Req 1-4	Thermal Modelling	1	0.83	It is assumed that full dynamic thermal modelling will be carried out in accordance with CIBSE AM11. The study will demonstrate that winter operative temperature ranges will be in accordance with the criteria set out in CIBSE Guide A table 1.5. In addition for naturally ventilated buildings overheating meets the recommendations of TM52.	1	Medium	**BCM / Mod**
Req 5-8	Adaptability- for a Projected Climate Change	1	0.83	It is assumed that: The thermal modelling above also demonstrates compliance when run for a projected climate change environment (see Relevant definitions in the BREEAM 2014 Manual). Where thermal comfort criteria are not met, demonstrates how the building can be easily adapted in future using passive design solutions in order to meet the requirements above.	0	Possible	**BCM / Mod**
Req 9-11	Thermal Zoning and Controls	1	0.83	It is assumed that the thermal modelling analysis has informed the temperature control strategy for the building and its users, addressing all of the issues below: 1. Demonstrate that zones efficiently and appropriately heat or cool these areas. e.g. consider the different requirements for the central core vs. the external perimeter adjacent to the windows. 2.The degree of occupant control required for these zones, based on discussions with the end user (or specific design guidance, case studies, feedback) considers: i. User knowledge of building services ii. Occupancy type, patterns and room functions iii. How the user is likely to operate or interact with the system(s), iv. The user expectations and degree of individual control 3. If there are multiple systems, how they will interact with each other and how this will affect the thermal comfort of occupants. 4. The need for an accessible building user actuated manual override for any automatic systems	1	Medium	**BCM / Mod**
Hea05	**Acoustic Performance**			**Minimum standard: None**			
	Sound Insulation (Education)	1	0.83	It is assumed that the building will achieve the performance standards set out in Section 1 of Building Bulletin 93: Acoustic design of schools: performance standards, February 2015 (BB93) relating to airborne and impact sound insulation of walls and floors. Carry out a programme of pre-completion testing by a compliant test body in accordance with the BB93 requirements and the ANC Good Practice Guide, Acoustic testing of Schools.	1	Medium	**Mod / ISG / Acous**
	Indoor Ambient Noise level (Education)	1	0.83	It is assumed that the building will achieve the indoor ambient noise level standards set out within Section 1 of BB93 for all room types. For roofs with a mass per unit area less than 150kg/m2 (lightweight roofs) or any roofs with glazing or roof lights, calculations using laboratory data with 'heavy' rain noise excitation as defined in BS EN ISO 140-18 are required (in accordance with the guidance in APS) for teaching/learning spaces to demonstrate that the reverberant sound pressure level in these rooms are not more than 20 dB above the appropriate limits presented within Section 1 of BB93, table 1. For heavy weight roofs, or parts of the roof that are heavyweight, with a mass per unit area greater than 150kg/m2 (including those with sedum planting) that do not have any glazing or roof lights, calculations are not required, as such the credit can be awarded on a default basis of compliance. A programme of acoustic measurements is carried out by a compliant test body in accordance with the ANC Good Practice Guide, Acoustic testing of Schools to check indoor ambient noise levels excl. rain noise.	1	Medium	**Mod / ISG / Acous**
	Reverberation Times (Education)	1	0.83	It is assumed that the following standards will be achieved in relation to the acoustic environment (Control of reverberation, sound absorption and speech transmission index (STI)): -Teaching and study spaces: achieve the requirements relating to reverberation time for teaching and study spaces set out within table 6 in Section 1 of BB93. -Open plan teaching spaces: achieve the performance requirements relating to speech transmission index (STI) set out within Section 1.8 of BB93. -Corridor and stairwells: for those that give direct access to teaching and study spaces, achieve the performance requirements relating to sound absorption. Acoustic testing is requred to demonstrate the above as follows: - Teaching and study spaces: A programme of acoustic measurements is carried out by a compliant test body in accordance with the ANC Good Practice Guide, Acoustic testing of Schools. - Open plan teaching spaces: STI Measurements of the STI should be taken in at least one in ten typical student listening positions in the open plan spaces in accordance with the ANC Good Practice Guide, Acoustic testing of Schools. - Corridors and stairwells: Installation of a specification compliant with the APS criteria demonstrates compliance. Where this refers to the use of building regulations, the country-specific building regulations or standards can be applied.	1	Medium	**Mod / ISG / Acous**

