

RIDGE

West Cumberland Hospital

Phase 2 works (New extension & Block E & F Refurbishment)

BREEAM 2014 Bespoke Refurbishment and Fit Out

Stage 3 Pre-Assessment Report

project number: 5014252

date: 01.04.21

revision: E

BREEAM: 2014 Bespoke Refurbishment and Fit Out

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Rev.	Date	Compiled / Approved by	Revision / Document Description
0	26.06.19	HD / WB	Stage 1 BREEAM Pre-Assessment Target Report (DRAFT)
A	02.07.19	HD / WB	Stage 1 BREEAM Pre-Assessment Target Report
B	14.02.20	HD / WB	Stage 1 BREEAM Pre-Assessment Target Report – updated scheme
C	18.02.20	HD / WB	Stage 1 BREEAM Pre-Assessment Target Report – updated scheme (New Extension & Block E refurbishment only)
D	24.01.21	LP/WB	Stage 2 BREEAM Pre-Assessment Target Report – updated scheme (New Extension & Block E Refurbishment, Parts 3-4)
E	01.04.21	LP/WB	Stage 3 BREEAM Pre-Assessment Target Report - update following BREEAM workshop

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1.0 Introduction

Ridge and Partners LLP (formerly Scott Hughes Design) have been appointed to undertake BREEAM services for the Phase 2 works at West Cumberland Hospital encompassing the new extension and the refurbishment of Block E & F. This comprises a BREEAM Bespoke 2014 Refurbishment & Fit Out assessment of the Phase 2 works.

This report provides the design and 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 BREEAM workshop was held via Microsoft Teams on the 7th January 2021. The meeting was attended by:

- Vernon Hailwood, Mark Gillespie, Phillip Martin, Paul Coleman, Agnieszka LysakKleko, Peter Bromiley (Graham)
- Andrew Goodwin (GDA)
- Jago Edwards (SRL)
- Andy Roberts (Curtins)
- David Guilfoyle, Andrew Hart (DSSR)
- Wendy Broomhead & Lydia Perry (Ridge – formerly Scott Hughes Design)

A BREEAM workshop was also held via Microsoft Teams on 24th March 2021 to discuss the Information Required Schedule.

3.0 Project Description

The Phase 2 works (New extension and Block E&F refurbishment) covered by this BREEAM Bespoke 2014 Refurbishment and Fit Out assessment are set out in drawing EWCHPH2-GDA-VV-ZZ-DR-A-99003_BREEAM Boundary Drawing.

They comprise a significant new two storey extension together with refurbishment of blocks E and part of Block F. The extension and blocks E&F are served by the hospital energy centre district heating system which provides hot water and space heating. Local cooling is also provided in some areas. The works also include a new car park to the side of the extension and reconfiguration of the hospital loop road.

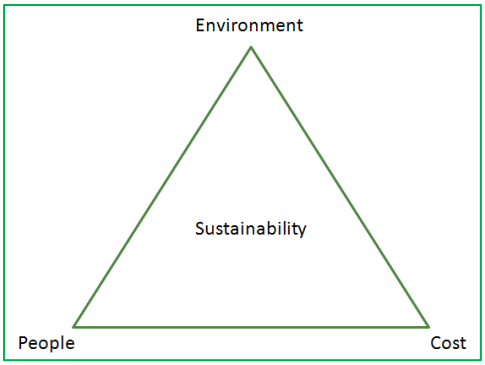
The works to the hospital bin stores and the new modular building are not included within this assessment.

4.0 Project Programme

The project is currently at RIBA Stage 3 progressing to completion of RIBA Stage 4 by Nov 2021. FBC submission and submission of INTERIM certificate to BRE is proposed for June 2021 and GMP expected for October 2021. Start on site of phase 2 Jan 22 with handover of new build Nov 23 & refurbishment Sept 24.

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) is a voluntary scheme that can be used to assess the environmental life cycle of new non-domestic buildings, plus existing buildings undergoing refurbishment or fit-out, at the design and construction stages.

BREEAM Refurbishment & Fit-Out 2014 is used to assess buildings undergoing refurbishment or fit-out, while BREEAM New Construction 2014 is used to assess new buildings. Projects which involve both can be assessed using BREEAM Bespoke, which involves development of methodology which combines elements of the two schemes so that one BREEAM rating can be achieved for the completed building.

Buildings are assessed under BREEAM using a system of credits which 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 (BREEAM Bespoke 2014)
Management	13.3%
Health & Wellbeing	15.11%
Energy	14.67%
Transport	6.65%
Water	6.65%
Materials	13.85%
Waste	7.62%
Land Use & Ecology	11.08%
Pollution	11.08%

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

The Phase 2 (New extension & Block E&F refurbishment) works are required to achieve a minimum BREEAM rating of 'Excellent' in accordance with NHSI requirements. It should be noted that there will be one BREEAM certificate which covers both the refurbishment and extension, and the certificate will only be available once all works are completed. The ground floor retail unit in the new extension is excluded because it is handed over as a shell for future tenant fit out which is outside of the phase 2 works.

