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## SUSTAINABILITY STATEMENT

20-24 Kirby Street, London Prepared for: Morgan Capital Project Ref: 40991 Submitted: 28th October 2022



## 1. ISSUE REGISTER

Rev	Reason for Issue	Date	Issued By
1.0	Sustainability Statement Draft for Comment	09/09/2021	AG
1.1	Sustainability Statement Draft for Comment – incorporating DP9 comments	10/09/2021	AG
2.0	Sustainability Statement - Final	10/09/2021	AG
3.0	Sustainability Statement Draft for Comment – Revised Scheme awaiting BREEAM Pre-Assessment	14/10/2022	AG
3.1	Sustainability Statement – Revised Scheme	28/10/2022	AG

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Sustainability Statement 2

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#### Energy Strategy 3

## 3. CAMDEN PLANNING POLICY

The London Borough of Camden sets out its policy for Sustainable Construction in Section 8 of the Camden Local Plan Document, which came into effect in 2017.

The document adopts the London Plan targets for major development through:

#### Policy CC1 - Climate Change Mitigation.

The Council will require all development to minimise the effects of climate change and encourage all developments to meet the highest feasible environmental standards that are financially viable during construction and occupation.

#### We will:

a) promote zero carbon development and require all development to reduce carbon dioxide emissions through following the steps in the energy hierarchy;

b) require all major development to demonstrate how London Plan targets for carbon dioxide emissions have been met;

c) ensure that the location of development and mix of land uses



minimise the need to travel by car and help to support decentralised energy networks;

d) support and encourage sensitive energy efficiency improvements to existing buildings;

e) require all proposals that involve substantial demolition to demonstrate that it is not possible to retain and improve the existing building; and f) expect all developments to optimise resource efficiency.

For decentralised energy networks, we will promote decentralised energy by: g) working with local organisations and developers to implement decentralised energy networks in the parts of Camden most likely to support them; h) protecting existing decentralised energy networks (e.g. at Gower Street, Bloomsbury, King's Cross, Gospel Oak and Somers Town) and safeguarding potential network routes; and i) requiring all major developments to assess the feasibility of connecting to an existing decentralised energy network, or where this is not possible establishing a new network.

To ensure that the Council can monitor the effectiveness of renewable and low carbon technologies, major

developments will be required to install appropriate monitoring equipment.

## Policy CC2 Adapting to climate change

The Council will require development to be resilient to climate change.

All development should adopt appropriate climate change adaptation measures such as:

a) the protection of existing green spaces and promoting new appropriate green infrastructure;

b) not increasing, and wherever possible reducing, surface water runoff through increasing permeable surfaces and use of Sustainable Drainage Systems;

c) incorporating bio-diverse roofs, combination green and blue roofs and green walls where appropriate; and d) measures to reduce the impact of urban and dwelling overheating, including application of the cooling hierarchy.

zero carbon in new development from Any development involving 5 or more residential units or 500 sgm or more of 2019. any additional floorspace is required to demonstrate the above in a Policy CC3 Water and flooding Sustainability Statement.

#### Sustainable design and construction measures:

The Council will promote and measure sustainable design and construction by:

e) ensuring development schemes demonstrate how adaptation measures and sustainable development principles have been incorporated into the design and proposed implementation; f) encourage new build residential development to use the Home Quality Mark and Passivhaus design standards; g) encouraging conversions and extensions of 500 sqm of residential floorspace or above or five or more dwellings to achieve "excellent" in BREEAM domestic refurbishment; and h) expecting non-domestic developments of 500 sqm of floorspace or above to achieve "excellent" in BREEAM assessments and encouraging

The Council will seek to ensure that development does not increase flood risk and reduces the risk of flooding where possible.

- We will require development to: a) incorporate water efficiency measures;
- b) avoid harm to the water
- environment and improve water quality;
- c) consider the impact of development
- in areas at risk of flooding (including drainage);
- d) incorporate flood resilient measures in areas prone to flooding;
- e) utilise Sustainable Drainage Systems (SuDS) in line with the drainage hierarchy to achieve a greenfield runoff rate where feasible; and f) not locate vulnerable development in flood-prone areas.
- Where an assessment of flood risk is required, developments should
- consider surface water flooding in detail

and groundwater flooding where applicable.

#### Policy CC4 Air quality

The Council will ensure that the impact of development on air quality is mitigated and ensure that exposure to poor air quality is reduced in the borough.

The Council will take into account the impact of air quality when assessing development proposals, through the consideration of both the exposure of occupants to air pollution and the effect of the development on air quality.

Consideration must be taken to the actions identified in the Council's Air Quality Action Plan.

Air Quality Assessments (AQAs) are required where development is likely to expose residents to high levels of air pollution. Where the AQA shows that a development would cause harm to air quality, the Council will not grant planning permission unless measures are adopted to mitigate the impact. Similarly, developments that introduce sensitive receptors (i.e. housing, schools) in locations of poor air quality will not be acceptable unless designed to mitigate the impact.

Development that involves significant demolition, construction or earthworks will also be required to assess the risk of dust and emissions impacts in an AQA and include appropriate mitigation measures to be secured in a Construction Management Plan.

#### Policy CC5 Waste

The Council will seek to make Camden a low waste borough.

#### We will:

a) aim to reduce the amount of waste produced in the borough and increase
recycling and the reuse of materials to meet the London Plan targets of 50%
of household waste
recycled/composted by 2020 and
aspiring to achieve 60% by 2031;
b) deal with North London's waste by
working with our partner boroughs in
North London to produce a Waste
Plan, which will ensure that sufficient
land is allocated to manage the amount
of waste apportioned to the area in the
London Plan;

c) safeguard Camden's existing waste site at Regis Road unless a suitable compensatory waste site is provided that replaces the maximum throughput achievable at the existing site; and d) make sure that developments include facilities for the storage and collection of waste and recycling.

## 3.1. Implications for 20-24 Kirby Street

The Policies detailed above are in the main for major developments and are aimed at new construction. This proposal is classed as a minor development, the refurbishment and extension of an existing building, and so a large portion of the policy detail above is not intended directly for such development.

However, in order to achieve over and above that expected for such a development, the 20-24 Kirby Street development will look to implement the guidance provided by the policies listed above, where feasible for such a development and within the restrictions working with an existing building brings.

It is also important to note there are substantial benefits refurbishment and

modernisation brings over and above demolition and new construction.

The response below is divided into sections aimed at summarising the Kirby Street development response, which is provided in detail throughout the planning application, to these policies, and some other key areas regarding sustainability.



Energy Strategy 5

## 4. Passive Design

The refurbishment of 20-24 Kirby Street has adopted the 'Be Lean, Be Clean, Be Green' approach to reducing carbon emissions, prioritising the reduction of energy consumption.

Initial modelling of the existing building showed poor building fabric standards meant the building was heat lead, with the consumption of gas for heating being the dominant characteristic of the building.

Further modelling showed without this being addressed, taking measures such as installing energy efficient lighting would be compromised, as the building in its current state was reliant on gains from lighting, solar gains, etc. to heat the building.

As such, improvement of the building fabric has been the priority in the design process, with existing building fabric brought up to current standards, replacement windows and improving air permeability of the building all contributing significantly to building performance.

Whilst building form is somewhat dictated as a refurbishment project, design has been targeted to enhance the existing and utilise assets of the form and function.

Early shading studies investigating the cooling hierarchy identified the west façade as the most effected by solar gain, informing glazing ratios and the size of window reveals to help shade the building and reduce the need for cooling.

Furthermore, the building core has been rationalized to help ensure the floor plates can make the best use of daylight for the prime functions of the building, whilst also avoiding solar gain from midday sun.

The end result is the passive measures alone have contributed a 36% improvement in carbon emissions over the existing building, based on the modelling at RIBA Stage 2.

For further details, please refer to the Energy Strategy Document.

## 5. Reducing Carbon **E**missions

Following on from the Passive design measures outlined in Section 1, design development continues to reduce carbon emissions through the efficient provision of energy and specification of Low Carbon Technologies. Efficient HVAC and lighting equipment includes the use of mechanical ventilation with heat recovery, and heat pumps in the form of a centralised VRF heating and cooling system with heat recovery. This is also linked to a centralised hot water system, allowing waste heat in cooling to be reused where heat is required around the building.

A major part of the overall strategy for the refurbishment is to move to a building that is all electric, as this futureproofs the building to lock in future carbon emission reductions as the grid continues to decarbonise.

Because it uses old carbon factors, current Part L methodology does not show the full benefits of moving to an all-electric strategy, but the reality is the carbon factor of grid electricity

currently is less than half that used in Part L calculations presently.

The overall reduction in carbon emissions for the development is 49% using Part L methodologies and would in fact be greater still when using current grid electricity carbon factors.

The Low and Zero Carbon technologies employed on the development contribute 34% of the energy consumption of the development, and 23% if only considering energy for heat requirements.

The development will also improve local air quality, as the building is moving from gas boiler heating from with local NOx and particulate emissions to all electric energy provision, with no local emissions. As the grid decarbonises, non-local emissions will also continue to fall.

For further details, please refer to the Energy Strategy Document.



## 6. BREEAM

A BREEAM pre-assessment has been undertaken for the development.

This sets out the direction the development intends to take to achieve a BREEAM rating.

The building is assessed under the BREEAM 2014 Refurbishment and Fit Out criteria for Offices.

The building targets a BREEAM excellent rating, as per the Camden policy guidance. A score of 84.59% is achieved with targeted credits for the development.

For full details od the BREEAM assessment and the credits targeted, please refer to the BREEAM Pre-Assessment

## 7. Water

As mentioned in section 2, with regards energy, the hot water systems are to be centralised in order to maximise the use of waste heat using a heat recovery centralised heat pump system.

With regards reducing water consumption, low flow fittings will be used to WC areas and kitchenettes, as well as aerating showerheads which help minimise water consumption whist providing satisfactory showers.

The BREEAM assessment has specified use of 4.5 litre/min wash hand basin taps, 5 litre/min kitchenette taps, 12 litre/cycle dishwashers, 2 litre/bowl/hr urinals, 6 litre/min showers and 4 litre effective flush toilets.

Water metering and leak detection will be used to monitor water consumption.

Flooding and water run-off are also dealt with in Pol 3 of the BREEAM Pre-Assessment, where 2 credits are achieved.

Further information is available in the BREEAM Pre-Assessment.

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## 8. Waste

The development, as a refurbishment, is looking to repurpose existing to minimise unnecessary waste, and to prevent waste of embodied carbon that a new build development would carry.

9 of 12 Waste credits are to be targeted in the BREEAM Pre-Assessment, with a large emphasis placed on the reduction of construction waste and diversion of waste from landfill.

The design team is looking at aspects of functional and climate change adaptability of the development to try and reduce future construction and fitout waste from the building.

Consideration has been given to adapting the building to meet modern standards and requirements for operational waste, complying with BS 5906:2005 and achieving the Wst 03 – Operational Waste BREEAM credit.

For further details, please refer to the Design and Access Statement and BREEAM Pre-Assessment.

## 9. Transport

The Kirby Street site is extremely well connected with regards Public Transport. Using Google maps as a guide, it is a 4-minute walk away from Farringdon Station, which has Circle, Metropolitan and Hammersmith and City Tube services, as well as Thameslink and mainline rail services.

The development achieves an Access Index score of 55.96, equating to all 3 credits under Tra 01 – Sustainable Transport Solutions.

Furthermore, it is well linked from a cycling perspective too, with Cycle Superhighway C6 passing the building on the Saffron Hill side, with cyclist access on this aspect of the building into the cycle storage area.

The cycle storage area has space for 62 cycles in double stack cycle racks, achieving the NLP guidance +20%, and the requirements for 2 credits under the BREEAM Tra 03 credit.

For further details, please refer to the Design and Access Statement and BREEAM Pre-Assessment.

## 10. Materials

Careful consideration has been given to the character and materiality of the development and extension, whilst also considering the environmental impact of selected materials.

The development is targeting a BREEAM 'Excellent' rating, part of which involves a certain standard being met with regards the environmental impact of the materials used and the responsible sourcing of materials.

Furthermore, the repurposing of an existing building has a large impact on reducing the embodied carbon of a development of this size.

Materials specified by the design team will be ISO 14001 or equivalent where possible, and a similar commitment will be required from the contractor specifications.

For further details, please refer to the Design and Access Statement and BREEAM Pre-Assessment.

## 11. Ecology

The existing building is a site of low
 ecological value, with only hard surface
 and nothing present to enhance the
 ecology.

An ecologist has been appointed to join the design team and provide recommendations to enhance the ecology of this site.

All 4 credits available to the development under the Office refurbishment scheme have been targeted in the Land Use and Ecology (LE) section of the BREEAM Pre-Assessment.

Further information is available in the BREEAM Pre-Assessment.



## **BREEAM 2014 RFO**

## Stage 2 Pre-Assessment Report

20-24 Kirby Street - Proposed Office Refurbishment

26<sup>th</sup> October 2022

ENVIRONMENTAL AND SUSTAINABILITY CONSULTANTS



Report Reference Number: A4944

#### Document Control

Date of first Issue	Revision	Date of Revision	Issued By	Checked by
26 <sup>th</sup> October 2022	-	-	GM	MB

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#### 1 Executive Summary

Encon Associates Ltd have been appointed by Morgan Capital to complete an assessment of the proposed development under the Building Research Establishment Environmental Assessment Methodology (BREEAM). This Pre-Assessment report gives an indication of the probable score and rating for the development to be achieved when the final assessment is submitted to the Building Research Establishment (BRE), based on the information provided at Pre-Assessment stage.

The proposed development consists of a Part 1 - 4 major refurbishment and roof extension of an existing office block at 20-24 Kirby St, London. The scheme will be assessed against the BREEAM 2014 Refurbishment and Fit-Out methodology.

This stage 2 Pre-Assessment report carried out for the proposed development shows that a predicted score of 84.59% Excellent could be achieved and potential score of 93.00% Outstanding.

#### 2 Introduction

Morgan Capital commissioned this report with respect to the **Part 1 - 4** major refurbishment and roof extension of an existing office block at 20-24 Kirby St, London. The BREEAM system has been chosen for use as an indicator of the environmental sustainability of the project.

A stage 2 Pre-Assessment exercise was conducted based on information provided at a meeting held on the 25<sup>th</sup> Oct 2022. The attendees of this meeting are listed below:

- Lucy Brown O'Sullivan/Morgan Capital
- Glenn Miles/Encon Associates
- Andrew Galea/BTP Consultants
- Adam Atrakzi/DLA Architecture
- Neil Matthews/DLA Architecture
- David Racz/Fulcro
- Luke Tabb/Fulcro
- Rebecca Overton/HTS Engineers

The tools contained within BREEAM help developers and local authorities collaborate to achieve the highest possible standards of energy efficiency, biodiversity and resource efficiency within their developments in accordance with the constraints imposed by the site, programme and budget.

#### 3 General Project Notes

The following general notes were taken during the meeting that are not BREEAM credit specific:

- Design team changes have occurred. Hawking Brown replaced by DLA Architecture.
- Project currently still at Pre-Planning. Planning to be submitted W/C 31/10/22
- Project has been changed to a single storey roof extension with plant installed to roof.
- Project still CAT A fit out. No tenant currently in place.

All parties should review the meeting notes against each credit and action accordingly.

#### 4 BREEAM

BREEAM was the first green building assessment and rating system to be introduced and initially released in 1990. Since then it has undergone several revisions and adaptations and has become the world's leading sustainability assessment method for buildings and infrastructure, with over 2 million registered buildings in 72 countries.

As outlined by the BRE, the aims of BREEAM are:

- To mitigate the life cycle impacts of buildings on the environment.
- To enable buildings to be recognised according to their environmental benefits.
- To provide a credible, environmental label for buildings.
- To stimulate demand and create value for sustainable buildings, building products and supply chains.

The objectives of BREEAM are:

- To provide market recognition of buildings with a low environmental impact.
- To ensure best environmental practice is incorporated at the planning, design, construction and operation of buildings and the wider built environment.
- To define a robust, cost effective performance standard surpassing that required by regulations.
- To challenge the market to provide innovative, cost effective solutions that minimise the environmental impact of buildings.
- To raise awareness amongst owners, occupants, designers and operators of the benefits and value of buildings with a reduced life cycle impact on the environment.
- To allow organisation's to demonstrate progress towards corporate environmental objectives.

