



RIDGE

**MOSS LANE EAST,
STUDENT HALLS**

**BREEAM BESPOKE 2014
R&FO & NC
PREASSESSMENT REPORT**

10th October 2022

MOSS LANE EAST, STUDENT HALLS, MANCHESTER

BREEAM BESPOKE 2014 R&FO & NC PREASSESSMENT REPORT

10th October 2022

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1. INTRODUCTION

Ridge and Partners LLP has been appointed to undertake a BREEAM Pre-assessment of the refurbishment of the existing listed building and development of new student halls of residence on Moss Lane East, Manchester

The development needs to achieve a BREEAM Excellent rating for funding and a minimum of BREEAM Very Good for planning consent. The development will be assessed under BREEAM Bespoke 2014 R&FO and NC because it comprises a mixture of refurbishment and new build, but the new build element exceeds 500m². This report is based on a previous bespoke multi residential scheme; however, this should be used a guide only until specific criteria and category weightings have been confirmed by BRE.

The purpose of this report is to identify the likely costs and issues associated with targeting Excellent Rating and to provide the design 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. MEETINGS AND ATTENDEES

BREEAM AP Wendy Broomhead has been attending design team meetings since inception and a BREEAM workshops were held on 05.05.22. 15.07.22 as well as updates during design team meetings throughout the pre planning period

3. PROJECT DESCRIPTION

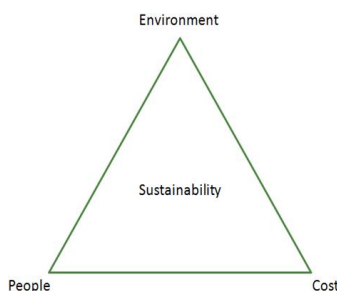
The project comprises re-development of the existing listed building to provide communal facilities for the student accommodation plus a new multi storey providing 261 student rooms. There is no car parking spaces provided. The buildings will be serviced by Air Source Heat pumps with roof top PVs .

4. PROJECT PROGRAMME

The project is currently in RIBA Stage 3 and a planning application at October 2022, and a planned start on site Q1 2023 with handover September 2025.

5. BACKGROUND TO SUSTAINABLE DESIGN & 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) 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 assessments can be either undertaken in two stages: Firstly, the design stage, which leads to an Interim BREEAM certified rating; 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: Within each of the BREEAM categories outlined above, there are several credit requirements that reflect the options available to designers and managers of buildings.

An environmental weighting is applied to the scores achieved under each category. For a Bespoke Assessment, these will be determined by BRE as part of the development of the project specific criteria. These weightings are used to calculate the final BREEAM score.

The baseline 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 weighting factors vary depending on whether the project is fully fitted, shell & core or shell only, and on the answers to a number of set up questions in the Bespoke Questionnaire.

BREEAM Section
Management
Health and Wellbeing
Energy
Transport
Water
Materials
Waste
Land Use & Ecology
Pollution

The assessment process results in a report covering the issues assessed together with a formal certification giving a rating on a scale of PASS (at least 30%), GOOD (at least 45%), VERY GOOD (at least 55%), EXCELLENT (at least 70%) and OUTSTANDING (at least 85%). A score of less than 30% is UNCLASSIFIED.

6. BREEAM STRATEGY & TARGETS

The Manchester City Council Planning Authority will require a minimum of a BREEAM 'Very Good', however the development it to target a BREEAM Excellent to align with funding requirements. The following report therefore outlines how this could be achieved based on an assumed set of Bespoke criteria.

This development will need to be assessed based on a Bespoke set of BREEAM Multi-residential criteria because it is a mixture of both refurbishment and new construction. The Bespoke criteria will be developed by BRE based on a mix of the BREEAM 2014 R&FO and NC schemes and a Questionnaire submitted by the Design Team. The Bespoke criteria will be predominantly based on the BREEAM 2014 R&FO scheme with some credits area weighted between refurbished areas and new construction areas, with each being assessed against the relevant 2014 R&FO or NC criteria. This process to develop a set of Bespoke requirements takes about 4 to 6 weeks.

This report is based on a previous set of bespoke criteria developed for a different multi-residential scheme with a mix of both refurbishment and new construction. As such the results shown should be used as a guide only because both the credits selected, and weighting attributed to each section may vary from the final BRE project specific criteria.

In all assessments we recommend a score buffer of between 5 and 7% to allow for unexpected changes or compliance issues as the project progresses

The assessment can only cover areas with a common function and level of fit-out therefore it may prove necessary to omit areas if delivered to a Shell only. This assessment covers only the student accommodation and ancillary functions.

Within the preassessments there may be issues which are outside of the current scope of works/specification. Attention must be paid to ALL credits listed within this 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 is recommended that a 'managed' post construction assessment is undertaken. A single report will be submitted to the BRE following completion of the building, rather than a separate interim (design stage) and final (post construction) submission. 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.

For the certification to be a smooth process for all concerned, an Information Required Schedule (IRS) 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. TIME DEPENDENT ACTIONS

There are various key actions that are time dependant. These are listed in Table 1.

Table 1. Time Dependent Actions

Credit		Time requirements	Comment / Action
RIBA Stage 1			
Man 01 Req 1	Stakeholder Consultation (Project Delivery)	At RIBA Stage 1, a Sustainability Brief has been produced including project budget, programme, constraints, appointments, and sustainability targets.	RBC
Man 01 Req 9	Sustainability Champion (Design)	Requires evidence that the BREEAM AP was appointed at RIBA Stage 1.	RBC
LE04 Req 1	Enhancing Ecology	Requires evidence that the Ecologist was appointed at RIBA Stage 1.	RBC
RIBA Stage 2			
Man 01 Req 1-3	Project Delivery Planning	Prior to the end of RIBA Stage 2 all the project delivery stakeholders will meet, identify, and define roles, responsibilities & contributions during each key phase. Requires a Project Brief, Communications Strategy & Project Execution Plan	RBC
Man 01	Pre-Requisite BREEAM AP	The project team and client will formally agree (contract or letters of appointment) strategic performance targets, including the BREEAM rating, early in the design process.	RBC
Man 01 Req 10-13	BREEAM AP	A BREEAM AP works with the team throughout Preconstruction phase attending meetings and producing reports at each RIBA Stage	Ridge
Man 02	Elemental Life Cycle Cost	Prior to the end of RIBA Stage 2, a competent person carried out an elemental life cycle costing analysis together with elemental options appraisals in accordance with PD 156865:2008 which shows future replacement costs over 20, 30, 50 or 60 years and include service life, maintenance, and operation cost estimates. The LCC must be used to influence design and specification. In addition to achieve Mat 01 innovation options appraisal will need to be extended to also cover the Mat 01 LCA options	RBC
Hea 06	Security of Site and Building	Prior to the end of RIBA Stage 2, a Security Needs Assessment (SNA) must be undertaken by a suitably qualified security specialist and any recommendations are implemented.	Security needs assessment has been provided

Credit		Time requirements	Comment / Action
Ene 04	Passive Design Analysis	A Passive Design Analysis (PDA) is undertaken 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. (Passive design measures must be implemented to reduce energy demand).	Future Serv – Report provided
Ene 04	Low Zero Carbon	Prior to the end of RIBA Stage 2, an energy specialist must produce a BREEAM compliant Low Zero Carbon feasibility study. (A LZC technology must be implemented in line with the findings of the study which reduces CO ₂ emissions)	Future Serv – Report provided
Tra 05	Transport Assessment & Travel Plan	Requires that during feasibility and design stages a BREEAM compliant Transport Assessment and draft travel plan will be produced.	RSK - Reports provided
Wst 05	Adaption to Climate Change	Requires production of a Climate Change Adaptation Strategy Appraisal using a risk assessment to identify the impact of expected extreme weather conditions arising from climate change on the building over its projected life cycle. And to develop recommendations to mitigate the identified impact before the end of RIBA Stage 2.	CSA/ ROC/ FS- Report provided
Wst 06	Functional Adaptability	Requires production of a study to explore the functional adaptation potential of different design scenarios by the end of Concept Design (RIBA Stage 2) and to develop recommendations or solutions based on the study that aim to enable and facilitate functional adaptation.	CSA/ ROC/ FS – report provided
RIBA Stage 3-4			
Man 01	BREEAM AP	A BREEAM AP is appointed and works with the team during Developed Design.	Ridge to be appointed for RIBA stage 3
Man 02	Component Life Cycle Cost	Prior to the end of RIBA Stage 4, a competent person will carry out a component level LCC plan in line with PD 156865:2008 including: Envelope; Finishes; Services and External Spaces. In addition, Stage 4 Mat 01 options must be modelled	RBS
Man 04 Req 6-7	Commissioning Design & Preparation	Requires a team member, not involved in installation works, to undertake design reviews, provide commissioning management input and manage commissioning performance testing and handover / post-handover stages. Additionally, a specialist commissioning manager must be appointed.	FS
Wst 06	Design Functional adaptability	Requires that an update, during Technical Design (Stage 4), on how the recommendations or solutions proposed by Concept Design have been implemented where practical and cost effective and that omissions have been justified.	CSA/ ROC/FS

8. KEY ISSUES TO ACHIEVE AN 'EXCELLENT' CERTIFICATION

Credits have been identified worth 76.37% which would achieve an 'Excellent' rating with 6% margin of safety. Appendix A provides detail on the specification targeted to achieve the above score and assumptions made.

