



RIDGE

**COMMUNITY DIAGNOSTIC
CENTRE (CDC),
WITHINGTON**

**BREEAM UK NC V6
PREASSESSMENT REPORT**

16th January 2023

5020743 – COMMUNITY DIAGNOSTIC CENTRE, WITHINGTON

BREEAM PREASSESSMENT REPORT

16th January 2023

Prepared for

Manchester University NHS Foundation Trust

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1. INTRODUCTION

Ridge and Partners LLP has been appointed to undertake a BREEAM Pre-assessment of the new community diagnostics facility at Withington Community Hospital on behalf of the Manchester University NHS Foundation Trust.

The development needs to achieve a BREEAM Excellent rating to align with the NHS sustainability brief and a minimum of BREEAM Very Good for Manchester City Council's Planning Requirements. The development will be assessed under the BREEAM UK New Construction Version 6 assessment.

This report includes information for the Version 6 New Construction Excellent route. The report identifies the likely costs and issues associated with targeting an Excellent Rating and provides 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 BREEAM UK NC V6 requirements.

2. MEETINGS AND ATTENDEES

A BREEAM Pre-assessment meeting was held on 9th January 2023. The meeting was attended by:

- Mariana Albano – Manchester University NHS FT
- Tony Wylie - RBL
- Yannis Angelidis - CCS
- Maciej Augustynowicz - Day Architects
- Wendy Broomhead (BREEAM AP)– Ridge & Partners (BREEAM)

Further Design team meetings will also be attended by the BREEAM AP, Wendy Broomhead to monitor and discuss BREEAM progress.

3. PROJECT DESCRIPTION

The project will comprise the construction of a new, two storey building located on the existing community hospital site on undeveloped land to the side of the main building. The development will also see extension of the existing car parking and, landscaping to facilitate access to the new facility.

The development is currently at RIBA Stage 2.

4. 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. 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	Weighting
Management	11%
Health and Wellbeing	14%
Energy	16%
Transport	10%
Water	7%
Materials	15%
Waste	6%
Land Use & Ecology	13%
Pollution	8%

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.

5. BREEAM STRATEGY & TARGETS

The Trust requires a BREEAM 'Excellent' certificate in line with the NHS sustainability standards. The following report therefore outlines how this could be achieved based on the BREEAM UK NC V6 assessment methodology.

The development comprises the new construction of two floors of outpatient clinical diagnostic facilities. The project will be assessed under BREEAM UK NC V6, Healthcare, targeting an BREEAM Excellent rating.

The appendices provide detailed information on what credits are applicable and how an Excellent certification could be targeted by this development. 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.

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.

6. TIME DEPENDENT ACTIONS

There are various key actions that are time dependant. Those targeted for the various options illustrated in Appendix A are listed in Table 1. All the actions in Table 1 are required for all potential BREEAM options, however, the time requirement may differ depending on the option selected. Some of the actions below are only required for BREEAM UK NC V6 targeted credits, as highlighted below.

Table 1. Time Dependent Actions

Credit		Time requirements	Responsibility
RIBA Stage 1			
Mat 03	Enabling Sustainable Procurement	A BREEAM compliant Sustainable Procurement Plan must be used by the design team to guide specification towards sustainable construction products in Briefing stage (RIBA Stage 1).	MFT
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	MFT
Man 01 Req 8	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.	MFT
Man 01 Req 9	BREEAM AP (Concept design)	Ridge to provide ongoing support throughout RIBA Stage 2 with meetings attended by BREEAM AP plus guidance and reports highlighting risks, opportunities and targets and stage evidence assessed.	Ridge
Man 02 Req 1-3	Elemental Life Cycle Cost	Prior to the end of RIBA Stage 2, carries out an elemental life cycle costing analysis and elemental options appraisals to PD 156865:2008 In addition to achieve Mat 01 innovation options appraisal will need to be extended to also cover the Mat 01 LCA options	RLB or Ridge – MFT to confirm appropriate appointment
Hea 06 Req 1-3	Security of Site and Building	A Suitable Qualified Security Specialist (SQSS) conducts a Security Needs Assessment (SNA) during or prior to Concept design (RIBA Stage 2 or equivalent)	Day
Ene 04	Passive Design Analysis	Carry out a Passive Design Analysis during Concept Design (RIBA Stage 2) stage and implement passive design solutions that reduce demands for energy consuming building services	SHA
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	SHA

Credit		Time requirements	Responsibility
		implemented in line with the findings of the study which reduces CO ₂ emissions)	
Tra 01	Travel Plan	Develop a Transport Assessment and draft BREEAM compliant Travel Plan at Stage 2.	MFT / Transport consultant
Mat 01 Req 3-7	Life Cycle assessment	At Concept Design Stage, carry out LCA on 4no superstructure options, 2no. substructure options and 4no. hard landscaping options & submit to BRE with design team input.	Ridge with input from CCS / Day /
Wst 05	Adaptation to Climate Change	Produce a compliant 'Climate Change Adaptation Study' during Concept Design.	Day with input from CCS & SHA
Wst 06 Req 1-2	Design for Disassembly and Adaptability	Produce a compliant 'Design for Disassembly and Functional Adaptation Study' during Concept Design.	Day with input from CSS & SHA
LE 02 Req 4-6 & LE 03 pre-requisite	Ecological Survey and Evaluation	Prior to Planning application carry out an extended ecological survey and produce an evaluation report into the state of existing ecology, local ecological networks, and possible enhancements.	RSK/ MFT
LE02 Req 7-10 & LE 03 Prerequisite	Determining Ecological Outcome	Meetings held during the Concept Design Stage (RIBA Stage 2) with ecologist, local wildlife and environmental stakeholders, client/end user and design team (incl. landscape architect and drainage engineer) to discuss and agree possible ecological impacts enhancements and mitigations.	MFT/RSK/ All
LE03 Req 2-4 & LE 04 & 05 Prerequisite	Planning Measures on Site	During Concept Design Stage (RIBA Stage 2), appoint a Project Environmental Champion to manage environmental impacts and establish the necessary roles and responsibilities to maximise the ecological outcomes and start implementation process & review potential impact of site prep & construction on the ecology.	MFT/ RSK/ All

Credit		Time requirements	Responsibility
RIBA Stage 3-4			
Man 01 Req 11-12	BREEAM AP	A BREEAM AP is appointed and works with the team during Developed Design.	MFT / Ridge
Man 02 Req 4-5	Component Life Cycle Cost	At 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	RLB or Ridge
Man 03 Req 6	BREEAM AP (site)	BREEAM AP to be appointed to guide the Contractor for RIBA stage 4 - 6	MFT/ Ridge / Contractor
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.	SHA/ MEP Sub
Mat 01 Req 3-5	Environmental Impacts (Superstructure)	More detailed IMPACT LCA will be carried out at Stage 4 based on Stage 2 choices	Ridge with input from RLB/ Day
Wst 05	Adaptation to Climate Change	Update and incorporate recommendations of 'Climate Change Adaptation Study' during Technical Design (RIBA Stage 4) demonstrating implementation.	Day with input from CCS & SHA
Wst 06 Req 3-5	Functional Adaptability & Design for Disassembly	Functional adaptation and disassembly measures will be adopted in the design by RIBA Stage 4 or equivalent in accordance with the disassembly and functional adaptation strategy recommendations.	Day with input from CCS & SHA
LE02 Req 7-10 & LE03 Prerequisite	Determining Ecological Outcome	Meetings held during the Developed Design Stage (RIBA Stage 3/4) with ecologist, local wildlife and environmental stakeholders, client/end user and design team (incl. landscape architect and drainage engineer) to check progress of implementation of agreed ecological impacts enhancements and mitigations.	MFT/ ALL/ RSK
LE03 Req 2- 4 & LE04 & 05 Prerequisite	Planning Measures on Site	Meetings held at all relevant stages (RIBA Stage 3, 4, 5) with ecologist, local wildlife and environmental stakeholders, client/end user and design team (incl. landscape architect and drainage engineer) to discuss possible ecological and monitor ongoing compliance.	MFT/ ALL/ RSK

7. KEY ISSUES TO ACHIEVE AN 'EXCELLENT' CERTIFICATION

Credits have been identified worth 74.58% which would achieve an 'Excellent' rating with an over 4% 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 Manual (see link below) which provides more detail on the requirements. Please note not all items are listed below.

<https://files.bregroup.com/breeam/technicalmanuals/sd/uk-new-construction-version-6>

7.1. Client (MFT)/Project Manager Issues (MFT)

Credit		Requirements
Man 01 Req 1-3	Project Delivery Planning	Prior to the end of 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 how the stakeholder contributions and consultation process influences the following: Initial Project Brief; Communications Strategy; Project Execution Plan; Concept Design.
Man 01 Req 8	Pre-Requisite - BREEAM AP (Design)	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 01 Req 11-12 & Man 03 Req 6	BREEAM AP	MFT to ensure BREEAM AP continual appointment.
Man 02 Req 4-5	Component Level LCC Plan	At RIBA Stage 4, MFT to appoint 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 (within Ridge fee quote)
Man 03 Req 5-6	Pre-requisite for BREEAM AP- Site	Include BREEAM Rating required (Excellent) In contractor's appointment.
Man 05 Req 4-7	Post Occupancy Evaluation	Appoint independent consultant to carry out Post occupancy Evaluation in accordance with BREEAM NC V6 requirements 12 months after occupation.
Hea 06 Req 1 -3	Security of Site and Building	Appoint a Suitably Qualified Security Specialist (SQSS) to conduct a Security Needs Assessment (SNA) during RIBA Stage 2.
Hea 07 Req 7	Outside Space	Requires an appropriately sized outside space providing building users with an external amenity area with seating and away from/shielded from road, car parks etc (not part of public highway) that is a no smoking area. This is assumed to be an existing facility
Tra 01 & Tra 02 Pre-requisite	Transport Assessment and Travel Plan	During Concept Design Stage (RIBA Stage 2) a draft, BREEAM compliant travel plan will be created based on a site-specific travel assessment with final plan being completed during the design stages

Credit		Requirements
Tra 02 Req 2	Sustainable transport measures	Implement design measures listed in the Travel Plan and within the existing hospital provide compliant staff changing and locker facilities.
Wat 03 Req 1-2	Leak Detection System	Requires a BREEAM compliant leak detection system will be specified and installed on the buildings water supply. – Assume hospital BMS can operate as a compliant leak detection system.
Mat 03 Req 2	Enabling Sustainable Procurement	Requires that a BREEAM compliant Sustainable Procurement Plan has been used by the design team to guide specification towards sustainable construction products (RIBA Stage 1).
Wst 03	Operational Waste	MFT to demonstrate that the main hospital waste facilities are compliant with the relevant NHS Guidelines and that they have a dedicated labelled area for recycled waste at least 4m2 per 1000m2 of total hospital Net Internal Floor Area plus appropriate justification that a compactor/baler will NOT be required for this extension given there is no food preparation and insufficient waste will be generated.
LE 02, LE03 , LE04 & LE 05 Req 1	Pre-requisite	MFT or Ecologist to confirm compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site
LE 02 Req 7-10)	Determining Ecological Outcome	Requires MFT to act as Environmental Champion and to Co-ordinate liaison & collaboration with representative stakeholders to identify and consider ecological outcomes for the sites using Route 2 methodology & the hierarchy of ecological actions.
LE 03 Req 2-4 LE 04 Req 5	Planning, Liaison, implementation, and data collation	Requires MFT to co-ordinate the continued liaison and collaboration with stakeholders & in implementation of the selected solutions & measures during design, procurement, site preparation & construction to enhance the ecological value. AND for MFT at Stage 2 to allocate and implement roles & responsibilities to support ecological outcomes & planning site preparation & construction works to optimise outputs for the design team, client and any other relevant stakeholders.
LE 05 Req 3-4	Management and Maintenance	Requires MFT to co-ordinate the team in identifying measures to manage/maintain ecology throughout project and input into end user info on Ecology & Biodiversity covering local ecological features, value & biodiversity on or near site.
Pol 05	Noise attenuation	Requires appointment of an acoustician to carry out a noise impact assessment to BS 4142:2014 and for noise levels to be > 5dB lower than the background noise throughout the day and night.

