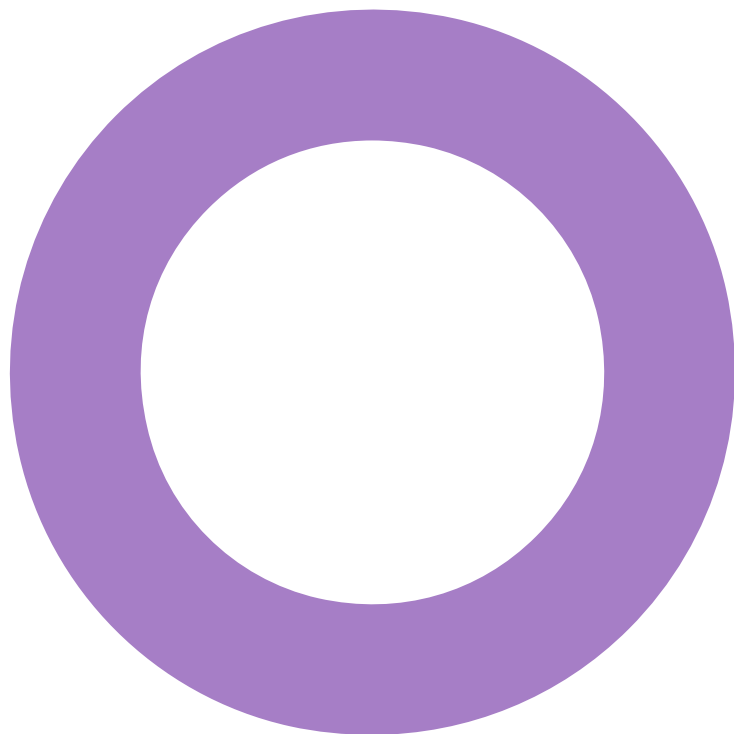


Broad Street Mall Master Plan.
Broad Street Mall, Reading, RG1 7GQ.
Inception (Reading) Sarl (c/o Moorgarth Group Ltd).

SUSTAINABILITY
SUSTAINABILITY STATEMENT (INCL. BREEAM PRE-ASSESSMENT)

REVISION B – 08.11.2018



Audit sheet.

Rev.	Date	Description of change / purpose of issue	Prepared	Reviewed	Authorised
A	17.12.2018	For Submission	J. Nuttall	S. Weston	J. Ford
B	08.11.2018	For Submission	M. Robertson	B. Elrick	J. Ford

This document has been prepared for Inception (Reading) Sarl (c/o Moorgarth Group Ltd) only and solely for the purposes expressly defined herein. We owe no duty of care to any third parties in respect of its content. Therefore, unless expressly agreed by us in signed writing, we hereby exclude all liability to third parties, including liability for negligence, save only for liabilities that cannot be so excluded by operation of applicable law. The consequences of climate change and the effects of future changes in climatic conditions cannot be accurately predicted. This report has been based solely on the specific design assumptions and criteria stated herein.

Project number: 23/23135
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1. Executive Summary

This Sustainability Strategy has been prepared in support of the full planning application for the residential development of Broad Street Mall Master Plan, Reading, hereafter referred to as the Proposed Development.

This strategy outlines how the Proposed Development would seek to meet the policy targets of Reading Borough Council (RBC).

Updated from previous submission

Planning permission was previously sought for the Proposed Development in December 2018.

This document replaces the Energy Strategy (Ref: REP-2323135-5-JN-20181217-Sustainability Statement-Rev A, issued 17th December 2018) previously submitted by Hoare Lea and reflects the following changes to the scheme:

- The Statement now reflects the Reading Borough Local Plan (adopted November 2019), ceasing use the existing Reading Borough Council Core Strategy.
- Block D has been removed from the scheme
- Part L1A 2013 calculations have been updated to reflect the planning submission drawings provided by Corstorphine and Wright Architects. Refer to the Energy Strategy for further detail.

National and Local Planning Policies

This report includes a review of both national and local planning policies of Reading Borough Council (RBC). Specifically, the following policy documents have been reviewed:

National Policy and Guidance

- The National Planning Policy Framework (March 2012)
- Building Regulations Part L (October 2013)

Local Policy – Current and Emerging

- Reading Borough Local Plan (Adopted November 2019)
- The Supplementary Planning Documents (SPD)
 - Reading Station Area Framework (December 2010)
 - Sustainable Design and Construction (July 2011)
- Community Infrastructure Levy – Charging Schedule (January 2015)

Relevant policy requirements / targets; that is, those pertaining to energy and sustainability and how these are addressed by the Proposed Development are outlined in this report.

The Wider Context of Sustainability

The Proposed Development will bring benefits to the Borough by offering new employment opportunities and utilising re-developed land within city centre.

The Applicant seeks to optimise the potential of the site by bringing forward these development proposals.

Proposed Sustainability Targets

As a principal target, The Applicant is aspiring to target a BREEAM ‘Very Good’ rating (retail units) in line with RB Local Plan policy.

Principles of Sustainable Development

The Proposed Development intends to implement best practice principles of sustainable design, as follows:

Community Engagement and Facilities

Engage with the local community throughout design, construction and operation to deliver a sustainable development, built for purpose and well used and appreciated by future building occupants.

Health and Wellbeing

To safeguard the health and wellbeing of the future occupants of the residential spaces at the Proposed Development by ensuring that, amongst other things, people will not be exposed to excessive noise or flickering lights. The Proposed Development will seek to mitigate any negative effect to the acoustic environment that may arise nearby as a result of the Proposed Development.

Responsible Use of Materials

The Proposed Development will seek to reduce the effect of materials on the environment and on building users and would seek to make the most sustainable choices in terms of material selection.

Minimisation of Waste

The Proposed Development will seek to reduce the amount (volume and mass) of waste sent to landfill throughout construction and operation of the Proposed Development over its lifetime, through effective management and regard to the waste management hierarchy.

It is intended that at least 80% of construction and demolition waste would be diverted from landfill, in line with BREEAM targets, with the aspiration to achieve higher where feasible. Likewise, it is intended that opportunities are provided to maximise the diversion of operational waste from landfill.

Reducing Energy Demand & CO₂ Emissions

The Proposed Development will have a reduced effect on climate change by reducing CO₂ emissions associated with energy use in buildings. The Proposed Development will reduce energy demand through passive design and energy efficiency measures such as best practice levels of insulation, and low fabric air permeability. Through these measures, the Proposed Development is anticipated to achieve an 2.2% reduction in regulated CO₂ emissions beyond the requirements of the Building Regulations Part L 2013 ‘baseline’.

A scenario was undertaken in which the proposed development utilises the proposed carbon emission factors detailed in ‘SAP 10’ to evaluate the future impact of the proposed strategy. Using the SAP 10 carbon emission factors, the Proposed Development achieves an ~54.1% reduction in regulated CO₂ emissions – over the current Part L ‘baseline’.

Pollution Control

The Proposed Development aims to reduce pollution to ensure that the buildings do not have a negative effect on the local environment, the people coming into contact with the buildings during construction, or people using the buildings post construction. For example, the proposed strategy for the residential development includes the use of all-electric i.e. electric heating and hot water therefore no boilers and no emissions arising from combustion (NO_x), and materials with low Volatile Organic Compounds (VOCs) will be selected where feasible.

Minimising Water Use

The Proposed Development aims to be water efficient and is aiming to achieving a water usage of less than 125 litres per person per day in the residential areas. This will be achieved through incorporating measures to reduce potable water consumption through use of efficient fixtures and fittings.

It is intended that water meters would also be provided to enable users to monitor usage and target reductions where feasible.

Improving Ecology & Biodiversity

The Proposed Development intends to maintain and improve ecology and biodiversity on the Site beyond pre-existing conditions, where feasible. As a minimum, it is intended that there is no negative effect on existing ecology and biodiversity.

Sustainable Transport

Accessible and safe pedestrian and cyclist routes will be provided to maximise sustainable transport options, while also having health and well-being benefits for future users of the Proposed Development.

2. Introduction

2.1 The Application

This sustainability strategy has been prepared on behalf of Inception (Reading) Sarl (c/o Moorgarth Group Ltd.) hereafter referred to as the Applicant, in support of a full planning application for the residential development of Broad Street Mall Master Plan, Reading, hereafter referred to as the Proposed Development.

Development Description

The Broad Street development consists of a mixture of residential and retail development. The residential elements are split over four blocks; Block A, B, C & E.

The total development gross floor area including retail areas is 32,984m².

Aim

This strategy summarises the pertinent regulatory and planning policies applicable to the Proposed Development, and sets targets commensurate with these policies, which the Proposed Development will seek to achieve. This strategy summarises the sustainability measures that will be implemented for the detailed application areas of the development.

Approach

The objective of this document is to set out the measures that are likely to be implemented to achieve the Proposed Development's targets. The approach of this strategy is therefore to describe how the design will seek to address the aspects of sustainability outlined in Figure 2.1.



Figure 2.1 Sustainability Wheel



Figure 2.2: Broad Street, Reading

3. Policies and Drivers

This section provides a summary of the relevant national and local sustainability planning policies (energy and sustainability) – including, the national planning policy framework and the local policies of the Reading Borough Council (RBC).

This strategy has endeavoured to respond positively to the targets set and achieve the requirements where feasible. The policy documents summarised below are applicable to this development and have been reviewed in this report.



Figure 3.1: Key Policy Documents.

The National Planning Policy Framework (March 2012)

The National Planning Policy Framework (NPPF) was published on 27th March 2012 and superseded all Planning Policy Statements (PPS) and Planning Policy Guidance (PPG) documents.

The National Planning Policy Framework sets out the Government's economic, environmental and social planning policies for England. In combination, these policies articulate the Government's vision of sustainable development, which should be interpreted and applied locally to meet local aspirations.

It provides a framework within which local people and their accountable councils can produce their own distinctive local and neighbourhood plans, which reflect the needs and priorities of their communities. The NPPF states that: "Proposed redevelopment that accords with an up-to-date Local Plan should be approved and proposed redevelopment that conflicts should be refused unless other material considerations indicate otherwise."

Building Regulations Part L (October 2013)

The assessment of the Proposed Development against policy targets has been carried out using the Building Regulations Part L 2013 methodology.

Criterion One of the current Building Regulations requires that the dwellings as designed does not generate CO₂ emissions in excess of that set by the Target Emission Rate (TER) calculated in accordance with the National Calculation Methodology for dwellings. Furthermore, Criterion 1b of the Building Regulations sets a minimum fabric energy efficiency referred to as the TFEF for each dwelling within the development.

Current Policy Framework

The policies of Reading Borough Council (RBC) are contained within the Local Plan documents:

Those applicable to the Development are:

- Reading Borough Local Plan (Adopted November 2019)
- The Supplementary Planning Documents (SPD)
 - Reading Station Area Framework (December 2010)
 - Sustainable Design and Construction (July 2011)
- Community Infrastructure Levy – Charging Schedule (January 2015)

Reading Borough Local Plan Policies

A summary of the Reading Borough Local Plan (Adopted November 2019) policies relevant to the energy and sustainable elements of the design are presented below. For further detail on each policy refer to the Reading Borough Local Plan (Adopted November 2019).

Policy Reference	Target
LP Policy CC1	A positive approach to considering development proposals will be taken that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework.
LP Policy CC2	Proposals for new development, including the construction of new buildings and the redevelopment and refurbishment of existing building stock, will be acceptable where the design of buildings and site layouts use energy, water, minerals, materials and other natural resources appropriately, efficiently and with care and take account of the effects of climate change. To meet these requirements: – All major non-residential developments or conversions to residential are required to meet the most up-to-date BREEAM ‘Excellent’ standards, where possible; – All minor non-residential developments or conversions to residential are required to meet the most up-to-date BREEAM ‘Very Good’ standard as a minimum; – All non-residential development or conversions to residential should incorporate water conservation measures so that predicted per capita consumption does not exceed the appropriate levels set out in the applicable BREEAM standard. Both residential and non-residential development should include recycling greywater and rainwater harvesting where systems are energy and cost effective.
LP Policy CC3	All developments will demonstrate how they have been designed to incorporate measures to adapt to climate change. The following measures shall be incorporated into development: – New buildings shall be orientated to maximise the opportunities for both natural heating and ventilation and reducing exposure to wind and other elements; – Proposals involving both new and existing buildings shall demonstrate how they have been designed to maximise resistance and resilience to climate change for example by including measures such as solar shading, thermal mass, heating and ventilation of the building and appropriately coloured materials in areas exposed to direct sunlight, green and brown roofs, green walls, etc; – Use of trees and other planting, where appropriate as part of a landscape scheme, to provide shading of amenity areas, buildings and streets and to help to connect habitat, designed with native plants that are carefully selected, managed and adaptable to meet the predicted changed climatic conditions; and – All development shall minimise the impact of surface water runoff from the development in the design of the drainage system, and where possible incorporate mitigation and resilience measures for any increases in river flooding levels as a result of climate change.
LP Policy CC4	In meeting the sustainability requirements of this plan, developments of the sizes set out below shall demonstrate how consideration has been given to securing energy for the development from a decentralised energy source, including CHP. Any development of more than 20 dwellings and/ or non-residential development of over 1,000 sq. m shall consider the inclusion of a CHP plant, or other form of decentralised energy provision,

Policy Reference	Target
	within the site, unless it can be demonstrated that the scheme is not suitable, feasible or viable for this form of energy provision. Where there is existing decentralised energy provision, including a CHP plant or a district energy network present within the vicinity of an application site, further developments of over 10 dwellings or non-residential development of 1,000 sq m will be expected to link into the existing decentralised energy network or demonstrate why this is not feasible.
LP Policy CC5	Development should demonstrate measures to minimise the generation of waste in the construction, use and life of buildings and promote more sustainable approaches to waste management, including the reuse and recycling of construction waste and the promotion of layouts and designs that provide adequate, well-designed space to facilitate waste storage, reuse, recycling and composting.
LP Policy CC6	The scale and density of development will be related to its level of accessibility by walking, cycling and public transport to a range of services and facilities, with the densest and largest scale development taking place in the most accessible locations.
LP Policy CC7	All development must be of high design quality that maintains and enhances the character and appearance of the area of Reading in which it is located. The various components of development form.
LP Policy CC8	Development will not cause a detrimental impact on the living environment of existing residential properties or unacceptable living conditions for new residential properties, in terms of: – Privacy and overlooking; – Access to sunlight and daylight; – Visual dominance and overbearing effects of a development; – Harm to outlook; – Noise and disturbance; – Artificial lighting; – Vibration; – Dust and fumes; – Smell; – Crime and safety; or – Wind, where the proposals involve new development of more than 8 storeys.
LP Policy CC9	Proposals for development will not be permitted unless infrastructure, services, resources, amenities or other assets lost or impacted upon as a result of the development or made necessary by the development will be provided through direct provision or financial contributions at the appropriate time.
LP Policy EN9	All new development should make provision for appropriate open space based on the needs of the development. This can be achieved through on or off-site provision, contributions toward provision or improvement of existing leisure or recreational facilities.