The tables within the following pages provide a brief summary of the issues required to achieve the rating. These should be read in conjunction with Appendix A and the current BRE 2014 R&FO and NC Manuals which provides more detail on the requirements. Please note not all items are listed below

8.1.1. Client Issues

Credit		Requirements
Man 05 Req 4-5	Post-Occupancy Evaluation	Requires an independent third party to undertake a Post Occupancy Evaluation one year after occupation.
Tra 05	Travel plan	Requires confirmation of intention to implement operational TP recommendations.
Wat 01	Water Consumption	Requires provision of laundry equipment such that overall an improvement in potable water conservation of better than 25% can be achieved against current industry standards.
Wst 03 Req 2	Compactor Bailer and Composting	Requires justification of waste streams to exclude the need for a compactor bailer and requires a waste removal contract for compostable food waste to be in place for occupation.
Man 05 Innovation	Aftercare	Requires the FM team, for a period of three years after occupation will: Collect, monitor, report, set targets & adjust systems as necessary based on occupant satisfaction, energy & water consumption data. They will also feedback 'lessons learned' to the design team and provide actual annual building energy, water consumption & occupant satisfaction data to BRE

8.1.2. Project Manager and Quantity Surveyor Issues

Credit		Requirements
Man 01 Req 1-4	Project Delivery Planning	Requires a RIBA Stage 1 project brief and at RIBA Stage 2 all the project delivery stakeholders (client/developer, contractor, design team) meet, identify and define roles, responsibilities & contributions during each key phase. The project team demonstrates stakeholder contributions and consultation processes influence the: Initial Project Brief; Communications Strategy; Project Execution Plan and Concept Design
Man 01 Req 8	Pre-Requisite BREEAM (Design) AP	-The project team and client will formally agree (contract or letters of appointment) strategic performance targets, including the BREEAM rating, early in the design process.
Man 02 Req 1-2	Elemental Life Cost	Requires an elemental life cycle cost plan to be created at RIBA Stage 2 to PD 156865: 2008. (QS or Sustainability)

Credit			Requirements
Man 02 Req 3	Component Level LCC Plan		Requires a component life cycle cost plan to be carried out at RIBA Stage 4 to PD 156865: 2008. (QS or Sustainability)
Man 02 Req 4	Capital cost reporting		Requires reporting of project capital cost to the Assessor for sending to the BRE.
Man 03 Req 5	Pre-Requisite BREEAM AP (Site)	-	The client and the contractor will formally agree performance targets.
Man 03 Req 6	BREEAM AP (Site)		A BREEAM AP is appointed to work with the team throughout construction works. (within Ridge Sustainability Quotation for construction stage support)
Mat 01	Life Cycle Impacts		Requires support to Embodied carbon modeller for LCA material quantities and specification.
Pol 03	Surface Water Run-Off		Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS/attenuation tanks are in place.

8.1.3. Architectural & landscape Issues

Credit			Requirements
Man 02	Elemental Life Cycle Cost		Confirm that the Life Cycle Costing exercise has influenced design and specification.
Hea 01 Req 1-2	Glare Control		Requires glare control to be provided to all areas where workstations / projector screens are used (e.g. low eaves or blinds transmittance of <0.1)
Hea 01 Req 3-5	Daylighting		Requires calculations to demonstrate that for: kitchens, living rooms, dining rooms and studies: 50% of Refurbished areas and 100% of extension areas achieve average daylight illuminance of ≥ 100 Lux for 3450 hours per year and 30 Lux minimum at the worst lit point AND non-residential/communal occupied areas : 40% of Refurbished areas and 80% extension areas achieve an average of 200 Lux and a minimum of 60 Lux over 2650 hr/yr
Hea 03 Req 6-7	VOC Emission Levels (Products)		Requires use of finishing products that comply with EU VOC limits as specified in BREEAM manual table 18
Hea 06	Security		Requires appointment of an SQSS to carry out an SNA prior to the end of RIBA Stage 2 and incorporation of recommendations into the proposals.
Tra 03	Cycle storage		BREEAM compliant storage for at least 13 cycles to be provided
Tra 05	Travel Plan		Requires implementation of non-operational recommendations in the travel plan
Wat 01	Water Consumption		Requires careful specification of water consuming equipment to achieve a 25% betterment on industry standards
Wat 04	Water Efficient Equipment		Requires the design team to identify unregulated water demands and reduce their use. (i.e. planting species that only require precipitation, therefore avoiding the need for mains fed irrigation or no planting is specified)
Mat 01	Life Cycle Impacts		Requires support to Embodied carbon modeller for LCA material quantities and specification.

Credit		Requirements
Mat 04 Req 1-2	Embodied Impact of Insulation	Requires all new insulation products to have a low embodied impact through the specification of A+ rated materials.
Mat 05	Designing for Durability and Resilience	Requires appropriate protection to be specified on vulnerable internal and external areas and a study on durability & resilience of building fabric & structure.
Wst 03	Operational Waste	Requires a dedicated adequately sized, labelled, accessible recycled waste storage area with tap and the provision of adequate local recycling, general and compostable waste storage within each student kitchen/kitchenette.
Wst 05	Adaption to Climate Change	Produce a study into the effects, risk and mitigation strategies for accommodating Climate Change to the building fabric during RIBA Stage 2
Wst 06	Functional Adaptability	Produce a compliant 'Functional Adaptation Study' during Concept Design (RIBA Stage 2) that is updated and implemented at RIBA Stage 4.
LE 02 Req 1	Protection of Ecological features	Requires that at no ecological features are removed and any existing features are protected throughout the works
LE 04	Enhanced Ecology	Requires implementation of recommendations in the Ecology report.

8.1.4. Civil & Structural Engineer's Issues

Credit		Requirements
Mat 01	Life Cycle Impacts	Requires support to Embodied carbon modeller for LCA material quantities and specification.
Wst 05	Adaption to Climate Change	Requires input into a study into the effects, risk and mitigation strategies for accommodating Climate Change to the building fabric during Concept Design, RIBA Stage 2
Wst 06	Functional Adaptability	Requires input into a compliant Functional Adaptation Study' during Concept Design. RIBA Stage 2 updated at RIBA Stage 4
Pol 03 Req 7-8	Surface Water Run-Off	Requires Drainage Consultant to confirm and provide calculations & details showing that there will be no increase in the rate of run off from the site as a result of the development.

8.1.5. Ecologist's Issues

Credit		Requirements
LE 02	Ecological Value of Site & Protection of Ecological Features	Requires evidence of being a suitably qualified Ecologist according to BREEAM requirements and identification and protection measures ecological features present.
LE 04	Enhanced ecology	Requires appointment at RIBA Stage 1 with RIBA Stage 2 survey incorporating recommendations to be implemented by the DT.
LE 05	Long Term Impact on biodiversity	Requires confirmation that the design & construction has complied with EU & UK EBAP regulations and that along with production of a 5-year habitat management plan.

8.1.6. Acoustician

Credit		Requirements
Hea 05	Acoustic performance	Requires a acoustic testing to confirm that airborne sound insulation values are at least 3dB higher and impact sound insulation values are at least 3dB lower than the performance standards in the relevant Building Regulations or Standards.
Pol 05	Noise attenuation	Requires a noise impact assessment to BS 7445 and for noise levels as measured in the locality of the nearest or most exposed noise-sensitive development, will be a difference no greater than +5dB during the day and +3dB at night compared to the background noise level.