Under this banner and with these aims and objectives in mind, construction projects are assessed at the design and post-construction stage against a series of 9 broad categories, as listed below:

- Management
- Health & wellbeing
- Energy
- Transport
- Water
- Materials
- Waste
- Land use & ecology
- Pollution

As part of the assessment process each category is sub-divided into separate issues, thereby promoting the use of new benchmarks and targets. Credits are awarded on achieving these targets. Having assessed the project fully against each of the applicable target credits a

final performance rating will be issued. The certificate awarded to the scheme will express its performance as either a 'PASS', 'GOOD', 'VERY GOOD', 'EXCELLENT' or 'OUTSTANDING'.

The diagram below shows how the BREEAM assessment and scoring process works:



The credits are weighted according to their relative importance as determined by the BRE's consultations with a panel of experts. The weightings vary according to the BREEAM scheme but, as an example, the core weightings for the 2014 Refurbishment and Fit-Out scheme are shown in the table overleaf:

Environmental Section	Weighting (%)
Management	12
Health and Wellbeing	15
Energy	19
Transport	8
Water	6
Materials	12.5
Waste	7.5
Land Use and Ecology	10
Pollution	10
TOTAL	100
Innovation (ADDITIONAL)	10

#### **BREEAM Section (Core) Weighting**

An additional maximum 10 credits are available for innovation. Innovation credits are awarded in acknowledgement of exceptional performance that exceeds the level that is currently recognised by the BREEAM standard.

Innovation credits can be awarded in one of two ways:

- 1. Where a successful application is made to the BRE for a particular building technology, feature, system or process to be recognised as 'innovative'.
- 2. Where the building demonstrates exemplary performance by meeting defined exemplary level performance criteria in one or more of certain specific BREEAM issues.

It should be noted that the BREEAM Refurbishment and Fit-Out methodology works on a modular set of criteria depending on the scope of the works for a particular project type. Depending on the parts assessed the core weightings are <u>dynamically adjusted</u> according to credits targeted. The modular criteria are as follows and it has been assumed that this project will follow the parts highlighted below.

Part 1: Fabric and Structure

Part 2: Core services

Part 3: Local Services

Part 4: Interior Design

A Part 1 assessment may be appropriate where a refurbishment project includes one or more of the following alterations to the building fabric and where the area to be renovated is greater than 50 per cent of the surface of the individual element or 25 per cent of the total building envelope:

Building façade: where the external façade of the buildings is being upgraded/refurbished such as new cladding, rendering, façade system, internal dry lining etc.

Roof: where a new roof is being installed or where significant changes are being made to the roof structure or the replacement/refurbishment of roof coverings.

Windows: where changes are being made to the windows such as replacement, upgrade/refurbishment of existing windows with new glazing or the specification of secondary glazing.

Note: A minor change to the building fabric (e.g. local upgrading of an external wall) below the above thresholds would not require a Part 1 assessment to be included, although it may be carried out in order to assess the overall performance of the building fabric.

#### Part 2: Core Services

A Part 2 assessment may be appropriate where at least two of the following are being installed or upgraded to a level that requires compliance with the Building Regulations Compliance Guide:

- Central air handling unit
- Heating boiler
- More than 50% of heat distribution
- Chiller plant
- More than 50% of chiller distribution
- Water services (sanitary fittings in core)
- Building management system
- Community heating system (e.g. CCHP)
- Low and zero carbon technologies.

Note: Where works comprise of 'like for like' component replacements e.g. a fan motor of an air handling unit a Part 2 assessment may not be appropriate although it may still be carried out in order to assess the performance of the core services.

#### Definition of core services

Core services are defined as services that supply multiple areas and/or tenants and will generally be centralised plant.

The services will be deemed core where the services supply multiple tenancy areas and are not focused on the needs of the individual tenants. In such instances, these services will normally be owned, operated and maintained by the landlord or their agent. In single tenancy occupancy buildings, the systems services will be considered as core where they supply the whole of the building. The services will normally be owned, operated and maintained by the building owner or their agent.

#### Category A Fit-out

A Part 2 assessment does not include the full scope of a Category A fit-out, due to the fact that the specification of items such as ceiling finishes, raised floors and the zoning of local services above the lettable floor area and other Category A works are not typically finalised until the space undergoes final fit-out (often referred to as Category B fit-out) according to the tenant's specification and are liable to change. These items are, therefore, excluded from a Part 2 assessment with local services assessed under Part 3 and interior finishes assessed under Part 4, which covers the typical scope of a Category B fit-out. Therefore, where category A works include local service provision (e.g. lighting) it may be appropriate to also assess the project against Part 3: Local services.

#### Part 3: Local Services

A Part 3 assessment may be appropriate where at least two of the following fixed local building services are being installed or upgraded e.g. a replacement or new installation of local heating/cooling units.

- Replacement of more than 50% of light fittings, system and controls
- Upgrade of zone controls
- Local ventilation
- Local heating units (including sources not connected to core services)
- Local cooling units (including sources not connected to core services)
- Point of use water heaters.

Note: If there is a requirement to replace a component of a local service as part of the refurbishment or fit-out and that component is a direct replacement then a Part 3 assessment may not be appropriate, though may still be carried out in order to assess the performance of local services. Examples of component replacements include new lamps within existing fittings, circulation pumps or individual heat emitters and valves.

#### Definition of local services

Local services are defined as services that supply a specific area and may connect into the distribution systems from the core services within the tenanted area.

#### Part 4: Interior Design

A Part 4 assessment may be appropriate where the refurbishment or fit-out works involve changes to the layout and/or redecoration of the refurbishment or fit-out area. including:

Remodelling/changes to interior spaces including two or more of the following:

Wall coverings (alterations to at least 50% by area)

Floor coverings (alterations to at least 50% by area)

Ceiling covering or systems (alterations to at least 50% by area)

Partitions (alterations to at least 50% by area)

Raised floor system (alterations to at least 50% by area)

Furniture and fittings e.g. office furniture, retail display furniture and fittings etc. (alterations to at least 50% by area)

AND at least one of the following:

Sanitary fittings e.g. tea/coffee points, kitchenette and washrooms (alterations to at least 50% of fittings)

Equipment e.g. Office equipment, display lighting, display chillers/freezers (alterations to at least 50% of equipment)

Local electrical installations e.g. sub-metering

Part 4 is broadly in line with a Category B fit-out and where the fit-out works also include changes or additions to local services, a Part 3 assessment may also be relevant.

## 5 Pre-Assessment Results Summary





#### Section Summary

Project:	A4944 - Kirby Street
Report:	Pre-Assessment Stage
Design Target:	Excellent - 84.59%
Potential Rating:	Outstanding - 93.00%

Saction	Available		Targeted		Potential		
Section	Credits	Percent	Credits	Percent	Credits	Percent	
Management	21	13.55%	18	11.61%	3	1.94%	
Health and Wellbeing	19	14.62%	16	12.31%	2	1.54%	
Energy	26	16.9%	24	15.6%	0	0%	
Transport	7	5.27%	7	5.27%	0	0%	
Water	9	6.77%	7	5.27%	0	0%	
Materials	13	14.11%	11	11.94%	1	1.09%	
Waste	12	8.47%	9	6.35%	3	2.12%	
Land Use and Ecology	4	9.03%	4	9.03%	0	0%	
Pollution	13	11.29%	6	5.21%	2	1.74%	
Innovation	10	10%	2	2%	0	0%	
Total	134	110.00%	104	84.59%	11	8.41%	

## Performance by Section



Created by Glenn Miles (Encon Associates) on 26 Oct 2022 18:13 www.iestap.com

## 6 Pre-Assessment Criteria Summary



GREEN BUILDING RATINGS ONLINE



#### **Criteria Summary**

Project:	A4944 - Kirby Street
Report:	Pre-Assessment Stage
Design Target:	Excellent - 84.59%
Potential Rating:	Outstanding - 93.00%

Management	Compliance Requirements	Ava	ilable	Targeted		Potential		Comments
Man 01: Project brief and design	One credit – Stakeholder consultation (project deliverv)	2	1.29%	0	0%	2	1.29%	Glenn Miles (Encon Associates) on 26 Oct 2022:
1. Stakeholder consultation	1. A clear sustainability brief is developed prior to Concept Design which sets out:							Pre-Assessment Update Meeting 25/10/22
	<ul> <li>a. Client requirements e.g. internal environmental conditions required</li> </ul>							• Capital) to review stakeholder content and ensure this is
	<ul> <li>b. Sustainability objectives and targets including target BREEAM rating, business objectives etc.</li> </ul>							incorporated into stakeholder meetings as per previous meeting minutes.
	<b>c.</b> Timescales and budget							<ul> <li>Credit to remain potential.</li> </ul>
	<b>d.</b> List of consultees and professional appointments that may be required e.g. Suitably Qualified Acoustician etc.							
	<b>e.</b> Constraints for the project e.g. technical, legal, physical, environmental.							
	2. Prior to completion of the Concept Design (RIBA Stage 2 or equivalent), the project delivery stakeholders (see Relevant definitions) have met to identify and define their roles, responsibilities and contributions for each of the key phases of project delivery.							
	<b>3.</b> In defining the roles and responsibilities for each key phase of the project, the following must be considered:							
	a. End user requirements							
	<ul> <li>b. Aims of the design and design strategy</li> <li>c. Particular installation and construction</li> </ul>							
	<b>d.</b> Design and construction risk assessments e.g. CDM, legionella risk assessment							
	<ul> <li>e. Legislative requirements e.g. building control notification, heritage requirements</li> </ul>							
	f. Procurement and supply chain							
	<b>g.</b> Identifying and measuring project success in line with project brief objectives							
	<b>h.</b> Occupiers' budget and technical expertise in maintaining any proposed systems							
	<ol> <li>Maintainability and adaptability of the proposals</li> </ol>							
	<b>j.</b> Requirements for the production of project and end user documentation							
	k. Requirements for commissioning, training and aftercare support.							
	4. The project team demonstrate how the project delivery stakeholder contributions and the outcomes of the consultation process have influenced or changed the Initial Project Brief, including if appropriate, the Project Execution Plan, Communication Strategy, and the Concept Design.							
	One credit - Stakeholder consultation (third party)							
	<b>5.</b> Prior to completion of the Concept Design stage, all relevant third party stakeholders have been consulted by the design team and this covers the minimum consultation content (see compliance note CN3).							
	6. The project must demonstrate how the stakeholder contributions and outcomes of the consultation exercise have influenced or changed the Initial Project Brief and Concept Design.							
	7. Prior to completion of the detailed design (RIBA Stage 4, Technical Design or equivalent), consultation feedback has been given to, and received by, all relevant parties.							
	Additionally for Education, Healthcare, Law courts and Major transport node building types only:							
	8. The consultation exercise used a method carried out by an independent party. See Relevant definitions.							

Man 01: Project brief and design 2. Sustainability Champion	<ul> <li>One credit - Sustainability Champion (design)</li> <li>9. A Sustainability Champion has been appointed to facilitate the setting and achievement of BREEAM performance targets for the project. The design stage Sustainability Champion is appointed to perform this role during the feasibility stage (Stage 1, Preparation and Brief stage, as defined by the RIBA Plan of Work 2013 or equivalent).</li> <li>10. The defined BREEAM performance target(s) has been formally agreed (see Relevant definitions) between the client and design/project team no later than the Concept Design stage (RIBA Stage 2 or equivalent).</li> <li>11. To achieve this credit at the interim design stage assessment, the agreed BREEAM performance target(s) must be demonstrated via the BREEAM assessor's design stage assessment report.</li> <li>One credit - Sustainability Champion criteria 9, 10 and 11 have been achieved.</li> <li>13. A Sustainability Champion is appointed to monitor progress against the agreed BREEAM performance target(s) throughout the design process and formally report progress to the client and design team.</li> <li>To do this the Sustainability Champion must attend key project/design team meetings during the Concept Design at The Concept Design at a term and testing the achieved.</li> </ul>	2	1.29%	2	1.29%	0	0%	
Man 02: Life cycle cost and service life planning	<ul> <li>Completion of each stage, as a minimum.</li> <li>Two credits - Elemental life cycle cost (LCC)</li> <li>1. An outline, entire asset elemental life cycle cost (LCC) plan has been carried out at Process Stage 2 (equivalent to Concept Design - RIBA Stage 2) together with any design option appraisals in line with 'Standardised method of life cycle costing for construction procurement' PD 156865:20081.</li> <li>2. The Elemental LCC plan:         <ul> <li>a. An outline LCC plan has been undertaken for the project based on the building's basic structure and envelope, appraising a range of options and based on the life expectancy of the refurbished building, e.g. 20, 30, 50+ years.</li> <li>b. The servicing strategy for the project outlining services component over a 15 -year period, in the form of an 'elemental LCC Plan'.</li> <li>c. A fit-out strategy is developed outlining fitout options over a 10-year period.</li> </ul> </li> <li>One credit - Component level LCC Plan         <ul> <li>3. A component level LCC plan has been developed by the end of Process Stage 4 (equivalent to Technical Design – RIBA Stage 4) in line with PD 156865:2008 and includes the following component types, where present. (see table in supporting documents)</li> <li>Where carrying out a major refurbishment covering all parts of the scheme, a component level LCC plan shall be developed as above.</li> <li>4. Demonstrate, using appropriate examples provided by the design team, how the component level LCC plan has been used to influence building and systems design/specification to minimise life cycle costs and maximise critical value.</li> </ul> </li> <li>One credit - Capital cost for the building in pounds per square metre (£k/m2), via the BREEAM Assessment Scoring and Reporting tool.</li> </ul>	4	2.58%	3	1.94%	1	0.65%	Glenn Miles (Encon Associates) on 26 Oct 2022: Pre-Assessment Update Meeting 25/10/22 • LCC to be updated in line with new updated scheme. @Encon to complete. • Lucy Brown O'Sullivan (Morgan Capital) to provide updated cost plan.

Man 03: Responsible construction practices 1. Environmental	Pre-requisite 1. All timber and timber based products used on the project is 'Legally harvested and traded timber'	1	0.65%	1	0.65%	0	0%	
management	(see Relevant definitions). Note: For other materials there are no pre-requisite							
	requirements at this stage.							
	2. As a pre-requisite of awarding any of the available credits for this issue, for NHS healthcare buildings only, the principal contractor must achieve the measure requiring operation of an Environmental Management System (EMS) as defined in criterion 3).							
	One credit – Environmental management							
	3. The principal contractor operates an environmental management system (EMS) covering their main operations. The EMS must be either:							
	<ul> <li>a. Third party certified, to ISO 14001/EMAS or equivalent standard; or</li> </ul>							
	b. Have a structure that is in compliance with BS 8555:2003 and has reached phase four of the implementation stage, 'implementation and operation of the environmental management system', and has completed phase audits one to four, as defined in BS 8555:2003.							
	<b>4.</b> The principal contractor implements best practice pollution prevention policies and procedures on-site in accordance with Pollution Prevention Guidelines, Working at construction and demolition-sites: PPG6.							
Man 03: Responsible construction practices 2. Sustainability	One credit – Sustainability Champion (construction) 5. A Sustainability Champion is appointed to	1	0.65%	1	0.65%	0	0%	
Champion	monitor the project to ensure ongoing compliance with the relevant sustainability performance/process criteria, and therefore BREEAM target(s), during the Construction, Handover and Close Out stages (as defined by the RIBA Plan of Works 2013, stages 5 and 6).							
	To do this the Sustainability Champion will ideally be site based or will visit the site regularly to carry out spot checks, with the relevant authority to do so and require action to be taken to address shortcomings in compliance. The Sustainability Champion will monitor site activities with sufficient frequency (see compliance note CN6) to ensure that risks of non-compliance are minimised. They will report on progress at relevant project team meetings including identifying potential areas of non-compliance and any action needed to mitigate.							
	<ul> <li>Ine defined BREEAM performance target forms a requirement of the principal contractor's contract (Man 01 Project brief and design – CN5 and in Man 01 Project brief and design – Relevant definitions).</li> </ul>							
	7. To achieve this credit at the final post construction stage of assessment, the BREEAM- related performance target for the project must be demonstrably achieved by the project. This is demonstrated via the BREEAM Assessor's final post construction stage assessment report.							