Policy Reference	Target
LP Policy EN10	In areas with relatively poor access to open space facilities (including as a result of severance lines), new development should make provision for, or contribute to, improvements to road and other crossings to improve access to green space and/or facilitate the creation or linking of safe off-road routes to parks.
LP Policy EN12	a) The identified Green Network, the key elements of which are shown on the Proposals Map, shall be maintained, protected, consolidated, extended and enhanced. Permission will not be granted for development that negatively affects the sites with identified interest or fragments the overall network. New development shall demonstrate how the location and type of green space, landscaping and water features provided within a scheme have been arranged such that they maintain or link into the existing Green Network and contribute to its consolidation. Such features should be designed to maximise the opportunities for enhancing this network. All new development should maximise opportunities to create new assets and links into areas where opportunities are as yet unidentified on the Proposals Map. b) On all sites, development should not result in a net loss of biodiversity and geodiversity, and should provide a net gain for biodiversity wherever possible. Development should: – Protect and wherever possible enhance features of biodiversity interest on and adjacent to the application site, incorporating and integrating them into development proposals wherever practicable; and – Provide new tree planting, wildlife friendly landscaping and ecological enhancements (such as wildlife ponds, bird and bat boxes) wherever practicable.
LP Policy EN14	Individual trees, groups of trees, hedges and woodlands will be protected from damage or removal where they are of importance, and Reading's vegetation cover will be extended. The quality of waterside vegetation will be maintained or enhanced.
LP Policy EN15	Development should have regard to the need to improve air quality and reduce the effects of poor air quality.
LP Policy EN16	Development will only be permitted where it would not be damaging to the environment and sensitive receptors through land, noise or light pollution; where it would result in no deterioration in, or ideally enhance, ground and surface water quality; and where adequate water resources, sewerage and wastewater treatment infrastructure will be in place to support the proposed development prior to occupation.
LP Policy EN18	Development will be directed to areas at lowest risk of flooding in the first instance, following the Sequential and Exceptions Test set out in the NPPF, and taking into account the effects of climate change. It will consider flooding from all sources, including fluvial, surface water, groundwater and sewer flooding. Where development in areas at risk of flooding is necessary, it will not reduce the capacity of the flood plain to store floodwater, impede the flow of floodwater or in any way increase the risks to life and property arising from flooding. Wherever possible, development should be designed to reduce flood risk, both on- and off-site.

Policy Reference	Target
	All major developments must incorporate sustainable drainage systems (SuDS) as appropriate and in line with the Government's Technical Standards. Smaller schemes are encouraged to incorporate SuDS, where possible. Runoff rates should aim to reflect greenfield conditions and, in any case, must be no greater than the existing conditions of the site. Schemes should ensure that the movement of water through vertical infiltration as well as horizontal run-off does not worsen contamination effects. Wherever possible, SuDS provision should maximise ecological benefits, link into the existing Green Network, incorporate tree planting and landscaping and avoid damage to existing significant trees, including through changes to the site hydrology. All new developments in areas of flood risk should give priority to SuDS.
LP Policy H5	New build housing should be built to the following standards: a. All new build housing outside the Central Area as defined on the Proposals Map will comply with the nationally-described space standard. b. All new build housing will be built to the higher water efficiency standard under Regulation 36(3) of the Building Regulations 77. c. All major new-build residential development should be designed to achieve zero carbon homes; d. All other new build housing will achieve at a minimum a 19% improvement in the dwelling emission rate over the target emission rate, as defined in the 2013 Building Regulations. e. All new build housing will be accessible and adaptable in line with M4(2) of the Building Regulations where it is viable, unless it is built in line with M4(3) (see below). On developments of 20 or more new build dwellings, at least 5% of dwellings will be wheelchair user dwellings in line with M4(3) of the Building Regulations.
LP Policy TR1	Proposed development should contribute appropriately to meeting the objectives of the most up-to-date Local Transport Plan or any successor document, including sub-strategies, specific projects identified and the local action plans. Planning permission will not be granted for major development proposals unless there is a commitment to implement measures to promote and improve sustainable transport facilities, such as through provision to encourage walking, cycling and the use of public transport; and through agreed travel plans, safe routes to local facilities and services, including schools and parks, and similar measures. All development proposals should make appropriate provision for works and contributions to ensure an adequate level of accessibility and safety by all modes of transport from all parts of a development, particularly by public transport, walking and cycling, in accordance with any agreed transport assessment submitted as part of the application.
LP Policy TR4	Developments will be expected to make full use of opportunities to improve access for cyclists to, from and within the development and to integrate cycling through the provision of new facilities. Development of new facilities for cycling, such as cycle hire points and cycle parking, will be acceptable. The cycle routes identified in the most up-to-date Cycling Strategy will be maintained, enhanced and added to or extended. Development will not detrimentally affect an identified cycle route. Where opportunities exist, improvements to that route, including the provision of connecting

Policy Reference	Target
	routes, and/or cycling facilities will be sought within developments or through planning contributions.
LP Policy TR5	Development should provide car parking and cycle parking that is appropriate to the accessibility of locations within the Borough to sustainable transport facilities, particularly public transport. Development should make the following provision for electric vehicle charging points: – All new houses with dedicated off-street parking should provide charging points; – Within communal car parks for residential or non-residential developments of at least 10 spaces, 10% of spaces should provide an active charging point.

Table 3.1: Summary of RB Local Plan Sustainability Policies.

4. A Sustainable Development

4.1 The Wider Context of Sustainability

The Proposed Development seeks to contribute to the business and sustainability ethos of the city centre through the provision of modern residential and retail buildings to attract new businesses to the area.

Place Making

New Open Spaces

The Proposed Development will develop an existing set of buildings around and above the existing Broad Street Mall. It is intended that spaces will be highly attractive and would seek to bring nature into the development by ensuring greenery are included.

Land Use

Responding to the Natural Context

The Proposed Development aims to maximise the greenery as far as practically possible.

Scale and Massing

The scale and massing of the Proposed Development seeks to respond to the context including the existing buildings and spaces that surround them with an appropriate scale.

4.2 Sustainable Vision

A Sustainable Vision

The Applicant has a clear vision for a sustainable development and will strive during detailed design stages to include means to optimise the sustainability of the Proposed Development wherever practical and feasible to do so.

4.3 Proposed Development Targets

Good Practice Environmental Assessment

It is intended that the Proposed Development will be designed in reference to good practice industry recognised environmental assessment methodologies such as BREEAM, in line with RB LP Policy CC2.

BREEAM

BREEAM has been in use since 1990 and is considered to be one of the foremost environmental assessment methodologies for the benchmarking of sustainable design proposals.

The Proposed Development will aim to achieve an ‘Very Good’ rating (retail only).

Table 4.1 summarises some of the key elements of a BREEAM assessment that would likely be undertaken.

Consideration	General Principles
Energy	– The target for passive design and energy efficiency (before the implementation of LZC technologies) is to achieve compliance with Building Regulations Part L 2013 as a minimum. This will be applied to all use classes throughout the Proposed Development – Consideration of passive design, energy efficiency and LZC technologies will be given during detailed design stages to ensure compliance with relevant Part L CO₂ emission targets.
Waste	– Construction waste to be guided by a Site Waste Management Plan and best practice waste minimisation / recycling measures to be implemented. – Aim to utilise construction materials from recycled or reclaimed sources. – Dedicated storage for recyclable waste in each building, and specific storage allocated to recyclables in apartment blocks.
Water	– Best practice water efficiency: – At least a 40% reduction beyond the BREEAM ‘base building’ for commercial areas.
Flood Risk	– It is intended that the volume and run-off rates of storm-water would not increase beyond existing conditions. – The inclusion of green / brown roofs to be considered. – Watercourse pollution to be minimised by adopting appropriate techniques. – Attenuation of pre-development run-off rates including an allowance for climate change would be considered.
Transport	– Provision of sheltered, secure cycle storage provided across the Site. Storage to be available for staff and visitors. – Site layout to allow for safe and secure pedestrian / cyclist access routes.
Biodiversity	– An ecologist to be appointed (prior to the commencement of development works on-site) to undertake ecological surveys.
Materials	– ‘A+’ and ‘A’ rated materials (under the BRE Green Guide to Specification) to be preferred for selection where feasible. – 100% of non-reclaimed timber in permanent and temporary works to be FSC certified and legally sourced.

Table 4.1 BREEAM Targets.

5. The Principles of Sustainable Design

The overall aim of the Proposed Development is to deliver a sustainable residential development in the city centre.

5.1 Community Engagement and Facilities

RB Local Plan Policy Summary

Policy Reference	Target
Policy CC7	– All development must be of high design quality that maintains and enhances the character and appearance of the area of Reading in which it is located.
Policy EN9	– All new development should make provision for appropriate open space based on the needs of the development.
Policy EN10	– In areas with relatively poor access to open space facilities (including as a result of severance lines), new development should make provision for, or contribute to, improvements to road and other crossings to improve access to green space and/or facilitate the creation or linking of safe off-road routes to parks.
Policy CC7	– All development must be of high design quality that maintains and enhances the character and appearance of the area of Reading in which it is located.

Table 5.1: Summary of RB Local Plan Policies for Community.

Intent

Engage with the local community throughout design, construction and operation to deliver a sustainable development, built for purpose and well used.

To provide community facilities appropriate to the scale of the Proposed Development.

Approach

The following steps outline the approach that will be followed, to address RBC Core Strategic policies described in Table 5.1.



Local Community Engagement

As part of the planning application a well-considered consultation and engagement process will be undertaken.



Apprenticeship and Local Employment

The Proposed Development will seek to boost the local economy by using local business and suppliers where viable and consider schemes promoting local employment.

There will also be a commitment to jobs brokerage throughout the construction phase. As needs change, consideration would be given as to how local and long-term unemployed are given opportunities to gain appropriate skills. Additionally, an employment skills plan will be prepared as part of any Section 106 agreement.



Improving Existing Sites

The Proposed Development is being built on an existing site. The Proposed Development will re-vitalise the area and enhance the existing area.

5.2 Health and Wellbeing

RB Local Plan Policy Summary

Policy Reference	Target
Policy CC7	– All development must be of high design quality that maintains and enhances the character and appearance of the area of Reading in which it is located.
Policy CC8	– Development will not cause a detrimental impact on the living environment of existing residential properties or unacceptable living conditions for new residential properties
Policy EN9	– All new development should make provision for appropriate open space based on the needs of the development. – Create a safe environment, appropriately considering lighting and layout to reduce the fear of crime;

Table 5.2: Summary of RB Local Plan Policies for Health and Wellbeing.

Intent

To safeguard the health and wellbeing of the future staff and visitors of the Proposed Development by ensuring that, amongst other things, there will be good indoor air quality and the people will not be exposed to excessive noise, flickering lights or overheating rooms.

Approach

In order to achieve a sustainable development, it will be vital to ensure that safety is considered to be high amongst users. The Proposed Development layout is configured to avoid unsighted dark corners or dead-ends, promoting a light and visible permeability.

The following steps outline the approach that will be followed by the Proposed Development to address RBC Core Strategic policies described in Table 5.1.



Secured by Design

In order to achieve a sustainable development which encourages visitors to the Proposed Development it will be vital to ensure that safety is considered to be high amongst staff and visitors.

The Site layout is configured to avoid unsighted dark corners or dead-ends, promoting a light and visible permeability.

Consideration will be given to the principles of ‘Secured by Design’ during the detailed design phase to ensure security is at the heart of the Proposed Development. It is understood that forthcoming amendments to the Building Regulations would incorporate elements of ‘Secured by Design’. These will be adhered to in the design of the Proposed Development.



Thermal Comfort

Thermal comfort contributes significantly to the perception of an individual to the quality of a space.

Thermal comfort varies depending on the amount of clothing people wear in different situations, and the extent to which a person is active.

During detailed design, calculations should be undertaken to demonstrate that through passive design and other measures, that the risk of overheating at the Proposed Development would be mitigated to ensure that compliance with Part L of the Building Regulations (2013) is achieved as a minimum.



Lighting Quality

Good quality lighting installations can work in tandem with good architecture to define great spaces.

During detailed design, an energy efficient lighting strategy will be devised for the Proposed Development, to be designed in line with good practice for visual performance and comfort.

As such, all fluorescent and compact fluorescent lamps will be fitted with high frequency ballasts to minimise the risk of health problems related to the flicker of fluorescent lighting for the Proposed Development in line with current industry standards.

Lighting may also be dimmable and linked to daylight sensors to minimise glare discomfort.



Noise

Transmission of internal noise within the residential spaces will be minimised.

Any negative effect to the acoustic environment nearby as a result of the Proposed Development will be mitigated as far as practically possible.

5.3 Construction Management

RB Local Plan Policy Summary

Policy Reference	Target
Policy CC5	– Development should demonstrate measures to minimise the generation of waste in the construction, use and life of buildings and promote more sustainable approaches to waste management, including the reuse and recycling of construction waste and the promotion of layouts and designs that provide adequate, well-designed space to facilitate waste storage, reuse, recycling and composting.

Table 5.3: Summary of RB Local Plan Policies for Construction Management

Intent

The Proposed Development seeks to manage the project in such a way that sustainability standards are assessed and maintained from the design stages through to end-of-life.

Approach

The Applicant will ensure that the contractors for the Proposed Development sign up to the Considerate Constructors Scheme (CCS) as outlined below.



Construction Management Plan & Considerate Constructors Scheme (CCS)

A construction management plan will be written to ensure construction of the Proposed Development achieves good practice. The plan will be written in reference to the CCS.

The CCS has worked well since introduction to ensure constructors implement practices which embody good neighbourliness and concern for the environment. The aim will be to require contractors to achieve at least a 'good practice' score under the CCS.

5.4 Responsible Use of Materials

RB Local Plan Policy Summary

Policy Reference	Target
Policy CC2	- Proposals for new development, including the construction of new buildings and the redevelopment and refurbishment of existing building stock, will be acceptable where the design of buildings and site layouts use energy, water, minerals, materials and other natural resources appropriately, efficiently and with care and take account of the effects of climate change. - Have the materials meet BREEM “Very Good” and “Excellent” standards.
Policy CC5	Development should demonstrate measures to minimise the generation of waste in the construction, use and life of buildings and promote more sustainable approaches to waste management, including the reuse and recycling of construction waste and the promotion of layouts and designs that provide adequate, well-designed space to facilitate waste storage, reuse, recycling and composting.
Policy CC7	All development must be of high design quality that maintains and enhances the character and appearance of the area of Reading in which it is located.

Table 5.4: Summary of RB Local Plan Policies for Materials.

Intent

The Proposed Development will minimise the effect of materials on the environment and on current buildings, and will seek to make the most sustainable choices in terms of material selection where feasible.

Approach

The following steps outline the way the targets can be met, for Proposed Development, by making the best choices in terms of material selection and reusability.



Reuse of Existing Materials

Reading Borough Council aims to reuse existing materials or waste, to reduce the future need on extracting the material. Reading Borough council suggests the beneficial restoration or use of existing buildings should be considered before demolition or redevelopment. This can be achieved by better waste management.



Material Sourcing

The Proposed Development will seek to source materials locally wherever possible. This will help reduce the embodied carbon of the materials by limiting transportation related emissions.



Minimising Waste of Materials

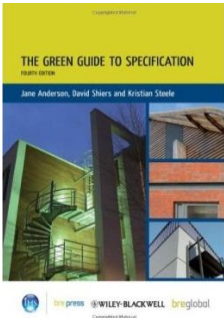
Waste of materials will seek to be reduced through exploring the use of standard size components in design detailing, considering the implementation of a ‘just-in-time’ material delivery system.



Maximise Recycled Content of Materials

A number of materials used commercially in the UK construction industry are manufactured using materials recycled from post-consumer waste. A detailed analysis of the materials available in the UK is outlined on the government ‘Waste & Resources Action Programme’ (WRAP) website and the ‘National Building Specification’ (NBS) ‘Greenspec’ website.

The Proposed Development will explore the opportunity to maximise the recycled content of materials where feasible.



The Green Guide to Specification

Materials used at the Proposed Development will be reviewed using the BRE’s online ‘Green Guide to Specification’ (www.bre.co.uk/greenguide), in line with BREEAM requirements, in order to maximise the proportion of materials which are A rated, and minimise materials with the lowest ratings (E).



FSC Certified Timber

Certain timber products and materials available in the UK use tropical hardwoods from endangered or illegal sources.

The Proposed Development will endeavour to use timber from a temperate, well managed source or manufactured from recycled timber waste.

Timber certified by the Forest Stewardship Council (FSC) which provides a product-specific chain of custody number confirming that the timber used in the manufacture of the product originates from a sustainably managed source.

For the Proposed Development it is intended that only FSC certified timber is used.

5.5 Minimisation of Waste

RB Local Plan Policy Summary

Policy Reference	Target
Policy CC5	– Development should demonstrate measures to minimise the generation of waste in the construction, use and life of buildings and promote more sustainable approaches to waste management, including the reuse and recycling of construction waste and the promotion of layouts and designs that provide adequate, well-designed space to facilitate waste storage, reuse, recycling and composting.

Table 5.5: Summary of RB Local Plan Policies for Waste.

Intent

The Proposed Development will seek to reduce the amount (volume and mass) of waste sent to landfill during construction and throughout the lifetime of the buildings, by effective management and with regard to the waste management hierarchy.