7.2. Architectural Issues (Day Architects)

Credit		Requirements
Man 02 & Mat 01 Req 1-5	LCC & LCA	Requires demonstration that LCC & LCA analysis has been used to influence design at RIBA 2 & 4
Hea 01 Req 1 - 3	Glare Control	Requires that glare control is provided to appropriate building areas, without resulting in increased energy consumption. If using blinds, they need to have openness factor of <1% and fabric light transmittance of <0.1(10%)
Hea 05	Acoustic performance	Implement Acousticians recommendations to ensure HTM 08-01 standards are met for sound insulation, indoor ambient noise levels and room acoustics.
Hea 06	Security of Site and Building	Requires implementation of ALL the recommendations identified in the Security Needs Assessment.
Hea 07 Req 1-6	Safe Access	It is assumed that dedicated and safe cycle paths re provided from the site entrance to any cycle storage and connect to off-site cycle paths where applicable. Dedicated and safe footpaths are provided on and around sites, pedestrian drop-off areas form part of the assessed development, delivery areas are not accessed through general parking areas and do not cross/ share pedestrian and cyclist paths AND outside amenity areas accessible to building users/ general public. There must be a dedicated parking/ waiting area for goods vehicles with appropriate separation from the manoeuvring area and staff/visitor car park. Finally, parking and turning areas should be designed for simple manoeuvring according to the type of delivery vehicle likely to access the site, thus avoiding the need for repeated shunting.
Hea 07 Req 7	Outside Space	Requires an appropriately sized outside space providing building users with an external amenity area with seating and away from/shielded from road, car parks etc (not part of public highway) that is a no smoking area. This may alternatively be provided by an existing adjacent facility within the current hospital
Tra 02	Sustainable Transport Measures	Implement design measures listed in the Travel Plan and provide compliant cycle storage and cyclist facilities (at least two from showers/ lockers/ changing/ drying) unless already provided by main hospital site. And EV charging space for at least 10% of new parking spaces.
Wat 01	Water Consumption	Requires careful specification of water consuming equipment to achieve a 25% betterment on industry standards (Clinical fittings in clinical settings are exempt from BREEAM considerations).
Wat 04	Water Efficient Equipment	External landscaping and planting will be drought tolerant and will rely solely on precipitation after establishment, during all seasons of the year and if green roof or terrace planting are specified, they will also comply with the requirements of this credit. See manual for full options.
Mat 01	Environmental Impact	Requires input information for the Life Cycle Assessment and demonstration that LCA optioneering has been used to influence design at RIBA 2 & 4.
Mat 05	Designing for Durability and Resilience	Requires: incorporation of suitable measures to prevent damage to vulnerable parts of the internal and external building and landscaping; Material Degradation Report; convenient access to roof & façade for cleaning, replacement, and repair; design of roof/façade to prevent water damage, ingress & detrimental ponding.
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 Concept Design, RIBA Stage 2 & updated at RIBA Stage 4.

Credit		Requirements
Wst 06	Functional Adaptability & Design for disassembly	Produce a compliant 'Design for Disassembly and Functional Adaptation Study' during Concept Design (RIBA Stage 2) that is updated and implemented at RIBA Stage 4.
LE 02- LE 05	Land use and Ecology	Requires attendance at coordination environmental workshops to discuss ecological issues associated with the design, construction, maintenance, and ongoing use of the landscape during Stage 2, 3/ 4 and 5.
LE 03 Req 8 LE04 4 Req 6	Managing negative project impacts Enhancement of ecology	Requires working with the ecologist to ensure that a gain in biodiversity is achieved by landscaping specified and a biodiversity index of 75%-94% is achieved and it is demonstrated that the building has been sited to minimise the loss of ecological value using the ecological hierarchy.

7.3. Structural Engineer's Issues (CCS)

Credit		Requirements
Man 02 Req 1-5	Elemental Life cycle costing	Requires provision of information to enable Life Cycle Costing to be undertaken at RIBA Stage 2.
Mat 01	Environmental Impact	Requires provision of information to enable Life Cycle Assessment to be undertaken at RIBA Stage 2 and 4.
Mat 05	Protecting exposed parts of the building from material degradation	Requires design of the roof & façade to prevent water damage, ingress & detrimental ponding.
Wst 05	Adaption to Climate Change	Requires input into a study done by Day into the effects, risk, and mitigation strategies for accommodating Climate Change to the building fabric during Concept Design, RIBA Stage 2 and updated at RIBA Stage 4.
Wst 06	Functional Adaptability & Disassembly	Requires input into a compliant 'Design for Disassembly and Functional Adaptation Study' Done by Day, during Concept Design. RIBA Stage 2 updated at RIBA Stage 4.
LE 02- LE 05	Land use and Ecology	Requires attendance at coordination environmental workshops to discuss ecological issues associated with the design, construction, maintenance, and ongoing use of the landscape.
Pol 03 Pre-requisite	Flood and Surface water management	demonstrate that FRA & drainage design have been carried out by an appropriately qualified consultant
Pol 03 Req 2	Low Flood Risk	A site-specific Flood Risk Assessment which confirms the flood risk to the development is low for all types of flooding.
Pol 03 Pre-requisite & Req 6-8	Surface Water Run-Off – Rate	Requires that drainage measures are specified to ensure that, as the site is brownfield, a 30% improvement for developed site compared with the pre-developed site. This should comply at the 1-year and 100-year return period events and account for climate change.
Pol 03 Req 9-16	Surface Water Run-Off – Volume	Requires that drainage measures are specified to ensure that flooding of property will not occur in the event of local drainage system failure. Requires that drainage design measures ensure post development run-off volume is no greater than prior to the development for the 100-year 6-hour event, including an allowance for climate change.

Credit		Requirements
		Any additional predicted run-off is prevented from leaving the site using infiltration or other (SuDS) techniques OR demonstrate that the above is not technically feasible and that measures are specified to ensure that the post development peak rate of run-off is reduced to the limiting discharge including an allowance for Climate Change. This is defined as the highest flow rate from the following options: a. The pre-development 1-year peak flow rate; b. The mean annual flow rate Qbar c. 2L/s/ha.

7.4. Building Services Consultant and/or Subcontractor's Issues (SHA and/or M&E Subcontractor)

Credit		Requirements
Man 04 Req 1-5	Commissioning & Testing Schedule & Responsibilities	A 'schedule of commissioning' needs to be developed, with a commissioning monitor appointed. and all necessary systems must be commissioned to meet the relevant standards required by the specification.
Man 04 Req 6-7	Commissioning – Design & Preparation	Requires a team member, not involved in installation, to undertake design reviews, provide commissioning management input & manage commissioning performance testing & handover / post-handover stages. Additionally, a specialist commissioning manager must be appointed, and all necessary systems must be commissioned to meet the relevant standards required by the specification.
Man 05 Req 3	Commissioning – implementation	Requires post-handover Commissioning activities for for12-months covering end user changes; Testing of all building services under full load conditions & during periods of extreme (high or low) occupancy; occupant interviews; Production of monthly reports comparing sub-metered energy performance to the predicted one; - Identification of inefficiencies & improvements; and re-commissioning where necessary (and resulting updates to O&M manuals.
Hea 01 Req 8-14	Internal and External Lighting Levels, zoning, and control	Requires that internal lighting designed to maintained Illuminance levels in SLL Code for Lighting 2012. Areas with computer screens to CIBSE LG7 2.4, 2.13 - 2.15, 2.20 & 6.10 - 6.20. Areas are zoned and controlled appropriate to use & location i.e., office areas require separately zoned / controlled areas for each 40m2. And external lighting complies with BS5489-1:2013 & BS12464-2:2014 Part 2.
Hea 04 Req 1-11	Thermal comfort	This requires dynamic thermal modelling to be carried out demonstrating that overheating levels are achieved based on both HTM 03-01 Appendix 2 and the 2050 TRYs Climate change scenario. Additionally, for air-conditioned areas the PMV and PPD will need to be reported for both current and climate change scenarios.
Ene 01 Req 1-3	Energy performance	An Energy Performance Ratio of 0.7 or greater will be achieved for 7 credits.

Credit		Requirements
Ene 01 Req 3-5	Energy modelling and reporting	Undertake a detailed energy modelling study (using APACHE HVAC or similar software) to predict the building energy consumption based on CIBSE TM54 at design stage and installation stage and hand active model over to Trust post-handover. Design stage modelling to also include scenario modelling and an energy target for the development.
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 02 Req 5	Sub-metering of high energy load and tenancy areas	Requires energy sub-meters with pulsed outputs are installed covering each specific functional area as required by BREEAM for healthcare.
Ene 03	External lighting	The average initial luminous efficacy of the external light fittings within the construction zone (including any existing fittings) is not less than 70 luminaire lumens per circuit Watt. All external lights have daylight sensors and PIRs in areas of intermittent pedestrian traffic. Existing lighting within the construction zone will also need to comply
Ene 04 Req 1-4	Passive Design Analysis	A RIBA Stage 2 PDA is undertaken looking for opportunities to implement passive design solutions reducing energy demands. Solutions are implemented & reduce emissions & energy demand
Ene 04 Req 9-12	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 and a reduction in emissions must be demonstrated by their installation.
Tra 02	Sustainable Transport Measures	Implement the provision of EV charging for at least 10% of new car parking spaces
Wat 01	Water Consumption	Requires careful specification of water consuming equipment to achieve a 25% betterment on industry standards (Clinical fittings in clinical settings are exempt from BREEAM considerations).
Wat 02 Prerequisite & Req 2 - 6	Water sub meters	Requires the main supply to each building to be fitted with a pulsed water meter, and sub-meters provided to any water consuming plant or building areas that consume more than 10% of total water consumption. Each water meter and sub-meter will have pulsed output for connection to a BMS. Sub-meters are fitted to large water tanks.
Wat 03 Req 1-2	Water leak Detection	Requires a BREEAM compliant leak detection system will be specified and installed on the buildings water supply. This may be provided by the hospital BMS if it is capable of acting as the head end of a BREEAM compliant leak detection system or by an independent building specific system. The system will need to pick up leaks between the connection into the hospital main and the new building as well as within the building itself.
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) and reviewed at RIBA Stage 4.