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information	Pre-Assessment Score	Risk	Responsibility
Hea06	**Safety and Security**			**Minimum standard: None**			
Req 1-10	Safe Access	1	0.83	It is assumed that the following criteria will NOT be met: - There are compliant dedicated cycle lanes. - Footpaths provide direct access to the building, with any pedestrian crossing points being lifted to pavement level. - Large developments have signage to transport nodes and local amenities. - Lighting of access ways is in accordance with BS489-1:2003:2008 - Delivery access does not cross pedestrian/ cycle routes or pass through parking areas. - Where there are delivery areas there is a waiting area adequate turning and parking space for the appropriate delivery vehicles. - There is a dedicated waste storage area away from the delivery manoeuvring area or car parking.	0		
Req 11-13	Security of Site and Building	1	0.83	It is assumed that: - A Suitably Qualified Security Specialist (SQSS) will conduct an evidence-based Security Needs Assessment (SNA) during or prior to Concept Design (RIBA Stage 2 or equivalent). - The SQSS develops recommendations or solutions which aim to ensure that the design of buildings, public and private car parks and public or amenity space are planned, designed and specified to address the issues identified in the preceding SNA. - The recommendations are implemented.	1	Medium	**ISG / LMA**
ENERGY							
Ene01	**Reduction of Energy Use and Carbon Emissions**			**Minimum standard: 5 Credits for Excellent, 8 for Outstanding**			
	Energy Performance	12	0.79	It is assumed that an Energy Performance Ratio of 0.30 or greater will be achieved to enable 4 credits to be awarded.	4	Medium	**BCM / Mod**
Ene02	**Energy Monitoring**			**Minimum standard: First Sub-metering Credit for Very Good and Above**			
Req 1-4	Sub-metering of Major Energy Consuming Systems	1	0.79	It is assumed that: - Energy metering systems are installed 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 energy consuming systems in buildings with a total useful floor area greater than 1,000m2 are metered using an appropriate energy monitoring and management system. - The systems in smaller buildings are metered either with an energy monitoring/ management system or with separate accessible energy sub-meters with pulsed or other open protocol communication outputs, to enable future connection to an energy monitoring and management system. - The end energy consuming uses are identifiable to the building users, for example through labelling or data outputs.	1	Medium	**BCM / Mod**
Ene03	**External lighting**			**Minimum standard: None**			
	External lighting	1	0.79	It is assumed that: - The building has been designed to operate without the need for external lighting (which includes on the building, signs and at entrances). OR where the building has external lighting, - The average initial luminous efficacy of the external light fittings within the construction zone is not less than 60 luminaire lumens per circuit Watt. - All external lights have daylight sensors and PIRs in areas of intermittent pedestrian traffic. Please note that this credit has not been achieved at St Margaret's due to the light not being of a sufficient efficiency.	1	High	**BCM / Mod**

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information	Pre-Assessment Score	Risk	Responsibility
Ene04	**Low Carbon Design**			**Minimum standard: None**			