A score buffer of approximately 5% is recommended to allow for unexpected changes or compliance issues as the project progresses.

The project has been registered under the BREEAM 2014 Bespoke scheme (ref: BREEAM-0078-4850). The new build extension area is being assessed as 'fully fitted'. The refurbishment area is being assessed as R&FO Parts 3-4. The scope of the refurbishment has been reviewed during the design to confirm that Parts 1-2 are not relevant.

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.

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.

7.0 Outstanding Pre - Construction Time Dependent Requirements

There are various key actions that are time dependant. These include actions which must be completed within certain time periods during the pre-construction period to achieve the targets set in Appendix A. These are summarised below (for full details please refer to the Bespoke criteria and the current BREEAM 2014 RFO Manual available online): https://www.breeam.com/ndrefurb2014manual/

7.1 RIBA Stage 1

BREEAM credit ref	BREEAM credit name	Time requirements	Action
Man 01 Req 1-4	Stakeholder Consultation (Project Delivery)	At RIBA Stage 1, a Sustainability Brief will be produced including project budget, programme, constraints, appointments and sustainability targets.	CCL to provide RIBA Stage 1 Sustainability Brief

7.2 RIBA Stage 2

BREEAM credit ref	BREEAM credit name	Time requirements	Action
Man 01 Req 1-4	Stakeholder Consultation (Project Delivery)	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.	CCL to provide RIBA Stage 2 evidence of stakeholder consultation
Man 01 Req 9-11	Sustainability Champion (Design)	The BREEAM target will be formally agreed between the Client & Design team prior to the end of RIBA Stage 2.	NHS Trust to confirm
Man 02 Req 1-2	Elemental Life Cycle Cost (LCC)	Prior to the end of RIBA Stage 2, a competent person will carry out an elemental life cycle costing analysis which will be used to influence design and specification.	CCL to provide evidence of LCC RIBA Stage 2
Hea 06	Security of Site and Building	A compliant Security Needs Assessment will be undertaken by a Suitably Qualified Security Specialist including caveat about later stage consultation.	GDA to provide evidence
Ene 04 Req 1-3	Passive Design Analysis	Prior to the end of RIBA Stage 2 a Passive Design Analysis will be carried out to identify opportunities for the implementation of passive design solutions that reduce demands for energy consuming building services.	DSSR to provide RIBA Stage 2 evidence
Wst 01 Req 1	Pre-demolition audit	A pre-demolition audit will be completed of any existing buildings/structures or hard surfaces being considered for demolition.	CCL to provide RIBA Stage 2 audit evidence
Wst 05	Adaptation to Climate Change	A Climate Change Adaptation Strategy Appraisal will be prepared for structural and fabric resilience by the end of Concept Design (RIBA Stage 2).	GDA to provide final report with input from DSSR
Wst 06	Functional Adaptability	A building-specific functional adaptation strategy study will be undertaken by the client and design team by Concept Design (RIBA Stage 2)	GDA to provide final report with input from DSSR.
LE 04 Req 1-3	Ecologist's Report and Recommendations	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).	SAP updated report awaited

7.3 RIBA Stage 3 and 4

BREEAM credit ref	BREEAM credit name	Time requirements	Action
Man 02 Req 3	Component Level Life Cycle Cost (LCC) options appraisal	A competent person will carry out a LCC component option appraisal before the end of RIBA Stage 4 on the main elements of the envelope, services, finishes and external spaces.	CCL to confirm if this will be carried out prior to the end of RIBA Stage 4.
Man 04	Commissioning Building and Design	A commissioning design review will be conducted.	DSSR to provide evidence of this (e.g. meeting minutes)
Ene 01	Energy Performance	Achieve a score of 6 credits using the BREEAM calculator based on building BRUKLs and EPCs (EPR >0.36)	DSSR Brukl received, awaiting Block E information
Mat 01	Life Cycle Impacts	A life cycle assessment (LCA) will be undertaken to measure the life cycle environmental impact of the whole building and which will benefit the building in terms of measuring and reducing its environmental impact.	Ridge as been appointed for this service and will require information from GDA / Curtins
Wst 06	Functional Adaptability	Functional adaptation measures will be adopted in the design by RIBA Stage 4 or equivalent in accordance with the functional adaptation strategy recommendation	GDA to issue final report with input from DSSR

8.0 Issues to be adressed to achieve BREEAM Excellent

The issues which need to be addressed to achieve the current works potential are identified in Appendix A. The appendix shows brief details of compliance and the team should also refer to the current BREEAM R&FO 2014 manual for full details or guidance notes provided by the Assessor.

9.0 Summary and Recommendations

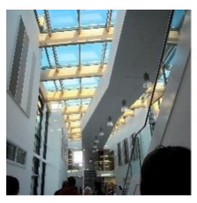
Appendix A shows how the Phase 2 (New extension & Block E&F refurbishment) works can achieve a BREEAM rating of 'Excellent' with a score of 72.8%, allowing for a 2.8% buffer.