Man 03: Responsible construction practices 3. Considerate construction	<ul> <li>Up to two credits - Considerate construction</li> <li>8. For small scale or low value refurbishment or fitout projects (see Relevant definitions): <ul> <li>a. One credit can be awarded where an individual(s) is responsible for implementing and maintaining the following considerate construction practices throughout the works stage (see Relevant definitions): <ul> <li>i. Keeping the site clean and tidy</li> <li>ii. Reducing impacts on the community through community/heighbour engagement</li> <li>iii. Continuous improvements in safety</li> <li>iv. Commitments to respect and fair treatment of all workers</li> <li>v. Suitable site facilities for operatives and visitors</li> </ul> </li> <li>b. Two credits can be awarded where the contractor achieves 'compliance' with the criteria of a 'compliant' scheme</li> <li>OR</li> <li>9. Where the refurbishment or fit-out project does not meet the definition of a small scale or low value project (see Relevant definitions) the principal contractor has used a 'compliant' organisational, local or national considerate construction scheme and their performance against the scheme has been confirmed by independent assessment and verification. The BREEAM credits can be awarded as follows: <ul> <li>a. One credit where the contractor achieves 'compliance' with the criteria of a compliant scheme.</li> <li>b. Two credits where the contractor achieves and verification. The BREEAM credits can be awarded as follows:</li> </ul> </li> </ul></li></ul>	2	1.29%	2	1.29%	0	0%	
Man 03: Responsible construction practices 4. Monitoring of construction site impacts	<ul> <li>determined by a compliant Scheme, translates into BREEAM credits.</li> <li>Up to two credits - Monitoring of refurbishment or fit-out-site impacts</li> <li>Responsibility has been assigned to an individual(s) for monitoring, recording and reporting energy use, water consumption and transport data (where measured) resulting from all on-site refurbishment or fit-out processes (and dedicated off-site monitoring) throughout the refurbishment or fit-out programme. To ensure the robust collection of information, this individual(s) must have the appropriate authority and responsibility to request and access the data required. Where appointed, the Sustainability Champion could perform this role.</li> <li>First monitoring credit - Utility consumption Energy consumption</li> <li>Criterion 10 is achieved.</li> <li>Monitor and record data of the site energy consumption in kWh (and where relevant, litres of fuel used) as a result of the use of construction plant, equipment (mobile and fixed) and sile accommodation (as relevant to the project type).</li> <li>Report the total carbon dioxide emissions (total kgCO2/project value) from the construction process via the BREEAM Assessment Scoring and Reporting tool (for the purposes of potential future BREEAM performance benchmarking).</li> <li>Water consumption</li> <li>Criterion 10 is achieved</li> <li>Monitor and record data on principal constructor's and subcontractors' potable water consumption (m3) arising from the use of constructor plant, equipment (mobile and fixed) and site accommodation (as relevant to the project type, see Compliance Note CN5).</li> <li>Using the collated data report the total net water consumption (m3), i.e. consumption minus any recycled water use from the construction process via the BREEAM Assessment Scoring and Reporting tool (for the purposes of potential future BREEAM performance benchmarking).</li> <li>Second monitoring credit - Transport of construction naterials and waste</li> <li>Cr</li></ul>	2	1.29%	2	1.29%	0	0%	

	<ul> <li>b. Scope of this monitoring must cover the following as a minimum: <ol> <li>Where Part 1 is being assessed, materials used in major building elements, including insulation materials</li> <li>Where Part 2 is being assessed, materials used for core services</li> <li>Where Part 2 is being assessed, materials used for core services</li> <li>Where undertaking a comprehensive refurbishment including fit-out with a combination of Parts 1 - 4, materials used for major building elements, services and interior fit-out</li> <li>W. Where within scope, ground works and landscaping materials</li> <li>w. Where undertaking a Parts 3 &amp; 4 only assessment, materials used in the fit-out are included with the exception of small scale and low value refurbishment of fit-out projects (see Relevant definitions) where this credit is not applicable.</li> <li>C. Transport of construction waste from the construction gate to waste disposal processing or recovery centre gate. Scope of this monitoring must cover the construction waste groups outlined in the project's waste management plan.</li> </ol></li></ul> 19. Using the collated data, report separately for materials and waste, the total fuel consumption (litres) and/or total carbon dioxide emissions (kgCO2 eq), plus total distance travelled (km) via the BREEAM Assessment Scoring and Reporting tool (for the purposes of potential future BREEAM performance benchmarking). Exemplary level criteria The following outlines the exemplary level criteria to achieve one innovation credit for this BREEAM issue: 20. With reference to the considerate construction orierion 8 and 9, in addition to meeting the criteria for two credits, the contractor achieves compliance with the criteria of the compliant scheme to an exemplary level of practice.							
Man 04: Commissioning and handover 1. Commissioning and testing schedule and responsibilities	<ul> <li>One credit - Commissioning and testing schedule and responsibilities</li> <li>1. There is a schedule of commissioning and testing that identifies appropriate commissioning required for the scope of works that includes a suitable timescale for commissioning and recommissioning should be carried out where changes are being made to the following: <ul> <li>a. Building services (including both complex and non-complex systems)</li> <li>b. Building services control systems (including Building Management Systems)</li> <li>c. Changes to the building fabric that will affect thermal performance.</li> </ul> </li> <li>2. The schedule will identify the appropriate standards that all commissioning activities will be conducted in accordance with such as current Building Regulations, BSRIA1and CIBSE2guidelines and/or other appropriate standards, where applicable. Where a building management system (BMS) is specified, refer to compliance note CN8 on BMS commissioning procedures.</li> <li>3. An appropriate project team member(s) is appointed to monitor and programme precommissioning, activities on behalf of the client.</li> <li>4. The principal contractor accounts for the commissioning and testing programme, responsibilities and criteria within their budget and main programme of works, allowing for the required time to complete all commissioning and testing activities prior to handover.</li> </ul>	1	0.65%	1	0.65%	0	0%	

Man 04: Commissioning and handover 2. Commissioning building services	<ul> <li>One credit - Commissioning building services</li> <li>5. The commissioning and testing schedule and responsibilities credit is achieved.</li> <li>6. For projects where work is being undertaken to upgrade, renovate or install new building services and systems, an appropriate project team member needs to be appointed to undertake the work.</li> <li>a. For complex building services and systems, this role must be carried out by a specialist commissioning manager who is appointed during the design stage (by either client or contractor) with responsibility for: <ol> <li>Undertaking design reviews and giving advice on suitability for ease of commissioning</li> <li>ii. Providing commissioning management input to construction programming and during installation stages</li> <li>iii. Management of commissioning, performance testing and handover/post handover stages.</li> <li>b. For simple building services, this role can be carried out by an appropriate project team member (see criterion 3), provided they are not involved in the general installation works for the building services system(s).</li> </ol> </li> </ul>	1	0.65%	1	0.65%	0	0%	
Man 04: Commissioning and handover 3. Testing and inspecting building fabric	<ul> <li>One credit - Testing and inspecting building fabric</li> <li>7. Projects where the fabric of the building fabric, including continuity of insulation, avoidance of thermal bridging and air leakage paths is quality assured through completion of a thermographic survey as well as airtightness testing and visual inspection at appropriate times during the refurbishment. The survey/testing is undertaken by a Suitably Qualified Professional (see Relevant definitions) in accordance with the appropriate standard, with visual inspection conducted by a representative of the main contractor or by an independent inspector such as a clerk of works.</li> <li>8. Any defects identified in the site inspection, thermographic survey and the airtightness testing reports are rectified prior to building handover and close out. Any remedial work must meet the required performance characteristics for the building/element.</li> </ul>	1	0.65%	1	0.65%	0	0%	
Man 04: Commissioning and handover 4. Handover	<ul> <li>One credit - Handover</li> <li>9. A Building User Guide (BUG) is developed or (where present) an existing Building User Guide is updated, prior to handover for distribution to the building occupiers and premises managers (see Relevant definitions), with a draft copy developed and discussed with users first (where the building occupants are known) to ensure the guide is most appropriate and useful to potential users.</li> <li>10. A training schedule is prepared for building occupiers/premises managers, timed appropriately around handover and proposed occupation plans, which includes the following content as a minimum:</li> <li>a. The design intent of refurbishment/fit-out works</li> <li>b. The available aftercare provision and aftercare team main contact(s), including any scheduled seasonal commissioning and post occupancy evaluation</li> <li>c. Introduction to, and demonstration of, installed systems and key features, particularly building management systems, controls and their interfaces, to ensure they are fully conversant with the detailed operation of the building User Guide and other relevant building documentation, e.g. design data, technical guides, maintenance (O&amp;M) manual, commissioning records, log book etc.</li> <li>e. Maintenance requirements, including any maintenance contracts and regimes in place.</li> </ul>	1	0.65%	1	0.65%	0	0%	

Man 05: Aftercare	One credit - Aftercare support	1	0.65%	1	0.65%	0	0%	
1. Aftercare support	<ol> <li>There is (or will be) operational infrastructure and resources in place to provide aftercare support to the building occupier(s), which includes the following as a minimum.</li> </ol>							
	<ul> <li>a. A meeting programmed to occur between the aftercare team/individual and the building occupier/management (prior to initial occupation, or as soon as possible thereafter) to:</li> </ul>							
	<ol> <li>Introduce the aftercare team or individual to the aftercare support available, including the Building User Guide (where existing) and training schedule/content.</li> </ol>							
	ii. Present key information about the building including the design intent and how to use the building to ensure it operates as efficiently and effectively as possible (including the use of local services and controls and central services, as applicable).							
	b. On-site facilities management training, to include a walkabout of the building and introduction to and familiarisation with the building systems, their controls and how to operate them in accordance with the design intent and operational demands.							
	c. Initial aftercare support provision for at least the first month of building occupation, e.g. on-site attendance on a weekly basis to support building users/and management and to conduct a walk-around to examine how the refurbished area of the building is being used/operated to identify any issues that need to be communicated to building users/facilities managers (this could be more or less frequent depending on the complexity							
	of the building and building operations). d. Longer term aftercare support provision for occupants for at least the first 12 months from occupation, e.g. a helpline, nominated individual or other appropriate system to support building users/management.							
	2. There is (or will be) operational infrastructure and resources in place to coordinate the collection and monitoring of energy and water consumption data for a minimum of 12 months (for Part 4, where local metering is available and accessible), once the building is occupied. Discrepancies between actual and predicted performance should be identified, with a commitment to identify actions required to address any discrepancies such as adjusting systems and/or to develop/review operational policies to influence user behaviours accordingly.							
	Exemplary level criteria The following outlines the exemplary level criteria to achieve one innovation credit for this BREEAM issue:							
	6. There are, or will be, operational infrastructure and resources in place to coordinate the following activities at quarterly intervals for the first three years of building occupation:							
	<ul> <li>a. Conection of occupant satisfaction, energy consumption and (where available) water consumption data.</li> <li>b. Analysis of the data to check the building</li> </ul>							
	is performing as expected and make any necessary adjustments to systems controls or to inform building user behaviours.							
	<ul> <li>c. Setting targets and/or appropriate actions for reducing water and energy consumption and monitor progress towards these.</li> <li>d. Feedback any 'lessons learned' to the</li> </ul>							
	design team and developer for use in future projects. e. Provision of the actual annual building							
	energy, water consumption (where available and accessible) and occupant satisfaction data to BRE for the purpose of future BREEAM performance benchmarking.							

Man 05: Aftercare	One credit. Second commissioning	1	0.65%	1	0.65%	0	0%	
2. Seasonal	3 The following seasonal commissioning activities	·		. 		ľ		
commissioning	will be completed over a minimum 12 month							
	period, once the building becomes substantially							
	a. Complex systems - Specialist							
	Commissioning Manager:							
	i. Testing of all building services under							
	equipment in mid-winter,							
	cooling/ventilation equipment in mid-							
	conditions (spring/autumn).							
	ii. Where applicable, testing should							
	also be carried out during periods of extreme (high or low) occupancy							
	iii. Interviews with building occupants							
	(where they are affected by the							
	or concerns regarding the							
	effectiveness of the systems.							
	(following any work needed to serve							
	revised loads), and incorporating any							
	the operations and maintenance							
	(O&M) manuals.							
	b. Simple systems (naturally ventilated) -							
	manager							
	i. Review thermal comfort, ventilation,							
	month intervals after initial occupation.							
	either by measurement or occupant							
	ii. Take all reasonable steps to re-							
	commission systems following the							
	review to take account of deficiencies identified and incorporate any relevant							
	revisions in operating procedures into							
	the O&M manuals.							
Man 05: Aftercare	One credit - Post occupancy evaluation	1	0.65%	1	0.65%	0	0%	
3. Post occupancy	4. The client or building occupier makes a							
evaluation	commitment to carry out a post occupancy evaluation (POE) exercise one year after initial							
	building occupation (see compliance note CN7.							
	from building users to inform operational							
	processes, including re-commissioning activities,							
	and comfort. The POE is carried out by an							
	independent party (see Man 01 Project brief and design – Relevant definitions) and needs to cover							
	<b>a.</b> A review of the design intent and							
	construction process (review of design,							
	processes).							
	<b>b.</b> Feedback from a wide range of building							
	users including facilities management on the design and environmental conditions of the							
	building covering:							
	i. Internal environmental conditions							
	ii. Control, operation and maintenance							
	iii. Facilities and amenities							
	iv. Access and layout							
	v. Other relevant issues.							
	c. Sustainability performance (energy/Water consumption, performance of any							
	sustainable features or technologies, e.g.							
	harvesting etc.).							
	5. The client or building occupier makes a							
	dissemination of information on the building's post							
	occupancy performance. This is done to share							
	changes in user behaviour, building operational							
	processes and procedures, and system controls.							
	definition of appropriate dissemination. This also							
	provides advice on appropriate dissemination where the building or building information is							
	commercially or security sensitive.							
Management Totals		21	13.55%	18	11.61%	3	1.94%	
-								

Health and Wellbeing	Compliance Requirements	Ava	ilable	Tar	geted	Po	tential	Comments	
Hea 01: Visual comfort 1. Glare control	<ul> <li>One credit - Glare control</li> <li>1. The potential for disabling glare has been designed out of all relevant building areas using a glare control strategy, either through building form and layout and/or building design measures (see Compliance notes CN7).</li> <li>2. The glare control strategy avoids increasing lighting energy consumption, by ensuring that: <ul> <li>a. The glare control system is designed to maximise daylight levels under all conditions whilst avoiding disabling glare in the workplace or other sensitive areas. The system should not inhibit daylight from entering the space under cloudy conditions, or when sunlight is not on the facade: AND</li> <li>b. The use or location of shading does not conflict with the operation of lighting control systems.</li> </ul> </li> </ul>	1	0.77%	0	0%	1	0.77%		
Hea 01: Visual comfort 2. Daylighting	<ul> <li>Up to three credits - Daylighting</li> <li>3. Up to three credits are awarded on a sliding scale depending on the percentage of relevant building areas that comply with one of the following daylighting criteria: <ul> <li>a. The relevant building areas meet good practice daylight factor(s) and other criterion as outlined in Table - 12 and Table - 13: OR</li> <li>b. The relevant building areas meet good practice average and minimum point daylight illuminance criteria as outlined in Table - 14.</li> </ul> </li> <li>4. Two credits where daylighting provision, averaged over all relevant spaces, has improved after refurbishment or fit-out by 30% or more and there is a minimum glazing to floor area ratio of either: <ul> <li>a. 5% glass to floor area ratio for side windows; OR</li> <li>b. 2.5% glass to floor area ratio for roof lights;</li> </ul> </li> <li>5. One credit where daylighting provision, averaged over all relevant spaces, has improved after refurbishment or fit-out by 15% or more and there is a minimum glazing to floor area ratio for side windows; OR</li> <li>b. 2.5% glass to floor area ratio for side windows; OR</li> <li>b. 2.5% glass to floor area ratio for side windows; OR</li> <li>b. 2.5% glass to floor area ratio for side windows; OR</li> <li>b. 2.5% glass to floor area ratio for side windows; OR</li> <li>b. 2.5% glass to floor area ratio for side windows; OR</li> <li>b. 2.5% glass to floor area ratio for side windows; OR</li> <li>b. 2.5% glass to floor area ratio for side windows; OR</li> <li>b. 2.5% glass to floor area ratio for roof lights</li> </ul> <li>Note: The improvement in daylighting provision is calculated using the BREEAM Hea 01 Calculator tool based upon either the increase in glazing area, transmittance, illuminance or percentage daylight factor. Please refer to the Methodology section for calculation procedures.</li> Exemplary level criteria The following options: <ul> <li>a. Relevant building areas meet exemplary daylight factor(s) and the relevant crit</li></ul>	3	2.31%	2	1.54%	1	0.77%	<ul> <li>Glenn Miles (Encon Associates) on 26 Oct 2022:</li> <li>Pre-Assessment Update Meeting 25/10/22 <ul> <li>Lucy Brown O'Sullivan (Morgan Capital) to review instructions and advise if @BTP Consultants have been instructed.</li> <li>@BTP Consultants to complete daylight simulation and reporting ASAP if instructed.</li> </ul> </li> </ul>	
Hea 01: Visual comfort 3. View out	<ul> <li>Up to two credits - View out</li> <li>6. Two credits where 95% or one credit where 80% of the floor area in each relevant building area is within 7m of a wall which has a window or permanent opening that provides an adequate view out.</li> <li>7. The window/opening must be ≥ 20% of the surrounding wall area (refer to Relevant definitions in the Additional information section). Where the room depth is greater than 7m, compliance is only possible where the percentage of window/opening is the same as, or greater than, the values in Table 1.0 of BS 8206.</li> <li>8. In addition, the building type criteria in Table - 15 are applicable to view out criteria.</li> </ul>	2	1.54%	1	0.77%	0	0%	Glenn Miles (Encon Associates) on 26 Oct 2022:         Pre-Assessment Update Meeting 25/10/22         • New architectural team have been appointed as Hawkins Brown no longer involved.         • @DLA Architecture to review view out criteria and advise if credits can be targeted.         • Adam Atraktzi (DLA Architecture) to action.	