Req 1-3	Passive Design Analysis	1	0.79	It is assumed that a Passive Design Analysis (PDA) will NOT be carried out. If sought, the requirements of this credit are as follows: - The first credit of Hea 04 Thermal comfort has been achieved - The project team carries out a Passive Design Analysis (PDA) during Concept Design stage (RIBA Stage 2) which identifies opportunities for the implementation of passive design solutions that reduce demands for energy consuming building services. - The building uses passive design measures to reduce the total heating, cooling, mechanical ventilation, lighting loads and energy consumption in line with the PDA which demonstrates a >5% reduction in total energy demand as a result.	0	Possible	**BCM / Mod**
Req 4-6	Free Cooling	1	0.79	It is assumed that a PDA will not be undertaken. Should this credit be sought, the requirements are as follows: - The PDA includes an analysis of free cooling and identifies opportunities for the implementation of free cooling solutions. - The building uses ANY of the free cooling strategies listed below: 1. Night time cooling (which could include the use of a high exposed thermal mass) 2. Ground coupled air cooling 3. Displacement ventilation (not linked to any active cooling system) 4. Ground or surface water cooling 5. Evaporative cooling, direct or indirect 6. Desiccant dehumidification and evaporative cooling, using waste heat 7. Absorption cooling, using waste heat 8. The building does not require any significant form of active cooling or mechanical ventilation.	0	Possible	**BCM / Mod**
Req 7-8	Low Zero Carbon Feasibility Study	1	0.79	It is assumed that the following will NOT be achieved: - A feasibility study has been carried out by the completion of the Concept Design stage (RIBA Stage 2) by an energy specialist to establish the most appropriate recognised local (on-site or near-site) low or zero carbon (LZC) energy source(s) for the building/development. - Local LZC technology have been specified in line with the recommendations of the feasibility study and this method of supply results in a >5% reduction in regulated carbon dioxide (CO2) emissions	0	Possible	**BCM / Mod**
Ene08	**Energy Efficient Equipment**			**Minimum Standard: None**			
	Energy Efficient Equipment	2	0.79	It is assumed that this credit will not be sought, however it should be considered by MCC. The requirements are as follows: - The building's unregulated energy consuming loads are identified and their contribution to the total annual unregulated energy consumption is estimated. It is likely that significant contributors will include: Small Power & Plug-in equipment White goods Kitchen & Catering facilities. - For the systems/ processes that use a significant proportion of the total annual unregulated energy consumption , demonstrate a meaningful reduction in the total annual unregulated energy consumption by design, specification or operation.	0	Possible	**MCC / School**
TRANSPORT							
Tra01	**Provision of Public Transport**			**Minimum Standard: None**			
	Accessibility Index	3	1.29	It is assumed that a public transport accessibility index of 4 or more will be achieved. Credit to be reviewed on a school by school basis.	2	Medium	**SHD**

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information	Pre-Assessment Score	Risk	Responsibility
Tra02	**Proximity to Amenities**			**Minimum Standard: None**			
	Proximity to Amenities	1	1.29	It is assumed that not all buildings will be within 500m of at least 3 of the following services including at least 2 core services: Core services: - A food outlet, - Access to Cash - Leisure/sports/fitness centre Non core services - Public postal facility - Community facility - Pharmacy Credit to be reviewed on a school by school basis.	0	Possible	**SHD**
Tra03	**Cyclist Facilities**			**Minimum Standard: None**			
Req 1	Cycle Storage	1	1.29	Covered, BREEAM compliant cycle storage spaces will be provided for the building. The requirement is for 5 spaces per form entry.	1	Medium	**ISG / LMA**
Req 2-3	Cyclist Facilities	1	1.29	It is currently assumed that at least two of the following compliant facilities will NOT be provided in addition to the cycle storage above: - Shower - Changing Facilities - Lockers - Drying Space	0	Possible	**ISG / Mod**
Tra05	**Travel Plan**			**Minimum Standard: None**			
	Travel Plan	1	1.29	It is assumed that a BREEAM compliant travel plan, based on a transport assessment and travel survey has been prepared as part of the feasibility & design stages and that the recommendations within this will be incorporated into the design.	1	Medium	**ISG / MCC**
WATER							
Wat01	**Water Consumption**			**Minimum standard: 1 credit for Good and Above; 2 credits for Outstanding**			