Appendix A also includes details of the required mandatory credits and pre-requisites that will be achieved. There are also certain studies/calculations that will be completed during specified RIBA stages or before the design is complete. These are highlighted in Section 7.0.

All BREEAM requirements will be incorporated into the relevant contractual, sub-contractual and specification documentation.

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.

Appendix A – BREEAM Target



BREEAM Pre-assessment Report - Rev E

RIDGE

5014252 (3455) **Phase 2 works (New Extension, Block E & F), West Cumberland Hospital**

BREEAM UK RFO Bespoke 2014 - New Construction & Refurbishment and Fit Out (Parts 3&4)

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

Report prepared by: Lydia Perry

Report checked by: Wendy Broomhead

Date: 01.04.21

Green shading indicates Mandatory Credits for Excellent

Results Summary			
Sector	**Total credits Available**	**Weighting**	**Target Score**
Management	21	13.3%	12.7%
Health & Wellbeing	20	15.1%	9.1%
Energy	23	14.7%	8.9%
Transport	9	6.7%	4.4%
Water	9	6.7%	3.7%
Materials	13	13.9%	11.7%
Waste	11	7.6%	4.2%
Land Use & Ecology	10	11.1%	10.0%
Pollution	13	11.1%	5.1%
Sub Total Predicted Score			69.8%
Innovation	10	10.0%	3%
		Total Score	**72.8%**
		BREEAM Rating	**Excellent**

Reliant on mandatory Ene 01

Key to Responsibilities		
Role	**Company**	**Ref**
Client	North Cumbria University Hospitals NHS Trust	**NHS Trust**
Project Manager	CCL	**CCL**
QS/LCC/LCA	RLB & Graham	**QS**
Architect	Gilling Dod Architects	**GDA**
M&E Consultant	DSSR	**DSSR**
Structural & Civil Eng	Curtins	**Curtins**
Acoustician	SRL	**SRL**
Ecologist	SAP Ecology	**SAP**
BREEAM Assessor & AP	Ridge	**Ridge**
Main Contractor	Graham	**Graham**
Demolition Contractor	GBM Demolition	**GBM Demolition**
M&E Sub Contractor	TBC	**M&E Sub**
Landscape Architect	Gilling Dod Architects	**Landscape Architect**

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://www.breeam.com/ndrefurb2014manual/	Target Score	Risk	Responsibility
MANAGEMENT							
Man01	**Project Brief and Design**						
Req 1-4	Stakeholder Consultation (Project Delivery)	1	0.63	At RIBA Stage 1, a Sustainability Brief will be 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 CCL to provide early stage evidence.	1	Medium	CCL
Req 5-7	Stakeholder Consultation (Third Party)	1	0.63	Prior to the end of RIBA Stage 2 consultation will have occurred with all interested parties. It will be demonstrated that the consultation has influenced the Project Brief and Concept Design. Prior to the end of RIBA Stage 4, all interest parties will give and receive feedback. (Consultation will be carried out by an independent party e.g. DQI or independent member of the project team with relevant experience). KBCN1395: Evidence of remote workshops taking place outside of the prescribed timescales will be accepted provided it can be demonstrated that the aim of the issue is still achieved. Credit dropped in meeting 24.03.21. as CCL confirmed DQI consultation not carried out.	0		
Req 9-11	Sustainability Champion (Design)	1	0.63	Ridge has been appointed as BREEAM AP during RIBA Stage 1 / 2 to provide advice during the briefing period. The BREEAM target will be formally agreed between the Client & Design team prior to the end of RIBA Stage 2.	1	Low	NHS Trust / Ridge / CCL
Req 12-13	Sustainability Champion (Monitoring Progress)	1	0.63	Criteria 9-11 will be achieved and the appointed BREEAM AP will provide support during RIBA stages 2, 3 & 4. They will attend a meeting and provide reports prior to, during and on completion for each stage.	1	Medium	Ridge
Man02	**Life Cycle Cost and Service Life Planning**						
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. RIBA Stage 2 information from CCL required	2	V. High	CCL
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. This information is required prior to interim BREEAM submission	1	Medium	CCL
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	Graham
Man03	**Responsible Construction Practices**			**Minimum Standard - 1st CCS credit for Excellent**			
Req 1	Pre-requisite: Timber			All timber and timber based products used on the project will be 'Legally harvested and traded timber'.		Low	Graham
Req 2-3	Environmental Management	1	0.63	The main contractor will operate a certified Environmental Management System. MANDATORY FOR HEALTHCARE PROJECTS. Best practice pollution prevention policies and procedures will be implemented on site in accordance with PPG 6.	1	Low	
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	CCL / Ridge / Graham
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 out of 50 with no section scoring below 7.	2	Medium	
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	
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	Graham
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 or recovery centre gate. Total fuel consumption (litres) and/or total carbon dioxide emissions (kgCO2 eq), plus total distance travelled (km) will be reported.	1	Medium	