Hea 01: Visual comfort	One credit - Internal and external lighting levels, zoning and control	1	0.77%	1	0.77%	0	0%	
<b>4.</b> Internal and external lighting. Zoning and	Internal lighting							
control	<b>9.</b> All internal fluorescent and compact fluorescent lamps are fitted with high frequency ballasts							
	<b>10.</b> Internal lighting in all relevant areas of the							
	building is designed to provide an illuminance (lux)							
	accounting for building user concentration and							
	comfort levels. This can be demonstrated through a lighting design strategy that provides illuminance							
	levels in accordance with the SLL Code for							
	standard.							
	11. For areas where computer screens are							
	CIBSE Lighting Guide 7 sections 2.4, 2.20 and							
	6.10 to 6.20. This gives recommendations highlighting:							
	<b>a.</b> Limits to the luminance of the luminaires							
	to avoid screen reflections. (Manufacturers' data for the luminaires should be sought to							
	confirm this.)							
	b. For uplighting, the recommendations refer to the luminance of the lit ceiling rather than							
	the luminaire; a design team calculation is							
	c. Recommendations for direct lighting							
	ceiling illuminance, and average wall							
	Illuminance.							
	<b>12.</b> All external lighting located within the							
	refurbishment or fit-out zone is designed to							
	perform outdoor visual tasks efficiently and							
	demonstrate this, external lighting provided is							
	specified in accordance with BS 5489-1:2013							
	BS EN 12464-2:2014 Light and lighting - Lighting							
	of work places - Part 2: Outdoor work places.							
	<b>13.</b> Internal lighting is zoned to allow for occupant							
	control (see Relevant definitions ) in accordance with the criteria below for relevant areas present							
	within the building: a.							
	workplaces							
	<ul> <li>b. Workstations adjacent to windows/atria and other building areas separately zoned</li> </ul>							
	and controlled c. Seminar and lecture rooms: zoned for							
	presentation and audience areas							
	d. Library spaces: separate zoning of stacks, reading and counter areas							
	e. Teaching space or demonstration area							
	f. Whiteboard or display screen							
	g. Auditoria: zoning of seating areas, circulation space and lectern area							
	h. Dining, restaurant, café areas: separate							
	zoning of servery and seating/dining areas							
	counter areas							
	j. Bar areas: separate zoning of bar and							
	<b>k.</b> Wards or bedded areas: zoned lighting							
	control for individual bed spaces and control							
	I. Treatment areas, dayrooms, waiting							
	areas: zoning of seating and activity areas							
	accessible to staff.							
	Note: the criteria for zoning of lighting control are excluded for assessments of prison							
	buildings.							
	<b>14.</b> Areas used for teaching, seminar or lecture purposes have lighting controls provided in							
	accordance with CIBSE Lighting Guide 5							
	<ul><li>15. In addition the building type criteria in Table -</li><li>16 (where relevant) are met;</li></ul>							
Hea 02: Indoor air		4	3.08%	4	3.08%	0	0%	
quality	1. An indoor air quality plan has been produced	. _		·				
<ol> <li>Minimising sources of air pollution</li> </ol>	and implemented, with the objective of facilitating							
,	installation decisions and actions that minimise							
	and occupation of the building. The indoor air							
	quality plan must consider the following:							
	a. Removal of contaminant sources							
	sources							
	<ul> <li>Dressedures for are secureancy fluck out</li> </ul>	1	1	1	1	1	1	
	c. Procedures for pre-occupancy hush out							

d. Protection of Heating Ventilation and Air Conditioning (HVAC) systems from sources of pollution during refurbishment/fit-out works e.g. dust

e. Procedures for protecting the indoor air quality of areas outside of the refurbishment or fit-out zone that may be affected by the refurbishment/fit-out works

f. Procedures for identifying and implementing third party testing and analysis required to ascertain that the contaminant sources have been removed effectively before occupancy

g. Commitments for maintaining indoor air quality in-use, e.g. maintenance and cleaning of the HVAC system, ductwork and filters.

#### One credit - Ventilation

Refurbishment and fit-out works include measures to minimise the concentration and recirculation of pollutants in the building as follows:

2. Provide fresh air into the building in accordance with the criteria of the relevant standard for ventilation

**3.** Design ventilation pathways to minimise the build-up of air pollutants in the building, as follows:

a. In air conditioned and mixed mode

buildings/spaces:

i. The building's air intakes and exhausts are over 10m apart and intakes are over 20m from sources of external pollution; OR

ii. The location of the building's air intakes and exhausts, in relation to each other and external sources of pollution, is designed in accordance with CEN/TR 16798-4:2017 Sections 8.8.1 to 8.8.4.

**b.** In naturally ventilated buildings/spaces: openable windows/ventilators are over 10m from sources of external pollution.

**4.** Where present, HVAC systems must incorporate suitable filtration to minimise external air pollution, as defined in EN 16798-3:2017 Section B4.2.

5. Areas of the building subject to large and unpredictable or variable occupancy patterns have carbon dioxide (CO2) or air quality sensors specified and:

> a. In mechanical ventilated buildings/spaces: sensor(s) are linked to the mechanical ventilation system and provide demand-controlled ventilation to the space.

**b.** In naturally ventilated buildings/spaces: sensors either have the ability to alert the building owner or manager when CO2 levels exceed the recommended set point, or are linked to controls with the ability to adjust the quantity of fresh air, i.e. automatic opening windows/roof vents.

\*Note: when using this standard the design values of category 1 buildings should be used.

One credit - Volatile organic compound (VOC) emission levels (products)

 ${\bf 6.}$  All decorative paints and varnishes specified meet the criteria in Table - 20

7. At least five of the seven remaining product categories listed in Table - 20 meet the testing requirements and emission levels criteria for volatile organic compound (VOC) emissions (listed in the table).

One credit - Volatile organic compound (VOC) emission levels (post construction)

8. The formaldehyde concentration level is measured post construction (but pre-occupancy) and is found to be less than or equal to 100µg/averaged over 30 minutes (WHO guidelines for indoor air quality: Selected pollutants, 2010).

**9.** The total volatile organic compound (TVOC) concentration level is measured post construction (but pre-occupancy) and found to be less than 300µg/over 8 hours, in line with the Building Regulation requirements.

**10.** Where VOC and formaldehyde levels are found to exceed the limits defined in criteria 8 and 9, the project team confirms the measures that have, or will be taken, in accordance with the IAQ plan, to reduce the levels to within these limits, including re-measurement. The IAQ Plan should outline what remedial measures are appropriate depending on the severity and type of the non-compliannce with prescribed limits. Such measures may include re-testing as a matter of 'best practice'.

**11.** The testing and measurement of the above pollutants are in accordance with the following standards where relevant:

	<ul> <li><b>a.</b> BS ISO 16000-4: 2011 Diffusive sampling of formaldehyde in air</li> <li><b>b.</b> BS ISO 16000-6: 2011 VOCs in air by active sampling</li> </ul>							
	c. BS EN ISO 16017-2: 2003 VOCs - Indoor, ambient and workplace air by diffusive sampling							
	<ul> <li>d. BS ISO 16000-3: 2011 Formaldehyde and other carbonyls in air by active sampling.</li> <li>12 The measured concentration levels of</li> </ul>							
	formaldehyde (µg/m3) and TVOC (µg/m3) are reported, via the BREEAM Assessment Scoring and Reporting Tool.							
	Exemplary level criteria (up to 2 credits) Minimising sources of air pollution - volatile organic compound (VOC) emission levels (products)							
	The following outlines the exemplary level criteria to achieve innovation credits for this BREEAM issue:							
	One credit 15. Criterion 6 has been achieved.							
	<ol> <li>All seven remaining product categories listed in Table - 20 meet the testing requirements and emission levels criteria for Volatile Organic Compound (VOC) emissions (listed in the table).</li> <li>For products B – E listed in Table - 20 the</li> </ol>							
	formaldehyde emission levels have been measured and found to be less than or equal to 0.06mg/m3 air in accordance with the approved testing standards in Table - 20.							
	Two credits 18. Criterion 6 has been achieved.							
	19. All seven remaining products categories listed in Table - 20 meet the testing requirements and emission levels criteria for Volatile Organic Compound (VOC) emissions (listed in the table).							
	<b>20.</b> For products B to F listed in Table - 20, the formaldehyde emission levels have been measured and found to be less than or equal to 0.01mg/m3 air, in accordance with the approved testing standards in Table - 20.							
Hea 02: Indoor air quality	One credit (credit not applicable to prison	1	0.77%	1	0.77%	0	0%	
<b>2.</b> Adaptability - potential for natural ventilation	<ul> <li>13. The building ventilation strategy is designed to be flexible and adaptable to potential building occupant needs and climatic scenarios. This can be demonstrated as follows:</li> </ul>							
	<ul> <li>a. Occupied spaces of the building are designed to be capable of providing fresh air entirely via a natural ventilation strategy. The following are methods deemed to satisfy this criterion dependent upon the complexity of the proposed system:</li> </ul>							
	i. Room depths are designed in accordance with CIBSE AM10 (section 2.4) to ensure effectiveness of any natural ventilation system. The openable window area in each occupied space is equivalent to 5% of the gross internal floor area of that room/floor plate: OR							
	ii. The design demonstrates that the natural ventilation strategy provides adequate cross flow of air to maintain the required thermal comfort conditions and ventilation rates. This is demonstrated using ventilation design tool types recommended by CIBSE AM107 (or for education buildings by using the ClassVent							
	tool) b. For fit-out projects (Part 3 assessments), local services are designed to provide fresh air via a natural ventilation strategy and are appropriately designed according to the room depth in accordance with CIBSE AM10							
	<ul> <li>14. The natural ventilation strategy is capable of providing at least two levels of user-control on the supply of fresh air to the occupied space (see compliance note CN9 for further details).</li> <li>Note: Any opening mechanisms must be easily accessible and provide adequate user-control over air flow rates to avoid draughts. Relevant industry standards for ventilation can be used to define 'adequate levels of fresh air' sufficient for occupancy and internal air pollution loads relevant to the building type.</li> </ul>							
	Note: Multi-residential buildings with self- contained flats and individual bedrooms must have a degree of openable window function. This does not need to provide two levels of user-control (as required above), but must be occupant controlled.							
	<u> </u>					1		

Hea 04: Thermal	One credit - Thermal modelling	3	2.31%	3	2.31%	0	0%	
comfort	1. Thermal modelling has been carried out using software in accordance with CIBSE AM11 Building Energy and Environmental Modelling.							
	2. The software used to carry out the simulation at the detailed design stage provides full dynamic thermal analysis. For smaller and more basic building designs with less complex heating or cooling systems, an alternative less complex means of analysis may be appropriate (such methodologies must still be in accordance with CIBSE AM11).							
	<ol> <li>The modelling demonstrates that:         <ul> <li>a. For air conditioned buildings, summer and winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental design, Table 1.5; or other appropriate industry standard (where this sets a higher or more appropriate requirement/level for the building type)</li> </ul> </li> </ol>							
	<b>b.</b> For naturally ventilated/free running							
	<ul> <li>buildings:</li> <li>i. Winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental design, Table 1.5; or other appropriate industry standard (where this sets a higher or more appropriate requirement/level for the building type).</li> <li>ii. The building is designed to limit the risk of overheating, in accordance with the adaptive comfort methodology outlined in CIBSE TM52: The limits of thermal comfort: avoiding overheating in European building.</li> </ul>							
	4. Where undertaking a Part 4 assessment a competent person (e.g. chartered building services engineer) must assess the suitability of existing building services and controls to identify any changes that may be required as a result of fit-out works (e.g. as a result of changes to internal layout, occupant density, additional equipment that may increase cooling loads etc.).							
	5. For air conditioned buildings, the PMV (predicted mean vote) and PPD (predicted percentage of dissatisfied) indices based on the above modelling are reported via the BREEAM assessment scoring and reporting tool.							
	One credit - Adaptability - for a projected climate change scenario							
	<b>6.</b> Criteria 1 to 4 are achieved.							
	7. The thermal modelling demonstrates that the relevant requirements set out in criterion 3 are achieved for a projected climate change environment (see Relevant definitions).							
	8. Where thermal comfort criteria are not met for the projected climate change environment, the project team demonstrates how the building has been adapted, or designed to be easily adapted in the future using passive design solutions in order to subsequently meet the requirements under criterion 7.							
	9. For air conditioned buildings, the PMV and PPD indices based on the above modelling are reported via the BREEAM assessment scoring and reporting tool.							
	One credit - Thermal zoning and controls 10. Criteria 1 to 4 are achieved							
	<b>11.</b> The thermal modelling analysis (undertaken for compliance with criteria 1 to 4) has informed the temperature control strategy for the building and its users.							
	<b>12.</b> The strategy for proposed heating/cooling system(s) demonstrates that it has addressed the following:							
	a. Zones within the building and how the building services could efficiently and appropriately heat or cool these areas. For example consider the different requirements for the central core of a building compared with the external perimeter adjacent to the windows.							
	<ul> <li>b. Where specified, any new local cooling or heating services (or changes to existing services) are designed to ensure they do not conflict with core services (e.g. conflicts between two separate cooling systems, conflicts between core heating and locally provided cooling systems).</li> <li>c. The degree of occupant control required</li> </ul>							
	Tor tnese zones, based on discussions with the end user (or alternatively building type or use specific design guidance, case studies, feedback) considers: i. User knowledge of building services							
	g · · · · · · · · · · · · · · · · · · ·							