	Water Consumption	5	0.78	It is assumed that a 25% improvement in water consumption over the notional baseline will be achieved, as per St Margaret's: ◦ 4.5l flush WCs ◦ wash hand basin taps flow rate limited to 3.3 l/min ◦ staff kitchen taps flow rate limited to 4.5l/min ◦ shower flow rate limited to 6 l/min ◦ no urinals / baths / waste disposal unit ◦ domestic sized dishwashers max 17 l/cycle ◦ commercial sized dishwashers max 5l/rack ◦ Kitchen tap pre-rinse nozzle flow rate limited to 7.3l/min ◦ no grey water / rainwater system	2	Medium	**BCM / Mod**
Wat02	**Water Monitoring**			**Minimum standard: Criterion One Only for Good and Above**			
Req 1	Water Meter			Minimum Standard: The main supply to each building will be fitted with a pulsed water meter.		Low	**BCM / Mod**
Req 2-4	Water Sub Meters	1	0.78	It is assumed that: - sub-meters will be provided for any water consuming plant or building areas consuming 10% or more of the building's total water consumption (e.g. laundry). - Each water meter will have a pulsed output for connection to a BMS. - The sub meters are connected to any existing or proposed BMS	1	Medium	**BCM / Mod**

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information	Pre-Assessment Score	Risk	Responsibility
Wat03	**Water Leak Detection and Prevention**			**Minimum Standard: None**			
Req 1	Leak Detection System	1	0.78	It is assumed that a BREEAM compliant leak detection system will be specified or installed on the buildings water supply.	1	Medium	**BCM / Mod**
Req 2	Flow Control Devices	1	0.78	It is assumed that ONE of the following flow control devices will be fitted to each WC area / facility to ensure water is supplied only when needed: a. A time controller i.e. an automatic time switch device to switch off the water supply after a predetermined interval. b. A programmed time controller i.e. an automatic time switch device to switch water on and/or off at predetermined times. c. A volume controller i.e. an automatic control device to turn off the water supply once the maximum preset volume is reached. d. A presence detector and controller i.e. an automatic device detecting occupancy or movement in an area to switch water on and turn it off when the presence is removed. e. A central control unit i.e. a dedicated computer-based control unit for an overall man-aged water control system, utilising some or all of the types of control elements listed above.	1	Medium	**BCM / Mod**
Wat04	**Water Efficient Equipment**			**Minimum Standard: None**			
	Water Efficient Equipment	1	0.78	It is assumed that the design team has identified all unregulated water demands that could be realistically mitigated or reduced. System(s) or processes have been identified to reduce the unregulated water demand a meaningful reduction in the total water demand of the building can be demonstrated. Some examples would be: 1. Reclaimed/recovered water from a rainwater collection or waste water recovery system, with appropriate storage, i.e. grey water collection from building functions or processes that use potable water, e.g. vehicle wash, training water in fire stations, sanitary facilities, irrigation etc. 2 .External landscaping and planting that relies solely on precipitation, during all seasons of the year.	1	Low	**LMA**
MATERIALS							
Mat01	**Life Cycle Impacts**			**Minimum Standard: None**			
	Life Cycle Impacts	6	0.96	It is assumed that materials will be selected so as to achieve at least 6 credits, through the use of A or A+ rated materials where possible (according to the Green Guide to Specification: www.bre.co.uk/greenguide) Applicable elements are: - External Walls - Windows - Roof - Upper floor slab - Internal walls - Floor finishes/covering	6	Low	**Mod**
Mat02	**Hard Landscaping and Boundary Protection**			**Minimum Standard: None**			
	Hard Landscaping and Boundary Protection	1	0.96	It is assumed that at least 80% of hard landscaping and boundary protection will be A+ or A rated (according to the Green Guide to Specification: www.bre.co.uk/greenguide). A recycled sub-base will be implemented for all hard landscaping.	1	Medium	**ISG**
Mat03	**Responsible Sourcing**			**Minimum standard: Criterion One Only for Pass and Above**			
Req 1	Pre Requisite			It is assumed that all timber used within the project will be legally harvested and traded timber.		Low	**ISG / Mod**