8.1.7. Building Services Consultant and Subcontractor's Issues

Credit		Requirements
Man 04 Req 1-4	Commissioning and Testing Schedule and Responsibilities	A 'schedule of commissioning' needs to be developed, with a commissioning monitor appointed.
Man 04 Req 5-6	Commissioning Building Services	Requires appointment of a specialist commissioning manager to undertake design reviews, provide commissioning management to construction programme and management of commissioning during handover / post-handover stages.
Man 05 Req 3	Seasonal Commissioning	Requires seasonal commissioning to take place over a 12-month period after occupation.
Hea 01 Req 3-5	Daylighting	Requires calculations to demonstrate that for: kitchens, living rooms, dining rooms and studies: 75% of Refurbished areas and 100% of areas in the extension achieve an average daylight illuminance of at least lux 100 for 3450 hours per year and 30 Lux minimum at the worst lit point AND non-residential/communal occupied areas : 60% of Refurbished areas and 80% of areas in the extension achieve an average lux of 200 and a minimum lux of 60 over 2650 hours per year
Hea 01 Req 8-14	Internal and External Lighting Levels, Zoning and Control	Requires SLL & CIBSE compliant lighting design, and BREEAM compliant control & zones (manual switching required).
Hea 04 Req 1-4	Thermal Modelling	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 5-8	Design for Future Thermal Comfort	Requires thermal modelling to demonstrate compliance (as above) when run for a projected climate change environment or has potential to adapt using passive measures.
Hea 04 Req 9-11	Thermal Zoning & Controls	Requires the thermal model to inform a temperature control strategy addressing the issues detailed within the BREEAM guidance.

Credit		Requirements
Ene 01 Req 1	Energy Performance	The 'whole building energy score' approach will be used. The new build areas' BRUKL will be scored against BREEAM 2014NC and for the listed building, it will need to be modelled both pre and post refurbishment using the epc.inp files and pdf. The BRE's Bespoke spreadsheet will perform an area weighting to confirm the number of credits achieved. 11 credits of the 15 are targeted.
Ene 02 Req 1-4	Sub-metering of Major Energy Consuming Systems	Requires 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 and an accessible energy monitoring and management system.
Ene 03	External lighting efficiency	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.
Ene 04	Passive Design Analysis	A PDA is undertaken at RIBA Stage 2, identifying opportunities to implement passive design solutions to reduce energy demands. Measures must be implemented & shown to reduce energy demand and emissions
Ene 04	Low Zero Carbon	Prior to the end of RIBA Stage 2, an energy specialist must produce a BREEAM compliant Low Zero Carbon feasibility study. LZC technology must be implemented in line with the findings of the study which reduces CO ₂ emissions.
Wat 01	Water Consumption	Requires careful specification of water consuming equipment to achieve a betterment of 25% on current industry standards.
Wat 02	Water sub meter	The main supply to the building will be fitted with a pulsed water meter and additional sub meters where applicable.
Wat 03 Req 1-2	Water leak Detection	Requires a BREEAM compliant leak detection system to be specified and installed on the buildings water supply to detect leaks between the utilities meter and building and within the building itself.
Wat 03 Req 3	Flow Control Devices	Requires flow control devices to be installed on the cold-water supply to taps, WCs and urinals but must not allow the CWS to automatically switch off in showers while hot water is still running. (Bedroom Ensuite facilities are excluded from this requirement)
Mat 04	Insulation	Requires specification of A+ / A rated building services insulation materials.
Wst 03	Operational Waste	Requires the provision of a water tap in the bin store.
Wst 06	Functional Adaptability	Requires input into a compliant 'Functional Adaptation Study' during Concept Design (RIBA Stage 2) and reviewed at RIBA Stage 4.
Pol 04	Reduction of Night-Time Light Pollution	Requires that all illuminated advertisements comply with ILP PLG05 and all external lighting with Table 2 ILP:2011 Additionally, lighting can be automatically switched off between 23:00 and 07:00, excluding for safety and security lighting which complies with the lower lighting levels in Table 2 ILP:2011
Pol 05	Reduction of Noise Pollution	Requires acoustic attenuation measures as required by NIA.

8.1.8. Main Contractor's Issues

Issues for Main Contractor*		
Credit		Requirements
Man 03	Responsible Construction Practices	Requires the main contractor to: - Uses Legally harvested and traded timber'. - Operates an Environmental Management System which is third party certified. - Implement best practice pollution prevention policies. - Uses a BREEAM AP. (within Ridge appointment) - Register and achieve a score of at least 39 with no section <13 under the Considerate Constructors Scheme - Monitor & report construction site impacts including energy, water and transportation of construction materials and waste
Man 04 Req 1-4	Commissioning - Testing and Schedule and Responsibilities	The contractor accounts for commissioning, testing, responsibilities and standards within budget and programme of works.
Man 04 Req 7-8	Testing and Inspecting Building Fabric	Requires that an air tightness survey, and thermographic survey is undertaken to QA integrity of the building fabric, continuity of insulation, avoidance of thermal bridging and air leakage paths. Any defects found are rectified.
Man 04 Req 11-12	Handover	Requires production of simple building user guide & training for the relevant building users.
Man 05 Req 1-2	Aftercare Support	Requires facilities management training and aftercare support for the first 12 months from occupation
Hea 03 Req 1	Indoor Air Quality Plan	Requires indoor air quality plan to be produced.
Hea 03 Req 6-7	VOC Emission Levels (Products)	Requires use of finishing products that comply with EU VOC limits as specified in BREEAM manual table 18
Hea 03 Req 8-12	VOC Emission Levels (Post Construction)	To achieve this credit preoccupation testing of formaldehyde concentration and VOC emissions will need to be undertaken post construction and results must be below the limits detailed within the BREEAM guidance. If results are above the limits remedial action is taken to bring down the levels.
Ene 06 Req 1-4	Energy Efficient Transportation Systems	Requires production of a vertical lift transport analysis covering new lifts, study on alternatives and specification of energy efficiency measures incl regen unit where appropriate.
Mat 03 Req 1	Responsible Sourcing	Requires that all timber used within the project will be legally harvested and traded timber.
Mat 03 Req 2	Sustainable Procurement Plan	Materials are sourced in accordance with a documented BREEAM compliant Sustainable Procurement Plan.
Mat 03	Measuring Responsible Sourcing	Requires that materials will be sourced from suppliers with appropriate responsible sourcing certification (e.g., BES6001 / ISO14001 / FSC / CSA / MTCC / PEFC / SFI etc.) and 36% of available points will be achieved for the Superstructure, substructure, hard landscaping and finishes elements.
Mat 04 Req 1-2	Embodied Impact of Insulation	Requires all new insulation products to have a low embodied impact through the specification of A-A+ rated materials.
Wst 01 Req 5-6	Construction Resource Efficiency	Requires that a Resource Management Plan (RMP) is developed, and that non-hazardous construction waste is less than 11.1 m³ or 3.5 tonnes per 100m² GIFA.

Issues for Main Contractor*		
Credit		Requirements
Wst 01 Req 7	Diversion of resources from landfill	Requires 75% by volume (83% by weight) of non-hazardous construction waste and 83% by volume (91% by weight) of demolition waste to be diverted from landfill.
LE 02	Protection of Ecological Features	Requires existing trees and hedges to be protected during the construction works.
LE 04	Enhancing Site Ecology	Requires implementation of all ecologists recommendations. See Ecology report for details.
LE 05	Long term impact on biodiversity	Requires that the contractor confirms compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site. AND identification of a site Ecology Champion to monitor & record ecological issues, train workforce to adhere to environmental and ecological restrictions and to limit disturbance by carrying out site clearance outside the bird breeding season or use an ecologist to check for breeding birds prior to clearance.

9. SUMMARY AND RECOMMENDATIONS

In the preassessment meeting a target was identified to achieve an Excellent BREEAM rating with a small contingency. The results have been summarised in the sections above to highlight the credits where there is a time constraint and by discipline showing the requirements to reach each target. A more detailed breakdown is provided in Appendix A

It is recommended that each discipline review the suggested targets and ensure as a minimum that the necessary elements are incorporated into the design documentation to achieve the Excellent rating.

Please note that for any particular rating there are mandatory credits that need to be achieved within the targeted percentage score. These are also highlighted in Appendix A

APPENDIX A- DETAILED ASSESSMENT REPORT

Project: 5018263
Refurbishment & Extension, Moss Lane East Student Accommodation



BREEAM Pre-assessment Report

BREEAM UK RFO Bespoke 2014 - New Construction & Refurbishment and Fit Out (Parts 1-4) Multi-Residential Accommodation

BREEAM Rating Bands	
PASS	30
GOOD	45
VERY GOOD	55
EXCELLENT	70
OUTSTANDING	85

Report prepared by: Wendy Broomhead

Report checked by:

Date: 10.10.22

Note: the assessment criteria below is based on an assumed bespoke set of credits and criteria from another Multi residential student accommodation scheme. The final assessment is likely to vary and will only be confirmed once BRE have been commissioned to develop a bespoke set of criteria for this development. It is recommended that application to BRE be carried out ASAP to confirm targets are appropriate.