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://www.breeam.com/ndrefurb2014manual/	Target Score	Risk	Responsibility
Man04	**Commissioning and Handover**			**Minimum Standard - Criterion 9 (BUG) for Excellent**			
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	DSSR / M&E Sub / Graham
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	DSSR / M&E Sub
Req 7-8	Testing and Inspecting Building Fabric	1	0.63	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. Following R&FO Part 3&4 update awaiting BRE confirmation to confirm if only relevant to New Build area.	1	High	Graham
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	Graham
Man05	**Aftercare**			**Minimum Standard - Seasonal Commissioning credit for Excellent**			
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	Graham
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	DSSR/ 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	NHS Trust
HEALTH & WELLBEING							
Hea01	**Visual Comfort**						
Req 1-2	Glare Control	1	0.76	Compliant glare control will be present in all relevant areas using either building integrated measures, occupant controlled blinds (<0.1% transmittance), bioclimatic design or external shading or brise soleil. This is relevant to all rooms having windows or roof lights where close working is undertaken.	1	Medium	GDA
Req 3-5	Daylighting	3	0.76	It is assumed that the daylighting requirements will **NOT** be met due to a number of deep / internal rooms.	0		
Req 6-9	View Out	3	0.76	It is assumed that the view out requirements will **NOT** be met due to the internal rooms present.	0		
Req 10-14	Internal Lighting Levels, Zoning and Control	1	0.76	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 exmaple, 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.	1	Medium	DSSR
Hea02	**Indoor Air Quality**						
Req 1	Indoor Air Quality Plan	1	0.76	An indoor air quality plan will be produced *and implemented.* 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	Low	Graham

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://www.breeam.com/ndrefurb2014manual/	Target Score	Risk	Responsibility
Req 2-5	Ventilation	1	0.76	It is assumed that this credit will **NOT** be targeted as it requires air intakes and exhausts to be located over 10m apart and intakes to be over 20m from sources of external pollution (i.e. roads and car parks).	0		
Req 6-7	VOC Emission Levels (Products)	1	0.76	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	GDA / Graham
Req 8-12	VOC Emission Levels (Post Construction)	1	0.76	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/ m³over 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.	1	Medium	Graham
Req 13-14	Potential for Natural Ventilation	1	0.76	It is assumed that this credit will NOT be achieved due to insufficient openable windows.	0		
Hea04	**Thermal Comfort**						
Req 1-5	Thermal Modelling	1	0.76	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	DSSR
Req 6-9	Adaptability- for a Projected Climate Change	1	0.76	The dynamic thermal modelling will also be run for a projected climate change environment (see Relevant definitions in the BREEAM 2014 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. Following R&FO Part 3&4 update awaiting BRE confirmation to confirm if only relevant to New Build area.	1	Medium	DSSR
Req 10-12	Thermal Zoning and Controls	1	0.76	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, 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	DSSR
Hea05	**Acoustic Performance**						
Req 2-3	Sound insulation	1	0.76	The following will be achieved: Airborne sound insulation performance standards set out in Section 2 of HTM 08-01: Acoustics, 2013 determined according to the privacy requirements using both Table 3 and Table 4 from HTM 08-01: Acoustics. Impact noise is controlled at source and the weighted standardised impact sound pressure level (L'nT,w) does not exceed 65dB in noise-sensitive rooms, following the guidance in HTM 08-01: Acoustics. A programme of pre-completion acoustic testing will be carried out by a compliant test body in accordance with the requirements of Section 7 of HTM 08-01: Acoustics SRL assessment of sound insulation and reverberation will follow in RIBA Stage 3 Outline Design Report.	1	High	SRL / GDA
	Indoor Ambient Noise level	1	0.76	The following will be achieved: Indoor ambient noise requirements for noise intrusion from external sources in Table 1 of HTM 08-01: Acoustics, 2013 are not exceeded. The values for internal noise from mechanical and electrical services in Table 2 of HTM 08-01: Acoustics are not exceeded. A programme of acoustic measurements is carried out by a compliant test body in accordance with the Section 7 of HTM 08-01: Acoustics. Rain noise: Installation of a specification compliant with the HTM 08-01: Acoustics criteria demonstrates compliance SRL review assumes compliance but awaiting complete detailed assessment.	1	High	SRL / GDA
	Reverberation	1	0.76	The following will be achieved: Acoustic environment (Control of reverberation, sound absorption and speech transmission index (STI)): Achieve the requirements relating to sound absorption set out in Section 2 of HTM 08-01: Acoustics. A programme of acoustic measurements is carried out by a compliant test body in accordance with the Section 7 of HTM 08-01: Acoustics. SRL assessment of sound insulation and reverberation will follow in RIBA Stage 3 Outline Design Report.	1	Medium	SRL / GDA