	<ul> <li>ii. Occupancy type, patterns and room functions (and therefore appropriate level of control required)</li> <li>iii. How the user is likely to operate or interact with the system(s), e.g. are they likely to open windows, access thermostatic radiator valves (TRV) on radiators, change air-conditioning settings etc.</li> <li>iv. The user expectations (this may differ in the summer and winter) and degree of individual control (i.e. obtaining the balance between occupant preferences, for example some occupants like fresh air and others dislike drafts).</li> <li>d. How the proposed systems will interact with each other (where there is more than one system) and how this may affect the thermal comfort of the building occupants.</li> <li>e. The need or otherwise for an accessible building user actuated manual override for any automatic systems.</li> </ul>							
Hea 05: Acoustic performance 1. Education, Healthcare, Office and Law Courts building types	<ul> <li>Up to three credits for Education, Healthcare, Office and Law courts building types</li> <li>1. The building meets the appropriate acoustic performance standards and testing requirements defined in the checklists and tables section which defines criteria for the acoustic principles of: <ul> <li>a. Sound insulation</li> <li>b. Indoor ambient noise level</li> <li>c. Reverberation times.</li> </ul> </li> <li>2. Where undertaking a partial refurbishment or fitout, the performance standards and testing requirements defined in the checklist and tables section for the following principles are applicable to each assessment part: <ul> <li>a. Part 1: criteria for sound insulation and indoor ambient noise levels</li> <li>b. Part 2: criteria for sound insulation and indoor ambient noise levels</li> <li>d. Part 4: sound insulation and reverberation control</li> </ul> </li> <li>3. See relevant compliance notes on applicable assessment criteria, where undertaking a partial refurbishment or fit-out for further information on how to apply the appropriate acoustic performance standards and testing requirements defined in this issue.</li> </ul>	3	2.31%	3	2.31%	0	0%	<ul> <li>Glenn Miles (Encon Associates) on 26 Oct 2022:</li> <li>Pre-Assessment Update Meeting 25/10/22</li> <li>Lucy Brown O'Sullivan (Morgan Capital) advised that RBA Acoustics have completed a review based on the new scheme.</li> <li>Lucy Brown O'Sullivan (Morgan Capital) to contact RBA Acoustics to ascertain if credits can still be targeted.</li> </ul>
Hea 06: Safety and security	<ul> <li>One credit - Security of site and building</li> <li>1. 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), see compliance note CN9 where the refurbishment or fit-out zone comprises part of a larger building.</li> <li>2. The SQSS develops a set of recommendations or solutions during or prior to Concept Design (RIBA Stage 2 or equivalent). These recommendations or solutions during or prior to Concept Design (RIBA Stage 2 or equivalent). These recommendations or solutions aim to ensure that the design of buildings, public and private car parks and public or amenity space are planned, designed and specified to address the issues identified in the preceding SNA.</li> <li>3. The recommendations or solutions proposed by the SQSS are implemented (see CN7). Any deviation from those recommendations or solutions will need to be justified, documented and agreed in advance with a suitably qualified security specialist.</li> </ul>		0.77%	1	0.77%	0	0%	Glenn Miles (Encon Associates) on 26 Oct 2022: <u>Pre-Assessment Update Meeting 25/10/22</u> • Credit still targeted. • Lucy Brown O'Sullivan (Morgan Capital) to appoint consultant.
nearth and wellbeing I	Ulais	19	14.02%	10	12.31%	2	1.54%	

Energy	Compliance Requirements	Ava	ilable	Targ	geted	Po	tential	Comments
Energy Ene 01: Reduction of emissions - Option 1 1. Whole building energy model	<ul> <li>Compliance Requirements</li> <li>There are two ways of demonstrating compliance with this issue:</li> <li>Option 1: Whole building energy model</li> <li>For projects that want to gain recognition for improvements made at the whole building level, using whole building energy modelling National Calculation Methodology (NCM) compliant software</li> <li>Option 2: Elemental level energy model</li> <li>For projects where the scope of work is limited to a single or multiple assessment part (from parts 1, 2, 3 and 4) such as partial or minor effurbishment projects and fit-out projects. This option can, however, be used by projects undertaking a full refurbishment (all assessment part and building type as defined in the BREEAM Refurbishment and Fit-out reporting tool.</li> <li>Note: The credits available for option 2 are dependent upon the applicable assessment part and building type as defined in the BREEAM Refurbishment and Fit-out reporting tool.</li> <li>Up to fifteen credits - Whole building energy model (option 1)</li> <li>Calculate the Energy Performance Ratio for Non Domestic Refurbishment (EPRNop) and compare with the benchmarks in Table - 27 to determine the corresponding number of BREEAM credits.</li> <li>Note: a description of how the EPR(NoP) is calculated from a building's modelled operational energy performance is provided in the Methodology section.</li> <li>Up to tevelx credits - Elemental level energy model (option 2)</li> <li>Calculate the energy score using the BREEAM Refurbishment and Fit-out energy model for the applicable assessment parts to determine the numbur of credits awarded. Refer to Table - 28 to determine the minimum requirements for this issue. The following should be assessed as applicable to the scope of work (see Table - 30 for further details):</li> <li>Part 1: Fabric and Structure: thermal performance of local heating, cooling, ventilation, lighting and controls as relevant</li> <li>Part 2: Core Services: energy perfor</li></ul>	Ava 15	9.75%	15	9.75%	90 0	0%	Comments         Glenn Miles (Encon Associates) on 26 Oct 2022:         Pre-Assessment Update Meeting 25/10/22.         • Andrew Galea (BTP Consulting) advised that the new scheme was slightly less efficient than previous moving from 50% reduction to 49%         • Andrew Galea (BTP Consulting) to provide EPC. INP files for existing and proposed so that the Ene 1 calc tool can be completed.         • Glenn Miles (Encon Associates) to complete Ene 1 calc tool based on information once received.         Post Meeting Note 26/10/22         • Andrew Galea (BTP Consulting) has provide EPC. INP files.         • Glenn Miles (Encon Associates) has completed Ene 1 calc tool resulting in 15 credits.         • No credit changes.
	<b>b.</b> Guide for practitioners 6, conversion of traditional buildings parts 1 and 2,							

	<ul> <li>application of the Scottish building standards, Historic Scotland</li> <li>c. The Sustainable Traditional Buildings Alliance (STBA) Responsible Retrofit Guidance Tools (www.responsible-retrofit.org).</li> <li>6. Each of the following (as a minimum) must be considered and recommendations for improvement made: <ul> <li>a. Roof</li> <li>b. External/sheltered walls</li> <li>c. Ground floor</li> <li>d. Upper floors</li> <li>e. Windows and external doors</li> </ul> </li> <li>7. Where improvement cannot be made to any of the above (e.g. due to conservation or building performance issues), justification should be provided including the alternative measures that have been considered and reasons these measures could not be adopted (e.g. glazing options considered etc.).</li> </ul> Exemplary level criteria The following outlines the exemplary level criteria to achieve up to five innovation credits for this BREEAM issue: Two credits - Zero regulated carbon 8. The building achieves an EPRNDR ≥ 0.9 and zero net regulated CO2emissions (see Relevant definitions) Up to four credits - Zero regulated carbon and carbon neutral unregulated energy 9. Criterion 8 has been achieved. 10. An equivalent percentage of the building's modelled regulated operational delivered energy consumption, as stipulated in Table - 29, is generated by carbon neutral on-site or near-site sources and used to meet energy demand from unregulated building systems or processes. Five credits - Carbon negative					
	<b>11.</b> The building is carbon negative in terms of its total modelled operational delivered energy consumption, including regulated and unregulated energy (see Relevant definitions).					
Ene U2: Energy monitoring	<ul> <li>Prease note: <ul> <li>The first credit is applicable to all building types.</li> <li>The second credit is not applicable to Pre-schools, Primary schools, Law courts, Prisons, Multi-residential and Other buildings: Residential institutions.</li> </ul> </li> <li>The following is required to demonstrate compliance.</li> <li>One credit - Sub-metering of major energy consuming 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 (see Methodology).</li> <li>The energy consuming systems in buildings with a total useful floor area greater than 1,000m<sup>2</sup>. are metered using an appropriate energy monitoring and management system.</li> <li>The systems in smaller buildings are metered either with an energy monitoring and management system.</li> <li>The end energy consuming uses are identifiable to the building users, for example through labelling or data outputs.</li> <li>One credit - Sub-metering of high energy load and tenancy areas.</li> <li>An accessible energy monitoring and management system (see Relevant definitions).</li> <li>An accessible energy monitoring and management system or weith separate accessible energy sub-meters with pulsed or other open protocol communication outputs, to enable future connection to an energy monitoring and management system (see Relevant definitions).</li> <li>The end energy consuming uses are identifiable to the building users, for example through labelling or data outputs.</li> </ul>	1.3%	2	1.3%	υ%	

Ene 03: External lighting	One credit 1. The building has been designed to operate	1	0.65%	1	0.65%	0	0%	
	without the need for external lighting (which includes on the building, signs and at entrances). OR alternatively, where the building does have external lighting area cradit can be warded as							
	follows: 2. The average initial luminous efficacy of the							
	external light fittings within the construction zone is not less than 60 luminaire lumens per circuit Watt.							
	<b>3.</b> All external light fittings are automatically controlled to prevent operation during daylight hours and have presence detection in areas of intermittent pedestrian traffic.							
Ene 04: Low carbon design	One credit - Passive design analysis	2	1.3%	0	0%	0	0%	Glenn Miles (Encon Associates) on 26 Oct 2022:
1. Passive design	<b>1.</b> The first credit within issue Hea 04 Thermal comfort has been achieved to demonstrate the							Pre-Assessment Update Meeting 25/10/22
	building design can deliver appropriate thermal comfort levels in occupied spaces.							Passive design not completed.
	2. The project team carries out an analysis of the proposed building design/development by Concept Design stage (RIBA Stage 2 or equivalent) to identify opportunities for the implementation of passive design solutions that reduce demands for energy consuming building services (see compliance note CN7).							Credit oved to not targeted.
	3. The building uses passive design measures to reduce the total heating, cooling, mechanical ventilation and lighting loads and energy consumption in line with the findings of the passive design analysis and the analysis demonstrates a meaningful reduction in the total energy demand as a result (see compliance note CN19).							
	One credit - Free cooling							
	<b>4.</b> The passive design analysis credit is achieved.							
	5. The passive design analysis, carried out under criterion 2, includes an analysis of free cooling and identifies opportunities for the implementation of free cooling solutions.							
	6. The building is naturally ventilated or uses any combination of the free cooling strategies listed in CN8.							
Ene 04: Low carbon	One credit - Low zero carbon feasibility study	1	0.65%	1	0.65%	0	0%	
2. Low and zero carbon technologies	7. A feasibility study has been carried out by the completion of the Concept Design stage (RIBA Stage 2 or equivalent) by an energy specialist (see Relevant definitions) to establish the most appropriate recognised local (on-site or near-site) low and zero carbon (LZC) energy source(s) for the building/development (see compliance note CN10).							
	8. A local LZC technology/technologies has/have been specified for the building/development in line with the recommendations of this feasibility study and this method of supply results in a meaningful reduction in regulated carbon dioxide (CO <sub>2</sub> ) emissions (see compliance note CN19).							

Ene 06: Energy efficient transportation systems	One credit - Energy consumption 1. Where new lifts, escalators and/or moving walks (transportation types) are specified within refurbishment works:	3	1.95%	3	1.95%	0	0%	
systems	<ul> <li>h. Write the new mits, escalators and/or moving walks (transportation types) are specified within refurbishment works: <ul> <li>a. An analysis of the transportation demand and usage patterns for the building has been carried out to determine the optimum number and size of lifts, escalators and/or moving walks.</li> <li>b. The energy consumption has been estimated in accordance with BS EN ISO 25745 Energy performance of lifts, escalators and moving walks, Part 2: Energy calculation and classification of lifts, escalators and moving walks, Part 2: Energy calculation and classification for escalators and moving walks, for one of the following: <ul> <li>i. At least two types of system (for each transportation type required); OR</li> <li>ii. An arrangement of systems (e.g. for lifts, hydraulic, traction, machine room-less lift (MRL)); OR</li> <li>iii. A system strategy which is 'fit for purpose'.</li> <li>c. The use of regenerative drives should be considered, subject to the requirements in CN6.</li> </ul> </li> <li>d. The transportation system with the lowest energy consumption is specified (when demonstrating compliance through either b.i. or b.i.).</li> </ul> <b>Two credits - Energy efficient features</b> 2. Criterion 1 is achieved for newly specified lifts. Lifts 3. For each newly specified lift, the following three energy efficient features are specified and for existing lifts within the project scope of influence, at least two of the following energy efficient features are specified: <ul> <li>a. The lifts operate in a stand-by condition during off-peak periods. For example the power side of the lift controller and other operating equipment such as lift car lighting, user displays and ventilation fans switch off when the lift has been idle for a prescribed length of time.</li> <li>b. The lift car lighting and display lighting provides an average lamp efficacy, (across all fittings in the car) of &gt; 55 lamp lumens/circuit Watt.</li> <li>c. The lift uses a drive controller capable of va</li></ul></li></ul>							
	<ul> <li>of the following:</li> <li>5. It is fitted with a load-sensing device that synchronises motor output to passenger demand through a variable speed drive; OR</li> <li>6. It is fitted with a passenger-sensing device for automated operation (auto walk), so the escalator operates in standby mode when there is no passenger demand.</li> </ul>							
Ene 08: Energy efficient equipment	<ol> <li>Two credits</li> <li>I. Identify the building's unregulated energy consuming loads and, for each estimate or model, its contribution to the total unregulated energy consumption of the building, assuming a typical/standard specification.</li> <li>I. Identify the systems and/or processes that use a significant proportion of the total annual unregulated energy consumption of the development and its operation.</li> <li>Demonstrate a meaningful reduction in the systems and systems and systems and systems and systems and systems are a significant proportion of the total annual unregulated energy consumption of the development and its operation.</li> </ol>	2	1.3%	2	1.3%	0	0%	
	total annual unregulated energy consumption of the building. See Table - 32 Table - 32 contains solutions deemed to satisfy compliance for common examples of significant contributors to unregulated energy consumption for a number of different building types/functions.							
Energy Totals	26	16.90%	24	15.60%	0	0.00%		

Transport	Compliance Requirements	Av	vailable	Та	rgeted	Po	otential	Comments
Tra 01: Sustainable transport solutions 1. Accessibility Index Tra 02: Proximity to amenities	<ul> <li>Up to five credits - Accessibility Index</li> <li>1. The public transport Accessibility Index (AI) for the assessed building is calculated and BREEAM credits awarded according to the building type. For Accessibility Index benchmarks see Table - 34 in the Checklists and tables section.</li> <li>2. The Accessibility Index is determined by entering the following information into the BREEAM Tra 01 calculator: <ul> <li>a. The distance (m) from the main building entrance to each compliant public transport node</li> <li>b. The public transport type(s) serving the compliant node, e.g. bus, rail or tram.</li> <li>c. The average number of services stopping per hour at each compliant node during the operating hours of the building for a typical day (see compliant notes and Table - 36 in the Additional information section).</li> </ul> </li> <li>One credit (except for multi-residential buildings where two credits are available)</li> </ul>	3	0.75%	3	0.75%	0	0%	<ul> <li>Glenn Miles (Encon Associates) on 26 Oct 2022:</li> <li><u>Pre-Assessment Update Meeting 25/10/22</u></li> <li>Glenn Miles (Encon Associates) has rechecked the Al based on postcode EC1N 8TS.</li> <li>The Al was calculated based on TFL PTAL calculator 26/10/22 and an Al of 55.96 was output resulting in three credits.</li> <li>No changes to Al or credits targeted.</li> </ul>
	<ol> <li>Where a building is located within close proximity of, and accessible to, local amenities which are likely to be frequently required and used by building occupants, as outlined in Table - 37.</li> </ol>							
Tra 03: Cyclist facilities	<ul> <li>One credit - Cycle storage (excluding sheltered housing, care homes, supported living facilities and prison building types)</li> <li>1. Compliant cycle storage spaces that meet the minimum levels set out in Table - 38 (see checklists and tables) are installed.</li> <li>One credit - Cyclist facilities (excluding sheltered housing, care homes and supported living facilities, Student residencies, key accommodation, transport hub and MOD residential and prison building types)</li> <li>2. Criterion 1 has been achieved.</li> <li>3. At least two of the following types of compliant cyclist facilities have been provided for all staff and pupils (where appropriate) (see compliance notes for the scope of compliant cyclist facilities): <ul> <li>a. Showers</li> <li>b. Changing facilities</li> <li>c. Lockers</li> <li>d. Drying spaces</li> </ul> </li> <li>One credit - Cycle storage and cyclist facilities (sheltered housing, care homes and supported living facilities and prison building types only)</li> <li>4. Where criteria 1 to 3 have been met for cycle space and cycle facilities requirements.</li> </ul>	2	1.51%	2	1.51%	0	0%	<ul> <li>Glenn Miles (Encon Associates) on 26 Oct 2022:</li> <li>Pre-Assessment Update Meeting 25/10/22 <ul> <li>Two credits to remain targeted.</li> <li>It was advised that some minor changes to facilities as follows -</li> <li>Floor area of the development is 3272m2. At this stage occupancy is unknown, therefore assumed as 1:10m2 based on offices estimating the occupancy at 327.</li> <li>It was advised that 62 cycle spaces will be provided and equal number of lockers.</li> <li>6No showers and changing space to be provided.</li> </ul> </li> </ul>
Tra 05: Travel plan	<ul> <li>One credit</li> <li>1. A travel plan has been developed as part of the feasibility and design stages.</li> <li>2. A site specific travel assessment/statement has been undertaken to ensure the travel plan is structured to meet the needs of the particular site and covers the following (as a minimum): <ul> <li>a. Where relevant, existing travel patterns and opinions of existing building or site users towards cycling and walking so that constraints and opportunities can be identified.</li> <li>b. Travel patterns and transport impact of future building users.</li> <li>c. Current local environment for walkers and cyclists (accounting for visitors who may be accompanied by young children)</li> <li>d. Disabled access (accounting for varying levels of disability and visual impairment)</li> <li>e. Public transport links serving the site</li> <li>f. Current facilities for cyclists</li> </ul> </li> <li>3. The travel plan includes a package of measures to encourage the use of sustainable modes of transport and movement of people and goods during the building operation and use.</li> <li>4. If the occupier is known, they must be involved in the development of the travel plan and they must confirm that the travel plan will be implemented post construction and supported by the buildings management in operation.</li> </ul>	1	0.75%	1	0.75%	0	0%	
Transport Totals		7	5.27%	7	5.27%	0	0.00%	