Results Summary				
Sector	Total credits Available	Weighting		Excellent Target Score
Management	21	13.24%		12.61%
Health & Wellbeing	20	15.04%		9.02%
Energy	26	16.51%		11.43%
Transport	7	5.15%		5.15%
Water	9	6.62%		4.41%
Materials	13	13.79%		11.67%
Waste	11	7.58%		3.45%
Land Use & Ecology	4	11.03%		11.03%
Pollution	12	11.03%		4.60%
Sub Total Predicted Score				73.37%
Innovation	10	10.0%		3%
Total Score				76.37%
BREEAM Rating				EXCELLENT

Key to Responsibilities		
Role	Company	Ref
Client	City side	Client
Project Manager & QS	Russell Bolton Consulting	RBC
Architect	Carson Sall Architecture	CSA
Structural & Civil Eng & Façade Eng	Roc Consulting	ROC
M&E Consultant	Future Serv	FS
Highways Engineer	TBC	Transport
Acoustician	Hans Tucker	Acoustician
Ecologist	Middle March	Ecologist
BREEAM Assessor & AP	Ridge and Partners	Ridge
Main Contractor	TBC	Contractor
Demolition Contractor	TBC	Demolition Contractor
M&E Sub Contractor	TBC	M&E Sub
Lift Manufacturer	TBC	Lift Sub

Notes:

1) Shading Denotes Mandatory Credit for 'Excellent'

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/>

<https://www.breeam.com/ndrefurb2014manual/>

2) Yellow shading shows changes from previous issue

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information	Excellent Target Score	Risk	Responsibility
MANAGEMENT							
Man01	Project Brief and Design			Minimum standard: None			
Req 1-4	Stakeholder Consultation (Project Delivery)	1	0.63	At RIBA Stage 1, a Sustainability Brief has been produced including project budget, programme, constraints, appointments and sustainability targets. Prior to the end of RIBA Stage 2 all the project delivery stakeholders (client/developer, contractor, design team) will meet, identify and define roles, responsibilities & contributions during each key phase. The project team will demonstrate how the stakeholder contributions and consultation process influences the following: - Initial Project Brief - Project Execution Plan - Communications Strategy - Concept Design PEP received dated Aug 22 - please provide Stage 1 Brief and evidence of roles & responsibilities and changes influencing brief, PEP & concept design.	1	Medium	RBC
Req 5-7	Stakeholder Consultation (Third Party)	1	0.63	Credit not sought due to extent/content required by BREEAM.	0		
Req 9-11	Sustainability Champion (Design)	1	0.63	It is assumed that the BREEAM AP was appointed at RIBA Stage 1. and has supported the design team at early design stage	1	Medium	Ridge/RBC
Req 12-13	Sustainability Champion (Monitoring Progress)	1	0.63	It is assumed that the BREEAM AP will support the team by monitoring progress and attending meetings at all stages of the preconstruction (note dependent upon achieving previous credit.)	1	Medium	Ridge
Man02	Life Cycle Cost and Service Life Planning			Minimum standard: None			
Req 1-2	Elemental Life Cost	2	0.63	An outline, entire asset Elemental Life Cycle Plan will be carried out at RIBA Stage 2 in accordance with PD 156865:2008. The LCC will include: a) Appraisal of a range of options and based on the life expectancy of the refurbished building, e.g. 20, 30, 50+ years. b) The servicing strategy for the project outlining services component over a 15 -year period, in the form of an 'elemental LCC Plan'. c) A fit-out strategy is developed outlining fit-out options over a 10-year period. LCC scope should align with local authority heritage requirements and where 1 type of material is specified it can be excluded from the LCC.	2	Medium	RBC
Req 3	Component Level LCC Plan	1	0.63	A component level LCC plan will be developed by the end of RIBA Stage 4 in line with PD 156865:2008 and will include the following component types: Envelope, e.g. cladding, windows, and/or roofing; Newly specified local and/or core service equipment, e.g. boiler, air-conditioning, air handling unit, and/or controls etc.; Finishes, e.g. walls, partitions, floors and/or ceilings etc; External spaces, e.g. alternative hard landscaping, boundary protection. LCC scope should align with local authority heritage requirements and where only 1 component is specified it can be excluded from the LCC.	1	Medium	RBC
Req 4	Capital Cost Reporting	1	0.63	The capital cost for the building will be reported in £k/m2 to the Assessor for reporting to the BRE via the BREEAM Spreadsheet.	1	Low	RBC
Man03	Responsible Construction Practices			Min Standard : 1 No credit for Req 7-8 - Excellent; 2No credits Outstanding			
Req 1	Pre-requisite: Timber			All timber and timber based products used on the project will be 'Legally harvested and traded timber'.		Low	
Req 2-3	Environmental Management	1	0.63	The main contractor will operate a certified Environmental Management System.(e.g. ISO 14001) Best practice pollution prevention policies and procedures will be implemented on site in accordance with PPG 6.	1	Low	Contractor
Req 4-6	Sustainability Champion (Construction)	1	0.63	During RIBA Stages 5 & 6 a Sustainability Champion will be 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 the site regularly to carry out spot checks, monitor site activities & report on progress at relevant project team meetings. The defined BREEAM performance target will form a requirement of the principal contractor's contract.	1	Medium	Contractor
Req 7-8	Considerate Construction	2	0.63	The contractor will comply with the Considerate Constructors Scheme and will achieve a score of at least 35 with no section scoring below 11. Note the innovation credit is also targeted which requires a minimum score of 39 and a min score per section of 13.	2	Medium	Contractor
Req 9	Monitoring of Construction- Site Impacts- Pre-requisite			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	Contractor

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://www.breeam.com/ndrefurb2014manual/	Excellent Target Score	Risk	Responsibility
Req 10-15	Monitoring of Construction- Site Impacts (Energy and Water)	1	0.63	The contractor's nominated individual will monitor and report data on energy (in kwh and total kgCO2/project value) and water consumption (in m3) on site.	1	Low	Contractor
Req 16-18	Monitoring of Construction- Site Impacts (Transport)	1	0.63	The contractor will monitor and report data for CO2 emissions for transport of construction materials and waste. This will cover: - Transport of materials from the factory gate to the building site, including any transport, intermediate storage and distribution. To include: Materials used in major building elements, services and interior fit-out; Ground works and landscaping materials. - Transport of construction waste from the construction gate to waste disposal processing/recovery centre. Total fuel consumption (litres) and/or total carbon dioxide emissions (kgCO2 eq), plus total distance travelled (km) will be reported.	1	Medium	Contractor
Man04	Commissioning and Handover			Minimum Standard: Req 9 for Excellent and above			
Req 1-4	Commissioning and Testing Schedule and Responsibilities	1	0.63	An appropriate team member will be appointed to monitor and programme pre-commissioning, commissioning and testing. A schedule of commissioning will be prepared, identifying appropriate timescales and standards. The contractor will account for commissioning, testing, responsibilities and standards within budget and programme of works.	1	Medium	FS/ M&E Sub / Contractor
Req 5-6	Commissioning Building and Design	1	0.63	The above credit will be achieved and a specialist commissioning manager will be appointed during design to undertake design reviews, provide commissioning management input and manage commissioning performance testing and handover / post-handover stages.	1	Medium	FS/ M&E Sub
Req 7-8	Testing and Inspecting Building Fabric	1	0.63	It is assumed that an air tightness survey, and thermographic survey will be undertaken to QA integrity of the building fabric, continuity of insulation, avoidance of thermal bridging and air leakage paths. Any defects found will be rectified. <i>Note this could be problematic in the listed building due to retention of existing envelope.</i>	1	High	Contractor
Req 9-10	Handover	1	0.63	A simple, standalone building user guide covering all aspects described within the BREEAM 2014 Manual will be produced prior to handover that is suitable for general building users as well as the facilities management team. A draft copy will be developed and discussed with users first to ensure the guide is most appropriate and useful to potential users. A schedule of training will be identified for the occupiers at handover to cover all points set out within the BREEAM manual.	1	Low	Contractor
Man05	Aftercare			Minimum Standard: Req 3 for Excellent and above			
Req 1-2	Aftercare Support	1	0.63	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	Contractor
Req 3	Seasonal Commissioning	1	0.63	Seasonal commissioning will be completed over a minimum 12-month period by a specialist commissioning manager, once the building becomes substantially occupied as follows: - Testing of all building services under full load conditions - Testing during periods of extreme (high or low) occupancy. - Interviewing of building occupants (where they are affected by the complex services) to identify problems or concerns regarding the effectiveness of the systems. - Re-commissioning of systems (following any work needed to serve revised loads), and incorporation of any revisions in operating procedures into the operations and maintenance (O&M) manuals.	1	Low	M&E Sub
Req 4-5	Post Occupancy Evaluation	1	0.63	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	Low	Client