Credit		Requirements
Wst 06	Functional Adaptability	Requires input into a compliant 'Design for Disassembly and Functional Adaptation Study' during Concept Design (RIBA Stage 2) and reviewed at RIBA Stage 4.
LE 02- LE 05	Land use and Ecology	Requires attendance at coordination environmental workshops to discuss ecological issues associated with the design, construction, maintenance, and ongoing use of the landscape.
Pol 02 Req 1 -2	Local Air Quality	Requires either ALL hot water and heating to be powered by electricity OR NOx emissions do not exceed 24 mg/kWh for gas boilers.
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 This includes all existing lights within the construction zone.
Pol 05	Reduction of Noise Pollution	Requires acoustic attenuation measures as required by Noise Impact assessment.

7.5. Quantity Surveyor's Issues (RLB)

Credit		Requirements
Man 02 Req 1 – 3 Mat 01 Req 12	Elemental Life Cycle Cost	Requires either completion of or input into RIBA Stage 2, Elemental life cycle costing analysis together with elemental options appraisals in accordance with PD 156865:2008. which is also co-ordinated with Stage 2 superstructure LCA options for Mat 01 innovation credit. MFT to confirm appointment of LCC consultant
Man 02 Req 4 – 5 Mat 01 Req 13	Component Level LCC Plan	Requires either completion of or input into Stage 4 component level LCC plan in line with PD 156865:2008, this should include: Envelope; Services; Finishes & External Spaces which is also co-ordinated LCA options for Mat 01 innovation credit.
Man 02 Req 6	Capital Cost Reporting	The capital cost for the building will be reported in £k/m2 against the GIFA to the BREEAM Assessor
Mat 01 Req 3 – 7	Environmental Impact	Requires provision of a measured cost plan to the LCA consultant to enable Life Cycle Assessment and required optioneering to be undertaken at Stage 2 & 4.

7.6. Acoustician Issues [TBC]

Credit		Requirements
Hea 05 Req 1a	Sound Insulation	Requires all rooms to achieve performance standards of Section 2 of HTM 08-01: Acoustic Design Requirements, 2013 according to the privacy requirements in Table 3 & Table 4 and weighted standardised impact sound pressure level (L'nT,w) must not exceed 65dB for floors over noise-sensitive rooms, following the guidance in HTM 08-01. Requires pre-completion testing by a compliant test body in accordance with the requirements of Section 7 of HTM 08-01.
Hea 05 Req 1b	Indoor Ambient Noise Levels	Requires all rooms do not exceed the indoor ambient noise requirements for noise intrusion from external sources in Table 1 of HTM 08-01 and that the internal noise from mechanical and electrical services does not exceed the values in Table 2. Requires pre-completion testing by a compliant test body in accordance with the requirements of Section 7 of HTM 08-01.
Hea 05 Req 1c	Room Acoustics	Requires that the acoustic environment (Control of reverberation and sound absorption): achieve the requirements relating to sound absorption set out in Section 2 of HTM08-01. Requires installation of a specification compliant with the HTM08-01 criteria will demonstrate compliance. A site inspection by the developer or SQA is required to confirm that a compliant specification has been installed
Pol 05	Noise attenuation	Requires a noise impact assessment to BS 4142:2014 and for noise levels to be > 5dB lower than the background noise throughout the day and night.

7.7. Landscape Architect's issues [TBC]

Credit		Requirements
Hea 07 Req 1-6	Safe Access	It is assumed that dedicated and safe cycle paths re provided from the site entrance to any cycle storage and connect to off-site cycle paths where applicable. Dedicated and safe footpaths are provided on and around sites, pedestrian drop-off areas form part of the assessed development, delivery areas are not accessed through general parking areas and do not cross/ share pedestrian and cyclist paths AND outside amenity areas accessible to building users/ general public. There must be a dedicated parking/ waiting area for goods vehicles with appropriate separation from the manoeuvring area and staff/visitor car park. Finally, parking and turning areas should be designed for simple manoeuvring according to the type of delivery vehicle likely to access the site, thus avoiding the need for repeated shunting.
Hea 07 Req 7	Outside Space	Requires an appropriately sized outside space providing building users with an external amenity area with seating and away from/shielded from road, car parks etc (not part of public highway) if not provided by existing hospital facility
Tra 02	Sustainable Transport Measures	Implement design measures listed in the Travel Plan and provide compliant cycle storage and EV charging for 10% of the new parking spaces.

Credit		Requirements
Wat 04	Water Efficient Equipment	External landscaping and planting will be drought tolerant and will rely solely on precipitation after establishment, during all seasons of the year and if green roof or terrace planting are specified, they will also comply with the requirements of this credit. See manual for full options.
Mat 05	Protecting Vulnerable Parts of the Building from Damage	Requires protection to the building against, or prevention from, any potential vehicular collision where vehicular parking and manoeuvring e.g., bollards behind disabled spaces where there are drop kerbs.
LE 02- LE 05	Land use and Ecology	Requires attendance at coordination environmental workshops to discuss ecological issues associated with the design, construction, maintenance, and ongoing use of the landscape.
LE 04 Req 6	Enhancement of ecology	Requires working with the ecologist to ensure a change in the biodiversity of the site is between 75% and 94%.
LE 05 Req 5 - 6	Landscape and ecology management plan (or similar) development	Requires a landscape & ecology management plan, developed to BS 42020:2013 covering at least the first five years after project and must include: handover responsibilities; ecological value and condition of the site; opportunities for alignment with external activities; remedial actions for unforeseen impacts and allocated roles and responsibilities.

7.8. Ecologist's Issues (RSK)

Credit		Requirements
LE 02, 03, 04 & 05	Pre-requisite	Requires confirmation of compliance against all relevant UK and EU or international legislation relating to the ecology of the site.
LE 02 Req 4-6	Ecological Survey & Evaluation	Requires that pre-planning, a suitably qualified ecologist produces a survey and evaluation report to determine the ecological baseline of the site and that data is collated and shared with project team to inform the site preparation, design or construction works.
LE 02- LE 05	Land use and Ecology	Requires attendance at coordination environmental workshops to discuss ecological issues associated with the design, construction, maintenance, and ongoing use of the landscape and to agree ecological outcomes and roles and responsibilities and consultations.
LE 03 Req 8	Managing negative impacts of the project	Requires input into demonstrating that negative impacts from site preparation and construction works have been managed according to the hierarchy (see LE 02) and that the loss in ecological value has been minimised
LE 04 Req 5	Ecological Enhancement	Requires that in addition collaboration with representative stakeholders, where potentially valuable, data is provided to the local environmental records centres nearest to, or relevant for, the site.
LE 04 Req 6	Enhancement of ecology	Requires calculations to show change in biodiversity between 75%-94% either Defra 3.1 methodology or BREEAM Ecology Calculator

Credit		Requirements
LE 05 Req 3-4	Management and Maintenance	Requires input into identifying measures to manage/maintain ecology throughout project and input into end user info on Ecology & Biodiversity covering local ecological features, value & biodiversity on or near site.
LE 05 Req 5 - 6	Landscape and ecology management plan (or similar) development	Requires a landscape & ecology management plan, developed to BS 42020:2013 covering at least the first five years after project and must include: handover responsibilities; ecological value and condition of the site; opportunities for alignment with external activities; remedial actions for unforeseen impacts and allocated roles and responsibilities.

7.9 Main Contractor's Issues [TBC]

Issues for Main Contractor*		
Credit		Requirements
Man 03 Req 1 - 22	Responsible Construction Practices	Requires that any party, who at any stage, manages the construction site: - Uses Legally harvested and traded timber'. - Operates an EMS which is third party certified (e.g., ISO 14001) - Implements best practice pollution prevention policies. - Uses a BREEAM AP (within Ridge appointment) - Achieves two credits plus innovation for 'Responsible Construction Management'. (Average CCS score of 39 with all sections averaging 13 or greater) - Monitors and reports construction site impacts including energy, water and transportation of construction materials and waste
Man 04 Req 1-5	Commissioning - Testing Schedule and Responsibilities	Requires that the commissioning, testing, responsibilities, and standards are identified within the budget and programme of works.
Man 04 Req 8-10	Testing and Inspecting Building Fabric	The contractor accounts for air tightness and thermographic testing to ensure 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 (prior to handover) of two building user guides (a non-technical guide for building occupiers and a technical guide for FM). Also, that a draft is developed and discussed with users (where known) and two training schedules are prepared, one (non-technical) for the building occupiers, and a second, (technical version) for the FM team
Man 05 Req 1-2	Aftercare Support	Requires aftercare support to the building occupiers with: - A handover meeting covering BUG, training schedules, and key design information; - On site FM training; - Weekly attendance on site for the first 4 weeks & 12 month Longer term aftercare e.g., helpline
Hea 02 Req 1	Indoor Air Quality Plan	Requires that an indoor air quality plan will be produced and implemented in accordance with BRE Guidance Note GN06.
Hea 02 Req 5-10	Post Construction Indoor Air Quality Measurement	Requires post construction, pre-occupancy testing to ensure that the formaldehyde concentration in indoor air does not exceed 100 µg/ m ³ averaged over 30 minutes, the total volatile organic compound (TVOC) concentration does not exceed 300 µg/ m ³ over 8 hours. Where levels are found to exceed these limits, the project team confirms 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.

Issues for Main Contractor*		
Credit		Requirements
Hea 05 Req 1a	Sound Insulation	Requires pre-completion testing by a compliant test body in accordance with the requirements of Section 7 of HTM 08-01 to achieve performance standards of Section 2 of HTM 08-01 Table 3 & Table 4 and $L'_{nT,w} < 65\text{dB}$ for floors over noise-sensitive rooms
Hea 05 Req 1b	Indoor Ambient Noise Levels	Requires pre-completion testing by a compliant test body in accordance with the requirements of Section 7 of HTM 08-01 to demonstrate that all rooms do not exceed the indoor ambient noise requirements for noise intrusion from external sources in Table 1 of HTM 08-01 and that the internal noise from mechanical and electrical services does not exceed the values in Table 2
Hea 05 Req 1c	Room Acoustics	Requires installation of a specification compliant with the HTM08-01 section 2 relating to sound absorption criteria demonstrated by site inspection by the developer or SQA to confirm that a compliant specification has been installed.
Ene 06 Req 1-4	Energy Efficient Transportation Systems	Requires a lift transport analysis and energy consumption calculation and specification to include energy efficient features and justification that a regen unit will NOT save energy.
Mat 03 Pre-requisite	Responsible Sourcing	Requires that all timber used within the project will be legally harvested and traded timber.
Mat 03 Req 3	Measuring Responsible Sourcing	Requires materials to be sourced with appropriate responsible sourcing certification (e.g., BES6001 / ISO14001 / FSC / CSA / MTCC / PEFC / SFI etc.) & 20% of available points achieved for Superstructure, substructure, finishes and hard landscaping.
Wst 01 Req 3 - 4	Construction Resource Efficiency	Requires Resource Management Plan to be used, and that non-hazardous construction waste is less than 7.5 m^3 or 6.5 tonnes per 100m^2 GIFA.
Wst 01 Req 5 - 6	Diversion of resources from landfill	Requires that 70% (by volume) of non-hazardous waste generated by the project is diverted from landfill and that 80% (by volume) of non-hazardous demolition waste generated by the project is diverted from landfill.
LE 02-05	Land use and Ecology	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 attendance at coordination environmental workshops to discuss ecological issues associated with the design, construction, maintenance and ongoing use of the landscape and implementation of all recommended ecological solutions and monitoring of construction impacts.