Approach

The Proposed Development will be provided with sufficient bin storage capacity to allow for storage of recyclable and non-recyclable waste streams.

The layout and location for the waste facilities is detailed on the current architectural plans.

Minimisation of Demolition & Construction Waste

The contractor will be required to produce a Site Waste Management Plan (SWMP), in line with BREEAM requirements, which would define measures for how to minimise the volume of waste arising from demolition and construction activities which is sent to landfill.

The design team would hold a 'Design out Waste' workshop in accordance with the requirements of the SWMP regulations. Therefore design, procurement and construction methodologies will be implemented to reduce waste arising at the construction stage.

Recycling of construction waste will be implemented. The Proposed Development will seek to divert at least 80% of construction, demolition and excavation waste from landfill with the aspiration to achieve a higher diversion rate if feasible.

The SWMP will ensure that the potential useful material arising from demolition waste is assessed before demolition takes place. The process for doing this may be carried out using the Institute of Civil Engineers (ICE) Demolition Protocol 2008. The SWMP will be written in compliance with 'Department of the Environment, Food and Rural Affairs' (DEFRA) guidance on SWMPs to implement best practice methods. It will aim to include targets and procedures to reduce waste generated on-site, develop and implement procedures to monitor, sort and recycle construction waste on-site, and follow the guidance given by bodies such as WRAP, Envirowise, DEFRA and the BRE.

Design for Recovery and Re-use

Where possible the Proposed Development will consider the use of locally sourced reclaimed materials. The use of recycled material, in particular for aggregates, will be maximised where feasible. Opportunities for the recycling of construction waste on-site will also be considered in conjunction with making this waste available for recycling elsewhere.

Optimising Materials Usage

Specifying materials in standard dimensions and reducing the number of different materials used on-site would result in reduced on-site wastage. Using design repetition, where appropriate, and simplifying construction details would reduce rework wastage and procurement costs as higher volume orders can be made.

Waste Efficient Procurement

To ensure that the design, materials, and waste strategy intent are realised during construction,

The feasibility of setting sub-contractors targets for material waste minimisation, material re-use and recycling will be explored. The design will aim to explore opportunities to incorporate pre-fabricated elements and recycled aggregates where feasible.

Operational Waste

The Proposed Development will be provided with sufficient bin storage capacity to allow storage of non-recyclable and comingled recyclable waste.

Internal recyclable bins will be provided in appropriate areas of the buildings.



Figure 5.1: 1,100 Litre Eurobin and Internal non-domestic Waste and Recycling Bins.

5.6 Energy and Carbon Emissions

RB Local Plan Policy Summary

Policy Reference	Target
Policy CC1	– A positive approach to considering development proposals will be taken that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework.
Policy CC2	– Proposals for new development, including the construction of new buildings and the redevelopment and refurbishment of existing building stock, will be acceptable where the design of buildings and site layouts use energy, water, minerals, materials and other natural resources appropriately, efficiently and with care and take account of the effects of climate change.
Policy CC3	– All developments will demonstrate how they have been designed to incorporate measures to adapt to climate change.
Policy CC4	– In meeting the sustainability requirements of this plan, developments of the sizes set out below shall demonstrate how consideration has been given to securing energy for the development from a decentralised energy source, including CHP.

Table 5.6: Summary of RB Local Plan Policies for Energy and Carbon Emissions.

Intent

The Proposed Development will have a reduced effect on climate change by reducing CO₂ emissions associated with energy use. This section summarises the approach taken to reduce CO₂ emissions for the Proposed Development

Approach

The following steps outline the approach that will be followed by the proposed redevelopment when reducing CO₂ emissions and defines the structure of the Energy Strategy, submitted in support of this planning application. The Energy Strategy discusses future carbon scenarios and such the proposed building services strategy utilises an all-electric approach i.e. electric heating and hot water. With an all-electric strategy, the use of Combined Heat and Power (CHP) is not feasible i.e. no thermal demand and given that the national grid has decarbonised considerably, the use of gas CHP does not offer any carbon savings.

This strategy also has the additional benefits of removing the circulation of hot water around the development which can increase the risk of overheating within the communal spaces and, by proxy, the adjacent dwellings. Reducing the build-up of unnecessary heat within the scheme will increase the resilience to climate change of the Proposed Development by increasing the ability to maintain comfortable temperatures for residents before potential consideration of installing cooling systems.

Target

The Proposed Development meets the energy and carbon targets set out in the Reading Borough Local Plan (Adopted November 2019). In summary this calls for a 35% reduction in regulated CO₂ emissions for non-domestic building and zero carbon homes.

Appraisals

The Proposed Development has been assessed to determine the regulated energy requirements and associated CO₂ emissions. The Proposed Development have been modelled using approved Part L1A compliance software (NHER Plan Assessor) to demonstrate compliance with Building Regulations Part L2A (2013).

Passive Design & Energy Efficiency Measures

A number of passive design and energy efficiency measures are targeted at the Proposed Development:

- Suitable glazing ratio and glass g-value to balance heat losses, heat gains and daylight ingress. This is particularly important to limit reliance on artificial lighting (see Figure 1).
- Fabric insulation and air permeability levels achieving improvements over the Building Regulations Part L (2013) requirements.
- Efficient low-energy lighting throughout all areas.
- Highly efficient space heating and mechanical ventilation systems.

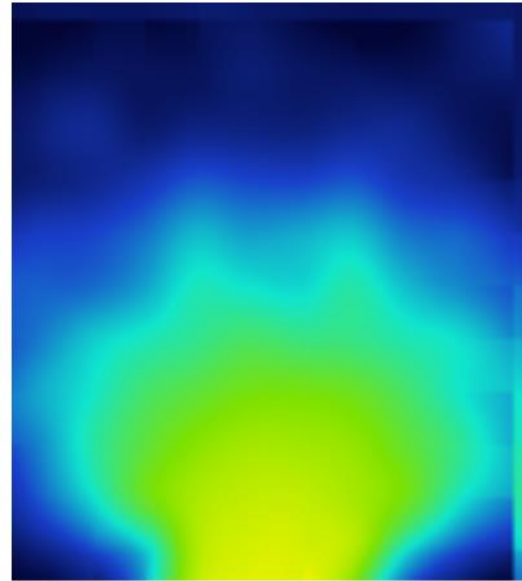


Figure 1 - Annual illuminance analysis of sample dwelling

Implementation of these measures throughout the Proposed Development is anticipated to exceed compliance with the requirements of the Building Regulations Part L (2013) with a 2.2% CO₂ emissions reduction, through passive design and energy efficiency measures, i.e. before the inclusion of any Low or Zero Carbon (LZC) technologies.

As discussed in the energy strategy, the future carbon emission factors detailed in SAP 10 were evaluated. Using the proposed carbon emission factors, the Proposed Development achieves an ~51.9% reduction in annual regulated CO₂ emissions over the current Part L baseline.

On-Site Renewable Energy Generation

The viability of installing renewable technologies in the Proposed Development has been assessed, to reach the zero-carbon target. Given that the strategy is all-electric, the use of Photovoltaics would be the best fit. However, in order to reach the zero-carbon target an array size much greater than the available roof space would be required and therefore does not form part of the energy strategy.

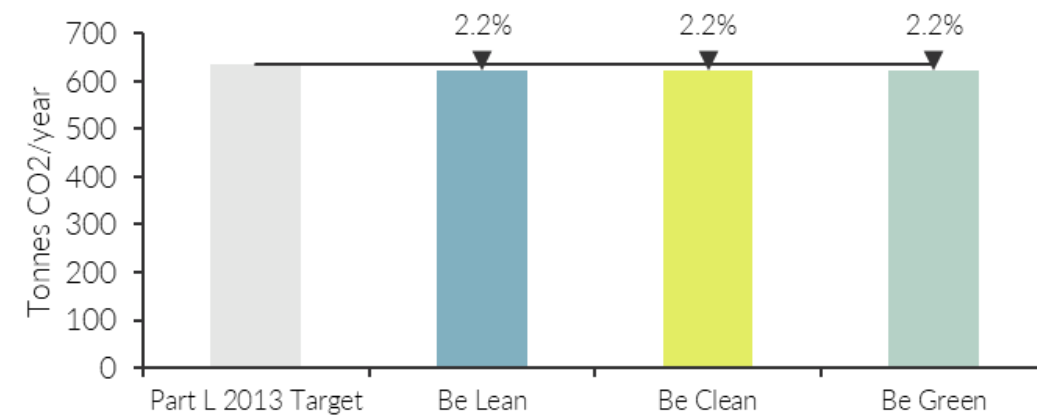


Figure 5.2: Summary of Regulated CO₂ Emissions Reductions.

Overall CO₂ Emissions Reduction

An overall reduction in regulated CO₂ emissions of 2.2% would be achieved when accounting for the benefits achieved through passive design and energy efficiency.

For further details – refer to the Energy Strategy document.

5.7 Pollution Control

RB Local Plan Policy Summary

Policy Reference	Target
Policy CC8	– Development will not cause a detrimental impact on the living environment of existing residential properties or unacceptable living conditions for new residential properties.
Policy EN15	– Development should have regard to the need to improve air quality and reduce the effects of poor air quality.
Policy EN16	– Development will only be permitted where it would not be damaging to the environment and sensitive receptors through land, noise or light pollution; where it would result in no deterioration in, or ideally enhance, ground and surface water quality; and where adequate water resources, sewerage and wastewater treatment infrastructure will be in place to support the proposed development prior to occupation.
Policy EN17	– Where noise generating equipment is proposed, the noise source rating level (plant noise level) should be at least 10dBA below the existing background level as measured at the nearest noise sensitive receptor.

Table 5.8: Summary of RB Local Plan Policies for Pollution.

Intent

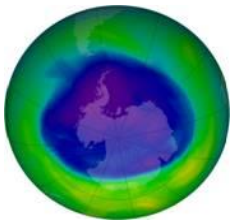
The Proposed Development aims to reduce pollution to prevent any negative effect on the local environment. Where pollution is found to exist on-site all reasonable efforts will be made to remedy conditions.

Approach

The following opportunities have been identified for The Proposed Development. These will be considered further during the detailed design stages:

- Night-time dimming of lights (where appropriate)
- Selection of luminaires to distribute light downwards
- Central plant will be selected to minimise emissions of Nitrous Oxide (NOx) and Particulate Matter (PM)

Other methods to minimise pollution include:



Zero ODP and GWP Insulation

Certain foamed plastic insulation materials available in the UK are manufactured with substances which deplete the Ozone layer and can contribute to global warming.

The Proposed Development will consider opportunities to give preference to insulation materials such as rock wool and mineral wool, which are manufactured to have an ‘Ozone Depletion Potential’ (ODP) of zero, and low ‘Global Warming Potential’ (GWP), while still giving consideration to thermal performance and fitness for purpose.



Low Formaldehyde MDF

‘Medium Density Fibreboard’ (MDF) is a timber panel product which can be manufactured with new or recycled timber.

Typically MDF is manufactured using Formaldehyde, which is hazardous to health and can be emitted to the building long after the building has been completed. MDF can be made without the use of Formaldehyde. The Proposed Development will seek to use low Formaldehyde MDF. The potential for the use of MDF manufactured using recycled materials will also be explored.



Low Solvent / Low VOC Paints

Certain paints contain high levels of solvents or ‘Volatile Organic Compounds’ (VOC). High VOC paints can emit organic compounds contained in the paint to the building, long after the building has been completed.

These chemicals which are inhaled by the building occupants are considered to be a contributing factor in sick building syndrome, leading to nausea and headaches. Low VOC products also have a benefit to construction workers in terms of health and safety. For the Proposed Development it is intended that materials with low percentage of VOC will be used.



Petrol interceptors

The use of petrol interceptors within car parks, loading bays and manoeuvring areas will be explored at detailed design, to minimise watercourse pollution by capturing oil and petrol that may leak from vehicles and potentially contaminate the ground and water supply.



Light Pollution

Potential sources of light pollution at the Site will be mitigated through measures such as night-time dimming of lights, and selection of luminaires to distribute light downwards.



Environmental Effects

The Proposed Development will aim to record no environmental incidents on-site. Examples of environmental incidents include pollution or contamination of ground and water sources through paint, oil or cement powder spillage.



Waste Storage

Adequate waste storage facilities will be provided at the Proposed Development with capacity to allow storage of non-recyclable and comingled recyclable waste. A collection strategy will also be developed to ensure that there is not excessive build-up. For further detail please refer to section 5.5: Waste.

5.8 Minimising Water Use

RB Local Plan Policy Summary

Policy Reference	Target
Policy CC2	– Limit water consumption to levels set out in the BREEAM standards
Policy EN17	– Incorporate sustainable urban drainage facilities and techniques. – No development in areas of high flood risk

Table 5.9: Summary of RB Local Plan Policies for Water and Flood Risk.

Intent

The Proposed Development aims to be water efficient, incorporating measures to reduce potable water consumption through efficient fixtures, careful management and recycling strategies.

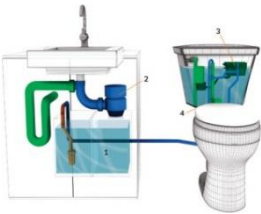
The following opportunities to reduce water use have been identified for the Proposed Development and will be considered further during the detailed design stages. The measures are listed and discussed further below:

- Water efficiency measures
- Major leak detection
- Sub-metering



Water Efficiency Measures

Water fixtures and fittings will have a high water efficiency in order to reduce water consumption by at least 40% beyond BREEAM 'baseline' building.



Grey-Water Recycling

The opportunity to include the use of a grey-water recycling system at the Proposed Development will be explored where feasible.

This could also potentially be used for WC flushing.



Major Leak Detection Systems

The proposed development will also include a leak detection system capable of detecting a major water leak on the main water supply within the office blocks and between the buildings and the utilities water meter.



Sustainable Drainage

Sustainable Urban Drainage (SUDs) systems will be considered for the Proposed Development. The opportunities for green roofs, permeable paving and attenuation tanks and other suitable measures to be advised by the drainage consultant.



Sub-Metering

The Proposed Development will be provided with analogue water meters to enable the facilities management to record their water consumption. Pulsed output meters will be provided in line with BREEAM requirements.

5.9 Managing Flood Risk

RB Local Plan Policy Summary

Policy Reference	Target
Policy EN18	- Incorporate sustainable urban drainage facilities and techniques. - No development in areas of high flood risk

Table 5.10: Summary of RB Local Plan Policies for Water and Flood Risk.

Intent

The Proposed Development aims to identify and manage the flood risk level to minimise the risk of localised flooding both on- and off-site, watercourse pollution and other environmental damage.

Approach

Figure 5.3 shows that the Proposed Development is situated in an area which has a 'very low' risk of flooding.