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://www.breeam.com/ndrefurb2014manual/	Target Score	Risk	Responsibility
Hea06	**Safety and Security**						
	Security of Site and Building	1	0.76	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.	1	Medium	GDA
ENERGY							
Ene01	**Reduction of Energy Use and Carbon Emissions Minimum Standard - Six credits for Excellent**						
Req 1	Energy Performance	12	0.64	The Energy Performance Ratio will be sufficient to achieve 6 credits (>0.36epr). For this issue, the refurbished area will be assessed under the RFO criteria, and the new construction area shall be assessed under the NC criteria. For the refurbished area the 'whole building energy score' approach will be used: Step 1: This requires that the existing building is modelled and requires: a. Reference building energy demand (DemRef), kWh/m² b. Actual (existing) building energy demand (DemEx), kWh/m² c. Reference building primary energy consumption (PERef), kWh/m² d. Actual (existing) building primary energy consumption (PEEx), kWh/m² e. Reference building CO2 emissions (SER), KgCO2/m² f. Actual (existing) building CO2 emissions (BEREx), KgCO2/m² Step 2: This requires that the proposed specification is modelled and requires: a. Actual (proposed) building energy demand (DemProp), kWh/m² b. Actual (proposed) building primary energy consumption (PEProp), kWh/m² c. Actual (proposed) building CO2 emissions (BERProp), kgCO2/m² The BRE's Bespoke spreadsheet will perform an area weighting to confirm the number of credits achieved. 6no. credits are required to achieve Excellent rating and would require an EPR of >0.36. BRUKL files received currently achieve 6no. credits, awaiting Block E EPC information.	6	High	CCL / NHS Trust / DSSR
Ene02	**Energy Monitoring**			**Minimum Standard - One Credit for Excellent**			
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 systems in smaller buildings will be 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 will be identifiable to the building users, for example through labelling or data outputs.	1	Medium	DSSR
Req 5	Sub-metering of High Energy Load and Tenancy Areas	1	0.64	It is currently proposed that the following is **NOT** achieved: An accessible energy monitoring and management system or separate accessible energy sub-meters with pulsed or other open protocol communication outputs to enable future connection to an energy monitoring and management system will be provided, covering the significant majority of the energy supply to function areas or departments within the building/unit which are considered to be 'high energy load'. Potential areas include: 1. Operating departments 2. Imaging departments 3. Radiotherapy departments 4. Pathology departments 5. Dialysis departments 6. Medical physics facilities 7. Mortuary and post mortem departments 8. Rehabilitation when including hydrotherapy pools 9. Central sterile supplies departments (or equivalent) 10. Process areas, e.g. commercial-scale kitchens and laundries 11. IT rooms 12. Pharmacy departments 13. Laboratories 14. Tenancy areas (e.g. catering, retail, laundry)	0	POSSIBLE	DSSR
Ene03	**External Lighting**						
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. Note that this requirement also applies to any building mounted or stand alone existing lights within the contractor's work area.	1	High	DSSR
Ene04	**Low Carbon Design**						
Req 1-3	Passive Design Analysis	1	0.64	The first credit of Hea 04 Thermal comfort will be achieved 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%. Relevant to refurbishment and new build elements.	1	High	DSSR
Req 5-6	Free Cooling	1	0.64	It is assumed that free cooling strategies will not be used exclusively.	0		
Req 7-8	Low Zero Carbon Feasibility Study	1	0.64	This credits is considered a possible depending on if the following can be achieved: 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%. Credit dependent on CHP or implementation of new renewables.	0	Possible	DSSR

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://www.breeam.com/ndrefurb2014manual/	Target Score	Risk	Responsibility
Ene06	**Energy Efficient Transportation Systems**			**Minimum Standard: None**			
	Energy Consumption	1	0.64	An analysis of the transportation demand and usage patterns for the building will be carried out to determine the optimum number and size of transport systems. The energy consumption will be calculated in accordance with BS EN ISO 25745 Part 2. 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	Graham
	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	Graham
Ene08	**Energy Efficient Equipment**						
Req 1-3	Energy Consumption	2	0.64	The building's unregulated energy consuming load will be identified and their contribution to the total annual unregulated energy consumption is estimated AND for the systems/ processes that use a significant proportion of the total annual unregulated energy consumption, there will be a meaningful reduction in the total annual unregulated energy consumption by design, specification or operation. This is likely to require that the procurement of large-scale equipment (where present) and sets of electrical equipment (where numbering more than 50) has been informed and selected by life cycle costing analysis for at least two options in accordance with HTM07-02, Part B, Chapter 1.	2	High	DSSR / NHS Trust
TRANSPORT							
Tra01	**Sustainable Transport Solutions**						
Req 1-2	Accessibility Index			Based on public transport provision, a public transport accessibility index of 2.31 has been achieved therefore 1 credit can be awarded.	1	Low	Ridge
Req 3	Alternative Transport Measures	5	0.74	The following alternative transport measures will be provided: - The number of compliant cycle storage spaces provided is 10% greater than is required within 'Tra03 Cyclist facilities', thus providing extra capacity for future growth and allowing more building users to cycle as a result (NB. This requires that the two Tra 03 credits are achieved). - Three or more types of compliant cycle facilities that are required within Tra 03 Cyclist facilities are to be provided, which includes the following facilities: showers, changing facilities, lockers and drying spaces (NB. This requires that the two Tra 03 credits are achieved).	1	High	GDA
Tra02	**Proximity to Amenities**						
	Proximity to Amenities	1	0.74	The West Cumberland Hospital site has a café and cashpoint (Level 3).	1	Low	Ridge
Tra03	**Cyclist Facilities**						
	Cycle Storage	1	0.74	Compliant (covered, well lit & in a prominent position) cycle racks will be provided at a rate of 1 space for every 10 staff AND 1 space for every 10 beds the following sliding scale can be used: 1. For buildings with more than 200 users but less than 300, the unit of measure can be increased by a ratio of 1.5. 2. For buildings with more than 300 users but less than 400, the unit of measure can be increased by a ratio of 2. 3. For buildings with more than 400 users, the unit of measure can be increased by a ratio of 2.5. This can either be achieved on a building specific or campus wide basis (however any existing cycle storage spaces used must be compliant). See also Tra 01 Req 3. Mtg 24.03.21 confirmed that cycled storage would be adjacent to and for the use of just the BREEAM area and therefore the y would be based on the staff in these areas plus the number of beds.	1	Medium	GDA
	Cycle Facilities	1	0.74	Two out of the following list of facilities will be provided for cyclists: - Showers (ratio >1 per 10 cycle spaces required) - Lockers (ratio > 1 per cycle space) - Changing facilities (both female & male >1m2 per cycle space with benches & hooks) - Drying Room See also Tra 01 Req 3.	1	Medium	GDA
Tra05	**Travel Plan**						
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. Curtins site specific TA have been received and reviewed.	1	Medium	Curtins / NHS Trust
WATER							
Wat01	**Water Consumption**			**Minimum Standard - One Credit for Excellent**			