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information	Excellent Target Score	Risk	Responsibility
HEALTH & WELLBEING							
Hea01	Visual Comfort			Minimum Standard: None			
Req 1-2	Glare Control	1	0.75	Compliant glare control will be present in all relevant areas where close work is undertaken using either building integrated measures, occupant controlled blinds (<0.1% transmittance), bioclimatic design or external shading or brie soleil. This is relevant to all rooms having windows or roof lights where close working is undertaken. Please note curtains are not by themselves compliant and anti glare film on the windows is also unlikely to be compliant.	1	Medium	CSA
Req 3-5	Daylighting	3	0.75	The relevant building areas: kitchens, non-residential or occupied communal spaces, living rooms, dining rooms, offices. The requirements are as follows to achieve 2 credits: - kitchens, living rooms, dining rooms and studies: 75% of Refurbished areas and 100% of areas in the extension achieve an average daylight illuminance (averaged over entire space) of at least lux 100 for 3450 hours per year and 30 Lux minimum at the worst lit point - non-residential or communal occupied areas : 60% of Refurbished areas and 80% of areas in the extension achieve an average lux of 200 and a minimum lux of 60 over 2650 hours per year Note: if you wish to use average daylight factors and uniformity ratios as an alternative method of compliance please ask the Assessor for compliance standards and percentages.	2	High	CSA/FS
Req 6-9	View Out	2	0.75	It is assumed the View out requirement are not achieved in all areas as follows: One credit - Where 80% of the floor area in each relevant refurbished building area AND 95% of the floor area in each relevant new building area is within 7m of a wall which has a window or permanent opening that provides an adequate view out. Two credits - Where 95% of the floor area in each relevant building area (both refurbished and extension areas) is within 7m of a wall which has a window or permanent opening that provides an adequate view out within the refurbishment building	0	Possible	CSA/FS
Req 10-14	Internal Lighting Levels, Zoning and Control	1	0.75	Internal lighting: - All fluorescent and compact fluorescent lamps will be fitted with high frequency ballasts. - Will be designed in accordance with the appropriate maintained Illuminance levels (in LUX) recommended by SLL Code for Lighting 2012. - Areas with computer screens will comply with CIBSE Lighting Guide 7 sections 3.3, 4.6, 4.7, 4.8 and 4.9. - Areas will be zoned and controlled appropriate for their use and location. For example, office areas will have separately zoned / controlled areas for each 40m2 (see credit criteria for other areas). External lighting: - Areas within the construction zone will comply with BS5489-1:2013 & BS12464-2:2014 Part 2. Zoning and occupant controls - Internal lighting is zoned to allow for occupant controls for relevant building areas such as: offices, workstations, display screens, auditoria. For lighting within the listed building that does not comply with the above and where a conservation authority or local authority conservation officer requires the retention of existing listed lighting features this may prevent zoning in accordance with the BREEAM criteria and the local authority must provide evidence that zoning controls are adequate. Hence, these lights can be excluded from compliance requirements.	1	Medium	M&E Sub
Hea02	Indoor Air Quality			Minimum Standard: None			
Req 1	Indoor Air Quality Plan	1	0.75	An indoor air quality plan will be produced <i>and implemented</i> . The plan will consider: a. Removal of contaminant sources b. Dilution and control of contaminant sources c. Procedures for pre-occupancy flush out d. Protection of Heating Ventilation and Air Conditioning (HVAC) systems from sources of pollution during refurbishment/fit-out works e. Procedures for protecting the indoor air quality of areas outside of the refurbishment or fit-out zone that may be affected by the refurbishment/fit-out works f. Procedures for identifying and implementing third party testing and analysis required to ascertain that the contaminant sources have been removed effectively before occupancy g. Commitments for maintaining indoor air quality in-use, e.g. maintenance and cleaning of the HVAC system, ductwork and filters.	1	Medium	Contractor
Req 2-5	Ventilation	1	0.75	Credit not sought due to the presence of car parking and access roads within zone of openable windows and occupied rooms.	0		
Req 6-7	VOC Emission Levels (Products)	1	0.75	All new finishes and fitting specified will meet the following standards: 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.	1	Medium	CSA/ Contractor

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information	Excellent Target Score	Risk	Responsibility
				Full details available at - https://www.breeam.com/ndrefurb2014manual/			
Req 8-12	VOC Emission Levels (Post Construction)	1	0.75	The formaldehyde concentration in indoor air will be measured post construction (but pre-occupancy) and will not exceed 100 µg/ m³ averaged over 30 minutes. The total volatile organic compound (TVOC) concentration in indoor air will be measured post construction (but pre-occupancy) and will not exceed 300 µg/ m³ over 8 hours. Where levels are found to exceed these limits, the project team will confirm the measures that have, or will be, undertaken in accordance with the IAQ plan, to reduce the TVOC and formaldehyde levels to within the above limits. Testing and measurement is carried out in accordance with the relevant standards and measured concentrations are reported via the BREEAM Assessment Scoring and Reporting Tool.	1	Medium	Contractor
Req 13-14	Potential for Natural Ventilation	1	0.75	This credit cannot be achieved due to the presence of deep plan common room with limited windows.	0		
Hea04	Thermal Comfort			Minimum standard: None			
Req 1-5	Thermal Modelling	1	0.75	Full dynamic thermal modelling will be carried out in accordance with CIBSE AM11. The study will demonstrate that the building design and services strategy can deliver thermal comfort levels in accordance with the criteria set out in CIBSE Guide A Table 1.5. In addition for naturally ventilated buildings overheating will meet the recommendations of TM52. For air conditioned buildings the PMV (predicted mean vote) and PPD (percentage people dissatisfied) will be reported. A competent person (e.g. chartered building services engineer) will assess the suitability of existing building services and controls to identify any changes that may be required as a result of fit-out works (e.g. as a result of changes to internal layout, occupant density, additional equipment that may increase cooling loads etc.).	1	Medium	FS
Req 6-9	Adaptability- for a Projected Climate Change	1	0.75	The dynamic thermal modelling will also be run for a projected climate change environment (see Relevant definitions in the BREEAM 2018 Manual). Where thermal comfort criteria are not met, a report will be produced demonstrating how the building has been or can be easily adapted in future using passive design solutions in order to meet the requirements above. For air conditioned buildings/areas, the PMV and PPD indices based on the above modelling will be reported via the BREEAM assessment scoring and reporting tool.	1	Medium	FS
Req 10-12	Thermal Zoning and Controls	1	0.75	The thermal modelling analysis will inform the temperature control strategy for the building and its users, addressing all of the issues below: 1. Zones within the building and how these could be efficiently heated and cooled. 2. The degree of occupant control required for these zones only pertains to staff use and is based on discussions with the end user (or specific design guidance, case studies, feedback). This should consider: - User knowledge of building services - Occupancy type, patterns and room functions - How the user is likely to operate or interact with the system(s), - 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	FS / M&E Sub
Hea05	Acoustic Performance			Minimum standard: None			
Req 7	Acoustic Performance	4	0.75	It is assumed that Individual bedrooms and self-contained dwellings will achieve a minimum of 1 credit as follows: One Credit: Airborne sound insulation values are at least 3dB higher and impact sound insulation values are at least 3dB lower than the performance standards in the relevant Building Regulations or Standards. Three Credits: Airborne sound insulation values are at least 5dB higher and impact sound insulation values are at least 5dB lower than the performance standards in the relevant Building Regulations or Standards. Four Credits: Airborne sound insulation values are at least 8dB higher and impact sound insulation values are at least 8dB lower than the performance standards in the relevant Building Regulations or Standards. A programme of pre-completion testing is carried out by a compliant test body based on the normal programme of testing described in the relevant Building Regulations or Standards and demonstrate that relevant performance standards are achieved. OR Use of constructions for all relevant building elements have been registered with and assessed and approved by Robust Details Limited (RDL) and found to achieve the performance standards required for the number of credits sought. Acoustic report received. Section 9 0 discusses internal noise levels but does not confirm if current proposals would meet BREEAM 1 credit requirement. This needs to be reviewed at Stage 3/4 to ensure final testing validates credit target	1	High	Acoustician/ FS