8. SUMMARY AND RECOMMENDATIONS

In the preassessment meeting a target was identified to achieve an Excellent BREEAM UK NC V6 rating with a score of 74.58% which provides a contingency of 4.58%.

Section 6.0 above highlights the credits targeted for each option and where there is a time constraint. A more detailed breakdown of each BREEAM target is provided in Appendix A.

It is recommended that each discipline review the suggested target and ensure as a minimum that the necessary elements are incorporated into the design documentation to achieve an 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

5020743 - Withington Clinical Diagnostic Centre

BREEAM UK New Construction V6, Healthcare, Fully Fitted

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

Report Prepared By: Wendy Broomhead

Report Checked by: Beth Custnie

Date: 16.01.23

BRE Registration

TBC

Results Summary			
Sector	Total credits Available	Weighting	Excellent Target
Management	21	11.0%	10.47%
Health & Wellbeing	18	14.0%	10.11%
Energy	23	16.0%	12.52%
Transport	12	10.0%	5.83%
Water	9	7.0%	3.88%
Materials	14	15.0%	11.78%
Waste	9	6.0%	4.66%
Land Use & Ecology	13	13.0%	7.00%
Pollution	12	8.0%	5.33%
Total Predicted Score			71.58%
Innovation	10	10.0%	3%
Total Score			74.58%
BREEAM Rating			EXCELLENT

Key to Responsibilities		
Role	Company	Ref
Client	Manchester University NHS Foundation Trust	MFT
Project Manager	Manchester University NHS Foundation Trust	MFT
QS	RLB	RLB
Architect	Day	Day
M&E Consultant	Stephen Hunt & Associates	SHA
Structural & Civil Eng	CCS Consulting	CCS
Acoustician	TBC	Acoustician
Ecologist	RSK Environmental	RSK
BREEAM Assessor & AP & LCA	Ridge & Partners LLP	Ridge
Main Contractor	TBC	Contractor
M&E Sub Contractor	TBC	M&E Sub
Landscape Architect	TBC	LA

Notes:

1) Shading Denotes Mandatory Credit for Excellence

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

<https://files.bregroup.com/breeam/technicalmanuals/sd/uk-new-construction-version-6>

3) Yellow shading shows changes from previous issue

Assessment Issue	Credits Available	Weighted worth of 1 credit	Credit Information		Target	Risk	Responsibility
			Full details available at - https://files.bregroup.com/breem/technicalmanuals/sd/uk-new-construction-version-6				
MANAGEMENT							
Man01	Project Brief and Design						
Req 1-3	Project Delivery Planning	1	0.52	Prior to the end of 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 how the stakeholder contributions and consultation process influences the Initial Project Brief, Project Execution Plan, Communications Strategy & Concept Design	1	High	MFT
Req 4-7	Stakeholder Consultation (Interested Parties)	1	0.52	Prior to the end of RIBA Stage 2 Fully BREEAM compliant consultation WILL NOT have occurred with all interested parties. It must be demonstrated that the consultation has influenced the Project Brief and Concept Design. Prior to the end of RIBA Stage 4 , all interest parties give and receive feedback. (for healthcare, buildings consultation must be carried out by an independent party e.g. DQI, AEDET).	0		
Req 8	Pre-Requisite - BREEAM AP			The project team and client formally agree (contract or letters of appointment) strategic performance targets, including the BREEAM rating, early in the design process.		Low	MFT
Req 9	BREEAM AP (Concept Design)	1	0.52	Ridge to provide ongoing support throughout RIBA Stage 2 with meetings attended by BREEAM AP plus guidance and reports highlighting risks, opportunities and targets and stage evidence assessed. Ongoing with Ridge	1	Low	Ridge
Req 11-12	BREEAM AP (Developed Design)	1	0.52	Criteria 8 & 9 are achieved and the appointed BREEAM AP: - Works with the project team, including the client, to consider the links between BREEAM issues and assist them in maximising the project's overall performance against BREEAM throughout Developed Design (RIBA Stage 3) - Monitor progress against the performance targets throughout all stages - Identify risks and opportunities related to the achievement of the targets agreed - Provide feedback to the project team as appropriate - Monitor and coordinate the generation of appropriate evidence by the project team.	1	Low	MFT/ Ridge
Man02	Life Cycle Cost and Service Life Planning						
Req 1-3	Elemental Life Cycle Cost	2	0.52	It is assumed that, prior to the end of RIBA Stage 2 , a competent person carries out an elemental life cycle costing analysis together with elemental options appraisals in accordance with PD 156865:2008. The LCC should show future replacement costs over 20, 30, 50 or 60 years and include service life, maintenance and operation cost estimates and be used to influence design and specification. Note this also needs to be co-ordinated with Stage 2 superstructure LCA options for Mat 01 innovation credit i.e. more options need to be considered. Ridge to provide a list of options after consultation with the team. Appointment to be confirmed by MHT	2	Low	RLB or Ridge
Req 4-5	Component Level LCC Plan	1	0.52	It is assumed that, prior to the end of RIBA Stage 4 a competent person carries out a component level LCC plan in line with PD 156865:2008. Where present, the LCC plan should include: Envelope; Services; Finishes & External Spaces. The component level LCC must be used to influence design and specification. Note this also needs to be co-ordinated with Stage 4 superstructure LCA options for Mat 01 innovation credit i.e. more options need to be considered. Ridge to provide a list of options after consultation with the team. Appointment to be confirmed by MHT or Contractor	1	Low	RLB or Ridge
Req 6	Capital Cost Reporting	1	0.52	Report the capital cost for the building in £k/m2 to the Assessor for reporting to the BRE via the BREEAM Spreadsheet	1	Low	RLB
Man03	Responsible Construction Practices Minimum standard: Req 7 for Excellent, Req 8-9 for Outstanding						
Req 1	Pre-requisite: Timber			It is assumed that all timber and timber based products used on the project are 'Legally harvested and traded timber'.		Low	Cont'
Req 2-4	Environmental Management	1	0.52	It is understood that all demolition/site preparation works will be undertaken by the main contractor. It is assumed that the main contractor will: - Operate an EMS e.g. ISO14001 and Implement best practice pollution prevention policies and procedures.	1	Low	Contractor

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://files.bregroup.com/breeam/technicalmanuals/sd/uk-new-construction-version-6	Target	Risk	Responsibility
Req 5	Pre-requisite for BREEAM AP	X	X	The client and contractor formally agree BREEAM Rating required (Excellent).	X	Low	MFT
Req 6	BREEAM AP (Site)	1	0.52	Ridge will be appointed as BREEAM AP for RIBA Stage 4-6 : - Works with the project team, including the client, to consider the links between BREEAM issues and assist them in achieving the project's performance targets throughout the Construction, Handover and Close Out stages. - Monitors construction progress against the performance targets agreed - Identifies risks and opportunities related to the procurement and construction process - Provides feedback to the contractor and the project team - Monitors and coordinates the generation of appropriate evidence by the project team	1	Low	MFTL / Ridge/ Contractor
Req 7	Responsible Construction Management (Credit 1)	1	0.52	It is understood that all demolition/site preparation works will be undertaken by the main contractor. It is assumed that the main contractor will achieve the requirements of the 9no. ticked items within Table 4.1 of the BREEAM V6 manual (see GN22 for further information)or an average score of 27 with no section scoring an average of under 9 using the Considerate Constructors Scheme. Note innovation credit is also targeted which requires an average score of at least 39 and all sections achieving an average score of at least 13	1	Low	Contractor
Req 8-9	Responsible Construction Management (Credit 2)	1	0.52	In addition to Req. 7 (above), it is assumed that the contractor will achieve an additional 6no. items from the remaining 10no. unticked items in Table 4.1.or an average score of 35 with no section scoring an average of under 11 using the Considerate Constructors Scheme. Note innovation credit is also targeted which requires an average score of at least 39 and all sections achieving an average score of at least 13	1	Low	Contractor
Req 10	Monitoring of Construction- Site Impacts- Pre-requisite	X	0.52	It is assumed that responsibility has been assigned to an individual(s) for monitoring, recording and reporting energy use, water consumption and transport data throughout the build programme.	X	Low	Contractor
Req 11 - 18	Monitoring of Construction- Site Impacts (Energy and Water)	1	0.52	It is assumed that the appointed individual sets targets for, and monitors site energy consumption in kWh and also reports kgCO2, and kgCO2/project value. Targets are set for potable water consumption (m3) usage on site, and this is monitored throughout the programme.	1	Low	
Req 19- 22	Monitoring of Construction- Site Impacts (Transport)	1	0.52	It is assumed that the appointed individual will set targets for, and monitor data on transport of construction materials and waste. KgCO2eq, km should be reported separately for materials and waste.	1	Medium	
Man04	Commissioning and Handover Minimum Standard: Req 1-5 & 11 for Very Good & Above						
Req 1-5	Commissioning - Testing Schedule and Responsibilities	1	0.52	Appoint an appropriate team member to monitor and programme pre-commissioning, commissioning and testing. A schedule of commissioning is prepared, identifying appropriate timescales and standards e.g. CIBSE, BSRIA. Where a BMS is installed, carry out commissioning and training as per the BREEAM criteria (req 3). The contractor accounts for commissioning, testing, responsibilities and standards within budget and programme of works.	1	Low	SHA/ MEP Sub/Contractor
Req 6-7	Commissioning - Design and Preparation	1	0.52	The above credit is achieved and an appropriate team member, not involved in installation works, is appointed during design to undertake design reviews, provide commissioning management input and manage commissioning performance testing and handover / post-handover stages . For a building with complex systems, a specialist commissioning manager must be appointed.	1	Low	SHA/ MEP Sub
Req 8-10	Testing and Inspecting Building Fabric	1	0.52	Criteria 1-5 is achieved and an air tightness survey, and thermographic survey are undertaken to QA integrity of the building fabric, continuity of insulation, avoidance of thermal bridging and air leakage paths. Any defects found are rectified.	1	High	Contractor
Req 11- 12	Handover	1	0.52	Prior to handover, two building user guides are developed - a non technical guide for building occupiers and a technical guide for FM. A draft copy is developed and discussed with users first, where building occupiers are known. Two training schedules are prepared, one as a non-technical training schedule for the building occupiers, and a technical version for FM team.	1	Low	Contractor