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://www.breeam.com/ndrefurb2014manual/	Target Score	Risk	Responsibility
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 l single flush WCs ◦ wash hand basin taps flow rate limited to 4.5 l/min ◦ kitchenette taps flow rate limited to 5 l/min ◦ shower flow rate limited to 10 l/min ◦ no urinals / baths / waste disposal unit / washing machines / dishwashers ◦ no grey water / rainwater system	2	Medium	GDA / 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). As only part of the building is under assessment, if the whole building is under the same tenancy or ownership and management, then a meter monitoring the entire building is acceptable. However, if the floors subject to assessment are separately tenanted, then a meter at the point of entry to the assessed areas is required.	1	High	DSSR / NHS Trust
Wat03	**Water Leak Detection and Prevention**						
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	DSSR / NHS Trust
Req 2	Flow Control Devices	1	0.74	Flow control devices that regulate the water supply to each WC area or sanitary facility according to demand will **NOT** be installed.	0		
Wat04	**Water Efficient Equipment**						
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.	1	Low	Landscape Architect
MATERIALS							
Mat01	**Life Cycle Impacts**						
Req 8-10	Life Cycle Impacts	6	1.07	The project will use a life cycle assessment (LCA) tool or undertake a building information model life cycle assessment (BIM LCA) to measure the life cycle environmental impact of the whole building. 85% of the BREEAM Mat 01 calculator points will be achieved (this will also achieve the exemplary credit). The design team will demonstrate how the LCA has benefited the building in terms of measuring and reducing its environmental impact. Cost plan reviewed and details received from Curtins. Further information reqeusted from GDA. Concrete frame discussed 04.02.21 and further information will be required if confirmed.	6	Low	Ridge / GDA
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	Graham
Req 2	Sustainable Procurement Plan	1	1.07	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	Medium	
Req 3	Responsible Sourcing	3	1.07	Materials will be sourced from suppliers with appropriate responsible sourcing certification (e.g. BES6001 / ISO14001 / FSC / CSA / MTCC / PEFC / SFI etc.). 2 credits have been targeted requiring 36% of available points to be achieved.	2	High	
Mat04	**Insulation**						
Req 1-2	Embodied Impact of Insulation	1	1.07	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	Medium	GDA / M&E Sub