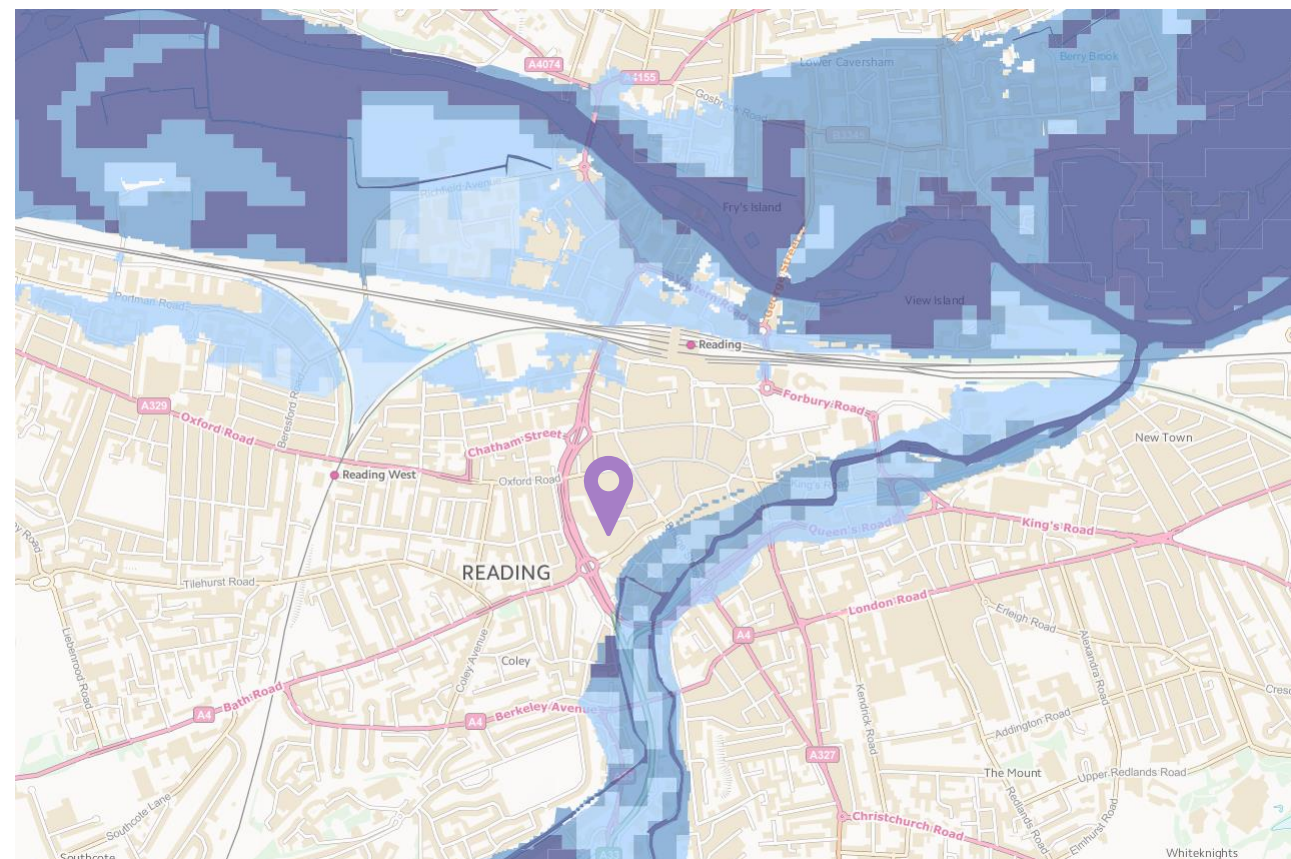


Figure 5.3: Extract from the Environment Agency Flood Risk Map.

The flood risk map indicates a 'very low' risk from flooding (0.1%).

This takes into account the effect of any flood defence systems in the area.

5.10 Ecology

RB Local Plan Policy Summary

Policy Reference	Target
Policy EN12	– Retain, protect and incorporate features of biodiversity or geological interest.
Policy EN14	– Individual trees, groups of trees, hedges and woodlands will be protected from damage or removal.

Table 5.11 Summary of RB Local Plan Policies for Ecology.

Intent

The Proposed Development intends to maintain and improve upon the existing on-site ecology and biodiversity.

Approach

The following opportunities to improve ecology and biodiversity have been identified for the Proposed Development and will be considered further during the detailed design stages.



Native Planting

The Proposed Development will deliver ecological enhancement of habitats through the introduction of native tree and shrub planting and incorporation of areas of species-rich meadow grassland.



Retaining Trees

The tree strategy seeks to enhance and integrate the built form into the landscape, whilst providing accents and focal points to the key nodal spaces.



Opportunities for Nesting Birds

Opportunities to mitigate for the loss of habitat suitable for nesting birds will be incorporated as part of scheme design.



Environmental Effects

Appropriate controls will be adopted as part of construction to avoid impacts on protected species and nearby valued habitats.

5.11 Sustainable Transport

RB Local Plan Policy Summary

Policy Reference	Target
Policy CC6	– The scale and density of development will be related to its level of accessibility by walking, cycling and public transport to a range of services and facilities, with the densest and largest scale development taking place in the most accessible locations.
Policy TR1	– Proposed development should contribute appropriately to meeting the objectives of the most up-to-date Local Transport Plan or any successor document, including sub-strategies, specific projects identified and the local action plans.
Policy TR4	– Developments will be expected to make full use of opportunities to improve access for cyclists to, from and within the development and to integrate cycling through the provision of new facilities.
Policy TR5	– Development should provide car parking and cycle parking that is appropriate to the accessibility of locations within the Borough to sustainable transport facilities, particularly public transport.

Table 5.12: Summary of RB Local Plan Policies for Transport.

Intent

It is the intention that a Travel Plan identifying sustainable modes of transportation is provided, along with suitable facilities such as cycle storage space. The Travel Plan will assist in encouraging staff and visitors to travel sustainably.

The Proposed Development will endeavour to provide accessible, safe pedestrian and cyclist routes within the site to maximise sustainable transport options.

Approach

The site benefits from good access to local bus, cycling and walking routes. However, in addition, the following opportunities for sustainable transport have been identified for the Proposed Development will be considered further during the detailed design stages:

- The provision of cyclist's facilities such as lockers and showers.
- Suitable pedestrian access routes.
- 234 cycle spaces are to be provided to encourage alternative forms of transport to work.
- The provision of electric vehicle car charging points.

6. Appendix A – BREEAM Pre-Assessment



MICHAEL ROBERTSON

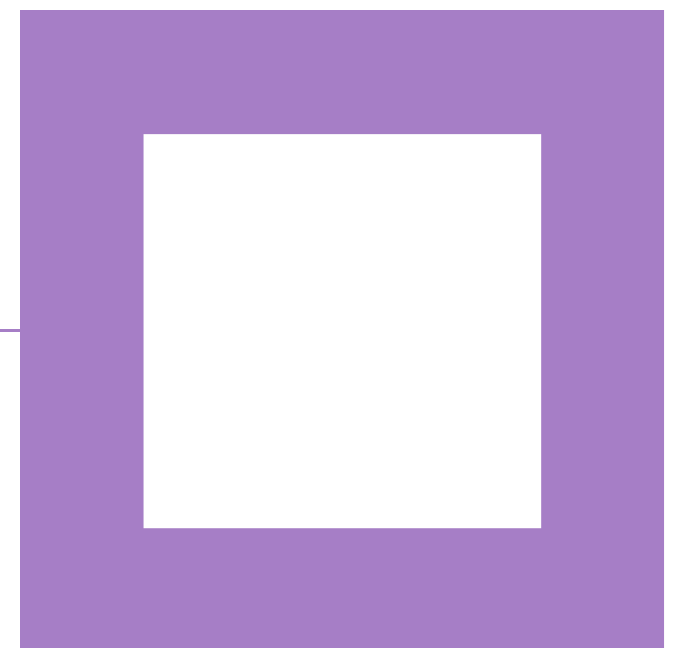
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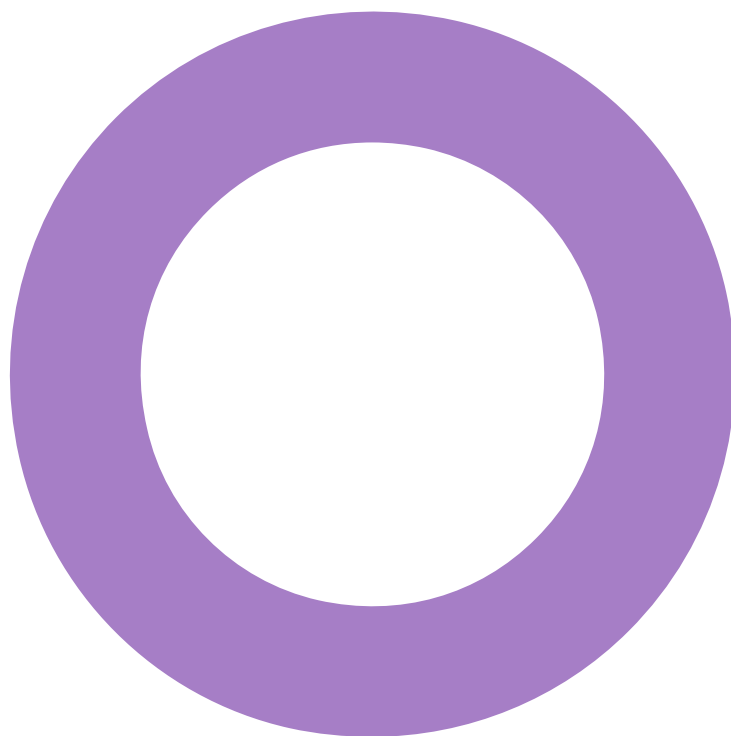


Broad Street Mall Master Plan. Reading.

Inception (Reading) Sarl (Inception (Reading) Sarl (c/o Moorgarth Group Ltd).

SUSTAINABILITY

BREEAM NEW CONSTRUCTION 2018
PRE-ASSESSMENT REPORT
REVISION 4 – 04.11.2019



Audit sheet.

Rev.	Date	Description of change / purpose of issue	Prepared	Reviewed	Authorised
1	24.11.2018	Initial Issue	TPS	ER	JRF
2	04.12.2018	Revised minor alterations to introduction	TPS	JN	JRF
3	17.12.2018	Amendment to client name. Amendment of introduction	TPS		JRF
4	04.11.2019	Amended to suit updated planning application.	TPS		JRF

This document has been prepared for Inception (Reading) Sarl (c/o Moorgarth Group Ltd) only and solely for the purposes expressly defined herein. We owe no duty of care to any third parties in respect of its content. Therefore, unless expressly agreed by us in signed writing, we hereby exclude all liability to third parties, including liability for negligence, save only for liabilities that cannot be so excluded by operation of applicable law. The consequences of climate change and the effects of future changes in climatic conditions cannot be accurately predicted. This report has been based solely on the specific design assumptions and criteria stated herein.

Project number: 23/23135
Document reference: REP-2323135-5A-TPS-20191030-Broad Street, Reading Pre-Assessment-Rev04

BREEAM Audit box

BRE registration number	TBC
Licensed assessor	Thomas Smith
Assessor support	-
BREEAM scheme	New Construction Retail
BREEAM scheme version	2018
Assessment stage	Pre-Assessment
Technical manual version	SD5078 Issue 3.0
Tier code (internal use only)	Tier 3

BREEAM Credit filtering box

Building type and sub-group	Retail, Retail - Shop or shopping centre
Building floor area	390m ²
Designed to be untreated?	No
Building services (heating)	Air system
Building services (cooling)	Air-conditioning
Commercial cold storage systems	No
Transportation systems	No
Laboratory (type, area and size)	No laboratories
Fume cupboards / containment devices	No
Unregulated water uses	No
External areas?	No
Statutory requirements impacting outdoor space?	Yes
Unregulated energy load	No
Post occupancy ENE01 credits targeted?	No

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1. Executive summary

This report provides an indicative BREEAM 2018 New Construction pre-assessment for the proposed Broad Street development. This report replaces the report dated December 2018 issued previously and submitted for planning approval.

The development falls under the BREEAM New Construction Retail category and a Shell only assessment has been conducted. The proposed development is targeting a BREEAM 'Very Good' rating as a minimum. The development is deemed as minor development as the extent of the retail has been identified to be less than 1,000m². The target, as required by the New Local Plan is therefore 'Very Good';.

The current anticipated baseline score is 57.8%, equivalent to a BREEAM 'Very Good' rating, with a difference between the minimum required score for a BREEAM 'Very Good' rating of 55% of 2.8%.

A number of potential credits have also been identified that if included within the assessment strategy could result in the building achieving a potential score of 69.21%, equivalent to a BREEAM 'Very Good' rating with a difference of 14.21% above the minimum required score.

A margin of at least 3% – 5% is recommended above the minimum required score at this stage to secure the target rating taking into account contingency for design changes and potential constraints identified during the construction stage.

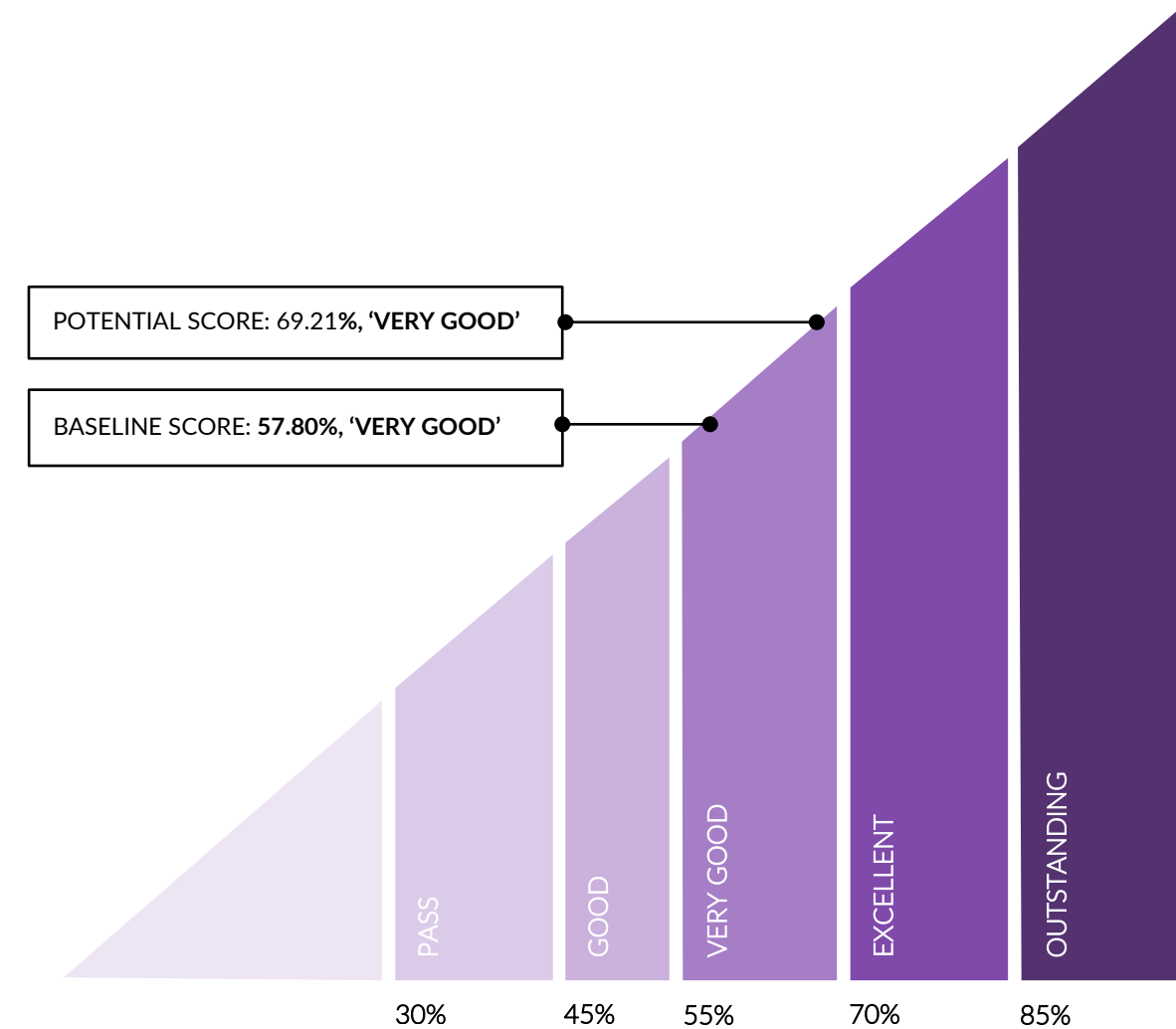


Figure 1: BREEAM 2018 Scale and Anticipated Performance Scores.

2. BREEAM Pre-Assessment

2.1 Introduction

This report relates to the proposed Broad Street. It is recommended the building should be registered under the BREEAM 2018 scheme and assessed using the New Construction Retail criteria. The building is currently considered to be most suitable to be assessed using a Shell only assessment type. The assessment will be targeting a BREEAM 'Very Good' rating as a minimum in line with the current and draft RBC planning policy documentation.

The development is considered to be a minor development as the new build element is less than 1,000m² and therefore does not meet the definition of major development as identified by the NPPF. Given the areas of each of the areas of development it will not be possible to group the New Build and RFO elements of the scheme together and therefore a separate New Construction/RFO assessment would be required by BRE. Given that RBC requires only that New Construction elements are considered as part of the current and future planning policy, this assessment would relate to only the New Build element, which will therefore mean it is classed as minor development, requiring a 'Very Good' rating.