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information		Excellent Target Score	Risk	Responsibility
				Full details available at - https://www.breeam.com/ndrefurb2014manual/				
Hea06	Safety and Security			Minimum standard: None				
	Security of Site and Building	1	0.75	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 will develop a set of security controls and recommendations for incorporation into the proposals. Those controls and recommendations shall directly relate to the threats and assets identified in the preceding SNA. The controls and recommendations will be incorporated into the proposals and implemented into the as-built development. Any deviation from those controls and recommendations shall be justified and agreed with the SQSS. Crime impact assessment received. Please ensure recommendations in section 3.3 are incorporated together with items on the checklist in section 4		1	Medium	CSA
ENERGY								
Ene01	Reduction of Energy Use and Carbon Emissions	Minimum Standard - Six credits for Excellent						
Req 1	Energy Performance	15	0.64	The BRE's Bespoke spreadsheet will perform an area weighting to confirm the number of credits achieved by area weighting the results from the new construction and listed building as determined below. It is assumed that an area weighted score of 11 credits will be achieved.. For the new building areas the BREEAM 2014 New Construction methodology will be used i.e. the pdf output from the BRUKLs (Part L 2013 rather than PartL 2021) will be used to determine the energy performance ratio. The credits proportioned to the new build area will be based on the score against the BREEAM 2014NC Ene 01 table. For the listed building Option 1 The 'whole building energy score' approach will be used. This will require modelling the existing building both pre and post refurbishment and producing the epc.inp files and pdf. An additional 2 credits are also available for the refurbishment if the Historic specialist's Stage 2 report also includes consideration and recommendation for the thermal improvement of the thermal envelope justifying areas where thermal improvements cannot be made on historic grounds.		11	High	FS/ M&E Sub
Ene02	Energy Monitoring	Minimum Standard - One Credit for Very good and above						
Req 1-4	Sub-metering of Major Energy Consuming Systems	1	0.64	Energy metering systems will be 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 will be metered using an appropriate energy monitoring and management system. The end energy consuming uses will be identifiable to the building users, for example through labelling or data outputs.		1	Medium	M&E Sub
Ene03	External Lighting	Minimum standard: None						
Req 1-3	External Lighting	1	0.64	The average initial luminous efficacy of the external light fittings within the construction zone will be not less than 60 luminaire lumens per circuit Watt. All external lights will have daylight sensors & PIRs in areas of intermittent pedestrian traffic.		1	Medium	M&E Sub
Ene04	Low Carbon Design	Minimum standard: None						
Req 1-3	Passive Design Analysis	1	0.64	The project team will carry 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 will use passive design measures to reduce the total heating, cooling, mechanical ventilation, lighting loads and energy consumption in line with the PDA. The total reduction in energy demand and CO2 emissions will be quantified to be >5%. The first credit within Hea 04 Thermal comfort is targeted and must be achieved to award this credit. PDA Report received. under review		1	Medium	FS
Req 5-6	Free Cooling	1	0.64	It is assumed that although the above Passive Design Analysis credit is achieved, opportunities to implement free cooling solutions are not implemented.		0		
Req 7-8	Low Zero Carbon Feasibility Study	1	0.64	A feasibility study will be 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 will be specified in line with the recommendations of the feasibility study and the reduction in regulated CO2 emissions from this is quantified and exceeds 5%. For historic buildings this credit can be achieved even where the implementation of low zero carbon technologies is not permitted due to local authority requirements. Consultation with the local authority conservation officer must be evidenced to demonstrate that a wide range of options have been considered. LZC feasibility report received. under review		1	Medium	FS

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information	Excellent Target Score	Risk	Responsibility
				Full details available at - https://www.breeam.com/ndrefurb2014manual/			
Ene06	Energy Efficient Transportation Systems			Minimum Standard: None			
	Energy Consumption	1	0.64	The energy consumption of the proposed lift will be calculated in accordance with BS EN ISO 25745 Part 2. and a lift transport analysis carried out for the new lifts. The analysis will include one of the following: At least two types of system; An arrangement of systems (e.g. for lifts, hydraulic, traction, machine room-less); or A system strategy which is 'fit for purpose'. The use of regenerative drives will be considered, where it produces an energy saving greater than the additional standby energy used to support the dives. The transportation system with the lowest energy consumption will be specified.	1	Medium	Contractor/ Lift Sub
	Energy Efficient Features	2	0.64	The following three energy efficient features will be specified: a. The lifts operate in a standby condition during off-peak periods. For example the power side of the lift controller and other operating equipment such as lift car lighting, user displays and ventilation fans switch off when the lift has been idle for a prescribed length of time. b. The lift car lighting & display lighting provides an average lamp efficacy, (across all fittings in the car) of > 55 lamp lumens/circuit Watt. c. The lift uses a drive controller capable of variable speed, variable-voltage, and variable-frequency (VVVF) control of the drive motor. Where the use of regenerative drives is demonstrated to save energy, they will be specified.	2	Medium	Contractor/ Lift Sub
Ene08	Energy Efficient Equipment			Minimum Standard: None			
Req 1-3	Energy Consumption	2	0.64	The building's unregulated energy consuming load will NOT be identified and their contribution to the total annual unregulated energy consumption will not be estimated AND for the systems/ processes that use a significant proportion of the total annual unregulated energy consumption, there may NOT be a meaningful reduction in the total annual unregulated energy consumption by design, specification or operation. For example: - Small power equipment awarded energy star rating - Commercial laundry appliance uses grey water or heat recovery from waste water - Kitchen & Catering facilities follow CIBSE TM50 sections specified - Domestic scale appliances have A to A++ ratings	0	Possible	Client/ CSA / Contractor /FS
Ene09	Drying Space						
Req 1-3	Drying Space	1	0.64	Currently NOT assumed that for self-contained dwellings: an adequate internal or external space with posts and footings, or fixings capable of holding: a. One to two bedrooms: 4m+ of drying line b. Three or more bedrooms: 6m+ of drying line. OR Individual bedrooms: an adequate internal or external space with posts and footings, or fixings capable of holding: a. Two meters or more of drying line per bedroom for developments with up to 30 individual bedrooms; plus b. One meter of additional drying line for each bedroom over the 30 individual bedroom threshold. AND the space is secure.	0	Possible	CSA/FS
TRANSPORT							
Tra01	Sustainable Transport Solutions			Minimum Standard: None			
Req 1-2	Accessibility Index	3	0.74	Based on public transport provision, it is assumed that a public transport accessibility index >8 has been achieved therefore 3 credits can be awarded. AI = 24.26 based on GMTI April 22 TBC at end of project	3	Low	Ridge
Req 3	Alternative Transport Measures			No additional alternative transport measures are required to achieve the maximum score under Tra 01			
Tra02	Proximity to Amenities			Minimum Standard: None			
Req 1	Proximity to Amenities	2	0.74	Building is within 1000m of all of the below and within 500m of at least 2 of them. - Food outlet Lidl (300m) - Access to cash Lidl (300m) – contains post office and ATM - Outdoor space Whitworth Park – less than 100m - Recreational facility on site gym	2	Low	Ridge
Tra03	Cyclist Facilities			Minimum Standard: None			
Req 1	Cycle Storage	1	0.74	Compliant (covered, well lit & in a prominent position) cycle racks will be provided at a rate of 1 cycle space for every 20 staff AND 1 for every 4 residents due to the high accessibility index. (261 beds 2 staff= 66 spaces minimum, required for BREEAM) 74 spaces provided in the basement plus 4 Sheffield stands	1	Low	CSA
Tra05	Travel Plan			Minimum Standard: None			
Req 1-4	Travel Plan	1	0.74	A BREEAM compliant travel plan, based on a transport assessment/statement will be prepared as part of the feasibility & design stages, and the recommendations within this will be incorporated into the design. TS & TP provided. Under review. Please ensure all recommendations are implemented	1	Medium	CSA