Req 3	Sustainable Procurement Plan	1	0.96	It is assumed that: The principal contractor sources materials for the project in accordance with a documented Sustainable Procurement Plan which sets out a clear framework for the responsible sourcing of materials for both procurement and specification of construction materials. The following should be covered: 1. Risks and opportunities are identified (BS 8902:2010 can be used as a guide). 2. Aims, objectives and targets to guide sustainable procurement activities. 3. The strategic assessment of sustainably sourced materials available locally and nationally. 4. Procedures to check and verify that the plan is being implemented/adhered to	1	Low	**ISG**
Req 4	Responsible Sourcing	3	0.96	It is assumed that at least 18% of the available points will be achieved, through the sourcing of materials within major elements from suppliers with appropriate certification (e.g. BES6001 / ISO14001 / FSC / CSA / MTCC / PEFC / SFI etc.).	1	Medium	**ISG / Mod**

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information	Pre-Assessment Score	Risk	Responsibility
Mat04	**Insulation**			**Minimum Standard: None**			
	Embodied Impact of Insulation	1	0.96	It is assumed that all insulation products used in the external walls; ground floor; roof and building services will have a low embodied impact when compared to their thermal properties. To ensure that this credit is achieved, A+ or A rated insulation types, according to the BRE's Green Guide Online, will be selected.	1	Low	**Mod**
Mat05	**Designing for Durability and Resilience**			**Minimum Standard: None**			
	Designing for Durability and Resilience	1	0.96	It is assumed that: 1. The building incorporates suitable durability / protection measures / designed features / solutions to prevent damage to vulnerable parts of the internal and external building and landscaping, including: a. Protection from the effects of high pedestrian traffic in main entrances, public areas and thoroughfares (corridors, lifts, stairs, doors etc.). b. Protection against any internal vehicular/trolley movement within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas. c. Protection against, or prevention from, any potential vehicular collision where vehicular parking and manoeuvring 2. The relevant building elements incorporate appropriate design and specification measures to limit material degradation due to environmental factors. (See guidance note for full details)	1	Medium	**LMA**
Mat06	**Material Efficiency**			**Minimum Standard: None**			
	Material Efficiency	1	0.96	It is assumed that this credit will not be sought.	0		
WASTE							
Wst01	**Construction Site Waste Management**			**Minimum standard: One Credit for Outstanding**			
Req 1-3	Construction Resource Efficiency	3	1.06	It is assumed that: - Resource Management Plan (RMP) has been developed covering the non-hazardous waste related to on-site construction and dedicated off-site manufacture or fabrication (including demolition and excavation waste) generated by the building's design and construction. **- For any site with existing hard surfacing or buildings present, a pre-demolition audit of any existing buildings, structures or hard surfaces must have been completed .** - Non hazardous construction waste will be less than the following: 13.3m3 or 11.1 tonnes per 100m2 GIFA	1	Medium	**ISG / Mod / MCC**
Req 4	Diversion of waste from Landfill	1	1.06	It is assumed that the following percentages of non-hazardous construction (on-site and off-site manufacture / fabrication in a dedicated facility), generated by the project have been diverted from landfill: - Non Demolition - 70% by Volume or 80% by tonnage - Demolition - 80% by Volume or 90% by tonnage	1	Medium	**ISG / Mod / MCC**
Wst02	**Recycled Aggregates**			**Minimum Standard: None**			
	Recycled Aggregates	1	1.06	It is assumed that recycled aggregate will NOT represent >25% of all of the high grade aggregate used within the development.	0		
Wst03	**Operational Waste**			**Minimum standard: 1 credit for Excellent and Outstanding**			
	Dedicated space for recyclables	1	1.06	It is assumed that a dedicated recycling area, adequately sized to serve the development will be provided. This space will be 2m2 per 1000m2 floor area of internal space, with an extra 2m2 per 1000m2 floor area where catering is provided.	1	Medium	**LMA / MCC**
	Compactor / Baler / Composting			It is assumed that a compliant vessel for composting organic waste will be provided. Due to the predicted waste streams of the school, its is assumed that a static compactor / baler will NOT be required.		Medium	**LMA / MCC**