2.2 Initial Pre-Assessment

This draft pre-assessment has been carried out independently by a qualified BREEAM assessor prior to a review by the project design team. This report sets out a route to achieving the target rating, and highlights the design team members responsible for each credit issue. Credits currently included in the credit score should be reviewed by the design team, and each team member is expected to provide feedback regarding credits under their responsibility, identifying any relevant issues. Once comments have been raised by the project team, the report and the predicted scores will be updated.

The following predicted scores have been calculated based upon experience with similar buildings and Hoare Lea's current understanding of the proposed development:

- Baseline score / rating: 57.8% equivalent to a BREEAM 'Very Good' rating.
- Potential score / rating: 69.21% equivalent to a BREEAM 'Very Good' rating.

The target rating of 'Very Good' requires a number of minimum standards to be achieved. The following minimum standards are not identified as targeted in the current assessment strategy and therefore will need to be reviewed:

All mandatory and minimum standards for the BREEAM 'Very Good' rating have been included within the assessment strategy for the potential score.

The following potential credits have been identified that allow a BREEAM 'Very Good' rating to be achieved:

- MAN01-01 Project Delivery Planning
- MAN01-02 Stakeholder Consultation
- MAN01-03 BREEAM AP (Concept)
- MAN01-04 BREEAM AP (Developed)
- HEA01-02 Daylighting
- HEA01-03 View Out
- ENE04-03 Low Zero Carbon Feasibility Study
- TRA02 Sustainable Transport Measures
- MAT01 Building Life Cycle assessment
- MAT03 Responsible Sourcing
- WST05 Adaption to Climate Change

The following minimum standards are not identified in the current potential assessment strategy and therefore will need to be reviewed:

Refer to Appendix B for detailed credit requirements.

2.3 Project Team Members

Discipline	Organisation	Abbreviation
Client / Developer	Moorgarth	MG
Project Manager	TBC	
Architect	Corphenstine + Wright	C+W
Building Services Consultant	Hoare Lea LLP	HLE
Civils / Structural Consultant	BJB Consulting	BJB
Cost Consultant	Rider Levett Bucknall	RLB
Transport Consultant	TBC	
Ecologist	TBC	
Planning Consultant	DP9	DP9

Table 1: Project Team Members.

3. Summary Score Sheet

The summary table below highlights the list of targeted credits for the current BREEAM 2018 pre-assessment. Mandatory credits to achieve a 'Very Good' rating and above are highlighted by (M_v). Additional mandatory credits for an 'Excellent' or 'Outstanding' rating are highlighted by (M_e) and (M_o) respectively. Exemplary (innovation) credits are written in brackets; e.g. (+1).

Table 2: BREEAM Target Summary.

Category	Issue	Credits		
		Available	Targeted	Potential
Management	Man 01: Project brief and design	4	0	+4
	Man 02: Lifecycle cost and service life planning	4	1	-
	Man 03: Responsible construction practices (M _e), (M _o)	6	6	-
	Man 04: Commissioning and handover (M _e), (M _o)	1	1	-
	Man 05: Aftercare (M _e), (M _o)	-	-	-
Health & Wellbeing	Hea 01: Visual comfort	4	1	+2
	Hea 02: Indoor air quality	-	-	-
	Hea 04: Thermal comfort	-	-	-
	Hea 05: Acoustic performance	1	1	-
	Hea 06: Security	1	1	-
	Hea 07 Safe and healthy surroundings	-	-	-
Energy	Ene 01: Reduction of energy use and carbon emissions (M _e) (M _o)	9	0	-
	Ene 02: Energy monitoring (M) (M _e) (M _o)	-	-	-
	Ene 03: External lighting	1	1	-
	Ene 04: Low carbon design	3	0	+1
	Ene 05: Energy efficient cold storage	-	-	-
	Ene 06: Energy efficient transportation systems	-	-	-
	Ene 07 Energy efficient laboratory systems	-	-	-
	Ene 08: Energy efficient equipment	-	-	-
Transport	Tra 01: Transport assessment and travel plan	2	2	-
	Tra 02: Sustainable transport measures	10	3	+1
Water	Wat 01: Water consumption (M _v) (M _e) (M _o)	-	-	-
	Wat 02: Water monitoring (M _v) (M _e) (M _o)	1	1	-
	Wat 03: Water leak detection	1	1	-
	Wat 04: Water efficient equipment	-	-	-
Materials	Mat 01: Environmental impacts from construction products - Building life cycle assessment	7	4	+1

Category	Issue	Credits		
		Available	Targeted	Potential
	Mat 02: Environmental impacts from construction products	1	1	-
	Mat 03: Responsible sourcing of construction products (M _v) (M _e) (M _o)	4	2	+1
	Mat 05: Designing for durability and resilience	1	1	-
	Mat 06: Material efficiency	1	1	-
Waste	Wst 01: Construction waste management (M _o)	5	5	-
	Wst 02: Use of recycled and sustainably sourced aggregates	1	0	-
	Wst 03: Operational waste (M _e), (M _o)	1	1	-
	Wst 04 Speculative finishes	-	-	-
	Wst 05: Adaptation to climate change	1	0	+1
	Wst 06: Design for disassembly and adaptability	2	2	-
Land Use and Ecology	LE 01: Site Selection	2	1	-
	LE 02: Identifying and understanding the risks and opportunities for the project	2	2	-
	LE 03: Managing negative impacts on ecology	3	3	-
	LE 04: Change and enhancement of ecological value	4	1	-
	LE 05: Long term ecology management and maintenance	2	2	-
Pollution	Pol 01: Impact of refrigerants	-	-	-
	Pol 02: Local air quality	-	-	-
	Pol 03: Flood and surface water management	5	4	-
	Pol 04: Reduction of night time light pollution	1	1	-
	Pol 05: Reduction of noise pollution	-	-	-
Innovation	Inn 01: Approved innovation and exemplary level credits	9	2	-
	Targeted weighted score rating:	57.8%, 'Very Good'		
	Potential weighted score rating:	69.21%, 'Very Good'		

4. Conclusion

Based upon an initial credit review independent of the project design team, it is anticipated that the Proposed Development could achieve a score of 57.8%, equivalent to a BREEAM 'Very Good' rating.

Additional potential credits have also been identified which, if targeted, could result in a higher BREEAM performance score and rating; 69.21%, equivalent to a BREEAM 'Very Good'. The potential credits include the following credit issues:

- MAN01-01 Project Delivery Planning
- MAN01-02 Stakeholder Consultation
- MAN01-03 BREEAM AP (Concept)
- MAN01-04 BREEAM AP (Developed)
- HEA01-02 Daylighting
- HEA01-03 View Out
- ENE04-03 Low Zero Carbon Feasibility Study
- TRA02 Sustainable Transport Measures
- MAT01 Building Life Cycle assessment
- MAT03 Responsible Sourcing
- WST05 Adaption to Climate Change

Figure 2 outlines the Proposed Development scores in each category. It also outlines where potential credits could be targeted to increase the assessment score and rating.

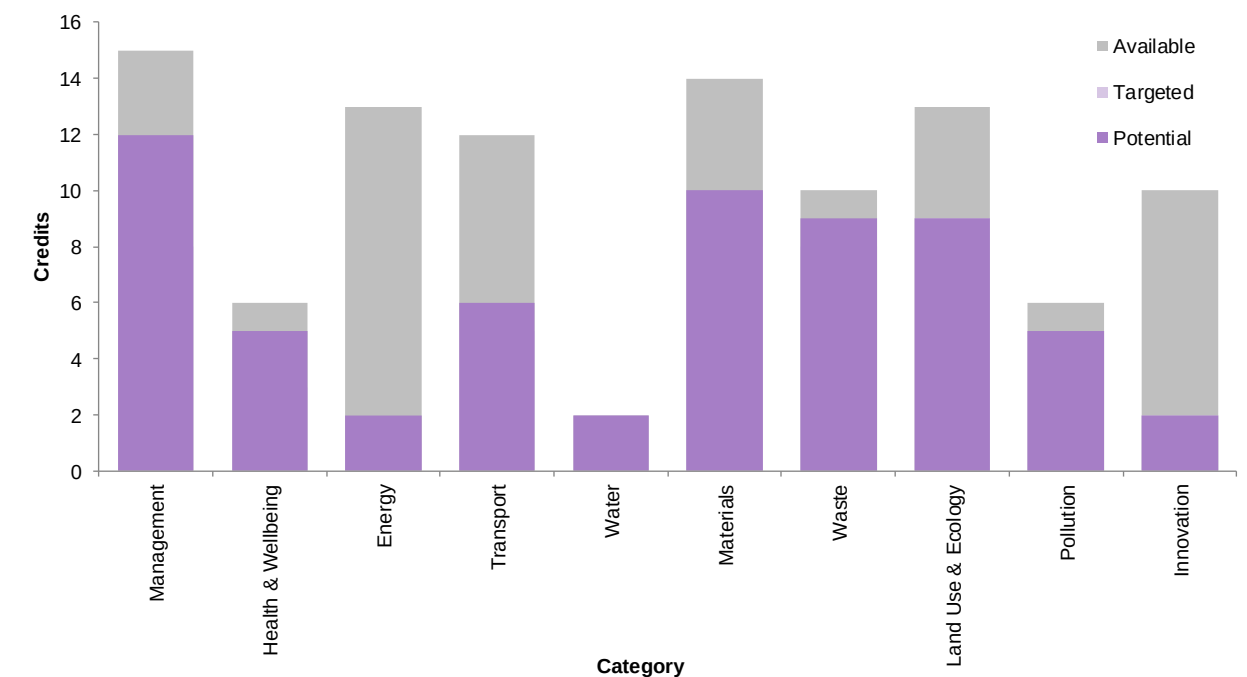
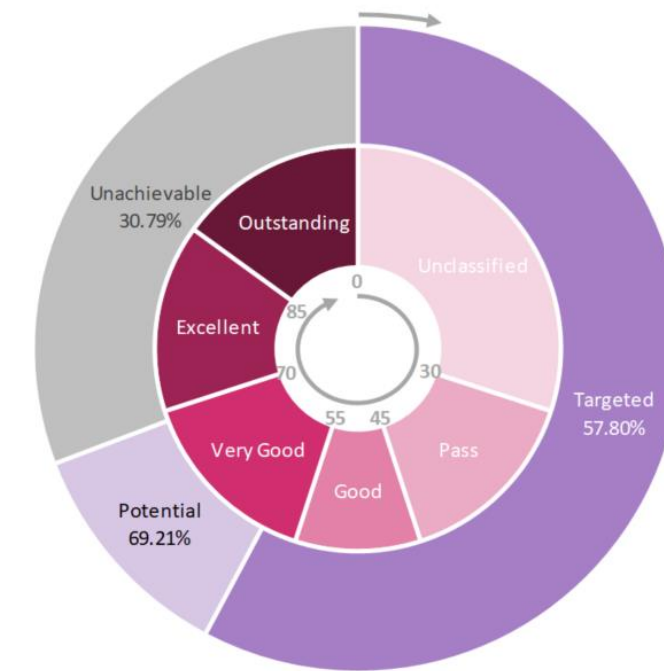


Figure 2: BREEAM Performance Summary and Targeted Credits.

5. Appendix A: Early Action Credits

5.1 Project brief stage

Under the BREEAM, there are a number of credits that are time critical and require early action by the design team in order for the credits to be achieved. For these credits, the actions required prior to end of RIBA Stages 1 and 2; and the members of the design team responsible for these are listed below:

Credit Issues	RIBA Stage 1 Actions	Owner
Man 01 Project brief and design	- First credit: Stakeholder consultation: By the end of Stage 1 – definition and engagement of key stakeholders (incl. team member with significant construction experience) and their roles and responsibilities. - Third Credit: Sustainability champion to be appointed to facilitate the setting and achievement of BREEAM performance targets for the project by Stage 2.	Project Manager BREEAM AP
Ene 07 Energy efficiency laboratory systems	Client engagement during preparation of the brief to determine occupant requirements and define laboratory performance criteria.	Client.
Mat 06 Material efficiency	Consult with relevant design team members to identify and implement measures for efficient use of materials throughout all key stages. Suggested actions include: - Provide details outlining activities relating to material efficiency. - Provide drawings or building integrated model (BIM), calculations showing reduction of material use through design. - Collate meeting notes, construction programme, and responsibilities schedule (indicating parties consulted).	Planning Consultant
LE 04 Enhancing site ecology	The ecologist must be appointed by RIBA Stage 1 to carry out initial surveys, and subsequently provide recommendations in a report at RIBA Stage 2.	Ecologist
LE 05 Long term impact on biodiversity		

Table 3: BREEAM 2018 Early Action Credits (RIBA Stage 1)

5.2 Concept design stage

Credit Issues	RIBA Stages 2 Actions	Owner
Man 01 Project brief and design	- First credit: Develop roles, responsibilities and contributions schedule detailing relevant roles throughout the project. - Second credit: Stakeholder consultation by completion of Concept Design. - Advisory professional: BREEAM performance targets to be formally agreed between the client and design/project team no later than Concept Design stage (RIBA Stage 2).	Planning Consultant Client BREEAM AP
Man 02: Life cycle costing and service life planning	An elemental level Life Cycle Cost (LCC) analysis has been carried out based on the proposals developed during RIBA Work Stage 2.	Cost Consultant
Hea 02 Indoor air quality	Production of an indoor air quality plan (this is a prerequisite item and may block several related credits being achieved).	Air Quality MEP
Hea 06 Security	Appoint Suitability Qualified Security Specialist (SQSS) to conduct a Security Needs Assessment (SNA).	Architect SQSS
Ene 01 Prediction of operational energy consumption	Prior to completion of the concept design, relevant members of the design team hold a preliminary design workshop focusing on operational energy performance.	Sustainability MEP
Ene 04 Low carbon design	Carry out a passive design analysis and a renewable energy systems feasibility study.	MEP Sustainability Consultant
Mat 01 Environmental impacts from construction products - Building life cycle assessment	Conduct outline design LCA assessment and options appraisal. This LCA must be submitted to BRE Global prior to planning application submission.	Architect Civil and structural engineer Cost Consultant
Mat 03 Responsible sourcing of materials	Development and use a project sustainable procurement plan for the project.	Project manager Sustainability consultant
Mat 06 Material efficiency	Set targets and report on opportunities and methods to optimise the use of materials. Develop and record the implementation of material efficiency.	Architect Structural Engineer

Credit Issues	RIBA Stages 2 Actions	Owner
		Civil engineer
Wst01 Construction waste management	Carry out (where relevant) a pre-demolition audit.	Demolition contractor Client
Wst 05 Adaptation to climate change	Conduct a climate change adaption strategy appraisal for structural and fabric resistance.	Architect + Structural Engineer
Wst 06 Design for disassembly and adaptability	- Undertake a building-specific disassembly assessment and functional adaptation strategy study. - Subsequently incorporate adaption measures into the design where practical and cost effective at RIBA Stage 4.	Architect Structural Engineer
LE 02 Identifying and understanding the risks and opportunities for the project	The project team is required to liaise and collaborate with representative stakeholders to identify and consider ecological outcome for the sites.	Ecologist Project manager
LE 03 Managing negative impacts on ecology	Roles and responsibilities have been clearly defined, allocated and implemented to support successful delivery of project outcomes at an early enough stage to influence the concept design or design brief.	Ecologist Project manager

Table 4: BREEAM 2018 Early Action Credits (RIBA Stage 2)