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information	Target	Risk	Responsibility
				Full details available at - https://files.bregroup.com/breeam/technicalmanuals/sd/uk-new-construction-version-6			
Man05	Aftercare	Minimum standard: Req 3 for Excellent or Outstanding					
Req 1-2	Aftercare Support	1	0.52	Aftercare is provided to building occupiers as follows: - Meeting is held to cover BUG and training schedules, and to present key design information - On site FM training - Weekly attendance on site for the first 4 weeks - Longer term aftercare for 12 months e.g. helpline 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	Commissioning - Implementation	1	0.52	Commissioning activities will continue over a 12-month period covering: - Identification of changes made by the end user that might have caused impaired/ improved performance. - 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. - Production of monthly reports comparing sub-metered energy performance to the predicted one - Identification of inefficiencies and areas in need of improvement. - 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	High	MEP Sub/ SHA
Req 4-7	Post Occupancy Evaluation	1	0.52	It is assumed that a Post Occupancy Evaluation will be undertaken by an independent third party one year after building occupation, to gain building performance feedback and to disseminate this information via a case study in order to share good practice and lessons learned. The client commits funds to pay for the POE in advance, evidence of appointment needed to award the credit.	1	Low	MFT
HEALTH & WELLBEING							
Hea01	Visual Comfort						
Req 1-3	Control of Glare from Sunlight	1	0.78	Glare control is provided to appropriate areas, this should not result in increased energy consumption e.g. vertical blinds used so that direct glare can be removed by sunlight is let in. Note blinds need to have openness factor of <1% and fabric light transmittance of <0.1(10%)	1	Medium	DAY
Req 4	Daylighting	2	0.78	It is NOT assumed that the following can be achieved: Staff and public areas, diagnostic and consulting rooms achieve 2% average daylight factor and a uniformity ratio of at least 0.3 over at least 80% of relevant building areas.	0		
Req 5-7	View Out	1	0.78	It is currently NOT assumed that an adequate view out is provided to sufficient areas. To achieve the credit: - 95% of the applicable floor areas are within 8m of an external wall which has a window or permanent opening, AND the window or opening must be ≥ 20% of the surrounding wall area. - Where the room depth is 14m, the percentage of window or opening must instead be the same as, or greater than, 30% of the surrounding wall area (See Table 1.0 BS8206). - The view out must be a view of a landscape or buildings (rather than just the sky) at seated eye level (1.2– 1.3m) within the relevant building areas and should ideally be through an external window.	0		
Req 8-14	Internal and External Lighting Levels, Zoning and Control	1	0.78	For Internal lighting: - Designed in accordance with the appropriate maintained Illuminance levels (in LUX) recommended by SLL Code for Lighting 2012. - Areas with computer screens complies with CIBSE Lighting Guide 7 sections 2.4, 2.13 - 2.15, 2.20 and 6.10 - 6.20. - Areas are zoned and controlled appropriate for their use and location i.e. office areas require separately zoned / controlled areas for each 40m2 (see credit criteria). - Teaching/seminar / lecture rooms have controls in accordance with CIBSE LG 5 For External lighting: - Areas within the construction zone comply with BS5489-1:2013 & BS12464-2:2014 Part 2.	1	Low	SHA / MEP Sub

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information	Target	Risk	Responsibility
				Full details available at - https://files.bregroup.com/breeam/technicalmanuals/sd/uk-new-construction-version-6			
Hea02	Indoor Air Quality						
Req 1	Pre-Requisite - Indoor Air Quality Plan			An indoor air quality plan will be produced and implemented in accordance with Guidance Note GN06. The indoor air quality plan must consider the following: 1.a Removal of contaminant sources 1.b Dilution and control of contaminant sources, including: 1.b.i Air quality requirements of specialist areas such as laboratories, where present 1.c Procedures for pre-occupancy flush out and purge ventilation 1.d Third party testing and analysis 1.e Maintaining good indoor air quality in-use 1.f Any relevant local authority plans or policies (for example, Air Quality Management Areas or Local Air Quality Action Plans		Low	Contractor
Req 2	Ventilation	1	0.78	It is not assumed that the building will be designed to minimise the concentration and recirculation of pollutants by due to the proximity of car parking and appliance bay to the openable windows: 1. Providing fresh air in accordance with the criteria of the relevant standard for ventilation. 2. Designing ventilation pathways to minimise build-up of air pollutants as follows: a. In air conditioned and mixed mode areas, air intakes are 10m horizontally from exhausts and sources of external pollution. OR are designed in accordance with the relevant standards b. In naturally ventilated areas: openable windows/ventilators >10m from sources of external pollution. 3. HVAC systems incorporate filtration to minimise external air pollution, as in BS EN 16798-3:2017. The specified filters should achieve supply air classification of at least SUP 2 4. Occupied spaces have carbon dioxide (CO ₂) or air quality sensors specified in accordance with Building Regulations ADF2 and: - In mechanically ventilated buildings/spaces, sensors are linked to the mechanical ventilation system and provide demand-controlled ventilation to the space. - In naturally ventilated buildings/spaces, sensors either have the ability to alert the building owner or manager when CO ₂ levels exceed the recommended set point, or are linked to controls with the ability to adjust the quantity of fresh air, e.g. automatic opening windows or roof vents. - The total number of sensors, & the net internal area of relevant areas covered by the sensors, is reported via the BREEAM Scoring and Reporting Tool. 5. The ventilation strategy provides adequate ventilation rates throughout the year, including sufficient airflow rates in summer to prevent overheating and maintain required thermal comfort conditions, in accordance with: CIBSE AM10(for naturally ventilated buildings)and CIBSE AM13 (for mixed-mode buildings)	0	possible	
Req 3	Emissions from Construction Products (Credit 1)	1	0.78	It is assumed that at least three out of the five product types meet the emission limits, testing requirements and any additional requirements listed in Table 5.11. Where wood-based products are not one of three selected product types, all wood-based products used for internal fixtures and fittings must be tested and classified as formaldehyde E1 class as a minimum.	1	Possible	DAY/ Contractor
Req 4	Emissions from Construction Products (Credit 2)	1	0.78	It is assumed that NOT all of the product types listed meet the emission limits, testing requirements and any additional requirements listed in Table 5.11.	0		
Req 5-10	Post Construction Indoor Air Quality Measurement	1	0.78	It is assumed that: - The formaldehyde concentration in indoor air is measured post construction (but pre-occupancy) and does not exceed 100 µg/ m³ averaged over 30 minutes. -The total volatile organic compound (TVOC) concentration in indoor air is measured post construction (but pre-occupancy) and does not exceed 500 µg/ m³over 8 hours. -Where levels are found to exceed these limits, the project team confirms 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	Contractor
Hea04	Thermal Comfort						
Req 1-4	Thermal Modelling	1	0.78	A full dynamic thermal modelling will be carried out in accordance with Health Technical Memorandum 03-01 Specialised ventilation for healthcare premises. Thermal comfort levels in patient and clinical areas must be in accordance with the temperature ranges set out in HTM 03-01, Appendix 2. Furthermore, internal summer temperatures must not exceed 28°C dry bulb for more than 50 hours per year (as defined in HTM 03-01, paragraph 2.15). Other occupied spaces not covered in HTM03-01 Appendix 2 should be in accordance with CIBSE Guide A Environmental Design. For air conditioned buildings the PMV (predicted mean vote) and PPD (percentage people dissatisfied) is reported.	1	Medium	SHA

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information	Target	Risk	Responsibility
				Full details available at - https://files.bregroup.com/breeam/technicalmanuals/sd/uk-new-construction-version-6			
Req 5-8	Design for Future Thermal Comfort	1	0.78	It is currently assumed that the dynamic thermal modelling will demonstrate compliance for the above criteria when run for a projected climate change environment (see Relevant definitions in the BREEAM V6 Manual), however this credit will be investigated by the M&E Consultant. Note that if the thermal comfort criteria are not met, the credit may still be achieved where a report is 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 must be reported via the BREEAM assessment scoring and reporting tool.	1	Medium	SHA
Req 9-11	Thermal Zoning and Controls	1	0.78	The thermal modelling analysis has informed 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	SHA/ MEP Sub
Hea05 Acoustic Performance							
	Sound Insulation	1	0.78	It is assumed that: -All rooms will achieve the performance standards set out in Section 2 of HTM 08-01: Acoustic Design Requirements, 2013 determined according to the privacy requirements using both Table 3 and Table 4 from HTM 08-01. The weighted standardised impact sound pressure level (L_{nT,w}) must not exceed 65dB for floors over noise-sensitive rooms, following the guidance in HTM 08-01. -A programme of pre-completion testing is carried out by a compliant test body in accordance with the requirements of Section 7 of HTM 08-01.	1	Low	Acoustician/DAY/ Contractor
	Indoor Ambient Noise level	1	0.78	It is assumed that: -The indoor ambient noise requirements for noise intrusion from external sources in Table 1 of HTM 08-01 are not exceeded. The values for internal noise from mechanical and electrical services in Table 2 of HTM 08-01 are not exceeded. -A programme of pre-completion testing is carried out by a compliant test body in accordance with the requirements of Section 7 of HTM 08-01.	1	Low	Acoustician/DAY/ Contractor
	Room Acoustics	1	0.78	It is assumed that: -The acoustic environment (Control of reverberation and sound absorption): achieve the requirements relating to sound absorption set out in Section 2 of HTM08-01. -Installation of a specification compliant with the HTM08-01 criteria will demonstrate compliance. A site inspection by the developer or SQA is required to confirm that a compliant specification has been installed.	1	Low	Acoustician/DAY/ Contractor
Hea06 Security							
Req 1-3	Security of Site and Building	1	0.78	It is assumed that: - A Suitably Qualified Security Specialist (SQSS) conducts an evidence-based Security Needs Assessment (SNA) during or prior to Concept Design (RIBA Stage 2 or equivalent). - The SQSS develops 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 are 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	MFT/DAY