Wst05	**Adaptation to Climate Change**			**Minimum standard: None**			
	Adaptation to Climate Change	1	1.06	It is assumed that a Climate Change Adaptation Strategy Appraisal will NOT be prepared for structural and fabric resilience by the end of Concept Design (RIBA Stage 2).	0		

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information	Pre-Assessment Score	Risk	Responsibility
Wst06	**Functional Adaptability**						
	Functional Adaptability	1	1.06	It is currently assumed that a building-specific functional adaptation strategy study will NOT be undertaken by the client and design team by Concept Design (RIBA Stage 2) If sought, this needs to include recommendations for measures to be incorporated to facilitate future adaptation. In addition, functional adaptation measures need to be implemented (RIBA Stage 4) in accordance with the functional adaptation strategy recommendations, where practical and cost effective. Omissions must be justified in writing to the assessor. Please see guidance note for full details.	0	Possible	MCC / LMA
LAND USE & ECOLOGY							
LE01	**Site Selection**			**Minimum standard: None**			
Req 1	Previously Developed land	1	1.00	It is assumed that not all schools will achieve the following: -at least 75% of the development's footprint (including building, hard landscaping, and temporary works) is on previously developed land. To be reviewed on a school by school basis.	0	Possible	ISG / SHD
Req 2-3	Contaminated land	1	1.00	It is assumed that the sites cannot be classed as contaminated, requiring remediation to enable development. To be reviewed on a school by school basis.	0	Possible	ISG / SHD
LE02	**Ecological Value of Site and Protection of Ecological Features**						
Req 1	Ecological Value of Site and Protection of Ecological Features	1	1.00	It is assumed that not all schools will achieve the following: - land within the construction zone can be defined as being of low ecological value by a suitably qualified ecologist. To be reviewed on a school by school basis.	0	Possible	Eco
Req 2-3	Protection of Ecological Features	1	1.00	It is assumed that not all schools will achieve the following: -any features of ecological value within and surrounding the construction zone (e.g. trees and hedges) will be adequately protected prior to site clearance and during construction. To be reviewed on a school by school basis.	0	Possible	ISG / Eco
LE03	**Minimising Impact on Existing Site Ecology**			**Minimum standard: One Credit for Very Good and Above**			
	Change in Ecological Value	2	1.00	It is assumed that a calculations will show a loss of ecological value of not more than -9 species. Calculations to be undertaken by either SHD or ecologist. To be reviewed on a school by school basis.	1	Medium	Eco / LMA / SHD
LE04	**Enhancing Site Ecology**			**Minimum standard: None**			
Req 1-3	Ecologist's Report and Recommendations	1	1.00	It is assumed that: - A suitably qualified ecologist (SQE) was appointed by the end of the Preparation and Brief stage (RIBA Stage 1) to advise on enhancing the ecology of the site at an early stage. - The SQE will provide an Ecology Report (based on a site visit/survey) with recommendations for the enhancement of the site's ecology at Concept Design stage (RIBA Stage 2). - The recommendations of the Ecology Report will be implemented.	1	Medium	ISG / Eco / LMA
Req 4-6	Increase in ecological value	1	1.00	It is assumed that a significant increase in the ecological value will NOT be achieved on site (+ 6 species or more) as a result of the ecologist's recommendations.	0		
LE05	**Long Term Impact on Biodiversity**			**Minimum standard: None**			
	Long Term Impact on Biodiversity	2	1.00	It is assumed that a suitably qualified ecologist will be appointed prior to the commencement of site works, will be able to confirm adherence to all relevant EU and UK legislation and will produce a 5 year management plan for site biodiversity. Furthermore, it is assumed that FOUR of the additional requirements, where applicable, outlined within Guidance Note LE5 will be incorporated into the design / planting.	2	Medium	ISG / LMA / Eco

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information	Pre-Assessment Score	Risk	Responsibility
POLLUTION							
Pol01	**Impact of Refrigerants**			**Minimum standard: None**			