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Mat05	**Designing for Durability and Resilience**						
Req 1-5	Designing for Durability and Resilience	1	1.07	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. GDA proposed duraline specification and bed rails.	1	High	GDA
Mat06	**Material Efficiency**						
Req 1-2	Material Efficiency	1	1.07	This credit has **NOT** been targeted due to the extensive evidential requirements throughout the project. It would require opportunities to be identified, and appropriate measures investigated and implemented, to optimise the use of materials in building design, procurement, construction, maintenance and end of life. The above is carried out by the design/construction team in consultation with the relevant parties at each of the following RIBA stages: a. Preparation and Brief b. Concept Design c. Developed Design d. Technical Design e. Construction.	0		
WASTE							
Wst01	**Project Waste Management**						
Req 1	Pre-refurbishment audit	1	0.69	A pre-refurbishment audit of all existing buildings, structures or hard surfaces within the scope of the refurbishment zone will be completed. The requirements for carrying out an appropriate pre-refurbishment audit are: a. The audit should be carried out at the Concept Design Stage (equivalent to RIBA stage 2) prior to strip-out or demolition works in order to use the audit results to guide the design, consideration of materials that can be reused, and to set targets for waste management and ensure all contractors are engaged in the process of maximising high grade reuse and recycling opportunities. b. The audit should be carried out by a competent person who has appropriate knowledge of buildings, waste and options for the reuse and recycling of different waste streams. c. Actual waste arisings and waste management routes used should be compared with those forecast from the audit and barriers to achieving targets should be investigated. The audit must be referenced in the resource management plan and cover: d. Identification and quantification of the key materials where present on the project. e. Potential applications and any related issues for the reuse and recycling of the key materials in accordance with the waste hierarchy. f. Identification of local reprocessors or recyclers for recycling of materials g. Identification of overall recycling rate for all key materials h. Identification of reuse targets where appropriate. i. Identification of overall landfill diversion rate for all key materials. Information from CCL required	1	V. High	CCL / GBM Demolition
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.	0		
Req 5-6	Construction Resource Efficiency	3	0.69	A Resource Management Plan (RMP) 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 12.73m3 or 8.96 tonnes per 100m2 gross internal floor area. Credit reduced to 1no. in meeting following discussion with Graham.	1	High	Graham
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 - 74% by Volume or 82% by tonnage - Demolition - 82% by Volume or 91% by tonnage	1	High	Graham / GBM Demolition
Wst02	**Recycled Aggregates**						
Req 1-3	Recycled Aggregates	1	0.69	It is assumed that this credit has NOT been targeted, but marked as possible: 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. Curtins to review and complete Ridge template.	0	Possible	Curtins / Graham

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Wst03	**Operational Waste**		**Minimum Standard - One Credit for Excellent**				
Req 1	Dedicated space for recyclables	1	0.69	A dedicated recycling area, adequately sized to serve the development and accessible to building occupiers and waste contractors, will be provided. This can be assessed on a building specific or campus wide basis. The following guide for minimum storage space provision should be used: 1. At least 2m²per 1000m²of net floor area for buildings <5000m² 2. A minimum of 10m²for buildings ≥ 5000m² 3. An additional 2m² per 1000m² of net floor area where catering is provided The net floor area should be rounded up to the nearest 1000m². The specified/installed operational waste facilities will be compliant with the relevant NHS guidelines. GDA to provide waste storage drawing. NHS Trust to provide information on site wide dedicated facilities and current waste streams to justify adequate size.	1	Medium	GDA / NHS Trust
Req 2	Compactor / Baler / Composting			Likely waste streams for the building to be confirmed. If a static compactor / baler or compliant vessel for composting (or storing) organic waste is required this will be provided. (Note if compostable waste *storage* only, arrangements will be in place for compostable waste to be collected and taken to a composting facility).		Medium	GDA/ NHS Trust
Wst05	**Adaptation to Climate Change**						
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. Wst 05 report received, awaiting final copy.	1	Medium	GDA/ DSSR
Wst06	**Functional Adaptability**						
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. Wst 06 report recieved, awaiting final copy.	1	Medium	GDA/ Curtins / DSSR