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information	Excellent Target Score	Risk	Responsibility
Full details available at - https://www.breeam.com/ndrefurb2014manual/							
WATER							
Wat01	Water Consumption			Minimum standard: 1 credit for Good and Above; 2 credits for Outstanding			
Req 1-3	Water Consumption	5	0.74	A 25% improvement in water consumption over the notional baseline will be achieved. An example of a specification to achieve this is shown below: ◦ 4.5 l single flush WCs ◦ wash hand basin taps flow rate limited to 7.5 l/min ◦ kitchenette taps flow rate limited to 7.5 l/min ◦ No kitchen restaurant taps ◦ shower flow rate limited to 8 l/min ◦ Commercial laundry ◦ No Bath ◦ Domestic dishwashers 13l/cycle ◦ No Commercial dishwashers ◦ no urinals / waste disposal unit ◦ no grey water / rainwater system	2	Medium	CSA / Client/ M&E Sub
Wat02	Water Monitoring			Minimum Standard - Criterion 1 for Good and above			
Req 1-5	Water Sub Meters	1	0.74	A water meter with a pulsed output will be specified on the mains water supply to the assessed areas AND water sub-meters with a pulsed output fitted to any water consuming plant or building areas consuming 10% or more of the building's total water consumption. The meter(s) will be connected to any existing BMS (if present).	1	Medium	FS/ M&E Sub
Wat03	Water Leak Detection and Prevention			Minimum Standard: None			
Req 1	Leak Detection System	1	0.74	A BREEAM compliant leak detection system will be installed on the water supply to the assessed areas which is capable of detecting a major water leak on the mains water supply within the building and between the building and the utilities water meter. If the water supply to the assessed areas is via an existing building then the water supply to the existing building must be assessed against the criteria of this issue.	1	Medium	FS/ M&E Sub
Req 2	Flow Control Devices	1	0.74	This credit is applicable to communal and staff WC areas/facilities (student ensuite facilities are exempt) and requires that flow control devices regulate the supply of water to each applicable WC area to minimise leaks and wastage. Flow control devices do not need to be specified for ensuite facilities in residential areas with permanent residents (e.g. ensembles in individual private bedrooms and a single bathroom).	1	Medium	FS/ M&E Sub
Wat04	Water Efficient Equipment			Minimum Standard: None			
Req 1-2	Water Efficient Equipment	1	0.74	The design team will identify all unregulated water demands that could be realistically mitigated or reduced. System(s) or processes will be 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. 3. Drip-fed subsurface irrigation incorporates soil moisture sensors. 4. All specified planting thrives without irrigation and will continue to do so. By default	1	Low	CSA
MATERIALS							
Mat01	Life Cycle Impacts			Minimum Standard: None			
Req 8-10	Life Cycle Impacts	6	1.06	It is assumed that the project will undertake full life cycle assessment (LCA) to model/measure the life cycle environmental impact of the whole building. The design team will demonstrate how including optioneering. Also the DT will confirm that the LCA has benefited the building in terms of measuring and reducing its environmental impact. Note this should be completed RIBA Stage 3/4 to gain full benefits. Ridge have provided a quotation to complete this service	6	Medium	CSA/ LCA Consultant
Mat03	Responsible Sourcing			Minimum Standard - Criterion 1 for Pass and above			
Req 1	Pre Requisite			All timber and timber based products used on the project will be 'Legally harvested and traded timber'.		Low	Cont'
Req 2	Sustainable Procurement Plan	1	1.06	The principal contractor will source 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. It will cover: 1. Risks and opportunities are identified.(BS 8902:2009 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	Contractor
Req 3	Responsible Sourcing	3	1.06	Materials will be sourced from suppliers with appropriate responsible sourcing certification (e.g. BES6001 / ISO14001 / FSC / CSA / MTCC / PEFC / SFI etc.). With 36% of points achieved.	2	High	Contractor

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information	Excellent Target Score	Risk	Responsibility
				Full details available at - https://www.breeam.com/ndrefurb2014manual/			
Mat04	Insulation			Minimum Standard: None			
Req 1-2	Embodied Impact of Insulation	1	1.06	All new 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	Medium	CSA / Contractor / M&E Sub
Mat05	Designing for Durability and Resilience			Minimum Standard: None			
Req 1-5	Designing for Durability and Resilience	1	1.06	1. The building will incorporate 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 & manoeuvring occurs within 1m of the external building facade for all car parking areas and within 2m for all delivery areas. 2. In addition, environmental factors have been identified that are relevant to the site location (e.g. solar radiation, wind, precipitation). 3. Existing applicable building elements that are exposed to any relevant environmental factors have been identified. 4. Design and specification measures will be developed to repair and protect existing elements to limit degradation, where feasible. 5. Newly specified materials / constructed elements will incorporate appropriate design and specification measures to limit degradation due to environmental factors.	1	High	CSA
Mat06	Material Efficiency			Minimum Standard: None			
Req 1-2	Material Efficiency	1	1.06	This credit has not been sought as specific reports are assumed not to have been carried out since RIBA stage 1 to RIBA stage 5.	0		
WASTE							
Wst01	Project Waste Management			Minimum standard: One Credit for Outstanding			
Req 1	Pre-refurbishment audit	1	0.69	It is assumed that a pre refurbishment audit will not be carried out at RIBA stage 2 by a suitably qualified Person and that the audit covers all relevant issues from the BREEAM Manual and that compared to the final as installed material usage. Credit dropped after discussion with DT June 22	0	High	Client
Req 2-4	Reuse and direct recycling of materials	2	0.69	It is assumed that there will NOT be sufficient reuse or direct recycling of materials on site to allow this credit to be awarded. This would require achievement of at least 50% of the total available points for the relevant waste materials that are present on the project based on the material being either directly re-used on-site or off-site or are sent back to the manufacturer for closed loop recycling. Relevant materials would be: inert; metal; composite; plasterboard; furniture; Timber products; mineral fibre ceiling tiles /panels; vinyl floor coverings; carpet tiles ; insulation board, fixtures & fittings & Packaging materials. Note this credit only applies to refurbishment building area.	0	Possible	Client/csa / Contractor
Req 5-6	Construction Resource Efficiency	3	0.69	A Resource Management Plan (RMP) covering the whole building will be developed and that the non-hazardous waste relating to on-site construction, refurbishment and fit-out, and dedicated off-site manufacture or fabrication processes generated by the building's design and construction will be no greater than 11.3m3 or 3.5 tonnes per 100m2 gross internal floor area.	1	High	Contractor
Req 7	Diversion of waste from Landfill	1	0.69	It is assumed that the following percentages of refurbishment waste (on-site and off-site manufacture/fabrication in a dedicated facility), generated by the project will be diverted from landfill: - Non-Demolition - 75% by Volume or 83% by tonnage - Demolition - 83% by Volume or 91% by tonnage	1	Low	Contractor
Wst02	Recycled Aggregates			Minimum Standard: None			
Req 1-3	Recycled Aggregates	1	0.69	It is assumed that this credit will not be achieved , however. To achieve the credit the total amount of recycled or secondary aggregate specified must be greater than 25% of the total high grade aggregate specified for the project. Recycled or secondary aggregate is either construction, demolition and excavation waste obtained on-site or off-site or secondary aggregate obtained from a non-construction post consumer industrial product source.	0	Possible	Contractor
Wst03	Operational Waste			Minimum Standard - One Credit for Excellent			
Req 1	Dedicated space for recyclables	1	0.69	A dedicated recycling area, clearly labelled, adequately sized to serve the development and accessible to building occupiers and waste contractors, will be provided. A minimum storage space provision of 4m2 per 1,000m2 should be used for recycled waste (Note: this is additional to the space required for general waste) and a waste management contract must be in place for occupation, that will sort the recyclable waste and includes the collection of compostable waste. In addition each studio apartment and cluster kitchen must have a permanent 30Ltrs min. mixed recyclables bin as well as a general waste bin and compostable food waste container(10Ltrs min.) located in a dedicated position not free standing on the floor.	1	High	CSA / FS Client/ M&E Sub
Req 2	Compactor / Baler / Composting			Likely waste streams for the building to be confirmed. It is assumed that a static compactor / baler will not be required, however storage and disposal of compostable food waste should be provided including provision of a water tap in the bin store for hygiene purposes.		Medium	