Req 2	Buildings With Refrigerants Prerequisite			It is currently assumed that there will be no refrigerants within the building. However, should any be included, all systems (with electric compressors) must comply with the requirements of BS EN 378:2008 (parts 2 & 3) and where refrigeration systems containing ammonia are installed, the Institute of Refrigeration Ammonia Refrigeration Systems Code of Practice.		Low	**BCM / Mod**
Req 3-5	Impact of Refrigerant	2	0.77	It is currently assumed that there will be no refrigerants within the building. If any refrigerants are specified these will achieve Direct Effect Life Cycle CO2 equivalent emissions of 100kgCO2e/kW cooling capacity or less.	2	Medium	**BCM / Mod**
Req 6	Leak Detection System	1	0.77	It is assumed that there will be no refrigerants within the building. If any refrigerants are specified they must have a charge of less than 6kg each.	1	Medium	**BCM / Mod**
Pol02	**NOx Emissions**			**Minimum standard: None**			
	NOx Emissions	3	0.77	It is assumed that, the space heating and hot water will deliver less than 40mg/kWh of NOx. If there are any electrc point of use water heaters, these must constitute less than 10% of energy use. Should any cooling be provided, the associated NOx emissions for this must also be reported.	3	Medium	**BCM / Mod**
Pol03	**Surface Water Run-Off**			**Minimum standard: None**			
Req 1-3	Flood Risk	2	0.77	It is assumed that a site specific Flood Risk Assessment will be produced for each site which confirms that the buildings are situated in a low flood risk area. The FRA must take all current and future sources of flooding into consideration.	2	Medium	**SHD**
Req 4	Pre-requisite			An Appropriate Consultant is appointed to carry out, demonstrate and/or confirm the development's compliance with the following criteria:		Low	**SHD**
Req 5-7	Surface Water Run-Off 1	1	0.77	It is assumed that: - Drainage measures are specified to ensure that the peak rate of run-off from the site to the watercourses (natural or municipal) is no greater for the developed site than it was for the pre-development site. This should comply at the 1-year and 100-year return period events. - Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS are in place. - Calculations include an allowance for climate change; this should be made in accordance with current best practice planning guidance.	1	Medium	**SHD**
Req 9-14	Surface Water Run-Off - 2	1	0.77	It is currently assumed that the requirements of this cerdit will not be met, however this is to be reviewed. The requirements are as follows: - Flooding of property will not occur in the event of local drainage system failure (caused either by extreme rainfall or a lack of maintenance); and, EITHER - Drainage design measures ensure that the post development run-off volume, over the development lifetime, is no greater than it would have been prior to the development for the 100-year 6-hour event, including an allowance for climate change. - Any additional predicted run-off is prevented from leaving the site using infiltration or other (SuDS) techniques. OR (only where the above cannot be achieved): - Justification from the Appropriate Consultant indicating why the above criteria cannot be achieved, i.e. where infiltration or other SuDS techniques are not technically viable options. - Drainage design measures are specified to ensure that the post development peak rate of run-off is reduced to the limiting discharge. This is defined as the highest flow rate from the following options: a. The pre-development 1-year peak flow rate; b. The mean annual flow rate Qbar c. 2L/s/ha. - Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS are in place. - For either option, above calculations must include an allowance for climate change; this should be made in accordance with current best practice planning guidance	0	Possible	**SHD**
Req 15-22	Minimising water course pollution	1	0.77	It is assumed that the following criteria will NOT be met: - a suitably qualified professional will confirm that there will be no discharge from the site for up to 5mm of rainfall. - a petrol interceptors will be provided for high contamination risk areas - SUD's/source control systems will be used for low risk areas - All design measures to PPG3, SUD'S Manual or PPG25 and Ear's PPGA - For Chemical/liquid gas storage areas, shut off valves are fitted - For vehicle washing areas, pollution prevention systems must be in accordance with PPG 13	0		