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://files.bregroup.com/breem/technicalmanuals/sd/uk-new-construction-version-6	Target	Risk	Responsibility
Hea07 Safe and Healthy Surroundings							
Req 1-6	Safe Access	1	0.78	It is assumed that ALL of these requirements will be achieved: - There are compliant dedicated cycle lanes from site entrance to any cycle storage or the cycle storage is adjacent to the back of the public footpath. - Footpaths provide direct access from: Site entrance to building entrance; Car parks to building entrance; Building to outdoor space and Connecting off-site paths to on-site paths - Pedestrian drop-off areas are designed off, or adjoining to, the access road and should provide direct access to other footpaths - Delivery access does not cross pedestrian / cycle routes, amenity areas or pass through parking areas.(or that there are no deliveries) - Where there are delivery areas there is a waiting area adequate turning and parking space for the appropriate delivery vehicles.(or that there are no deliveries) - There is a dedicated waste storage area away from the delivery manoeuvring area or car parking.	1	High	DAY
Req 7	Outside Space	1	0.78	There will be an appropriately sized outside space providing building users with an external amenity area. The outside space must be an outdoor landscaped area open to the sky with appropriate seating areas. It must also be accessible to all building users and away from areas which may cause noise pollution e.g. building services, car parks, busy roads and delivery areas and be non-smoking. Note this could be an existing hospital amenity.	1	Medium	DAY/MFT
ENERGY							
Ene01	Reduction of Energy Use and Carbon Emissions			Minimum standard: 4 Credits for Excellent, 6 for Outstanding + 4no credit for Req 3-5			
Req 1	Energy Performance	9	0.70	An Energy Performance Ratio of 0.7 has been assumed yielding 6 credits. Please provide initial BRUKL brukl.inp file (using ptL2021 software) ASAP to check credit award.	7	Medium	SHA
Req 3-5	Energy Modelling and Reporting	4	0.70	It is assumed that the following is required: -Achieve Ene 04 req 2 Passive Design Analysis & Hea04 Req 1-4 Thermal Modelling -Estimate the occupancy, energy use for unregulated energy loads and management practices. -Undertake detailed energy modelling to predict the building energy consumption based on CIBSE TM54:2022 Evaluating operational energy use at the design stage. The energy modelling should be carried out using a Dynamic Simulation Model (DSM) with advanced capabilities for HVAC system and controls (Eg APACHE) -Undertake sensitivity analysis to determine the factors that can significantly impact building energy consumption. -Based on the results of the sensitivity analysis, and in discussion with the project team, the client and the prospective occupier devise scenarios to explore how high impact factors might influence the building energy consumption. - Undertake scenario modelling and use these findings to inform improvements to design of the building and to operational, maintenance, and handover strategies. - Determine an energy target for the building based on the results of the scenario modelling. - At the post-construction stage, the scenario modelling should be repeated to reflect the post construction building specification and, if necessary, adjust the energy target Assumed that this is not in current scope but could be added in.	4	High	SHA
Ene02	Energy Monitoring			Minimum Standard: Req 1-4 (first credit) for Very Good and above			
Req 1-4	Sub-metering of Major Energy Consuming Systems	1	0.70	Energy metering systems are installed that enable at least 90% of the estimated annual energy consumption of each fuel to be assigned to the various end-use categories of energy consuming systems. - The energy consuming systems in buildings with a total useful floor area greater than 1,000m2 are metered using an appropriate energy monitoring and management system. - The systems in smaller buildings are metered either with an energy monitoring/ management system or with separate accessible energy sub-meters with pulsed or other open protocol communication outputs, to enable future connection to an energy monitoring and management system. - The end energy consuming uses are identifiable to the building users, for example through labelling or data outputs.	1	Medium	SHA/ MEP Sub
Req 5	Sub-metering of High Energy Load and Tenancy Areas	1	0.70	An accessible energy monitoring and management system or separate accessible energy sub-meters with pulsed outputs is required, covering a significant majority of the energy supply to relevant function areas or departments within the building/unit OR, where there are no separate functional areas, metering is required by floor plate. This can be costly where a gas-fired heating system is provided. Please also note the methodology on p142 of BREEAM Manual Version 6 regarding small functional areas and combining end use categories.	1	Medium	SHA/ MEP Sub

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Ene03 External lighting							
	External lighting	1	0.70	It is assumed that: - The average initial luminous efficacy of the external light fittings within the construction zone is not less than 70 luminaire lumens per circuit Watt. - All external lights have daylight sensors & PIRs in areas of intermittent pedestrian traffic. The external lighting criteria apply to external new and existing lighting within the construction zone of the assessed building.	1	Medium	SHA / MEP Sub
Ene04 Low Carbon Design							
Req 1-4	Passive Design Analysis	1	0.70	Carry out a Passive Design Analysis at RIBA Stage 2 and demonstrate that significant passive design measures to reduce the total heating, cooling, mechanical ventilation, lighting loads and energy consumption will be implemented to achieve a reduction in energy demand and CO2 emissions	1	Low	SHA
Req 5-8	Free Cooling	1	0.70	It is assumed that free cooling strategies will not be used exclusively.	0		
Req 9-12	Low Zero Carbon Feasibility Study	1	0.70	It is assumed that the following will be achieved in full : - A feasibility study has been carried out by the completion of the Concept Design stage (RIBA Stage 2) by an energy specialist to establish the most appropriate recognised local (on-site or near-site) low or zero carbon (LZC) energy source(s) for the building/development. - Local LZC technology have been specified in line with the recommendations of the feasibility study and the reduction in regulated CO2 emissions from this is demonstrated.	1	Low	SHA
Ene06 Energy Efficient Transportation Systems							
Req 1	Energy Consumption	1	0.70	It is assumed that the following requirement would be achieved and be included in a BREEAM Contractor Prelims doc: - An analysis of the transportation demand and usage patterns for the building has been carried out to determine the optimum number and size of transport systems. -The energy consumption has been calculated in accordance with BS EN ISO 25745 Part 2 and/or Part 3 - Energy calculation and classification for escalators and moving walks. -The analysis includes one of the following: i. At least two types of system (for each transportation type required); ii. An arrangement of systems (e.g. for lifts, hydraulic, traction, machine room-less); iii. A system strategy which is 'fit for purpose'. -The use of regenerative drives should be considered, where it produces an energy saving greater than the additional standby energy used to support the drives. -The transportation system with the lowest energy consumption is specified.	1	Medium	Contractor
Req 3-4	Energy Efficient Features (Lifts)	1	0.70	It is assumed that the following requirement would be achieved and be included in a BREEAM Contractor Prelims doc: Where lifts are specified that for each lift, the following three energy efficient features are specified: a. The lifts operate in a standby condition during off-peak periods. e.g. 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 and 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 are specified.	1	Medium	Contractor
Ene08 Energy Efficient Equipment							
Ene 08	Energy Efficient Equipment	2	0.83	It is assumed that the following will not be possible: - The building's unregulated energy consuming loads are identified and their contribution to the total annual unregulated energy consumption is estimated. Examples of significant contributors identified to date noting that medical equipment is exempt from complying with the criteria. Are: Domestic Scale White Goods & Healthcare Equipment. the later can be ignored as there are either <50 No. like items or it is exempt. To comply anywhere goods (it is assumed all are domestic scale) must achieve the following ratings(or better) under the EU Energy Efficiency Labelling Scheme: 1. Fridges, fridge-freezers: E rating 2. Washing machines: B rating 3. Dishwashers: D rating 4. Washer-dryers: D -D rating - Note if commercial sized dishwashers or washing machines are specified further restrictions apply..	0	Possible	MFT/SHA/ DAY

Assessment Issue	Credits Available	Weighted worth of 1 credit	Credit Information		Target	Risk	Responsibility
			Full details available at - https://files.bregroup.com/breeam/technicalmanuals/sd/uk-new-construction-version-6				
TRANSPORT							
Tra01	Transport Assessment and Travel Plan						
	Travel Plan	2	0.83	During Concept Design Stage (RIBA Stage 2) a draft travel plan will be created based on a site specific travel assessment. The transport assessment needs to cover as a minimum: a If relevant, travel patterns and attitudes of existing building or site users towards cycling, walking and public transport, to identify relevant constraints and opportunities. b Predicted travel patterns and transport impact of future building or site users. c Current local environment for pedestrians and cyclists, accounting for any age-related requirements of occupants and visitors. d Reporting of the number and type of existing accessible amenities, see Table 7.1 below, within 500m of the site. e Disabled access accounting for varying levels and types of disability, including visual impairment. f Calculation of the existing public transport Accessibility Index (AI) g Current facilities for cyclists. The travel plan includes proposals to increase or improve sustainable modes of transport and movement of people and goods during the building operation and use. the Travel Plan considers all measures as stipulated by the BRE, see Manual for more details. The travel plan is implemented post construction and supported by the building's management in operations. AI calculated as 13.5	2	Medium	MFT/Transport Consultant
Tra02	Sustainable Transport Measures						
Req 1	Pre-requisite			Tra 01 compliant travel plan and transport assessment were produced during design stage.		Medium	MFT/Transport Consultant
Req 2	Sustainable Transport Measures	10	0.83	It is assumed that 5 points will be achieved by implementing Sustainable Transport Measures as per Table 7.4 within the BREEAM Manual. With AI=13.5 It is assumed that the following points will be implemented: - provision of compliant covered cycle storage (because AI >8 we only need 1 space per 20 staff PLUS 1 space per 4 consultant rooms with a minimum of 4 spaces.(1 point) -provide 2 of 4 compliant cycle facilities (showers, changing rooms, lockers, drying space) (1 point) note these could be facilities for staff in the existing hospital. - location of core amenities (1 point) - AI>8 (1 point) - Providing 10% of new car parking spaces with EV Charging (3KV or greater).(1 point) Opportunities for further credits are by demonstrating an operating staff car share system and designating 10% new spaces nearest to this extension for staff car share.(1 point)	5	Possible further 2 credits	Ridge/ DAY/ MFT/ SHA
WATER							
Wat01	Water Consumption						
	Water Consumption	5	0.78	Minimum Standard: One credit for Good and above, Two credits for Outstanding It is assumed that a 25% improvement in water consumption over the notional baseline will be achieved. An example of a specification to achieve this is shown below : ◦ 4l single flush or 4 ltrs effective dual flush WCs ◦ Wash hand basin taps flow rate limited to 5l/min ◦ Shower flow rates limited to 8 l/min ◦ domestic dishwashers 13 ltrs/cycle ◦ kitchenette taps 5 ltrs/min ◦ No washing machines or baths ◦ No urinals / waste disposal unit / commercial dishwashers / commercial washing machines ◦ No grey water / rainwater system In cases where none of the water components and fittings can be assessed on the basis of clinical requirements, the minimum standard is not applicable. Clinical fittings in clinical spaces can be omitted.	2	High	DAY/ MEP Sub
Wat02	Water Monitoring						
Req 1	Water Sub Meters			The main supply to each building will be fitted with a pulsed water meter.		Low	SHA
Req 2-6	Water Sub Meters	1	0.78	The main supply to each building will be fitted with a pulsed water meter. Additionally: - Sub-meters will be provided for any water consuming plant or building areas consuming 10% or more of the building's total water consumption . - Each water meter will have a pulsed output for connection to a BMS. - The sub meters are connected to any existing or proposed BMS - Sub meters are fitted to large water tanks separate to associated changing areas and sanitary areas irrespective of their water consumption levels.	1	Low	SHA