Water	Compliance Requirements	Av	ailable	Та	Targeted		otential	Comments
Wat 01: Water consumption	<ul> <li>Up to five credits</li> <li>1. An assessment of the efficiency of newly specified domestic water-consuming components and (where relevant) measures specified to retrofit existing devices is undertaken using the BREEAM Wat 01 calculator, including all fittings applicable to the project type as detailed in Table - 42. Where there are no fittings within the scope of refurbishment or fit-out works, or only minimal water-consuming fittings present or specified, refer to compliance notes 5 or 6 to determine how this issue should be assessed.</li> <li>2. The water consumption (litres/person/day) for the assessed building is compared against a baseline performance and BREEAM credits awarded based upon Table - 41.</li> <li>3. The efficiency of the following 'domestic scale' water-consuming components must be included in the assessment (where specified/relevant to project type as defined by Table - 42): <ul> <li>a. WCs</li> <li>b. Urinals</li> <li>c. Taps (wash hand basins and where specified kitchen taps and waste disposal unit)</li> <li>d. Showers</li> <li>e. Baths</li> <li>f. Dishwashers (domestic and commercial sized)</li> </ul> </li> <li>The BREEAM Wat 01 calculator defines the building types and activity areas for which the above components must be assessed.</li> <li>4. Where a greywater and/or rainwater system is specified and installed in compliance with BS 8525-1:2010 Greywater Systems - Part 1 Code of Practice. Any rainwater systems must be specified and installed in compliance with BS 8525-1:2010 Greywater Systems - Part 1 Code of Practice. Any rainwater systems must be specified and installed in compliance with BS EN 16941-1:2018 On-site nonpotable water demand from components that would otherwise be supplied using potable water.</li> <li>6. Healthcare and prison buildings: refer to the relevant Compliance and prison buildings: refer to the relevant Compliance note for additional criteria regarding the specification of particular water consuming component controls.</li> </ul>	5	3.76%	3	2.26%	0	0%	
Wat 02: Water monitoring	<ul> <li>One credit</li> <li>1. The specification of a water meter on the mains water supply to each building; this includes instances where water is supplied via a borehole or other private source.</li> <li>2. Water-consuming plant or building areas, consuming 10% or more of the building's total water demand, are either fitted with easily accessible submeters or have water monitoring equipment integral to the plant or area (see Compliance notes). This applies to recycled water, such as rainwater, greywater or process water, as well as mains water.</li> <li>3. Each meter (main and sub) has a pulsed or other open protocol communication output to enable connection to an appropriate utility monitoring and management system, e.g. a building management system (BMS), for the monitoring of water consumption (see Relevant definitions).</li> <li>4. If the refurbishment zone is within a site that has an existing BMS, managed by the same occupier/owner (as the space undergoing refurbishment or fit-out), the pulsed/digital water meter(s) for the refurbishment or fit-out zone must be connected to the existing BMS</li> <li>5. If the refurbishment or fit-out zone is within a building that is leasehold, the pulsed/digital water meter(s) for the refurbishment or fit-out zone must be connected to the incoming water supply for water using equipment in tenanted areas (see compliance note)</li> </ul>	1	0.75%	1	0.75%	0	0%	

Wat 03: Water leak	One credit - Leak detection system	2	1.51%	2	1.51%	0	0%	
detection	1. A leak detection system which is capable of detecting a major water leak on the mains water supply within the building and between the building and the utilities water meter is installed. The leak detection system must be:							
	a. A permanent automated water leak detection system that alerts the building occupants to the leak OR an in-built automated diagnostic procedure for detecting leaks is installed.							
	b. Activated when the flow of water passing through the water meter/data logger is at a flow rate above a pre-set maximum for a pre- set period of time.							
	c. Able to identify different flow and therefore leakage rates, e.g. continuous, high and/or low level, over set time periods.							
	<b>d.</b> Programmable to suit the owner/occupiers' water consumption criteria.							
	e. Where applicable, designed to avoid false alarms caused by normal operation of large water-consuming plant such as chillers.							
	One credit - Flow control devices							
	2. Flow control devices that regulate the supply of water to each WC area/facility according to demand are installed (and therefore minimise water leaks and wastage from sanitary fitting networks). See CN11.							
Wat 04: Water efficient	One credit	1	0.75%	1	0.75%	0	0%	
equipment	1. The design team has identified all unregulated water demands that could be realistically mitigated or reduced.							
	2. System(s) or processes have been identified to reduce the unregulated water demand, and demonstrate, through either good practice design or specification, a meaningful reduction in the total water demand of the building.							
Water Totals				7	5.27%	0	0.00%	

Materials	Compliance Requirements	Available		Tar	geted	Po	otential	Comments
Mat 01: Environmental impact of materials - Option 1 1. Project life cycle assessment study	This issue is broken down into: Option 1: Project life cycle assessment study (6 out of 6 credits) OR Option 2: Elemental assessment of environmental performance information (4 out of 6 credits) The following is required to demonstrate	6	6.51%	6	6.51%	0	0%	Glenn Miles (Encon Associates) on 26 Oct 2022: <u>Pre-Assessment Update Meeting 25/10/22</u> <u>Glenn Miles (Encon Associates)</u> advised that LCA would need to be updated. <u>@DLA Architecture to provide LCA</u>
	<ul> <li>Compliance:</li> <li>Up to six credits (option 1): Project lifecycle assessment study</li> <li>1. The project uses a life cycle assessment (LCA) tool or undertakes a building information model life cycle assessment (BIM LCA) to measure the life cycle environmental impact of the refurbishment or fit-out works.</li> <li>2. The LCA covers new materials as relevant to the assessment parts listed in CN7 and indicated in the 'Materials assessment scope' section of the BREEAM Refurbishment and Fitout Mat 01 calculator (Part B of the tool).</li> <li>3. The mandatory requirements identified in the 'Materials assessment tool, method and data' section of the BREEAM Refurbishment and Fitout Mat 01 calculator have been met.</li> <li>4. A member of the project team completes the BREEAM Refurbishment and Fitout Mat 01 calculator section of the scope of the assessment in terms of the assessment in terms of the tool) and the scope of the assessment in terms of the materials specified that have been considered (right side of the tool)</li> <li>5. Where the design team can demonstrate how the LCA has benefited the building in terms of measuring and reducing its environmental impact. See CN14</li> <li>6. Where the design team submit the LCA tool output (e.g. Building Information Model (BIM)) for assessing the building to BRE Global Limited (via the project's appointed BREEAM assessor) to inform future potential LCA benchmarking for BREEAM</li> </ul>							<ul> <li>Glenn Miles (Encon Associates) advised that Encon can provide the service if required.</li> <li>The 6 credit plus 1 exemplar to remain targeted until advised otherwise.</li> </ul>
Mat 03: Responsible sourcing of materials	<ul> <li>Pre-requisite <ol> <li>All timber and timber-based products used on the project is Legally harvested and traded timber (see Relevant definitions).</li> <li>Note: <ol> <li>It is a minimum requirement for achieving a BREEAM rating (for any rating level) that compliance with criterion 1 is confirmed.</li> <li>For other materials there are no pre-requisite requirements at this stage.</li> </ol> </li> <li>One credit - Sustainable procurement plan <ol> <li>The principal contractor sources materials for the project in accordance with a documented sustainable procurement plan (see the Relevant definitions in the Additional information section).</li> <li>Up to 3 credits - Responsible sourcing of materials (RSM)</li> <li>One credit can be awarded where at least three of the material types listed in Table - 53 </li> <li>'Material categories' has been responsibly sourced from one of the responsible sourcing schemes recognised by BREEAM as detailed in Guidance Note 18</li> <li>Up to three of the available RSM credits (refer to Table - 51) can be awarded where the applicable building materials (refer to Table - 51) are responsibly sourced in accordance with the BREEAM methodology, as defined in steps 1 to 2 in the methodology.</li> </ol> </li> <li>Exemplary level criteria The following outlines the exemplary level criteria to achieve one innovation credit for this BREEAM issue: S. Where at least 70% of the available RSM points are achieved.</li></ol></li></ul>	4	4.34%	2	2.17%	1	1.09%	

Mat 04: Insulation	<ul> <li>One credit - Embodied impact</li> <li>Any new insulation specified for use within the following building elements must be assessed: <ul> <li>a. External walls</li> <li>b. Ground floor</li> <li>c. Roof</li> <li>d. Building services</li> </ul> </li> <li>The Insulation Index for the building fabric and services insulation is the same as or greater than 2.5. See the methodology section for a description of calculating the Insulation Index.</li> </ul>	1	1.09%	1	1.09%	0	0%	
Mat 05: Designing for durability and resilience	<ul> <li>One credit</li> <li>Protecting vulnerable parts of the building from damage</li> <li>1. The building incorporates suitable durability and protection measures or designed features/solutions to prevent damage to vulnerable parts of the internal and external building and landscaping elements. This must include, but is not necessarily limited to: <ul> <li>a. Protection from the effects of high pedestrian traffic in main entrances, public areas and thoroughfares (corridors, lifts, stairs, doors etc.).</li> <li>b. Protection against any internal vehicular/trolley movement within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas.</li> <li>c. Protection against, or prevention from, any potential vehicular collision where vehicular parking and manoeuvring occurs within 1m of the building façade for all car parking areas and within 2m for all delivery areas.</li> </ul> </li> <li>Protecting exposed parts of the building from material degradation <ul> <li>Environmental factors have been identified that are relevant to the site location (see Table - 59)</li> <li>Existing applicable building elements (see Table - 58) have been surveyed have been assessed to identify impacts of material degradation effects. Design and specification measures have been developed to repair and protect existing elements according to the severity of any degradation affects, to limit degradation. Where it is not faesible to implement measures to limit material degradation for existing elements, justification should be provided.</li> <li>Newly specified materials or newly constructed elements (e.g. a new external wall) within the scope of refurbishment or fit-out works incorporate appropriate design and specification measures to limit material degradation due to environmental factors (See Methodology)</li> </ul> </li> </ul>		1.09%		1.09%	0	0%	<ul> <li>Gienn Miles (Encon Associates) on 26 Oct 2022:</li> <li>Pre-Assessment Update Meeting 25/10/22</li> <li>New architectural team have been appointed as Hawkins Brown no longer involved.</li> <li>@DLA Architecture to complete Mat 5 reporting to ensure that RIBA stages are met.</li> </ul>
Mat U6: Material efficiency	<ol> <li>Ope credit</li> <li>Opportunities have been identified, and appropriate measures investigated and implemented within the scope of refurbishment or fit out works, to optimise the use of materials through building design, procurement, refurbishment, maintenance and end of life (see examples in Table 60 and Table 61, in the Additional information section)</li> <li>The above is carried out by the design/construction team in consultation with the relevant parties (see CN3) at each of the following RIBA stages:         <ul> <li>a. Preparation and Brief</li> <li>b. Concept Design</li> <li>c. Developed Design</li> <li>d. Technical Design</li> <li>e. Construction</li> </ul> </li> </ol>	1	1.09%	1	1.09%	0	0%	<ul> <li>Gienn Miles (Encon Associates) on 26 Oct 2022:</li> <li><u>Pre-Assessment Update Meeting 25/10/22</u> <ul> <li>New architectural team have been appointed as Hawkins Brown no longer involved.</li> <li>@DLA Architecture to complete Mat 6 reporting to ensure that RIBA stages are met.</li> </ul> </li> </ul>
Materials Totals		13	14.11%	11	11. <b>9</b> 4%	1	1.09%	

Waste	Compliance Requirements	Ava	Available Targeted		Potential		Comments	
Wet 01: Project waste management 1. Pre-refurbishment audit	<ul> <li>One credit - Pre-refurbishment audit</li> <li>1. The client shall ensure that a pre-refurbishment audit of all existing buildings, structures or hard surfaces within the scope of the refurbishment or fit-out zone is completed. The requirements for carrying out an appropriate pre-refurbishment audit are: <ul> <li>a. The audit should be carried out at the Concept Design Stage (equivalent to RIBA stage 2) prior to strip-out or demolition works in order to use the audit results to guide the design, consideration of materials that can be reused, and to set targets for waste management and ensure all contractors are engaged in the process of maximising high grade reuse and recycling opportunities.</li> <li>b. The audit should be carried out by a competent person (see Relevant Definitions) who, has appropriate knowledge of buildings, waste and options for the reuse and recycling of different waste streams.</li> <li>c. Actual waste arisings and waste management routes used should be compared with those forecast from the audit and barriers to achieving targets should be investigated.</li> <li>The audit must be referenced in the Resource Management Plan (RMP) and cover:</li> <li>d. Identification and quantification of the key materials where present on the project (see Table - 67)</li> <li>e. Potential applications and any related issues for the reuse and recycling of the key materials in accordance with the waste hierarchy.</li> <li>f. Identification of local reprocessors or recyclers for recycling of materials</li> <li>g. Identification of overall landfill diversion rate for all key materials.</li> </ul> Exemplary level criteria The following outlines the exemplary level criteria to achieve one innovation credit for this BREEAM issue: 8. Non-hazardous construction waste generated by the building's design and refurbishment or fitout is no greater than the exemplary level resource efficiency benchmark (outlined in Table - 62 and Table - 63). 9. The percentage of non-hazardous construction</li></ul>	1	0.71%	1	0.71%	0	0%	
Wst 01: Project waste management 2. Reuse and direct recycling of materials	<ul> <li>Up to two credits - Reuse and direct recycling of materials</li> <li>2. Where, from the waste generated by the refurbishment and fit-out works, waste material types detailed in Table - 65 are either directly reused on-site or off-site or are sent back to the manufacturer for closed loop recycling</li> <li>3. One credit is achieved where 50% of the total available points for the waste material types detailed in Table - 65, that are present on the project have been achieved (using the Wst 01 calculator tool, see Table - 66 in the Methodology section).</li> <li>4. Two credits are achieved where 75% of the total available points for the waste material types detailed in Table - 65, that are present on the project have been achieved (using the Wst 01 calculator tool, see Table - 66 in the Methodology section).</li> <li>Please note that in most instances any materials specified in Table - 65 that are sent to a Material Recovery Facility (MRF) for recovery does not qualify for this credit. See compliance note CN3, Resource management plan for further details.</li> </ul>	2	1.41%	0	0%	2	1.41%	