6. Appendix B: Detailed Credit Assessment

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
Management					
Man 01 Project brief and design	First credit - Stakeholder consultation (project delivery): Where evidence provided demonstrated that from RIBA stage 2 (design brief) or equivalent the client, building occupier, design team and contractor have met and are involved in contributing to the decision making process for the project. As a minimum this includes meeting to identify and define their roles, responsibilities and contributions during each key phase. Consideration of contributions must meet specified minimum requirements The project team demonstrates how the project delivery stakeholder contributions and consultation process outcomes influence the following: – Initial Project Brief – Project Execution Plan – Communication Strategy – Concept Design	1	0 (+1)	Potential target only ACTION REQUIRED NOW Development of design responsibility matrix to identify project roles and responsibilities. How allocation of these roles and responsibilities has altered the responsibility matrix should be identified.	Project Manager
	Second credit - Stakeholder consultation (interested parties): Where evidence provided demonstrates that prior to the completion of the Concept Design stage, all relevant interested party stakeholders have been consulted by the design team and this covers the minimum consultation content (including but not limited to functionality, impacts on local community, inclusive and accessible design). The impact this consultation has had on the Project Brief and Concept Design must be demonstrated and consultation feedback has been given to all relevant parties by the developed design stage. A design workshop is undertaken that focuses on operational energy.	1	0 (+1)	Potential target only ACTION REQUIRED NOW External consultation exercise to be performed that included all relevant stakeholders. Stakeholders should have the ability to comment on proposals, with all feasible consultation incorporated. Consultation feedback to be provided to consultee group.	Project Manager
	Pre-requisite The project team, early in the design process formally agrees BREEAM targets for the project. Third credit – BREEAM AP (concept design): Where evidence provided demonstrates that a BREEAM AP has been appointed to facilitate the setting and achievement of BREEAM performance target(s) for the project and evidence shows that the designed BREEAM performance target(s) has been contractually agreed and demonstrably achieved by project design. The BREEAM AP appointment must be separate to the appointed assessor.	1	0 (+1)	Potential target only ACTION REQUIRED NOW Appointment of BREEAM AP to assist in setting the targets for the project. Consultant appointment documentation should include a requirement to design to the agreed target.	Project Manager
	Fourth credit – BREEAM AP (developed design): Where evidence provided demonstrates that the Third credit is achieved and a BREEAM AP is appointed to monitor progress against the agreed BREEAM performance target(s). This is done by attending key project/design team meetings during the developed design and reporting to the client throughout the process.	1	0 (+1)	Potential target only Appointment of BREEAM AP to regularly update the design team on the progress of the BREEAM assessment and to consider how design development will impact the score. Note: This does not form part of the BREEAM assessor’s standard scope of works and would need to be an additional appointment by the Client or Contractor.	Project Manager

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
Man 02 Life cycle impacts	First and second credit - Elemental life cycle cost (LCC): Where evidence provided demonstrates that an elemental Life Cycle Cost (LCC) analysis has been carried out based on the proposals developed during Process Stage 2 (concept design/RIBA Stage 2) or equivalent. The LCC analysis shows an outline LCC plan for the project, appraising a range of options based on multiple cash flow scenarios e.g. 20, 30, 50, or 60 years and a fabric and servicing strategy for the project outlining services component and fit-out options.	2	0	Two credits applicable to assessment type Credits not currently targeted Elemental LCC study to be commissioned to address different design options. The design should incorporate the lowest lifecycle cost design features.	Client & Cost Consultant
	Third credit - Component level LCC option appraisal: Where evidence provided demonstrates that a component level LCC plan has been developed by end of Process Stage 4 (RIBA Stage 4) including the following component types: - Envelope: e.g. cladding, windows, and/or roofing - Services: e.g. heat source cooling source, and/or controls - Finishes: e.g. walls, floors and/or ceilings - External spaces 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.	1	0	Credit not currently targeted Update Required at RIBA Stage 4 Update to LCC model for the development to identify lowest lifecycle cost design features are incorporated.	Client & Cost Consultant
	Fourth credit - Capital cost reporting: Where evidence provided demonstrates reporting of the capital cost for the building in pounds per square metre (£/m²) via the BREEAM Assessment Scoring and Reporting tool, Assessment Issue Scoring tab, Management section.	1	1	Cost consultant to confirm the cost of the project with the relevant inclusions and exclusions.	Client & Cost Consultant
Man 03 (M _e) (M _o) Responsible construction practices  Mandatory: - One credit (responsible construction management) for Excellent - Two credits (responsible construction management) for Outstanding	Pre-requisite All timber and timber based products used on the project is 'legally' harvested and traded timber First credit - Environmental management: Evidence which demonstrates that the principle contractor operates an environmental management system (EMS) covering main operations e.g. third party certified to ISO 14001/EMAS or equivalent standard or have a structure that is in compliance with BS 8555-2003 and has reached stage 4 of implemented stage. Evidence that the principal contractor implements best practice pollution policies and procedures on-site in accordance with Pollution Prevention Guidelines, PPG6. It is understood this document has been withdrawn, however BRE identify this still constitutes best practice.	1	1	INCLUDE WITHIN ER DOCUMENTATION This requirement can be incorporated into the project's employer's requirements documentation to require the contractor to achieve.	Client & Contractor
	Pre-requisite The client and contractor formally agree and demonstrate performance targets. Second credit - BREEAM AP (site): Evidence which demonstrates that a BREEAM AP is appointed to monitor the project to ensure ongoing compliance with relevant sustainability performance/process criteria. The defined BREEAM performance target forms a requirement of the principal contractor's contract and to achieve this credit in final post construction phase of assessment, the BREEAM-related performance target must be demonstrably achieved by the project.	1	1	INCLUDE WITHIN ER DOCUMENTATION This requirement can be incorporated into the project's employer's requirements documentation to require the contractor to achieve.	Client & Contractor
	Third and fourth credit - Responsible construction management: Using the BREEAM checklist - up to two credits: Appoint a dedicated person to be responsible for monitoring and reporting on activities against risk evaluation documents collected.	2	2	Third credit: Credit targeted Fourth credit: Credit targeted	Client & Contractor

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
	The principal contractor evaluates the risks (on-site and off-site), plans and implements actions to minimise the identified risks, covering the following, where appropriate: - Vehicle movement on and near site - Management of construction site entrance (M) - Ensure development footprint is accessible for delivery vehicles with safety features (eg. Side under run protection) - Identify access routes to the development footprint, including for heavy vehicles to minimise the safety risks and disruption to others. - Pollution management - Minimise the risks of air, land and water pollution. (M) - Minimise the risks of nuisance from vibration, light and noise pollution. - Tidiness - Practices ensure the development footprint is safe, clean and organised at all times. This includes, but is not limited to, facilities, materials and waste storage. (M) - Ensure clear and safe access in and around the buildings at the point of handover. (M) - Health and wellbeing - Provide processes and equipment required to respond to medical emergencies. (M) - The principal contractor identifies and implements initiatives to promote and maintain the health and wellbeing of all site operatives within the development footprint. This can be via site facilities, site management arrangements, staff policies etc. - Establish management practices and facilities encouraging equality, fair treatment and respect of all site operatives. (M) - Provide secure, clean and organised facilities (e.g. changing and storage facilities) for site operatives within the development footprint. - Security processes - Minimise risks of the site becoming a focus for antisocial behaviour in the local community (e.g. robust perimeter fencing, CCTV, avoid creating dark corners etc.). - Training, awareness and feedback - Aspects of the construction process that might impact the community are communicated regularly, ensuring that nuisance and intrusion are minimised. - Ensure ongoing training is provided, and up to date, for personnel and visitors. (M) - The principal contractor ensures that site operatives are trained for the tasks they are undertaking. (M) - The fleet operators, undertakes driver training and awareness to promote safety within the development footprint and off site. - Monitoring and reporting - The fleet operators, captures and investigates any road accidents, incidents and near misses and reports them back to the principal contractor. The principal contractor analyses these items. - All visitor, workforce and community accidents, incidents and near misses are recorded and action is taken to reduce the likelihood of them reoccurring. (M) - Processes are in place to facilitate collecting and recording feedback from the community and to address any concerns related to the development footprint. One credit is achieved for meeting the requirements for all mandatory sections, identified by (M) Two credits are achieved for meeting the requirements for all mandatory and six additional requirements An additional exemplar level credit is available for achieving all requirements within Table 4.1 (identified above)			INCLUDE WITHIN ER DOCUMENTATION This requirement can be incorporated into the project's employer's requirements documentation to require the contractor to achieve.	
	Exemplary credit - Responsible construction practices:	1	1	INCLUDE WITHIN ER DOCUMENTATION	

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
	An additional exemplary level credit is available for achieving all requirements within Table 4.1 (identified above)			This requirement can be incorporated into the project's employer's requirements documentation to require the contractor to achieve.	
	Fifth and sixth credit - Monitoring of construction-site impacts: Where evidence provided demonstrates the responsibility has been assigned to an individual for monitoring, recording and reporting energy use, water consumption and transport data from all on-site construction processes throughout the build programme.	2	2	Fifth credit: Credit targeted Sixth credit: INCLUDE WITHIN ER DOCUMENTATION This requirement can be incorporated into the project's employer's requirements documentation to require the contractor to achieve.	Client & Contractor
Man 04 (M_v), (M_e), (M_o) Commissioning and handover  Mandatory: - One credit (commissioning test schedule and responsibilities) and criterion 11 (Building User Guide for for Very Good and above	First credit - Commissioning and testing schedule and responsibilities: - Where evidence provided demonstrates a schedule of commissioning and testing that identifies and includes a suitable timescale for commissioning and re-commissioning of all complex and non-complex building services and control systems and testing and inspecting building fabric, and that all commissioning is done in accordance with current Building Regulations, BSRIA and CIBSE guidelines. - An appropriate project team member(s) is appointed to monitor and programme pre-commissioning, testing, and where necessary, re-commissioning on behalf of the client - The principal contractor accounts for the commissioning and testing programmes, responsibilities and criteria within their budget and main programme of works, allowing for sufficient time to complete commissioning and testing prior to handover. - Specific requirements relate to BMS commissioning	0		Credit not applicable to assessment type	Contractor
	Second credit - Commissioning - design and preparation: Where evidence provided demonstrates a specialist commissioning manager is appointed during the design stage with responsibility for: - Undertaking design reviews - Providing commissioning management input - Management of commissioning and performance testing.	0		Credit not applicable to assessment type	Contractor
	Third credit - Testing and inspecting building fabric: Where credit 1 is achieved and evidence provided demonstrates that the integrity of the building fabric is quality assured through compliant post construction testing and inspection. Any defects identified in the thermographic survey or airtightness testing reports are rectified prior to building handover and close out.	1	1	INCLUDE WITHIN ER DOCUMENTATION This requirement can be incorporated into the project's employer's requirements documentation to require the contractor to achieve.	Contractor
	Fourth credit - Handover: - Where evidence provided demonstrates that Building User Guides are provided and are appropriate to all users of the building (general users including staff and if applicable residents, as well as the non-technical facilities management team/building manager). This must be presented to the building user first and amended to suit the occupier's needs. - A training schedule is prepared for building occupiers/premises managers, timed appropriately around handover and proposed occupation plans in addition to training for building occupiers (non-technical building users).	0		Credit not applicable to assessment type	Contractor

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
Man 05 (Me), (Mo) Aftercare  Mandatory: - One credit (commissioning implementation) for Excellent - One credit (commissioning implementation) for Outstanding	First credit - Aftercare support 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: - 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: - Introduce the aftercare team or individual to the aftercare support available, including the Building User Guide (where existing) and training schedule/content. - 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. - 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. - 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 (this could be more or less frequent depending on the complexity of the building and building operations). - 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. 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, once the building is occupied. This is done to facilitate analysis of discrepancies between actual and predicted performance, with a view to adjusting systems and/or user behaviours accordingly.	0		Credit not applicable to assessment type	Client Occupant Contractor
	Second credit - Commissioning - implementation The following seasonal commissioning activities will be completed over a minimum 12-month period, once the building becomes substantially occupied: - Complex systems - Specialist Commissioning Manager: - Identify changes made by the owner or operator that might have caused impaired or improved performance. - Testing of all building services under full load conditions, i.e. heating equipment in mid-winter, cooling/ventilation equipment in mid-summer, and under part load conditions (spring/autumn). - Where applicable, testing should also be carried out during period of extreme (high or low) occupancy. - Interviews with building occupants (where they are affected by the complex services) to identify problems or concerns regarding the effectiveness of the systems. - Produce monthly reports comparing sub-metered energy performance to the predicted ones. - Re-commissioning of systems (following any work needed to serve revised loads), and incorporating any revisions in operating procedures into the operations and maintenance (O&M) manuals. - Simple systems (naturally ventilated) - external consultant/aftercare team/facilities manager: - Review thermal comfort, ventilation, and lighting, at three, six and nine month intervals after initial occupation, either by measurement or occupant feedback. - Identify deficiencies and areas in need of improvement. - Re-commission systems and incorporate any relevant revisions in operating procedures into the O&M manuals.	0		Credit not applicable to assessment type	Client Occupant Contractor MEP
	Third credit - Post occupancy evaluation The client or building occupier makes a commitment to carry out a post occupancy evaluation (POE) exercise one year after initial building occupation. The POE is carried out by an independent third party and needs to cover: A review of the design intent and construction process (review of design, procurement, construction and handover processes).	0		Credit not applicable to assessment type	Client Occupant Contractor

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
	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 (light, noise, temperature, air quality) ii. Control, operation and maintenance iii. Facilities and amenities iv. Access and layout v. Energy and water consumption vi. Other relevant issues The independent party provides a report with lessons learned to the client and building occupiers. The client or building occupier makes a commitment to carry out the appropriate dissemination of information on the building's post occupancy performance. This is done to share good practice and lessons learned and inform changes in user behaviour, building operational processes and procedures, and system controls.				
Health and Wellbeing					
Hea 01 Visual comfort	First credit - Control of glare from sunlight Glare control assessment is developed to identify how areas at risk of glare are protected. The glare control assessment would also identify where areas deemed not at risk are located. In addition, a glare control strategy must be developed in tandem with the lighting strategy to ensure that glare is minimised whilst avoiding potential conflict with the lighting control systems, therefore avoiding higher than expected energy consumption.	0		Credit not applicable to assessment type	Architect & Occupant
	Second and third credits - Average daylighting: - Where evidence provided demonstrates that the relevant building areas meet good practice daylighting criteria as outlined below, in addition to room depth criterion, daylight uniformity or annual illuminance levels. - Retail buildings - Sales areas: one credit: 35% area has point daylight factors of 2.0% or more - Other occupied areas: one credit: 2.0%, 80% areas	2	0 (+1)	Two credits applicable to assessment type One potential credit only POTENTIALLY AVAILABLE Daylight levels to be assessed.	Architect & Daylight Consultant
	Fourth credit - View out: Where evidence provided demonstrates that 95% of floor areas in relevant building areas are within 8m of a wall which has a window or permanent opening that provides an adequate view out. The window/opening must be ≥20% of the surrounding wall area.	1	0 (+1)	Potential target only Can be assessed now against architectural designs.	Architect
	Fifth credit - Lighting levels and controls: Where evidence provided demonstrates that internal and external lighting is designed in accordance with the required standard. - Internal lighting in all relevant areas of the building is designed to provide an illuminance (lux) level appropriate to the tasks undertaken. This can be demonstrated through a lighting design strategy that provides illuminance levels in accordance with the SLL Code for Lighting 2012 and any other relevant industry standard. - For areas where computer screens are regularly used, the lighting design complies with CIBSE Lighting Guide 7 sections 2.4, 2.13, 2.15, 2.20, 6.10 and 6.20. - For external areas, lighting provided is specified in accordance with BS 5489-1:2013 Lighting of roads and public amenity areas Lighting of roads and public amenity areas, Code of Practice for the design of road lighting, BSI, 2013 and BS EN 12464-2:2014 ight and lighting - Lighting of work places - Part 2: Outdoor work places.	1	1	ACTION REQUIRED AT STAGE 4 To be included within the Employer's Requirements MEP documentation. Only external lighting criteria is applicable for this section for a Shell only assessment.	MEP