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LAND USE & ECOLOGY							
LE01	**Site Selection**			**Minimum standard: None**			
Req 1	Previously Developed land	1	1.11	It is assumed that 75% of the development's footprint (including building, hard landscaping, and temporary works) is on previously developed land. GDA to provide sketch demonstrating building footpriints.	1	Medium	GDA
Req 2-3	Contaminated land	1	1.11	It is assumed that the site cannot be classed as contaminated or requiring remediation to enable development; therefore, this credit cannot be achieved. To be reviewed at Stage 4/5 following Curtins site inveestigation and specified remediation measures.	0		
LE02	**Ecological Value of Site & Protection of Ecological Features**						
Req 1	Ecological Value of Site	1	1.11	It is assumed that land within the construction zone can be defined as being of low ecological value by a suitably qualified ecologist. AECOM ecology report confirms buildings do have bat potential but only negligible to low suitability. GDA confirmed initial bat survey. Bat survey reports to be provided and reviewed. New ecologist SAP appointed to review the AECOM report and update recomendations.	1	High	SAP
Req 2-3	Protection of Ecological Features	1	1.11	It is assumed that 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. AECOM ecology report confirms buildings do have bat potential but only negligible to low suitability. AECOM recommendations for protection listed in LE 03 New ecologist SAP appointed to review the AECOM report and update recomendations.	1	High	Graham / SAP
LE03	**Minimising Impact on Existing Site Ecology**			**Minimum standard: One Credit for Very Good and Above**			
	Change in Ecological Value	2	1.11	Calculations will show no negative change in the ecological value on site. The ecologist will complete GN13 to confirm this.	2	Medium	SAP /GDA
LE04	**Enhancing Site Ecology**						
Req 1-3	Ecologist's Report and Recommendations	1	1.11	A suitably qualified ecologist (SQE) will be 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 and 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 following recommendations of the Ecology Report will be implemented. Ecologist recommendations (AECOM Phase 2 PEA - Nov 2019): - any trees likely to be affected during works are to be protected by fluorescent mesh fencing - any areas of planting within landscape design should only include native and valuable spaces (e.g. fruit or nut bearing species) - Lighting should avoid areas of trees/vegetation that may provide foraging areas for bats and birds - Prior to the start of works emergence/re-entry bat surveys may be required - Where habitat that may support breeding birds requires clearance, this should take place outside nesting season or under supervision of a qualified ecologist - Best practice should be followed regarding works on site to minimise any adverse impacts on habitats and species.	1	Medium	Graham / SAP / GDA
Req 4-6	Increase in ecological value	1	1.11	It is assumed that a significant increase in the ecological value will be achieved as a result of the ecologist identifying an increase in the ecological value of the site without meeting the target of an increase of six plant species and will provide clear justification which addresses the following three points: - The enhancement of the ecological value of the site - The best possible chance of establishment and long term survival of the species within the habitat - Links to and support of the local ecosystem beyond the site boundary	1	High	Graham / SAP / GDA
LE05	**Long Term Impact on Biodiversity**			**Minimum standard: None**			
	Long Term Impact on Biodiversity	2	1.11	A suitably qualified ecologist will be appointed prior to the commencement of site works, will confirm adherence to all relevant EU and UK legislation SAP) and will produce a 5 year management plan for site biodiversity (GDA to review). Furthermore, FOUR of the additional requirements, where applicable, outlined within Guidance Note LE05 will be incorporated into the design / planting.	2	Medium	GDA / Graham / SAP / GDA
POLLUTION							
Pol01	**Impact of Refrigerants**						
Req 3-5	Impact of Refrigerants	2	0.85	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. Systems using refrigerants will have Direct Effect Life Cycle CO2 equivalent emissions (DELC CO2e) of <1000 kgCO2e/kW cooling/heating capacity.	1	High	DSSR
Req 6-7	Leak Detection	1	0.85	It is assumed that systems using refrigerants will **NOT** 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	0		
Pol02	**NOx Emissions**						
Req 1-2	NOx Emissions	3	0.85	The plant installed to meet the building's delivered heating and hot water demand will **NOT** have, under normal operating conditions, a NOx emission level (measured on a dry basis at 0% excess O2) of ≤40 mg/kWh.	0		

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://www.breeam.com/ndrefurb2014manual/	Target Score	Risk	Responsibility
Pol03	**Surface Water Run-Off**						
Req 1-2	Flood Risk	2	0.85	The Environment Agency's flood maps confirm that the site is within a Low Flood Zone. Curtins FRA confirms low flood zone	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:		Low	Ridge
Req 7-8	Neutral Impact on Surface Water	1	0.85	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. Curtins to provide information.	1	High	Curtins
Req 10	Reducing Run-Off	1	0.85	It is assumed that there will **NOT** be a decrease of >50% in impermeable area nor will run-off be reduced from the site. However the potential to achieve this credit should be reviewed by the structural engineer: The credit requires the run-off as a result of the refurbishment to be managed on-site using source control achieving the following requirements: i. The peak rate of run-off as a result of the refurbishment for the 1 in 100 year event has been reduced by 50% from the existing site. ii. The total volume of run-off discharged into the watercourses and sewers as a result of the refurbishment, for a 1 in 100 year event of 6 hour duration has been reduced by 50%. An allowance for climate change must be included for all of the above calculations; this should be made in accordance with current best practice planning guidance.	0	POSSIBLE	Curtins
Req 11-14	Minimising water course pollution	1	0.85	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**						
	Reduction in light pollution	1	0.85	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. Note that this requirement also applies to any building mounted or stand alone existing lights within the contractor's work area.	1	Medium	DSSR
Pol05	**Noise attenuation**						
Req 2-5	Noise attenuation	1	0.85	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.	1	Medium	SRL/ DSSR

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://www.breeam.com/ndrefurb2014manual/	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 40 in the Considerate Construction Scheme with no section scoring less than 7.	1	High	Graham
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	NHS Trust
Hea 01	Visual Comfort	1	1.00	It is assumed that exemplary daylight factors will **NOT** be met.	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 standard.	1	Low	Ridge
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 Where all run-off from the developed site is managed on-site using source control, the following must be achieved to confirm compliance: a. The peak rate of run-off as a result of the refurbishment for the 1 in 1 year event is reduced to zero. b. The peak rate of run-off as a result of the refurbishment for the 1 in 100 year event is reduced to zero. c. There is no volume of run-off discharged into the watercourses and sewers as a result of the refurbishment, for a 1 in 100 year event of 6 hour duration. d. An allowance for climate change must be included for all of the above calculations, in accordance with current best practice national planning guidance. e. Where an appropriately qualified professional has been employed to provide the above calculations and design an appropriate drainage strategy for the site, ensuring all Pol 03 Surface Water Run Off criteria are achieved. Curtins to review.	0	POSSIBLE	Curtins
Unlisted, BRE Approved Innovations		10	1.00	It is assumed that this credit is **NOT** achievable.	0		