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Wat03 Water Leak Detection and Prevention							
Req 1-2	Leak Detection System	1	0.78	It is assumed that a BREEAM compliant leak detection system will be specified or installed on the buildings water supply.	1	Low	SHAMFT /MEP Sub
Req 3	Flow Control Devices	1	0.78	Although this credit is not applicable to facilities within the clinical areas there is concern for the issue of Legionnaires disease in the general sanitary areas so this credit has therefore not been sought.	0		
Wat04 Water Efficient Equipment							
	Water Efficient Equipment	1	0.78	It is assumed that the design team has identified all unregulated water demands that could be realistically mitigated or reduced. System(s) or processes have been identified to reduce the unregulated water demand a meaningful reduction in the total water demand of the building can be demonstrated. An example would be for external landscaping and planting to be specified as drought tolerant and relies solely on precipitation, during all seasons of the year once established.	1	Low	DAY/ LA
MATERIALS							
Mat01 Environmental impacts from construction products -Building life cycle assessment (LCA)							
Req 3-5	Superstructure	6	1.07	It is assumed that an IMPACT Life Cycle Assessment will be carried at RIBA Stage 2 and will consider LCA options for 4 substantially different superstructure elements followed by a Stage 4 more detailed LCA review on a further 3 options based on the Stage 2 choice. The Mat 01 calculator will need to be submitted to BRE at Stage 2 & 4.	6	Low	Ridge with input from RLB/DAY/
Req 6-7	Substructure and Hard Landscaping Options Appraisal	1	1.07	It is assumed that an IMPACT Life Cycle Assessment will be carried out at RIBA Stage 2 and will consider LCA options for 6 substantially different substructure or hard landscaping elements (at least 2 being sub structure and 2 being hard landscaping). The Mat 01 calculator needs to be submitted to BRE at Stage 2.	1	Low	Ridge with input from RLB/DAY/ CCS
Mat02 Environmental impacts from construction products -Environmental Product Declarations (EPD)							
	Specification of products with a recognised (EPD)	1	1.07	It is assumed that there will NOT be sufficient construction products specified with an Environmental Product Declaration (EPD) to achieve a total EPD points score of at least 20. See BREEAM manual for further details	0	Possible	Contractor
Mat03 Responsible Sourcing				Minimum standard: Req 1 for all BREEAM assessments			
Req 1	Pre Requisite			All timber used within the project will be legally harvested and traded timber.		Low	Cont
Req 2	Enabling Sustainable Procurement	1	1.07	It is assumed that a BREEAM compliant Sustainable Procurement plan has been in place from RIBA Stage 1 to guide specification towards sustainable construction products. The plan must include: - sustainability aims, objectives and strategic targets to guide procurement activities - a requirement for assessing the potential to procure construction products locally where possible - details of procedures in place to check and verify the effective implementation of the sustainable procurement plan. If the plan is applied to several sites, adopted at an organisational level then the plan must also identify the risks and opportunities of procurement against a broad range of social, environmental and economic issues following the process set out in BS ISO 20400: 2017	1	High	MFT
Req 3	Measuring Responsible Sourcing	3	1.07	It is assumed that materials will be sourced by suppliers with appropriate responsible sourcing certification (e.g. BES6001 / ISO14001 / FSC / CSA / MTCC / PEFC / SFI etc.). 2 credit have been targeted requiring 20% of available points to be achieved for Superstructure, substructure , hard landscaping and finishes.	2	High	Contractor

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				Full details available at - https://files.bregroup.com/breeam/technicalmanuals/sd/uk-new-construction-version-6			
Mat05	Designing for Durability and Resilience						
	Protecting vulnerable parts of the building from damage	1	1.07	It is assumed that the building will be designed to incorporate suitable durability / protection measures / designed features / solutions to prevent damage to vulnerable parts of the internal & external building & landscaping, including: - Protection from the effects of high pedestrian traffic in main entrances, public areas and thoroughfares (corridors, lifts, stairs, doors etc.). - Protection against any internal vehicular/trolley movement within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas. - Protection against, or prevention from, any potential vehicular collision where vehicular parking and manoeuvring - Protection from malicious damage to building materials and finishes, in public and common areas where appropriate.	1	Medium	DAY/LA
	Protecting exposed parts of the building from material degradation			It is assumed that: a) key exposed building elements will be designed and specified to limit long and short term degradation due to environmental factors. This can be demonstrated through either: the element or product achieving an appropriate quality or durability standard or design guide, see Table 9.14 in BREEAM V6 NC Manual for more details. OR by carrying out a detailed assessment of the element's resilience when exposed to the applicable material degradation and environmental factors. b) the building includes convenient access to the roof and façade for cost-effective cleaning, replacement and repair in the building's design. c) the roof and façade will be designed to prevent water damage, ingress and detrimental ponding.		Medium	DAY/CCS
Mat06	Material Efficiency						
	Material Efficiency	1	1.07	As no action was undertaken at Stage 1 , the full requirements at ALL RIBA stages have not been met in order for this credit to be targeted.	0		
WASTE							
Wst01	Construction Site Waste Management Minimum standard: One Credit for Outstanding						
Req 1-2	Pre-demolition audit	0	0.67	The Pre Demolition audit credit has been scoped out because there are no existing buildings or hard standings present within the construction zone to be demolished.	0		
Req 3-4	Construction Resource Efficiency	3	0.67	It is assumed that: - Resource Management Plan (RMP) has been developed covering the non-hazardous waste related to on-site construction and dedicated off-site manufacture or fabrication (including demolition and excavation waste) generated by the building's design and construction. The RMP also covers accurate data records on waste arisings and waste management routes. - Non hazardous construction waste will be less than 7.5m³ or 6.5 tonnes per 100m² GIFA.	2	High	Contractor
Req 5-6	Diversion of resources from Landfill	1	0.67	It is assumed that the following percentages of non-hazardous construction (on-site and off-site manufacture / fabrication in a dedicated facility), demolition waste generated by the project have been diverted from landfill: - Non Demolition - 70% by Volume or 80% by tonnage - Demolition - 80% by Volume or 90% by tonnage	1	Low	Contractor
Wst02	Use of Recycled and Sustainably Sourced Aggregates						
Req 2-6	Project Sustainable Aggregate Points	1	0.67	It is assumed that a BREEAM Wst 02 calculator will not be undertaken to calculate the Project Sustainable Aggregate Points which requires the following information: Identify all aggregate used and types on the project, then determine their quality and source location and distance aggregates are transported.	0	POSSIBLE	Contractor
Wst03	Operational Waste Minimum standard: One Credit for Excellent & Outstanding						
Req 1	Dedicated space for recyclables	1	0.60	It is assumed that a dedicated labelled recycling area, adequately sized to serve the development and accessible to building occupiers and waste contractors will be provided. This space will be sized to meet the client's requirements. This can be provided as part of the sitewide existing centralised bin store or as a local external dedicated store for the new extension (as a guide a designated area of 2m² per 1000m² net floor area required for the extension plus 4 m2 per 1000m2 for the existing hospital would be required in a centralised hospital wide waste storage area that also had additional space for general waste and clinical waste). Additionally, for Healthcare buildings , in addition to the standard criteria, the waste facilities are compliant with the relevant NHS guidelines for that part of the UK. England Use HTM 07-01 (England version) where the criterion refers to the use of relevant NHS guidelines for the country.	1	High	MFT
Req 2	Compactor / Baler / Composting			It is assumed that a static compactor / baler and a compliant vessel for composting organic waste will NOT BE REQUIRED for this extension because there is no food preparation in the extension and insufficient waste will be generated to require a compactor baler. This will need to be justified.			MFT

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Wst05	Adaptation to Climate Change						
	Resilience of structure, fabric, building services and renewables installation	1	0.67	It is assumed that the team will conduct a Climate Change Adaptation Strategy Appraisal using: 1. A systematic risk assessment to identify the impact of expected extreme weather conditions arising from climate change on the building over its projected life cycle. The assessment covers the installation of building services and renewable systems, as well as structural and fabric resilience aspects and includes: - Hazard identification - Hazard assessment - Risk estimation - Risk evaluation - Risk management 2. Develop recommendations or solutions based on the climate change adaptation strategy appraisal, before or during Concept Design (Stage 2) , that aim to mitigate the identified impact. 3. Provide an update during Technical Design demonstrating how the recommendations or solutions proposed at Concept Design have been implemented where practical and cost effective. Omissions have been justified in writing by the assessor.	1	Low	DAY with input from CCS & SHA
Wst06	Design for Disassembly and Adaptability						
Req 1-2	Design for disassembly and adaptability - Recommendations	1	0.67	It is assumed that the team will: 1. Conduct a study to explore the ease of disassembly and the functional adaptation potential of different design scenarios by the end of Concept Design (Stage 2) . See full credit guidance within BREEAM V6 NC manual for the minimum considerations within the report. 2. Develop recommendations or solutions based on the study during or prior to Concept Design (Stage 2) that aim to enable and facilitate disassembly and functional adaptation.	1	Medium	DAY with input from CCS & SHA
Req 3-5	Design for disassembly and adaptability - Implementation	1	0.67	It is assumed that the team will: 1. Achieve the above credit. 2. During Technical Design Stage , provide an update on how the recommendations or solutions have been implemented where practical & cost effective.(Omissions must be justified) and on any changes to the recommendations/solutions. 3. Produce a building adaptability and disassembly guide to communicate the characteristics allowing functional adaptability and disassembly to prospective users.	1		
LAND USE & ECOLOGY							
LE01	Site Selection						
Req 1	Previously Developed land	1	1.00	It is assumed that < 75% of the development's footprint (including building, hard landscaping, and temporary works) is on previously developed land. Therefore credit cannot be achieved	0		
Req 2-3	Contaminated land	1	1.00	It is unlikely that the site can be classed as contaminated or requiring remediation to enable development.	0		
LE02	Identifying and understanding the risks and opportunities for the project						
Req 1-2	Pre-requisite			It is assumed that there will be remodelling of some external areas as part of this contract and that assessment route 2 is chosen. It is assumed that the client or contractor will confirm compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site. Environmental Champion (EC) assumed to be MHT PM			MHT/ RSK
Req 4-6	Ecological Survey & Evaluation	1	1.00	It is assumed that a Suitably Qualified Ecologist has been appointed at a project stage that ensures early involvement in site configuration & can influence planning decisions AND prior to planning application (ideally RIBA Stage 1/2), an appropriate level of survey and evaluation has been carried out to determine the ecological baseline of the site, taking account of the zone of influence to establish: - Current and potential ecological value and condition of the site, and related areas within the zone of influence. - Direct and indirect risks to current ecological value - Capacity and feasibility for enhancement of the ecological value of the site Data are collated and shared with project team to inform the site preparation, design or construction works.	1	Low	RSK
Req 7-10	Determining Ecological Outcome	1	1.00	It is assumed that prior to planning application, the project team liaise and collaborate with representative stakeholders to identify and consider ecological outcome for the sites (appropriate to the scale and type of development) for the project, taking into account the Route 2 hierarchy of actions listed in the table in the BREEAM V6 Manual. It is suggested that Stage 2, 3/4, 5 & 6 ecology workshops are held co-ordinated by 'Environmental Champion' to demonstrate compliance. See email ecology management	1	High	MFT(EC)/ ALL/RSK