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information	Pre-Assessment Score	Risk	Responsibility
Pol04	**Reduction of Night Time Light Pollution**			**Minimum standard: None**			
	Reduction of Night Time Light Pollution	1	0.77	It is assumed that: - The external lighting strategy has been designed in compliance with Table 2 of the ILP Guidance notes for the reduction of obtrusive light, 2011 - All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00. - Any safety or security lighting which is used between 23:00 & 07:00, complies with the lower levels of lighting recommended in Table 2 of the ILP's Guidance notes. - Illuminated advertisements must be designed in compliance with ILP PLG05.	1	Medium	**BCM / Mod**
Pol05	**Reduction of Noise Pollution**			**Minimum standard: None**			
	Reduction of Noise Pollution	1	0.77	It is assumed that: - A noise impact assessment in compliance with BS 7445 will be carried out and the following noise levels measured/determined: i. Existing background noise levels at the nearest or most exposed noise-sensitive development to the proposed development or at a location where background conditions can be argued to be similar. ii. The rating noise level resulting from the new noise source. - The noise impact assessment must be carried out by a suitably qualified acoustic consultant holding a recognised acoustic qualification and membership of an appropriate professional body - The noise level from the proposed site/building, as measured in the locality of the nearest or most exposed noise-sensitive development, is a difference no greater than +5dB during the day (07:00 to 23:00) and +3dB at night (23:00 to 07:00) compared to the background noise level. - Where the noise source(s) from the proposed site/building is greater than above, measures have been installed to attenuate the noise at its source to a level where it will comply with the above.	1	Low	**ISG / BCM / Mod**
INNOVATION CREDITS							
Man03	Responsible Construction Practices	1	1.00	It is currently assumed that the contractor will NOT achieve a score of at least 40 in the Considerate Construction Scheme with no section scoring less than 7.		Possible	**ISG**
Man05	Aftercare	1	1.00	It is assumed that there is (or will be) operational infrastructure and resources in place to co-ordinate the following activities at quarterly intervals for the first three years of building occupation: a. Collection of occupant satisfaction, energy consumption and water consumption data. b. Analysis of the data to check the building is performing as expected and make any necessary adjustments to systems controls or to inform building user behaviours. c. Setting targets for reducing water and energy consumption and monitor progress towards these. d. Feedback any 'lessons learned' to the design team and developer for use in future projects. e. Provision of the actual annual building energy, water consumption and occupant satisfaction data to BRE.	1	Medium	**MCC**
Hea01	Visual Comfort	1	1.00	It is assumed that a daylight factor of 4% will not be achieved in 80% of the occupied areas.			
Hea02	Indoor Air Quality	2	1.00	It is assumed that this innovation credit will not be sought.			
Ene01	Reduction of Energy Use and Carbon Emissions	5	1.00	It is assumed that this innovation credit will not be sought.			
Wat01	Water Consumption	1	1.00	It is assumed that the building will not achieve a reduction in water consumption by 65% over the notional baseline.			
Mat01	Life Cycle Impacts	1	1.00	It is assumed that the materials specification will not achieve two or more points over the total required to achieve maximum credits under the standard criteria.			
Mat03	Responsible Sourcing of Materials	1	1.00	It is assumed that 70% of the available responsible sourcing points will not be achieved.			
Wst01	Construction Waste Management	2	1.00	It is assumed that the waste generated by the development will not achieve the exemplary level requirements.			
Wst02	Recycled Aggregates	1	1.00	It is assumed that the percentage of high grade aggregate specified per application will not meet the exemplary level requirements.			
Wst05	Adaptation to Climate Change	1	1.00	It is assumed that this innovation credit will not be sought.			
Unlisted, BRE Approved Innovations		10	1.00	It is assumed that no BRE approved innovations will be sought.			