Wst 01: Project waste management 3. Resource efficiency	<ul> <li>Up to three credits - Resource efficiency</li> <li>5. Develop and implement a compliant Resource Management Plan covering the waste arisings from the refurbishment or fit-out project with the aim of minimising waste (see Relevant definitions), recording and reporting accurate data on waste arisings, excluding strip-out works waste.</li> <li>6. The non-hazardous waste relating to on-site refurbishment or fit-out, and dedicated off-site manufacture or fabrication processes generated by the building's design and construction meets, or exceeds, the resource efficiency benchmarks set out in Table - 62 and Table - 63 as relevant to the project type.</li> </ul>	3	2.12%	2	1.41%	1	0.71%	
Wst 01: Project waste management 4. Diversion of resources from landfill	One credit - Diversion of resources from landfill 7. The following percentages of non-hazardous construction and demolition waste (where applicable) generated have been diverted from landfill: (see supporting documents for Table - 63: Diversion of waste for refurbishment and fit-out)	1	0.71%	1	0.71%	0	0%	
Wst 02: Recycled aggregates	<ul> <li>One credit - Recycled aggregates</li> <li>1. The percentage of high-grade aggregate that is recycled and/or secondary aggregate, specified in each application (present) must meet the following minimum % levels (by weight or volume) to contribute to the total amount of recycled or secondary aggregate, as specified in Table 68.</li> <li>2. The total amount of recycled and/or secondary aggregate specified, and meeting criterion 1, is greater than 25% (by weight or volume) of the total high-grade aggregate specified for the development. Where the minimum level in criterion 1 is not met for an application, all the aggregate aggregate specified as primary aggregate when calculating the total high grade aggregate specified.</li> <li>3. The recycled and/or secondary aggregates are EITHER: <ul> <li>a. Construction, demolition and excavation waste obtained on-site or off-site OR</li> <li>b. Secondary aggregates obtained from a non-construction post-consumer industrial by-product source (see Relevant definitions section).</li> </ul> </li> <li>Exemplary level criteria The following outlines the exemplary level criteria to achieve one innovation credit for this BREEAM issue. </li> <li>4. The percentage of high-grade aggregate, that is recycled and/or secondary aggregate and poincation (present) must meet the exemplary minimum levels (by weight or volume), as defined in the Table 68. Where this minimum level is not met, all the aggregate in that application must be considered as primary aggregate specified. </li> <li>5. Where the total amount of recycled and/or secondary aggregate in that application (present) must meet the minimum level in criterion 1 is not met for an aggregate specified. </li> <li>6. The contributing recycled or secondary aggregate when calculating the total high-grade aggregate specified for the project. Where the minimum level in criterion 1 is not met for an application must be considered as primary aggregate when calculating the total high-grade aggregate specified.</li> </ul>	1	0.71%	1	0.71%	0	0%	Glenn Miles (Encon Associates) on 26 Oct 2022: Pre-Assessment Update Meeting 25/10/22 • Rebecca Overton (HTS) advised that credit should still be targeted.

Wst 03: Operational waste	One credit - Operational waste 1. Dedicated space(s) is provided for the	1	0.71%	1	0.71%	0	0%	
	segregation and storage of operational recyclable waste volumes generated by the assessed building/unit, its occupant(s) and activities. This snace must be							
	a. Clearly labelled, to assist with segregation, storage and collection of the recyclable waste streams							
	<ul> <li>Accessible to building occupants or facilities operators for the deposit of materials and collections by waste management contractors</li> </ul>							
	c. Of a capacity appropriate to the building type, size, number of units (if relevant) and predicted volumes of waste that will arise from daily/weekly operational activities and occupancy rates.							
	2. Where the consistent generation in volume of the appropriate operational waste streams is likely to exist, e.g. large amounts of packaging or compostable waste generated by the building's use and operation, the following facilities are provided:							
	<ul> <li>a. Static waste compactor(s) or baler(s); situated in a service area or dedicated waste management space.</li> </ul>							
	b. Vessel(s) for composing suitable organic waste resulting from the building's daily operation and use; OR adequate space(s) for storing segregated food waste and compostable organic material prior to collection and delivery to an alternative composing facility							
	c. Where organic waste is to be stored/composted onsite, a water outlet is provided adjacent to or within the facility for cleaning and hygiene purposes.							
	Additionally for healthcare buildings only 3. The specified/installed operational waste facilities are compliant with the relevant NHS guidelines for that part of the UK (See Compliance Note CN18)							
	Additionally for multi-residential buildings with self contained dwellings/bedsits only							
	<b>4.</b> Each dwelling/bedsit has a provision of three internal storage containers, as follows:							
	<ul> <li>a. A minimum total capacity of 30 litres</li> <li>b. No individual container smaller than 7 litres</li> </ul>							
	<ul> <li>c. All containers in a dedicated non obstructive position</li> <li>d. The storage containers for recycling are</li> </ul>							
	provided in addition to non-recyclable waste storage.							
	<ol> <li>nome composing facilities and a nome composing infromation leaflet are provided within the kitchen area or communal space for each self- contained dwelling/bedsit.</li> </ol>							
	Additionally for multi-residential buildings with individual bedrooms and communal facilities only							
	6. The above storage requirements (criterion 4) for self-contained dwellings/bedsits are met for every six bedrooms							
	<ul> <li>7. The recyclable storage is located in a dedicated non obstructive position in either:</li> <li>a. Communal kitchens; OR</li> </ul>							
	b. Where there are no communal kitchens present, in a communal space such as communal lounges or utility areas.							
	8. Home composting facilities and a home composting information leaflet are provided within the kitchen area or communal space for each self contained dwelling, bedsit or communal kitchen.							
Wst 04: Speculative floor and ceiling finishes	One credit - Interior finishes for category A projects Office building types only 1. For tenanted areas (where the future occupant is not known), prior to full fit-out works, new interior finishes (including carpets, other floor finishes and ceiling finishes and any other interior finishes) have been installed in a show area only. 2. In a building developed for a specific occupant,	1	0.71%	1	0.71%	0	0%	
	specified floor and ceiling finishes.							

Wst 05: Adaptation to	A number of BREEAM issues within the	1	0.71%	1	0.71%	0	0%	Glenn Miles (Encon Associates) on 26 Oct
climate change	Refurbishment and Fit-out scheme contain assessment criteria which aim to support mitigation of the impacts of extreme weather		5.7170	1	0.7170		0.70	2022: Pre-Assessment Update Meeting 25/10/22
	events arising from climate change. The main credit in this issue focuses on structural and fabric resilience not covered in other issues, where underteling a Part 1 economet. An Ecompland							<ul> <li>New architectural team have been appointed as Hawkins Brown no longer involved.</li> </ul>
	undertaking a Part 1 assessment. An Exemplary credit is awarded where a holistic approach on adaptation to climate change has been covered, demonstrated by achieving credits in other issues, where undertaking a comprehensive refurbishment and all parts are being assessed (i.e. assessed							<ul> <li>@DLA Architecture to complete WST 5         Adaption to Climate Change workshop         along with the M and E consultant and         engineer. Reports to be provided ASAP         to ensure early RIBA starces met     </li> </ul>
	under all parts 1 - 4). The following is required to demonstrate							Adam Atraktzi (DLA Architecture) to     co-ordinate and provide reporting
	One credit - Structural and fabric resilience							
	1. Conduct a climate change adaptation strategy appraisal for structural and fabric resilience by the end of Concept Design (RIBA Stage 2 or equivalent), in accordance with the following approach:							
	a. Carry out a systematic (structural and fabric resilience specific) risk assessment to identify and evaluate the impact on the building over its projected life cycle from expected extreme weather conditions arising from climate change and, where feasible, mitigate against these impacts. The							
	assessment should cover the following stages:							
	i. Hazard identification							
	ii. Hazard assessment							
	iii. Risk estimation							
	v. Risk evaluation							
	Exemplary credit – Responding to climate							
	change							
	A holistic approach to the design and construction of the current building's life cycle, to mitigate against the impacts of climate change, is represented by the achievement of these criteria.							
	The following outlines the exemplary level criteria to achieve one innovation credit for this BREEAM issue:							
	<ol> <li>Achievement of criterion 1, the Structural and fabric resilience criterion in this issue, and the following criteria points or credits (link to Wst 05):</li> <li>Hea 04 Thermal comfort</li> </ol>							
	<ul> <li>Criterion 7 in the second credit of the Hea 04 issue has been achieved.</li> </ul>							
	Ene 01 Reduction of energy use and carbon emissions							
	(maximise energy efficiency contributing to low carbon emissions resulting from increasing energy demands)							
	<ul> <li>At least eight credits in this issue have been achieved</li> </ul>							
	Ene 04 Low carbon design (maximise opportunities to avoid unecessary carbon emissions)							
	<ul> <li>The Passive design analysis credit in this issue has been achieved.</li> </ul>							
	Wat 01 Water consumption (minimise water demands in periods of drought)							
	<ul> <li>A minimum of three credits in this issue have been achieved.</li> </ul>							
	Mat 05 Designing for durability and resilience (avoid increased risks of deterioration and higher maintenance demands)							
	<ul> <li>Criterion 2 relating to material degradation in this issue has been achieved.</li> </ul>							
	<b>Pol 03 Surface water run-off</b> (minimise the risks of increased flood risk and surface water run-off affecting the site or others)							
	<ul> <li>Flood risk – a minimum of one credit has been achieved.</li> </ul>							
	<ul> <li>Surface water run-off – two credits have been achieved.</li> </ul>							

Wst 06: Functional adaptability	<ul> <li>One credit - Functional adaptability</li> <li>1. A building-specific functional adaptation strategy study has been undertaken by the client and design team by Concept Design (RIBA Stage 2 or equivalent), which includes recommendations for measures to be incorporated to facilitate future adaptation.</li> <li>2. Functional adaptation measures (see examples in Table - 69) have been adopted in the design by Technical Design stage (RIBA Stage 4 or equivalent) in accordance with the functional adaptation strategy recommendations, where practical and cost effective. Omissions have been justified in writing to the assessor.</li> </ul>	1	0.71%	1	0.71%	0	0%	
Waste Totals		12	8.47%	9	6.35%	3	2.12%	

Land Use and Ecology	Compliance	Requireme	ents			Av	ailable	Та	argeted		otential	Comments
LE 02: Ecological value of site and protection of ecological features	One credit - 1. All existing within and su boundary are site preparati BS42020: 20 2. In all case: protection red to any prelim erection of te	Protection features of rrounding the a are adequing and refuination on and refuination and refuination to a set of the commended inary site reise mporary site	of ecological fea ecological value ( le refurbishment c lately protected fr bishment or fit-ou pal contractor is re by the Suitably C furbishment or fit- e facilities).	tures see Relevant of r fit-out zone a com damage du t activities in lin equired to cons tualified Ecolog but or preparat	definitions) Ind site Iring clearance, ne with truct ecological jist (SQE), prior ion works (e.g.	1	2.26%	1	2.26%	0	0%	Glenn Miles (Encon Associates) on 26 Oct 2022:         Pre-Assessment Update Meeting 25/10/22         • No changes to targeted ecology credits.         • Lucy Brown O'Sullivan (Morgan Capital) to forward ecology reports to Adam Atraktzi (DLA Architecture) to ensure recommendations incorporated into the design.
LE 04: Enhancing site ecology	One credit - (Except build compliance v 1. A suitably or their projet stage (RIBA of the site at 2. The SQE f recommenda Design stage visit/survey b 3. The early s for the enhan in the refurbis	Ecologist's ings on HM vith criteria 1 qualified ecc ct represent Stage 1 or e an early sta nas provided tions for the e (RIBA Stag y the SQE ( stage advice common of sishment or fit	a <b>report and reco</b> Prison sites when 1, 2 and 3) blogist (SQE) has ative by the end o equivalent) to advi- ge. d an Ecology Repo- enhancement of le 2 or equivalent) see also CN6). and recommend- ite ecology have b- out.	mmendations e two credits a been appointe f the Preparati se on enhancir ort with approp the site's ecolo . The report is ations of the Eco been, or will be	re available for d by the client on and Brief ng the ecology riate gy at Concept based on a site cology Report , implemented	1	2.26%	1	2.26%	0	0%	Glenn Miles (Encon Associates) on 26 Oct 2022: <u>Pre-Assessment Update Meeting</u> <u>25/10/22</u> • No changes to targeted ecology credits. • Lucy Brown O'Sullivan (Morgan Capital) to forward ecology reports to Adam Atraktzi (DLA Architecture) to ensure recommendations incorporated into the design.
LE 05: Long term impact on biodiversity	Up to two cr 1. Where a S commencem and EU legislecology has 1 process. 2. Where a lassite, is produced completion in be handed on be handed on Where alassite, is produced completion in be handed on Where criteria No. of a 1 2 Where the St additional me assessed dev Credits 1 2	edits Euitably Quale ent of activit lation relatin been compli andscape an ced covering accordance ver to the bu staff. ditional meas re adopted, a 1 to 3 are credits	ified Ecologist (S0 ies onsite and the g to the protection ed with during the d habitat manage g at least the first is with BS 42020:2 iliding owner/occu sures to improve t according to Tabl met credits can be No. of A fied Ecologist (S0 d in Table - 69 are the credits can be icable additional 4 3 inber of additional 2 2 4 3	QE) is appointe y confirm that in and enhanced design and compared to the second secon	ed prior to all relevant UK ment of instruction propriate to the project .1. This is to proy the grounds ite's long term collows: at some of the e to the llows: 1 assess N/A 1	2	4.52%	2	4.52%	0	0%	Glenn Miles (Encon Associates) on 26 Oct 2022: <u>Pre-Assessment Update Meeting</u> <u>25/10/22</u> • No changes to targeted ecology credits. • Lucy Brown O'Sullivan (Morgan Capital) to forward ecology reports to Adam Atraktzi (DLA Architecture) to ensure recommendations incorporated into the design.
		4	4 3	2	1							
Land Use and Eco	ology Totals					4	9.03%	4	9.03%	0	0.00%	

Pollution	Compliance Requirements			Ava	ailable	Та	rgeted	Po	otential	Comments
Pol 01: Impact of refrigerants	Three credits - No refrigerant use 1. Where the building does not require the use of refrigerants in exist within its installed plant/systems. OR Where the building uses refrigerants, in existing or new installed systems Pre-requisite 2. All systems (with electric compressors) must comply with the requires and the systems (with electric compressors) must comply with the requires and the lastitute of Refrigeration Ammonia Refrigeration System Two credits - Impact of refrigerant 3. Where the systems using refrigerants have Direct Effect Life Cycle emissions (DELC CO <sub>2e</sub> ) of $\leq 100 \text{ kgCO}_{2e/kW}$ cooling/heating capace DELC CO <sub>2e</sub> please refer to the Relevant definitions in the Additional the Methodology section. OR 4. Where air-conditioning or refrigerants have Direct Effect Life Cycle emissions (DELC CO <sub>2e</sub> ) of $\leq 1000 \text{ kgCO}_{2e/kW}$ cooling/heating capace Disolal Warming Potential (GWP) $\leq 10$ . OR 0. Where the systems using refrigerants have Direct Effect Life Cycle emissions (DELC CO <sub>2e</sub> ) of $\leq 1000 \text{ kgCO}_{2e/kW}$ cooling/heating capace 0. OR 0. Where the systems using refrigerants have Direct Effect Life Cycle emissions (DELC CO <sub>2e</sub> ) of $\leq 1000 \text{ kgCO}_{2e/kW}$ cooling/heating capace 0. Where systems using refrigerants have a permanent automated re- system installed. OR where an in-built automated diagnostic proced leakage is installed. In all instances a robust and tested refrigerant I must be installed. In all instances a robust and tested refrigerant I must be installed and must be capable of continuously monitoring 7. The system must be capable of automatically isolating and contair refrigerant(s) charge in response to a leak detection incident (see O	3	2.6%	1	0.87%	2	1.74%			
Pol 02: NOx emissions	Up to three credits (all building types except Industrial)         1. Where the plant installed to meet the building's delivered heating has, under normal operating conditions, a NOx emission level (meas 0% excess O2) as follows:         NOx Emission levels for heating and hot water (mg/kW         ≤ 100 mg/kWh         ≤ 70 mg/kWh         ≤ 40 mg/kWh         Two credits (Industrial building types only - see CN15)         NOx Emission levels for heating and hot water (mg/kWh)         Office and associated areas ≤ 70 mg/kWh         Operational areas ≤ 70 mg/kWh	ding types except Industrial)         o meet the building's delivered heating and hot wa         conditions, a NOx emission level (measured on a         Is for heating and hot water (mg/kWh)         ding types only - see CN15)         r heating and hot water (mg/kWh)         cs ≤ 70 mg/kWh       1 cree         kWh       1 cree		3	2.6%	0	0%	0	0%	
	<b>2.</b> Report via the BREEAM scoring and reporting tool the direct and indirect NO <sub>x</sub> emissions in mg/kWh and energy consumption in kWh/m <sup>2</sup> /yr arising from systems installed to meet the building's space heating, cooling and hot water demands.									