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
	Exemplary credits: Up to two credits are available where evidence is provided which demonstrates that the exemplary level daylight requirements and the exemplary level artificial lighting requirements are achieved, as outlined below: Daylight: One credit Daylight criteria achieved by either the exemplar daylight factors, or exemplary level minimum and average point illuminance factors. Retail: one credit - Sales areas: 50% point daylight factors of 2.0% or more - Common areas and offices (multi storey buildings): 3.0%, 80% area - Common areas and offices (single storey buildings): 4.0%, 80% area Minimum and Point Illuminance Factor - Retail: - Sales Areas: 50% area. Average daylight illuminance: At least 300 lux for 2,000 hours per year or more, - Other Occupied Areas: As non-retail areas, above.	1	0	Daylight credit: Credit not currently targeted Artificial light credit: Credit not applicable to assessment type The criteria for this credit not likely to be achievable and therefore it is not currently targeted.	Architect & Daylight Consultant
Hea 02 Indoor air quality	Prerequisite - Indoor air quality (IAQ) plan: Where evidence provided demonstrates that an indoor air quality plan has been produced no later than the end of concept design stage, with the objective of facilitating a process that leads to design, specification and installation decisions and actions that minimise indoor air pollution during occupation of the building. The IAQ must include: - Removal of contaminant sources - Dilution and control of contaminant sources - Where present, consideration is given to the air quality requirements of specialist areas such as Laboratories - Procedures for pre-occupancy flush out - Third party testing and analysis - Maintaining good indoor air quality in-use.	-	-	Credit not currently targeted	Architect MEP IAQ Specialist
	First credit - Ventilation: Where fresh air is provided in accordance with the relevant standard for ventilation based on the building type. Ventilation pathways are designed to minimise the ingress and build up of pollutants inside the building. Suitable filtration is provided to reduce the impact of external air pollution. Filtration to be design in accordance with BS EN 13779:2007 Annex A3. The specified filters should achieve a minimum Indoor Air Quality of IDA2. For air-conditioned and mixed-mode buildings: the building's air intakes and exhausts are over 10m apart to minimise recirculation and intakes are over 20m from sources of external pollution or designed in accordance with BS EN 13779:2007 Annex A2. Areas of the building subject to large and unpredictable or variable occupancy patterns have CO₂ or air quality sensors specified and: - In mechanically ventilated spaces, the sensor(s) are linked to the mechanical ventilation system and provide demand-controlled ventilation to the space. - In naturally ventilated spaces, the sensors either have the ability to alert the building owner/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.	0		Credit not applicable to assessment type	Architect & MEP

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
	For naturally ventilated or mixed mode buildings, the design demonstrates that the ventilation strategy provides adequate cross flow of air to maintain the required thermal comfort conditions and ventilation rates in accordance with CIBSE AM10				
	Second credit - Emissions from building products Where evidence provided demonstrates that three of the five available product types meet the emission limits, testing requirements and additional requirements identified by the Table 5.11 in the BREEAM criteria. All wood based products should be tested and classed as formaldehyde E1 as a minimum. Compliance is achieved where the Emission limit (1) identified by the testing requirement (2) as well as any other additional requirements are met. Product types include: - Interior paints and varnishes - Wood based products - Flooring materials - Ceiling wall and acoustic and thermal insulation materials - Interior adhesives and sealants (including flooring adhesives) Third credit - Emissions from building products Where evidence provided demonstrates that all of the product types listed meet the emission limits, testing requirements and any additional requirements listed in Table 5.11.	0	0	Second credit: Credit not applicable to assessment type Third credit: Credit not applicable to assessment type	Contractor
	Fourth credit - Post-construction indoor air quality measurement Where evidence demonstrates that formaldehyde and TVOC emissions are measured post construction but pre-occupancy and do not exceed the emissions criteria. The formaldehyde and TVOC analysis demonstrates that levels are within best practice emission limits. TVOC Does not exceed 500 µg/ m³over 8 hours. In accordance with ISO 16000-5 and ISO 16000-6 or ISO 16017-1 Formaldehyde Does not exceed 100 µg/ m³ averaged over 30 minutes (World Health Organization guidelines for indoor air quality: Selected pollutants, 2010 Sampled in accordance with ISO 16000-2 and ISO 16000-3	0		Credit not applicable to assessment type	
	Exemplary credit: One credit - Three of the product types listed meet the emission limits, testing requirements and any additional requirements listed in Table 5.12 of the BREEAM criteria. - Where wood-based products are not one of the three selected product types, all wood-based products used for internal fixtures and fittings must be tested and classified as formaldehyde E1 class as a minimum.	0		Credit not applicable to assessment type	

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
Hea 04 Thermal comfort	First credit: Thermal modelling Where evidence provided demonstrates that thermal modelling has been carried out using software in accordance with CIBSE AM11. The modelling demonstrates that the building design and services strategy can deliver thermal comfort levels in occupied spaces in accordance with the criteria set out in CIBSE Guide A Environmental Design (winter) and CIBSE TM52/TM59 methodologies (summer) as appropriate to the building and/or building areas.	0		Credit not applicable to assessment type	MEP
	Second credit: Design for future thermal comfort Where credit 1 is achieved and evidence provided outlines that the thermal modelling demonstrates that the building design and services strategy can deliver thermal comfort levels in occupied spaces in accordance with the criteria set out in CIBSE Guide A Environmental Design, and CIBSE TM52/TM59 for a projected climate change environment. Where these levels are not met the project team demonstrates how the building has been adapted or designed to be easily adapted in future using passive design solutions. Additionally evidence is provided for air conditioned buildings, the PMV and PPD indices based on the modelling are reported via the BREEAM assessment scoring and reporting tool.	0		Credit not applicable to assessment type	MEP
	Third credit: Thermal zoning and controls Where credit 1 is achieved and the thermal modelling analysis has informed the temperature control strategy for the building and its users. The strategy for proposed heating/cooling system(s) demonstrates that it has addressed the following: - 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. - The degree of occupant control required for these zones, based on discussions with the end user (or alternatively building type or use specific design guidance, case studies, feedback) considers: - User knowledge of building services - Occupancy type, patterns and room functions (and therefore appropriate level of control required) - 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. - 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 draughts). - 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. - The need or otherwise for an accessible building user actuated manual override for any automatic systems.	0		Credit not applicable to assessment type	MEP
Hea 05 Acoustic performance	Three credits: Up to three credits can be awarded where the following criteria is met: 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: - Sound insulation - Indoor ambient noise level - Reverberation times.	1	1	ACTION REQUIRED NOW Acoustic assessment of the proposed spaces to feed into architectural and structural design. Only Indoor Ambient Noise Levels criteria is appropriate for a shell only assessment.	Acoustician & Architect
Hea 06 Security	One credit - Security of site and building: Where evidence provided demonstrates that a suitably qualified security specialist (SQSS) conducts an evidence-based Security Needs Assessment during or prior to Concept Design (RIBA Stage 2). The recommendations from the SQSS must be implemented into the design.	1	1	ACTION REQUIRED NOW A Security Needs Assessment (SNA) is required to be performed by a Suitability Qualified Security Specialist (SQSS). Recommendations to be incorporated into the design.	Architect
	Exemplary level criteria	1	0	Credit not currently targeted	SQSS

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
	A compliant risk based security rating scheme has been used e.g. SABRE. The performance against the scheme has been confirmed by independent assessment and verification.			ACTION REQUIRED NOW An assessment such as SABRE would be appropriate to achieve the requirements of this credit. It is considered likely that a SABRE assessment would be to onerous for the development being considered. Following assessment of the scheme, the design incorporates the recommendations of the scheme.	
Hea 07 Safe and healthy surroundings	First credit - Safe access: Where external site areas form part of the assessed development the following apply: - Dedicated and safe cycle paths are provided from the site entrance to any cycle storage, and connect to offsite cycle paths where applicable. - Dedicated and safe footpaths are provided on and around the site providing suitable links for the following: - The site entrance to the building entrance, - Car parks (where present) to the building entrance - The building to outdoor space - Connecting to off-site paths where applicable. - Pedestrian drop-off areas are designed off, or adjoining to, the access road and should provide direct access to other footpaths. Where vehicle delivery access and drop-off areas form part of the assessed development, the following apply: - Delivery areas are not accessed through general parking areas and do not cross or share the following: - pedestrian and cyclist paths - outside amenity areas accessible to building users and general public. - There is a dedicated parking or waiting area for goods vehicles with appropriate separation from the manoeuvring area and staff and visitor car parking. - Parking and turning areas are designed for simple manoeuvring according to the type of delivery vehicle likely to access the site, thus avoiding the need for repeated shunting. Second credit - Outside space There is an outside space providing building users with an external amenity area. The space must be of an appropriate size to provide enough amenity for the predicted number of building users during coffee or lunch breaks to gather, socialise, relax and connect with the natural environment. The space is predominantly intended for building staff, but can be used by other building users where relevant and beneficial to the building users. The outside space must: - Be an outdoor landscaped area, for example a garden, balcony or terrace; the majority of the space should be open to the sky - Have appropriate seating areas and be non-smoking, - Be located to ensure it is accessible to all building users and avoids areas that will have disturbances from sources of noise (e.g. building services, car parks, busy roads, delivery areas etc.).	0	0	First credit: Credit not applicable to assessment type Second credit: Credit not applicable to assessment type	Architect
Energy					
Ene 01 (Me) (Mo)	Up to nine credits:	9	0	Nine credits applicable to assessment type Credits not currently targeted	MEP / Sustainability

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member																																		
		Available	Targeted (Potential)																																				
Reduction of carbon emissions  Mandatory: – Four credits for Excellent – Six credits (energy performance) and 4 credits (energy modelling and reporting) for Outstanding	Where evidence provided demonstrates an improvement in the energy efficiency of the building’s fabric and services and therefore achieves lower building operational related CO₂ emissions. The number of credits achieved is determined by comparing the Energy Performance Ratio for New Construction (EPR_{NC}) with the benchmarks in the table below. <table><tr><th colspan="2"></th><th colspan="2">Minimum Standards</th></tr><tr><th>BREEAM credits</th><th>EPR_{NC}</th><th>Rating</th><th>Minimum Requirements</th></tr><tr><td>1</td><td>0.1</td><td rowspan="3">-</td><td rowspan="3">Requires a performance improvement progressively better than the relevant national building regulations compliant standard</td></tr><tr><td>2</td><td>0.2</td></tr><tr><td>3</td><td>0.3</td></tr><tr><td>4</td><td>0.4</td><td rowspan="2">Excellent</td><td rowspan="2">Requires 4 credits to be achieved (equivalent to an EPR_{NC} of at least 0.4).</td></tr><tr><td>5</td><td>0.5</td></tr><tr><td>6</td><td>0.6</td><td rowspan="3">Outstanding</td><td rowspan="3">Requires 6 credits to be achieved (equivalent to an EPR_{NC} of at least 0.6) and 4 credits for Energy modelling and reporting.</td></tr><tr><td>7</td><td>0.7</td></tr><tr><td>8</td><td>0.8</td></tr><tr><td>9</td><td>0.9</td><td></td><td></td></tr></table>			Minimum Standards		BREEAM credits	EPR _{NC}	Rating	Minimum Requirements	1	0.1	-	Requires a performance improvement progressively better than the relevant national building regulations compliant standard	2	0.2	3	0.3	4	0.4	Excellent	Requires 4 credits to be achieved (equivalent to an EPR _{NC} of at least 0.4).	5	0.5	6	0.6	Outstanding	Requires 6 credits to be achieved (equivalent to an EPR _{NC} of at least 0.6) and 4 credits for Energy modelling and reporting.	7	0.7	8	0.8	9	0.9					Energy performance analysis using appropriate simulation tools in order for output parameters to be used. EPR metrics to be provided. Given the assessment is a Shell only assessment type. It is not likely that any credits will be achieved as only the Primary energy demand metrics are to be used.	
		Minimum Standards																																					
BREEAM credits	EPR _{NC}	Rating	Minimum Requirements																																				
1	0.1	-	Requires a performance improvement progressively better than the relevant national building regulations compliant standard																																				
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3	0.3																																						
4	0.4	Excellent	Requires 4 credits to be achieved (equivalent to an EPR _{NC} of at least 0.4).																																				
5	0.5																																						
6	0.6	Outstanding	Requires 6 credits to be achieved (equivalent to an EPR _{NC} of at least 0.6) and 4 credits for Energy modelling and reporting.																																				
7	0.7																																						
8	0.8																																						
9	0.9																																						
	Four credits - Prediction of operational energy consumption Pre-requisite Prior to completion of the concept design, relevant members of the design team hold a preliminary design workshop focusing on operational energy performance. Four credits – Energy modelling and reporting Undertake additional energy modelling during the design and post-construction stage to generate predicted operational energy consumption figures and report predicted energy consumption targets by end use, design assumptions and input data (with justifications). In addition credits are achieved for completing a risk assessment to highlight any significant design, technical, and process risks that should be monitored and managed throughout the construction and commissioning process.	0		Credits not applicable to assessment type.	MEP / Sustainability																																		
	Exemplary level criteria Up to two credits - Beyond zero net regulated carbon The building achieves an EPR NC ≥ 0.9 and zero net regulated CO₂ emissions. Energy generation from on-site and near-site LZO sources is sufficient to offset carbon emissions from regulated energy use plus a percentage of emissions from unregulated energy use. Credits are achieved based on the percentage of additional emissions from unregulated energy that are offset by LZO sources. Three credits - Carbon negative The building is deemed carbon negative where > 100% (see Table 6.2 below) of carbon emissions from unregulated (and regulated) energy use are offset by energy generated from on-site and near-site LZO sources	0	0	Beyond Zero Regulated Carbon: Credits not applicable to assessment type Carbon Negative: Credits not applicable to assessment type	MEP / Sustainability																																		

Issue	Credit Requirements		Credits		Comments / Actions	Responsible Team Member
			Available	Targeted (Potential)		
	Exemplary performance credits	Equivalent % criteria				
	1	10%				
	2	50%				
	3	>100%				
	Two credits – Post-occupancy stage Achieve maximum available credits in Ene02 Energy monitoring. In addition, preschools, primary schools, law courts, prisons and multi-residential buildings must separately monitor relevant function areas or departments in accordance with ENE02 criteria, below. The client or building occupier commits funds to pay for the post occupancy stage. This requires an assessor to be appointed and to report on the actual energy consumption compared with the targets set in criterion 4 above. The energy model (above) is: i. Submitted to BRE and ii. Retained by the building owner.		0	0	Credits not applicable to assessment type	MEP / Sustainability
Ene 02 (M), (Me), (Mo) Energy monitoring  Mandatory: One credit for Very Good and above.	First credit: Sub-metering of major energy consuming systems Where evidence provided demonstrates that the energy metering systems are installed that enable 90% of the estimated annual energy consumption of each fuel to be assigned to the various end-use categories of energy consuming systems. For buildings with a total useful floor area > 1000m² are metered using an appropriate energy monitoring and management system and systems in smaller buildings are metered either with an energy monitoring and management system or separate assessable energy sub-meters with pulsed or other open protocol communication outputs, to enable future connection to an energy monitoring and management system. The end energy consuming use is identifiable to the building user through labelling or data outputs. Large-scale medical equipment/systems can be excluded when assessing compliance with this issue (although it is recommended that sub-metering is considered in such instances).		0		Credit not applicable to assessment type	MEP
	Second credit: Sub – metering of high energy load and tenancy areas An accessible energy monitoring and management system or separate accessible energy sub-meters with pulsed or other open protocol communication outputs to enable future connection to an energy monitoring and management system are provided, covering a significant majority of the energy supply to tenanted areas or, in the case of single occupancy buildings, relevant function areas or departments within the building/unit.		0		Credit not applicable to assessment type	MEP
Ene 03 External lighting	One credit: Where evidence provided demonstrates that the external lighting has an average initial luminous efficacy of the external light fittings within the construction zone is not less than 70 luminaire lumens per circuit watt and that all external light fittings are automatically controlled for prevention of operation during daylight hours and presence detection in areas of intermittent pedestrian traffic.		1	1	INCLUDE WITHIN ER DOCUMENTATION This requirement can be incorporated into the project's employer's requirements documentation to require the contractor to achieve.	MEP
Ene 04 Low carbon design	First credit - Passive design analysis: Where the first credit of Hea 04 (Thermal comfort) is achieved and the project team carries out an analysis of the design to identify opportunities for the implementation of passive design solutions that reduce demands for energy consuming building services, and that these solutions are implemented meaningfully into the design.		1	0	Credit not currently targeted ACTION REQUIRED NOW Energy Assessment would be required to consider Passive Design features and assess potential options.	Sustainability