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information	Excellent Target Score	Risk	Responsibility
				Full details available at - https://www.breeam.com/ndrefurb2014manual/			
Wst05	Adaptation to Climate Change			Minimum standards - none			
Req 1	Adaptation to Climate Change	1	0.69	A Climate Change Adaptation Strategy Appraisal will be prepared for structural and fabric resilience by the end of Concept Design (RIBA Stage 2). The Appraisal must: - Be a systematic (structural and fabric resilience specific) risk assessment. - Identify and evaluate the impact on the building over its projected life cycle from expected extreme weather conditions arising from climate change. - Where feasible, mitigate against these impacts. - Cover: Hazard identification; Hazard assessment; Risk estimation; Risk evaluation & Risk management. Report received under review. Please ensure recommendations are incorporated	1	Low	CSA/ROC
Wst06	Functional Adaptability			Minimum standards - none			
Req 1-2	Functional Adaptability	1	0.69	A building-specific functional adaptation strategy study will be undertaken by the client and design team by Concept Design (RIBA Stage 2), which includes recommendations for measures to be incorporated to facilitate future adaptation. This will consider: 1. The potential for major refurbishment, including replacing the façade. 2. Design aspects that facilitate the replacement of all major plant within the life of the building, e.g. panels in floors/walls that can be removed without affecting the structure, providing lifting beams and hoists. 3. The degree of adaptability of the internal environment to accommodate changes in working practices. 4. The degree of adaptability of the internal physical space and external shell to accommodate change in-use. 5. The extent of accessibility to local services, such as local power, data infrastructure etc. In addition, functional adaptation measures will be adopted in the design by RIBA Stage 4 or equivalent in accordance with the functional adaptation strategy recommendations, where practical and cost effective. Omissions will be justified in writing to the assessor. Report received under review. Please ensure recommendations are incorporated and report is updated at stage 4	1	Medium	CSA/ROC/FS
LAND USE & ECOLOGY							
LE02	Ecological Value of Site & Protection of Ecological Features			Minimum standard: None			
Req 2-3	Protection of Ecological Features	1	2.76	It is assumed that the ecologist will identify features of ecological value (usually trees and hedges) and that none of these features will be removed as part of the development, but will be protected during the construction in accordance with the ecologist's recommendations. Note: No trees to be removed . PEA received which identifies scattered trees to be retained and protected	1	Medium	CSA/ Ecologist/ Contractor
LE04	Enhancing Site Ecology			Minimum standard: None			
Req 1-3	Ecologist's Report and Recommendations	1	2.76	It is assumed that a suitably qualified ecologist (SQE) was appointed at RIBA stage 1 or carried out a site survey at RIBA Stage 2 and provided a report and that all recommendations will be implemented). PEA & PBA received. Please provide evidence of stage 1 appointment. Please ensure all recommendations are included in proposals :(section 7) note inclns bat and bird boxes plus additional pre demolition bat surveys	1	High	Ecologist/ CSA/ Landscape Architect/ Contractor
LE05	Long Term Impact on Biodiversity			Minimum standard: None			
	Long Term Impact on Biodiversity	2	2.76	A suitably qualified ecologist will be appointed prior to the commencement of site works, will confirm adherence to all relevant EU and UK legislation and will provide a 5 year management plan for site biodiversity. In addition - The contractor appoints a Biodiversity Champion. - The contractor trains the site workforce on how to protect site ecology during the project. - The contractor records actions to protect biodiversity and monitor their effectiveness throughout key stages. - Exiting flora and fauna on-site will be protected to minimise disturbance within the contractors programme of works PEA & PBA received - further Bat surveys required before any site clearance or demolitions take place	2	Low	Ecologist/ Contractor
POLLUTION							
Pol01	Impact of Refrigerants			Minimum standard: None			
Req 3-5	Impact of Refrigerants	2	0.92	All systems (with electric compressors) will comply with the requirements of BS EN 378:2008 (parts 2 and 3) and where refrigeration systems containing ammonia are installed, the Institute of Refrigeration Ammonia Refrigeration Systems Code of Practice. It is assumed that: Systems using refrigerants will have Direct Effect Life Cycle CO2 equivalent emissions (DELC CO2e) of >1000 kgCO2e/kW cooling/heating capacity meaning the credits cannot be achieved.	0	Possible	FS
Req 6-7	Leak Detection	S	0.92	The credit is not thought to be achievable. Requirements are as follows: Systems using refrigerants will have a permanent automated refrigerant leak detection system installed OR an inbuilt automated diagnostic procedure for detecting leakage is installed In all instances a robust and tested refrigerant leak detection system must be installed and must be capable of continuously monitoring for leaks. The system must also be capable of automatically isolating and containing the remaining refrigerants charge in response to a leak detection incident OR a refrigerant charge of less than 6kg is contained within each individual sealed system.	0	Possible	FS

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information	Excellent Target Score	Risk	Responsibility
				Full details available at - https://www.breeam.com/ndrefurb2014manual/			
Pol02	NOx Emissions			Minimum standard: None			
Req 1-2	NOx Emissions	3	0.92	It is assumed that the building will be heated using grid electricity that therefore will not meet a NOx emission level (measured on a dry basis at 0% excess O2) of ≤100 mg/kWh.	0		
Pol03	Surface Water Run-Off			Minimum standard: None			
Req 1-2	Flood Risk	2	0.92	It is assumed that EA Flood maps will define the site as being in Zone A, suitable for development.	2	Low	Ridge
Req 9	Pre-requisite			An Appropriate Consultant is appointed to carry out, demonstrate and/or confirm the development's compliance with the following criteria:			
Req 7-8	Neutral Impact on Surface Water	1	0.92	It is assumed that there will be EITHER no increase in the impermeable surfaces as a result of the works; OR if there is an increase in the impermeable surface then the following will be met: a. Hard standing areas - where there is an extension or increase in the hardstanding areas and hence an increase in the total impermeable area as a result of the refurbishment works, the hardstanding area will be permeable or be provided with on-site SuDS to allow full infiltration of the additional volume, to achieve the same end result. The permeable hardstanding will include all pavements and public rights of way, car parks, driveways and non-adoptable roads, but exclude footpaths that cross soft landscaped areas which will drain onto a naturally permeable surface. b. Building extension - where there is an increase in building footprint, extending onto any previously permeable surfaces, the additional run-off caused by the area of the new extension will be managed on-site using an appropriate SuDS technique for rainfall depths up to 5mm.	1	Low	ROC
Req 10	Reducing Run-Off	1	0.92	It is assumed that there will NOT be a decrease of >50% in impermeable area although will run-off be reduced from the site.	0		
Req 11-14	Minimising water course pollution	1	0.92	It is assumed that the following is NOT achievable: - there will be no discharge from the site for up to 5mm of rainfall. - Pollution prevention measures are put in place for different sources of pollution - 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 - Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SUDs must be in place	0		
Pol04	Reduction in Light Pollution			Minimum standard: None			
	Reduction in light pollution	1	0.92	External lighting within the construction zone will comply with the following: - Table 2 of the ILP Guidance notes for the reduction of obtrusive light, 2011 - All external lighting (except for safety and security lighting) will be automatically switched off between 23:00 and 07:00. - Any safety or security lighting which is used between 23:00 & 07:00, will comply with the lower levels of lighting recommended in Table 2 of the ILP's Guidance notes. - Illuminated advertisements will be designed in compliance with ILP PLG05.	1	Medium	FS/ M&E Sub
Pol05	Noise attenuation			Minimum standard: None			
Req 2-5	Noise attenuation	1	0.92	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. The existing background noise level will not include existing plant associated with the assessed building. ii. The rating noise level resulting from the new noise source. Both existing and newly specified externally mounted plant will be considered. - The noise impact assessment will 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, will be 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 will be installed to attenuate the noise at its source to a level where it will comply with the above. Report received and subject to plant attenuation levels being implemented the scheme will comply. This needs to be confirmed post construction for credit award	1	Low	Acoustician/ M&E Sub

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://www.breeam.com/ndrefurb2014manual/	Excellent Target Score	Risk	Responsibility
INNOVATION CREDITS							
Man 03	Responsible Construction Practices	1	1.00	It is assumed that the contractor will achieve a score of at least 39 in the Considerate Construction Scheme with no section scoring less than 13.	1	High	Contractor
Man 05	Aftercare	1	1.00	There 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	Client
Hea 01	Visual Comfort	1	1.00	It is NOT assumed that all other occupied spaces achieve a daylight factor of 3%. 80% of the building area must comply as well as achieving a minimum point daylight factor of 1.2% or 2.1% for spaces with glazed roofs.	0		
Hea 02	Indoor Air Quality	2	1.00	It is assumed that VOC levels will NOT met the exemplary requirements.	0		
Ene 01	Reduction of Energy Use and Carbon Emissions	5	1.00	It is assumed that energy performance will NOT met the exemplary requirements.	0		
Wat 01	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.	0		
Mat 01	Life Cycle Impacts	1	1.00	It is assumed that the LCA will achieve the exemplary standards by carrying out a full LCA including Services.	1	Medium	LCA Consultant
Mat 03	Responsible Sourcing of Materials	1	1.00	It is assumed that 70% of the available responsible sourcing points will NOT be achieved.	0		
Wst 01	Construction Waste Management	2	1.00	It is assumed that the waste generated by the development will NOT achieve the exemplary level requirements.	0		
Wst 02	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.	0		
Wst 05	Adaptation to Climate Change	1	1.00	It is assumed that this credit is NOT achievable.	0		
Pol 03	Flood Risk Management & Reducing Surface Water Run-Off	1	1.00	It is assumed that the following is NOT achievable: All run-off from the developed site is managed on-site using source control, achieving the following to confirm compliance: - peak rate of run off as a result of the refurbishment for the 1 in 1 year event is reduced to zero. - peak rate of run off as a result of the refurbishment for the 1 in 100 year event is reduced to zero. - there is no volume of run-off discharged into the water courses and sewers as a result of the refurbishment for a 1 in 100 year even of 6 hour duration. - including an allowance for climate change for the above calculations - an appropriately qualified professional has been employed to provide the above calculations and design an appropriate drainage strategy for the site.	0	Possible	ROC
Unlisted, BRE Approved Innovations		10	1.00	It is assumed that this credit is NOT achievable.	0		



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