Pol 03: Flood risk	This issue is split into three parts;	2	1.74%	2	1.74%	0	0%	
management	Flood risk management (2 credits)							
reducing	Surface water run-off (2 credits)							
surface water run-off	Minimising water course pollution (1 credit)							
1. Flood risk	Two credits - Flood risk management							
management	Low flood risk							
	1. Where flood maps from the appropriate statutory body (see Relevant definitions)confirm the refurbishment or fit-out is situated in a flood zone that is defined as having a low annual probability of flooding; OR							
	2. The project meets the requirements for avoidance of flooding in accordance with Checklist 1, (see Checklists and tables), e.g. where the refurbishment or fit-out zone is of a floor level that is 0.3m higher than the obtained/estimated flood level and safe access/escape routes are available/present							
	OR							
	Medium/high flood risk							
	3. Where criterion 4 and either criterion 5 or 6 have been met							
	the site has a medium or high flood risk and a site specific Flood Risk Assessment (FRA) has been undertaken (as relevant to size of project in accordance with CN7). The FRA must take all current and future sources of flooding into consideration in accordance with							
	compliance note.							
	5. Where the refurbishment or fit-out zone achieves avoidance from flooding through either:							
	a. The refurbishment and fit-out zone is located entirely on the first floor or above and a flood emergency plan has been developed in accordance with 'Would your business stay afloat? A Guide to preparing your business for flooding', Environment Agency, 2011							
	OR							
	b. As a result of the building's floor level or measures to keep water away, the building is defined as achieving avoidance from flooding by following Checklist A-1, Checklists and tables.							
	6. Where avoidance is not possible, two credits are achieved where a full flood resilience/resistance strategy is implemented for the building's scope of works in accordance with recommendations made by a Suitably Qualified Building Professional (see Relevant definitions. The following aspects of the design should be addressed for the relevant parts, in accordance with best practice guidance (see compliance note CN9):							
	a. Part 1: Fabric – using flood resilient materials and flood protection measures for the building fabric, e.g. waterproof materials, impermeable membranes, flood barriers, safe access/exit points in the event of a flood etc.							
	b. Part 2: Core services – core services and associated infrastructure (including equipment and vulnerable pipes/ducts/cables etc.) should be located/specified so as to protect services from flooding damage, e.g. location/routing/height, protection of building apertures (such as intakes/extracts/ventilation), non-return valves etc.							
	c. Part 3: Local services – the location/height of local services such as sockets, vents etc. and the location of the wiring/pipework/ductwork in relation to the flood level and other measures to protect local services.							
	d. Part 4: Interior – the proposed function of spaces that are below the flood level (e.g. sacrificial spaces) should be limited to those which are not susceptible to flood damage, and the resilience of materials used for partitions, walls, floors, ceiling finishes, furniture and fittings and the location of equipment in relation to the flood level, e.g. avoid storing flood sensitive materials and functions in spaces that are below the flood level.							

Pol 03: Flood risk	This issue is split into three parts;	2	1.74%	1	0.87%	0	0%	
management	Flood risk management (1 to 2 credits)							
reducing	Surface water run-off (2 credits)							
water run-off	Minimising water course pollution (1 credit)							
2. Surface	One credit - neutral impact on surface water							
	7. There is no increase in the impermeable surfaces as a result of the refurbishment works; OR							
	<b>8.</b> If there is an increase in the impermeable surface as a result of the refurbishment works then the following must be met:							
	<ul> <li>a. Hard standing areas - where there is an extension or increase in the hardstanding areas and hence an increase in the total impermeable area as a result of the refurbishment works, the hardstanding area must be permeable or be provided with on-site SuDS to allow full infiltration of the additional volume, to achieve the same end result. The permeable hardstanding must include all pavements and public rights of way, car parks, driveways and non-adoptable roads, but exclude footpaths that cross soft landscaped areas which will drain onto a naturally permeable surface.</li> <li>b. Building extension - where there is an increase in building footprint, extending onto any previously permeable surfaces, the additional run-off caused by the area of the</li> </ul>							
	new extension must be managed on-site using an appropriate SuDS technique for rainfall depths up to 5mm.							
	Two credits - reducing run-off							
	<ol> <li>An Appropriate Consultant (see Relevant definitions) has been used to design an appropriate drainage strategy for the site.</li> </ol>							
	10. Either of the following criteria are met:							
	a. There is a decrease in the impermeable area by 50% or more, from the pre-existing impermeable hard surfaces; OR							
	b. Where run-off as a result of the refurbishment is managed on-site using source control achieving the following requirements:							
	i. The peak rate of run-off as a result of the refurbishment for the 1 in 100 year event has been reduced by 50% from the existing site.							
	ii. The total volume of run-off discharged into the watercourses and sewers as a result of the refurbishment, for a 1 in 100 year event of 6 hour duration has been reduced by 50%.							
	iii. An allowance for climate change must be included for all of the above calculations; this should be made in accordance with current best practice planning guidance.							
	Exemplary level criteria							
	The following outlines the exemplary level requirements to achieve an innovation credit for surface water run-off:							
	<b>15.</b> Where all run-off from the developed site is managed on-site using source control, the following must be achieved to confirm compliance:							
	a. The peak rate of run-off as a result of the refurbishment for the 1 in 1 year event is reduced to zero.							
	b. The peak rate of run-off as a result of the refurbishment for the 1 in 100 year event is reduced to zero.							
	c. There is no volume of run-off discharged into the watercourses and sewers as a result of the refurbishment, for a 1 in 100 year event of 6 hour duration.							
	d. An allowance for climate change must be included for all of the above calculations, in accordance with current best practice national planning guidance.							
	e. Where an appropriately qualified professional has been employed to provide the above calculations and design an appropriate drainage strategy for the site, ensuring all above criteria are achieved.							
Pol 03: Flood rick	This issue is split into three parts;	1	0.87%	0	0%	0	0%	
management	Flood risk (1 to 2 credits)							
reducing	Surface water run-off (2 credits)							
water run-off	Minimising water course pollution (1 credit)							
3. Minimising water course	Minimising water course pollution							
pollution	Une credit 11 There is no discharge from the developed site (includes new and existing hard							
	landscaping and buildings) for rainfall up to 5mm (confirmed by the Appropriate Consultant).							
	<b>12.</b> Where suitable pollution prevention measures are put in place (or already exist) for the different sources of pollution present on the assessed site, in accordance with compliance note CN20.							
	<b>13.</b> A comprehensive and up to date drainage plan of the site will be made available for the building/site occupiers.							
	14. Relevant maintenance agreements for the ownership, long term operation and maintenance of all installed Sustainable Drainage Systems (SuDS) are in place, or for speculative projects, made available for the future occupier.							

Pol 04:       One credit       1       0.87%       1       0.87%       1       0.87%       0       9%         Reduction of night imp       0.81%       1       0.87%       1       0.87%       0       9%         Sector 10       0.81%       1       0.87%       1       0.87%       1       0.87%       0       9%         Sector 10       0.81%       1       0.87%       1       0.87%       1       0.87%       0       9%         Sector 10       0.81%       1       0.87%       1       0.87%       1       0.87%       0       9%         Sector 10       0.81%       1       0.87%       1							1		
Pol 6: Reduction of noise pollutionApplicability: This issue is applicable to Parts 1, 2 and 3 assessments to assess the impact of existing or newly specified externally mounted plant and the impact of any fabric measures on reducing the impact of noise on any nearby noise-sensitive buildings. The following is required to demonstrate compliance: One credit10.87%10.87%00%Ginn Miles Encon Associates) on 26 Oct 2022: Pre-Assessment Undate Meeting 28/1022Or R1. Where there are, or will be, no noise-sensitive areas or buildings within 800m radius of the assessed development. OR10.87%110.87%1110.87%11<	Pol 04: Reduction of night time light pollution	<ul> <li>One credit</li> <li>1. Where external lighting pollution has been eliminated through effective design that removes the need for external lighting without adversely affecting the safety and security of the site and its users.</li> <li>OR alternatively, where the building does have external lighting, one credit can be awarded as follows:</li> <li>2. The external lighting strategy has been designed in compliance with Table 2 (and its accompanying notes) of the ILP Guidance notes for the reduction of obtrusive light, 2011.</li> <li>Buildings located in Scotland must comply with the light pollution criteria in the guidance note 'Controlling Light Pollution and Reducing Lighting Energy Consumption'.</li> <li>This can be demonstrated via completion of the checklists in Annexes B and C of the guidance note by a relevant member of the design team.</li> <li>3. All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00.</li> <li>4. If safety or security lighting is provided and will be used between 23:00 and 07:00, this part of the lighting system complies with the lower levels of lighting recommended during these hours in Table 2 of the ILP's Guidance notes.</li> <li>5. Illuminated advertisements, where specified, must be designed in compliance with ILP PLG 05 The Brightness of Illuminated Advertisements.</li> </ul>	1	0.87%	1	0.87%	0	0%	
Pollution Totals 13 11.29% 6 5.21% 2 1.74%	Pol 05: Reduction of noise pollution	<ul> <li>Applicability: This issue is applicable to Parts 1, 2 and 3 assessments to assess the impact of existing or newly specified externally mounted plant and the impact of any fabric measures on reducing the impact of noise on any nearby noise-sensitive buildings. The following is required to demonstrate compliance: One credit <ol> <li>Where there are, or will be, no noise-sensitive areas or buildings within 800m radius of the assessed development.</li> <li>OR</li> <li>Alternatively, where the building does have noise sensitive areas or buildings within 800m radius of the development, one credit can be awarded as follows: <ul> <li>a. Where a noise impact assessment in compliance with BS 7445 has been carried out and the following noise levels measured/determined</li> <li>i. Existing background noise levels at the nearest or most exposed noise-sensitive development to the proposed development or at a location where background conditions can be argued to be similar. The existing background noise levels shall not include existing plant associated with the assessed building (see CNs on Part applicability for exceptions). <ul> <li>ii. The rating noise level resulting from the new noise-source (see CN7).</li> </ul> </li> <li>The noise impact assessment must be carried out by a suitably qualified acoustic consultant holding a recognised acoustic qualification and membership of an appropriate professional body (see Relevant definitions in the Additional information section).</li> <li>4. The noise level from the proposed site/building, as measured in the locality of the nearest or most exposed noise-sensitive development, is a difference no greater than the levels descripted in criterion 4, measures have been installed to attenuate the noise at its source to a level where it will comply with criterion 4.</li> </ul></li></ol></li></ul>	1	0.87%	1	0.87%	0	0%	Glenn Miles (Encon Associates) on 26 Oct 2022: Pre-Assessment Update Meeting 25/10/22 • Lucy Brown O'Sullivan (Morgan Capital) advised that RBA Acoustics have completed a review based on the new scheme. • Lucy Brown O'Sullivan (Morgan Capital) to contact RBA Acoustics to ascertain if credits can still be targeted.
	Pollution Total	s	13	11.29%	6	5.21%	2	1.74%	

Innovation	Compliance Requirements	Avai	lable	Targ	eted	Pot	ential	Comments
Inn 01: Innovation	Up to a maximum of 10 credits are available in aggregate from a combination of the following: Exemplary level of performance in existing BREEAM issues 1. Where the building demonstrates exemplary performance by meeting defined exemplary level performance criteria in one or more of following BREEAM assessment issues: a. Man 01 Project brief and design (Simple buildings only) b. Man 03 Responsible construction practices c. Man 05 Aftercare d. Hea 01 Visual comfort e. Hea 02 Indoor air quality f. Ene 01 Reduction of energy use and carbon emissions g. Wat 01 Water consumption h. Mat 01 Life cycle impacts i. Mat 03 Responsible sourcing of materials j. Wst 01 Construction-site waste management k. Wst 02 Recycled aggregates I. Wst 05 Adaptation to climate change m. Pol 03 Surface water run-off (Simple buildings only). Please refer to the relevant BREEAM issue within this scheme document for details of the exemplary level performance assessment criteria. Approved innovations 2. One innovation credit can be awarded for each innovation application approved by BRE Global Limited, where the building complies with the criteria defined within an Approved Innovation Application Form.	10	10%	0	0%	0	0%	
Man 03: Responsible construction practices	Assessment criteria 1. See compliance requirements for Man 03	1	1%	0	0%	0	0%	
Man 05: Aftercare	Assessment criteria 1. See compliance requirements for Man 05	1	1%	1	1%	0	0%	
Hea 01: Visual comfort	Assessment criteria 1. See compliance requirements for Hea 01	1	1%	0	0%	0	0%	
Hea 02: Indoor air quality	Assessment criteria 1. See compliance requirements for Hea 02	2	2%	0	0%	0	0%	
Ene 01: Reduction of energy use and carbon emissions	Assessment criteria 1. See compliance requirements for Ene 01	5	5%	0	0%	0	0%	
Wat 01: Water consumption	Assessment criteria 1. See compliance requirements for Wat 01	1	1%	0	0%	0	0%	
Mat 01: Life cycle impacts	Assessment criteria 1. See compliance requirements for Mat 01	1	1%	1	1%	0	0%	
Mat 03: Responsible sourcing of materials	Assessment criteria 1. See compliance requirements for Mat 03	1	1%	0	0%	0	0%	
Wst 01: Construction site waste management	Assessment criteria 1. See compliance requirements for Wst 01	1	1%	0	0%	0	0%	
Wst 02: Recycled aggregates	Assessment criteria 1. See compliance requirements for Wst 02	1	1%	0	0%	0	0%	
Wst 05: Adaptation to climate change	Assessment criteria 1. See compliance requirements for Wst 05	1	1%	0	0%	0	0%	
Pol 03: Flood risk management and reducing surface water run-off	Assessment criteria 1. See compliance requirements for Pol 03	1	1%	0	0%	0	0%	
Innovation Totals (Up to	a maximum of 10 credits)	10	10.00%	2	2.00%	0	0.00%	
Overall Totals		134	110.00%	104	84.59%	11	8.41%	

## 7 Potential Credits Report



GREEN BUILDING RATINGS ONLINE



#### **Potential Credits**

Project:	A4944 - Kirby Street
Design Target:	Excellent - 84.59%
Potential Rating:	Outstanding - 93.00%
Design Rating:	Unclassified - 2.96%
Simulated:	Excellent - 84.59%

Criteria	Credits Targeted	Percentage	Additional Credits	Percentage	Simulate	
Man 01.1: Project brief and design : Stakeholder consultation	0	0.00%	2	1.29%	0	~
Man 02: Life cycle cost and service life planning	3	1.94%	1	0.65%	0	~
Hea 01.1: Visual comfort : Glare control	0	0.00%	1	0.77%	0	~
Hea 01.2: Visual comfort : Daylighting	2	1.54%	1	0.77%	0	~
Mat 03: Responsible sourcing of materials	2	2.17%	1	1.09%	0	~
Wst 01.2: Project waste management : Reuse and direct recycling of materials	0	0.00%	2	1.41%	0	~
Wst 01.3: Project waste management : Resource efficiency	2	1.41%	1	0.71%	0	~
Pol 01: Impact of refrigerants	1	0.87%	2	1.74%	0	~

Created by Glenn Miles (Encon Associates) on 26 Oct 2022 18:14 www.iestap.com

#### 8 Assessor Declaration

This Stage 2 Pre-Assessment report has been prepared by Encon Associates Ltd based on a full Pre-Assessment webinar meeting completed 26<sup>th</sup> Oct 2022.

We can confirm Encon Associates have been appointed at RIBA stage 1-2. This report was completed prior to planning.

Signed for and on behalf of Encon Associates

thele,

Glenn Miles BREEAM Accredited Assessor and Professional (BREEAM AP 0137) Director Encon Associates Limited