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LE03 Managing negative impacts on ecology							
Req 1	Pre-requisite	X	X	It is assumed that LE02 will be achieved (see above).	X	Medium	MFT/RSK
Req 2-4	Planning, Liaison, Implementation & Data	1	1.00	It is assumed that roles and responsibilities will be clearly defined, allocated and implemented to support successful delivery of project outcomes at an early enough stage to influence the concept design or design brief Site preparation and construction works have been planned for and are implemented at an early project stage to optimise benefits and outputs The project team has been liaising and collaborating with representative stakeholders, taking into consideration data collated and shared, have implemented solutions, and measures have been selected, during site preparation and construction works. It is suggested that an E-PEP with roles and responsibilities etc is issued plus Stage 2, 3/4, 5 & 6 ecology workshops are held, co-ordinated by 'Environmental Champion' to demonstrate compliance. See email ecology management	1	High	MFT(EC)/ ALL/ RSK
Req 8 (Route 2)	Managing negative impacts of the project	2	1.00	It is assumed that negative impacts from site preparation and construction works have been managed according to the BREEAM hierarchy (see Assessment route 2) and that the ecologist confirms minimum loss of ecological value has not occurred.	0	Possible	Day/ RSK/LA
LE04 Change and Enhancement of Ecological Value							
Req 1-2	Pre-requisite	X	X	It is assumed that 1 credit in LE03 has been demonstrated & the client or contractor confirms compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site.	X	High	MFT(EC)/ RSK
Req 5 (Route 2)	Liaison, implementation and data collation	1	1.00	It is assumed the project team have been liaising and collaborating with representative internal & external stakeholders, taking into consideration data collated and shared, have implemented the solutions and measures selected in a way that enhances ecological value in the following order: - On site, and where this is not feasible, - Off site within the zone of influence. It is suggested that Stage 2, 3/4, 5 & 6 ecology workshops are held co-ordinated by 'Environmental Champion' to demonstrate compliance. See email ecology management	1	High	MFT(EC)/ ALL
Req 6 (Route 2)	Enhancement of ecology	3	1.00	It is assumed that 1 credit can be awarded based on the calculation of the change in ecological value occurring as a result of the project. This is calculated in accordance with the process set out in GN 36 using the BREEAM LE04 calculator or by using the Defra 3.1 methodology. To achieve 1 credits the change in biodiversity needs to be between 75% and 94%	1	High	RSK/ LA/ Day
LE05 Long Term Ecology Management and Maintenance							
Req 1-2	Pre-requisite	X	X	It is assumed that the client or contractor will confirm that compliance is being monitored against all relevant UK, EU and international standards relating to the ecology of the site. LE03 criteria 8 is achieved and at least 1 credit is achieved against LE04	X	High	MFT(EC)/ RSK
Req 3-4	Management and maintenance throughout the project	1	1.00	It is assumed that the ecological outcomes defined in LE 02,03 & 04 will be monitored and the effectiveness of the mitigation and enhancement measures will be reviewed to ensure they are implemented. A section on Ecology and Biodiversity will be included as part of the building owner information supplied, to inform the owner or occupant of local ecological features, value and biodiversity on or near the site. This should include detailed management and maintenance plans as required by landscape and asset managers as well as relevant parts of the handover information for occupiers written in a format that encourages understanding and supportive behaviours. It is suggested that Stage 2, 3/4, 5 & 6 ecology workshops are held and co-ordinated by 'Environmental Champion' to demonstrate compliance. See email ecology management	1	High	MFT(EC)/ALL/Contractor

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://files.bregroup.com/breeam/technicalmanuals/sd/uk-new-construction-version-6	Target	Risk	Responsibility
Req5-6	Landscape and ecology management plan	1	1.00	A landscape and ecology management plan, or similar, will be developed in accordance with BS 42020:2013 section 11.1 covering at least the first five years after project completion & includes: - Actions and responsibilities, prior to handover, to give to relevant individuals - The ecological value and condition of the site at handover and how this is expected to develop and change over time - Identification of opportunities for ongoing alignment with activities external to the development project & which supports the aims of BREEAM's Strategic Ecology Framework - Identification and guidance's to trigger appropriate remedial actions to address previously unforeseen impacts - Clearly defined and allocated roles and responsibilities. The landscape and management plan or similar is updated as appropriate to support maintenance of the ecological value of the site.	1	High	RSK/LA
POLLUTION							
Pol01	Impact of Refrigerants						
Req 2	Buildings With Refrigerants Prerequisite			It is assumed that the following will not be achieved: All systems with electric compressors comply with the requirements of BS EN 378:2016 (parts 2 and 3). Refrigeration systems containing ammonia comply with the Institute of Refrigeration Ammonia Refrigeration Systems code of practice. If the below credits are targeted then this requirement will need to be achieved prior			
Req 3-5	Impact of Refrigerant	2	0.67	It is currently assumed that the refrigerants specified will NOT achieve Direct Effect Life Cycle CO ₂ equivalent emissions of ≤1000kg CO ₂ e/kW cooling capacity (note: both credits can be achieved if systems with refrigerants having GWP<10 can be specified)	0	Possible	SHA
Req 6-7	Leak Detection System	1	0.67	All systems are not hermetically sealed or only use environmentally benign refrigerants. OR Where the systems are not hermetically sealed, they do not have: a permanent automated refrigerant leak detection system, that is robust and tested, and capable of continuously monitoring for leaks. OR An inbuilt automated diagnostic procedure for detecting leakage is enabled. and in the event of a leak, the system must be capable of automatically responding and managing the remaining refrigerant charge to limit loss of refrigeration.	0	Possible	SHA
Pol02	Local Air Quality						
Req 1-2	Local Air Quality	2	0.67	It is assumed that all heating and hot water is supplied by non-combustion systems, only powered by electricity.	2	Low	SHA
Pol03	Flood and Surface Water Management						
Req 1	Pre-requisite			An Appropriate Consultant is appointed to carry out, demonstrate and/or confirm the development's compliance with all the criteria.		Low	CCS
Req 2	Low Flood Risk	2	0.67	It is assumed that a site specific Flood Risk Assessment will be produced which confirms that the building is situated in a low flood risk area for all of the following: - Fluvial - Surface Water - Sewers - Tidal - Groundwater - Reservoirs, canals or other artificial sources.	2	Low	CCS
Req 5	Pre-requisite			Surface water run-off design solutions must be bespoke, i.e. they must take account of the specific site requirements and natural or man-made environment of and surrounding the site.		Low	CCS
Req 6-8	Surface Water Run-Off - Rate	1	0.67	It is assumed that: - Drainage measures are specified to ensure that the peak rate of run-off from the site to the watercourses (natural or municipal) shows, where brownfield, a 30% improvement for developed site compared with the pre-developed site. Where greenfield, the pre-developed site run-off should be no greater than pre-developed site. This should comply at the 1-year and 100-year return period events. - Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS are in place. - Calculations include an allowance for climate change; this should be made in accordance with current best practice planning guidance.	1	Low	CCS

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Req 9-16	Surface Water Run-Off - Volume	1	0.67	It is assumed that: - Flooding of property will not occur in the event of local drainage system failure (caused either by extreme rainfall or a lack of maintenance) - Drainage design measures ensure that the post development run-off volume, over the development lifetime, is no greater than it would have been prior to the development for the 100-year 6-hour event, including an allowance for climate change. - Any additional predicted run-off is prevented from leaving the site using infiltration or other (SuDS) techniques. OR (only where the above cannot be achieved): - Justification from the Appropriate Consultant indicating why the above criteria cannot be achieved, i.e. where infiltration or other SuDS techniques are not technically viable options. - Drainage design measures are specified to ensure that the post development peak rate of run-off is reduced to the limiting discharge including an allowance for Climate Change. This is defined as the highest flow rate from the following options: a. The pre-development 1-year peak flow rate; b. The mean annual flow rate Qbar c. 2L/s/ha. - Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS are in place.	1	High	CCS
Req 17-24	Minimising water course pollution	1	0.67	It is assumed that the drainage engineer will not be able to confirm that there will be zero discharge from the site for up to 5mm of rainfall.	0		
Pol04 Reduction of Night Time Light Pollution							
	Reduction of Night Time Light Pollution	1	0.67	ALL the external lighting within the construction zone complies with the following: - Complies with Table 2 of the ILP Guidance notes for the reduction of obtrusive light, 2011 - All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00. - Any safety or security lighting which is used between 23:00 & 07:00, complies with the lower levels of lighting recommended in Table 2 of the ILP's Guidance notes. - Illuminated advertisements must be designed in compliance with ILP PLG05.	1	Low	SHA /MEP Sub
Pol05 Reduction of Noise Pollution							
	Reduction of Noise Pollution	1	0.67	It is assumed that: - A noise impact assessment in compliance with BS 4142:2014 will be carried out by a suitably qualified acoustician and the following noise levels measured/determined: i. Existing background noise levels at the nearest or most exposed noise-sensitive development to the proposed development or at a location where background conditions can be argued to be similar. ii. The rating noise level resulting from the new noise source. - The noise level from the proposed site/building, as measured in the locality of the nearest or most exposed noise-sensitive development must be at least 5dB lower than the background noise throughout the day and night. - Where the noise source(s) from the proposed site/building is greater than above, measures have been installed to attenuate the noise at its source to a level where it will comply with the above.	1	Low	MFT/ Acoustician/ SHA
INNOVATION CREDITS (targeted and possible only listed below)							
Man 03 Req 23	Responsible Construction Management	1	1.00	It is assumed that all requirements in Table 4.1 will be achieved because of the requirements on ALL fleet vehicles controlled by the main contractor serving of delivering to site.Or an average score of 39 with no section with an average score of <13 is achieved using the Considerate Constructors Scheme.	1	High	Contractor
Ene 01 Req 10-12	Post Occupancy Stage	2	1.00	It is assumed the below will NOT be achieved: -achieve 4 No Ene 01 credits for operational energy modelling; ENE 01 Passive design analysis credit; 2 credits under Ene 02 Energy metering & Hea 04 Thermal modelling. - commit and appoint consultants for 3rd party independent verification operational energy performance . this can be demonstrated through UK NABERS (Offices only), DEC , BREEAM In-Use rating) or other specific independent validation report. -there is access to Ene 01 energy model for post occupancy monitoring and ongoing modelling use	0	Possible	MFA/ SHA
Mat01 Req 8-9	LCA -Core Building Services Options	1	1.00	It is assumed that LCA options appraisal is NOT completed for 3 significantly different core building services options using a recognised LCA tool during Concept Design & tool is submitted to BRE	0	Possible	Ridge/ SHA
Mat01 Req 11-14	LCA & LCC Alignment	1	1.00	It is assumed that the following will be achieved: - LCA credits for superstructure @ Concept & Technical Design stages achieved. - Elemental LCC plan and Component Level LCC options appraisal credits (Man 02 Life cycle cost and service life planning on page 45) achieved. - Integrate the aligned LCA and LCC options appraisal activity within the wider design decision-making process - Record results in an Options Appraisal Summary Report.	1	Low	Ridge with input from RLB

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Mat01 Req 15-18	LCA - Third party verification	1	1.00	It is assumed that: - LCA credits for superstructure @ Concept & Technical Design Stages - LCA credits for Substructure & landscaping options have been achieved. - A suitably qualified third party either carries out the building LCA work or verifies the building LCA work (if by others), and produces a report describing how they have checked the building LCA work accurately represent the designs under consideration during Concept Design and Technical Design with reference to the requirements of all relevant BREEAM criteria.	1	Low	Ridge
LE04 req 7	Change and enhancement of ecology	1	1.00	The change in ecological value calculated under criterion 6 above confirms significant net gain has not been achieved as set out in GN36 (BREEAM Calculation Methodology – Route 2). i.e. BNG 10%	0	POSSIBLE	Ecologist/ LA



RIDGE



www.ridge.co.uk