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
	Second credit - Free cooling: Where the first credit is achieved, the passive design analysis includes an analysis of free cooling and identifies opportunities for the implementation of free cooling solutions. Free cooling solutions might include night time cooling, ground coupled air cooling or surface water cooling (for example); i.e. does not use active cooling.	1	0	Credit not currently targeted There will be no free cooling technology designed into the development and there will be mechanical cooling system.	MEP / Sustainability
	Third credit - Low zero carbon feasibility study: Where evidence provided demonstrates that a feasibility study has been carried out by the completion of the Concept Design stage (RIBA Stage 2) by an energy specialist to establish the most appropriate recognised local (on- or near-site) low or zero carbon energy source(s) for the development. A local LZC technology/ies has been specified for the building in line with the recommendations of this feasibility study and this method of supply results in a meaningful reduction in regulated CO₂ emissions.	1	0 (+1)	Potential target only ACTION REQUIRED NOW Energy Assessment would be required to include Low Carbon technology feasibility assessment.	MEP / Sustainability
Ene 05 Energy efficient cold storage	One credit: The refrigeration system, its controls and components have been designed, installed and commissioned as follows: - In accordance with the Code of Conduct for carbon reduction in the refrigeration retail sector and BS EN 378-2 Refrigeration systems and heat pumps - Safety and environmental requirements. - Using robust and tested refrigeration systems/components, normally defined as those included on the Enhanced Capital Allowance (ECA) Energy Technology Product List (ETPL) or an equivalent list (see CN3.2 within the BREEAM criteria document for a list of components). The refrigeration plant has been commissioned to comply with the criteria for commissioning outlined in BREEAM issue Man 04 Commissioning and handover. Two credits: The installed refrigeration system demonstrates a saving in indirect greenhouse gas emissions (CO₂ eq.) over the course of its operational life.	0	0	First credit: Credit not applicable to assessment type Second credit: Credit not applicable to assessment type	MEP
Ene 06 Energy efficient transportation systems	First credit - Energy consumption: Where evidence provided demonstrates that where either lifts, escalators or moving walks are required: - An analysis of the transportation demand and usage patterns for the building has been carried out in accordance with BS EN ISO 25745 to determine the optimum number and size of lifts, (including counter-balancing ratio), escalators and/or moving walks. - The energy consumption has been estimated for different types and the lift/escalator/moving walk system/strategy with the lowest energy consumption has been specified. - Regenerative drives should be considered. - The transportation system with the lowest energy consumption is specified.	0		Credit not applicable to assessment type	MEP
	Second and third credit - Energy efficient features: Where evidence provided demonstrates that the first credit has been achieved and: For lifts, of the following energy-efficient features the three that offer the greatest potential energy savings are specified: - The lifts operate in a stand-by condition during off-peak periods. - The lift car uses energy-efficient lighting and display lighting - The lift uses a drive controller capable of variable-speed, variable-voltage, variable frequency (VVVF) control of the drive motor. Where regenerative drives are demonstrated to save energy, they are specified.	0	0	Second credit: Credit not applicable to assessment type Third credit: Credit not applicable to assessment type	MEP

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member						
		Available	Targeted (Potential)								
	For escalators and/or moving walks, each escalator and/or moving walk complies with EITHER of the following: – It is fitted with a load sensing device that synchronises motor output to passenger demand through a variable speed drive. OR It is fitted with a passenger sensing device for automated operation (auto walk), so the escalator operates in stand-by mode when there is no passenger demand.										
Ene 07 Energy efficient laboratory systems	One credit - Design specification Client engagement is sought through consultation during the preparation of the initial project brief (RIBA Stage 1 or equivalent) to determine occupant requirements and define laboratory performance criteria. Performance criteria should include, but not be limited to the following aspects: – Description of purpose – Occupant/process activities – Containment requirements and standards – Air change rate requirements – Ventilation system performance and efficiencies – Heating and cooling requirements – Interaction between systems – Flexibility/adaptability of laboratory facilities. The design team demonstrates that the energy demand of the laboratory facilities has been minimised as a result of achieving the defined design performance criteria. This has informed the right-sizing (see Relevant definitions from the BREEAM Criteria) of the services system equipment (including ventilation supply and extract). Laboratory containment devices and containment areas (criteria only applicable to buildings containing these facilities) For ducted fume cupboards specified: – Demonstrate that the average design air flow rate is no greater than 0.16 m³/s per linear metre (internal width) of fume cupboard workspace – Measure the volume flow rate in the exhaust duct (at the boundary of the laboratory) to take account of reductions in (inward) volume flow rate from fume cupboard leakage – Demonstrate that a reduction in air flow does not compromise the defined performance criteria and does not increase the health and safety risk to future building occupants. Up to two/four credits For projects with a laboratory area between 10 – 25% of the total floor area two credits are available. For projects with a laboratory area over 25% of the total floor area four credits are available. Laboratory plant and systems are designed, specified and installed to promote energy efficiency, demonstrated through compliance with best practice energy efficiency measures within the BREEAM Criteria. The measures selected must demonstrate a reasonably significant effect (2% reduction) on the total energy consumption. Features include: <table><tr><th>Item description</th><th>Credits</th></tr><tr><td>Fume cupboard volume flow rates (further reduction) An average design air flow rate of < 0.12 m³/s per linear metre (internal width) of fume cupboard workspace.</td><td>0.5</td></tr><tr><td>Grouping or isolation of high filtration or ventilation activities</td><td>0.5</td></tr></table>	Item description	Credits	Fume cupboard volume flow rates (further reduction) An average design air flow rate of < 0.12 m³/s per linear metre (internal width) of fume cupboard workspace.	0.5	Grouping or isolation of high filtration or ventilation activities	0.5	0	0	Design specification credit: Credit not applicable to assessment type Best practice measures credits: Credit not applicable to assessment type	MEP
Item description	Credits										
Fume cupboard volume flow rates (further reduction) An average design air flow rate of < 0.12 m³/s per linear metre (internal width) of fume cupboard workspace.	0.5										
Grouping or isolation of high filtration or ventilation activities	0.5										

Issue	Credit Requirements		Credits		Comments / Actions	Responsible Team Member
			Available	Targeted (Potential)		
	Minimisation of room air change rates and overall facility ventilation flows by grouping together or isolating activities and equipment with high filtration or ventilation requirements.					
	Energy recovery – heat Heat recovery from exhaust air (where there is no risk of cross contamination) or via refrigerant or water cooling systems.	0.5				
	Energy recovery – cooling Cooling recovery via exhaust air heat exchangers (where there is no risk of cross-contamination) or via refrigerant or water cooling systems.	0.5				
	Grouping of cooling loads Grouping of cooling loads to enable supply efficiencies and thermal transfer.	0.5				
	Free cooling Specification of free cooling coils in chillers or dry air coolers related to laboratory-specific activities.	0.5				
	Load responsiveness Effective matching of supply with demand through modularity, variable speed drives and pumps, and other mechanisms.	0.5				
	Clean rooms Specification of particle monitoring systems, linked to airflow controls.	0.5				
	Diversity Achievement of high levels of diversity in central plant sizing and laboratory duct sizing, where compatible with safety.	0.5				
	Room air changes rates Reducing air change rates by matching ventilation airflows to environmental needs and demands of containment devices.	0.5				
	Fan power Specification and achievement of best practice fan power figures (as shown below) for all air handling units, laboratory extract systems, local extract ventilation, containment area extracts (where applicable) and fume cupboard extracts (where applicable).	1.0				
Ene 08 Energy efficient equipment	Two credits: – Identify the building's unregulated energy consuming loads and estimate their contribution to the total annual unregulated energy consumption of the building, assuming a typical/standard specification. – Identify the systems and/or processes that use a significant proportion of the total annual unregulated energy consumption of the development and its operation. – Demonstrate a meaningful reduction in the total annual unregulated energy consumption of the building.		0		Credits not applicable to assessment type	MEP

Issue	Credit Requirements			Credits		Comments / Actions	Responsible Team Member
				Available	Targeted (Potential)		
	A	Swimming pool	1. Specify automatic or semi-automatic pool covers, or 'liquid' pool covers with an automatic dosing system to ALL pools, including spa pools and hot tubs. 2. The covers envelop the entire pool surface when fully extended. 3. Control the air temperature in the pool hall so that it is 1 °C above the water temperature.				
	B	Laundry facilities with commercial-sized appliances	Demonstrate at least one of the following for commercial-sized appliances: 1. Specification of heat recovery from waste water. 2. Use of greywater for part of the washing process. This may be recycled from the final rinse and used for the next pre-wash. 3. The commercial or industrial sized machines are identified as eligible for the UK's Enhanced Capital Allowance Scheme for water.				
	C	Data centres	1. Design is in accordance with the 'Best practices for the EU Code of Conduct on Data Centres' principles with the data centre achieving at least the 'Expected minimum practice' level (as defined in the Code of Conduct). 2. Temperature set points are not less than 24°C, as measured at the inlet of the equipment in the rack.				
	D	IT-intensive operating areas	1. Uses a natural ventilation and cooling strategy as standard, with forced ventilation only to be used when the internal temperature exceeds 20°C and active cooling only when the internal temperature exceeds 22°C 2. Specify a mechanism to achieve automatic power-down of equipment when not in use, including overnight.				
	E	Domestic scale appliances (individual and communal facilities)	Domestic scale appliances have the following ratings (or better) under the EU Energy Efficiency Labelling Scheme, where provided: 1. Fridges, fridge-freezers: A+ rating 2. Washing machines: A++ rating 3. Dishwashers: A+ rating 4. Washer-dryers and tumble dryers: A rating. OR 5. If any of the appliances will be purchased during occupation by the tenant/owner, information on the EU Energy Efficiency Labelling Scheme of efficient white goods must be provided to the residential areas of the building.				

Issue	Credit Requirements				Credits		Comments / Actions	Responsible Team Member																												
					Available	Targeted (Potential)																														
	F	Healthcare	1. The procurement of large-scale equipment (where present, see compliance note CN4) and sets of electrical equipment (where numbering more than 50) has been informed and selected by life cycle costing analysis for at least two options in accordance with HTM07-02,Part B, Chapter 1.																																	
	G	Kitchen and catering facilities	The project has incorporated at least two-thirds of the energy efficiency measures outlined in the section summaries of each of the following sections of CIBSE Guide TM50 (except as specified): 1. Section 8 (Drainage and kitchen waste removal) 2. Section 9 (Energy controls - specifically controls relevant to appliances) 3. Section 11 (Appliance specification - not fabrication or utensil specifications) 4. Section 12 (Refrigeration) 5. Section 13 (Warewashing: dishwashers and glasswashers) 6. Section 14 (Cooking appliance selection) Section 15 (Water temperatures, taps, faucets and water saving controls).																																	
Transport																																				
Tra 01 Transport assessment and travel plan	Two credits: – Where evidence provided demonstrates that a travel plan has been developed as part of the feasibility and design stages which considers all types of travel relevant to the building type and users. – The travel plan must be structured to the needs of the particular site and takes into consideration the findings of a site-specific transport survey. – The travel plan must include a package of measures that have been used to steer the design of the development in order to meet the travel plan objectives and minimise car-based travel patterns. The travel plan must be demonstrated in action post construction.				2	2	A compliant travel plan is required for the development that includes recommendations for reduction of impact resultant from transport. These measures are then incorporated into the design of the development.	Transport Consultant & Architect																												
Tra 02 Sustainable transport measures	Ten credits Features included to achieve a Tra02 points score. Credits are achieved based on the site's Accessibility Index and the features provided.				10	3 (+1)	Ten credits applicable to assessment type Three credits targeted One additional potential credit Currently anticipated that sufficient features can be incorporated to achieve the targeted credits. Features anticipated to include: -Anticipated AI greater than 8 -Appropriate cyclist facilities -Existing amenities	Transport Consultant & Architect																												
<table><tr><th>Points</th><th>Points</th><th>Points</th><th>Credits</th></tr><tr><td>AI < 25</td><td>25 ≤ AI < 40 (urban centres)</td><td>AI of ≥ 40 (metropolitan centre locations)</td><td></td></tr><tr><td>1</td><td>1</td><td></td><td>1</td></tr><tr><td>2</td><td></td><td>1</td><td>2</td></tr><tr><td>3</td><td>2</td><td></td><td>3</td></tr><tr><td>4</td><td></td><td>2</td><td>4</td></tr><tr><td>5</td><td>3</td><td></td><td>5</td></tr></table>					Points	Points	Points	Credits	AI < 25	25 ≤ AI < 40 (urban centres)	AI of ≥ 40 (metropolitan centre locations)		1	1		1	2		1	2	3	2		3	4		2	4	5	3		5				
Points	Points	Points	Credits																																	
AI < 25	25 ≤ AI < 40 (urban centres)	AI of ≥ 40 (metropolitan centre locations)																																		
1	1		1																																	
2		1	2																																	
3	2		3																																	
4		2	4																																	
5	3		5																																	

Issue	Credit Requirements				Credits		Comments / Actions	Responsible Team Member
					Available	Targeted (Potential)		
	6	4	3	6				
	7	5		7				
	8	6	5	8				
	9	7	6	9				
	10	8	7	10				
	Sustainability Transport Measures:							
	Public transport measures			Points				
	Public transport measures							
	– The existing AI calculated in Tra 01 achieves the following: – ≥ 4 for prison or MOD sites, rural location sensitive buildings, and other building group 3 – ≥ 8 for all other building type			1				
	– Demonstrate an increase over the existing Accessibility Index through negotiation with local bus, train or tram companies to increase the frequency of the local service provision for the development;			2				
	– Demonstrate an increase over the existing Accessibility Index. This could be through provision of a diverted bus route, a new or enhanced bus stop, or other similar solutions.			3				
	– Provide a dedicated service, such as a bus route or service			3				
	– Provide a public transport information system in a publicly accessible area, to allow building users access to up-to-date information on the available public transport and transport infrastructure. This may include signposting to public transport, cycling, walking infrastructure or local amenities.			1				
	Private transport measures							
	– Provide electric recharging stations of a minimum of 3kW for at least 10% of the total car parking capacity for the development.			1				
	– Set up a car sharing group or facility to facilitate and encourage building users to car share. – Raise awareness of the sharing scheme with marketing and communication materials. – Provide priority spaces for car sharers for at least 5% of the total car parking capacity for the development. – Locate priority parking spaces nearest the development entrance used by the sharing scheme participants.			1				
	Active travel measures							
	– During preparation of the brief, the design team consults with the local authority (LA) on the state of the local cycling network and public accessible pedestrian routes, to focus on whichever the LA deems most relevant to the project, and how to improve it. – Agree and implement one proposition chosen with the local authority. The proposition supported by the development is additional to existing local plans and has a significant impact on the local cycling network or on pedestrian routes open to the public			2				
	– Install compliant cycle storage spaces to meet the minimum levels set out the BREEAM criteria			1				

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
Mandatory: Criterion 1 only for Good and above.	- Each meter (main and sub) must have a pulsed output to enable connection to a Building Management System (BMS) for the monitoring of water consumption. - If the site on which the building is located has an existing BMS, managed by the same occupier/owner (as the new building), the pulsed water meter(s) for the new building must be connected to the existing BMS.				
Wat 03 Water leak detection	First credit - Leak detection system: Where evidence provided demonstrates that 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 provided.	1	1	ACTION REQUIRED AT STAGE 4 Requirements to be included within the Employer's Requirements MEP documentation and drawings.	MEP
	Second credit - Flow control devices: Where evidence provided demonstrates that 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 fittings)	0		Credit not applicable to assessment type	MEP
Wat 04 Water efficient equipment	First credit The design team has identified all unregulated water demands that could be realistically mitigated or reduced. System(s) or processes have been identified to reduce the unregulated water demand, and demonstrate, through either good practice design or specification, a meaningful reduction in the total water demand of the building. Unregulated water uses include (but are not limited to): - Swimming pools - Recreational hot tubs and hydrotherapy pools - Equipment used for irrigation - Vehicle wash equipment - Project-specific industrial processes - Water filtration and treatment processes - Building services (e.g. cooling towers and humidification systems) Credit is not applicable and will be filtered out where there is no water demand from uses other than domestic scale and sanitary use components.	0		Credit not applicable to assessment type Assumed no unregulated water sources at the scheme.	Landscape Architect
Materials					
Mat 01 Environmental impacts from construction products - Building life cycle assessment (LCA)	One - six credits:: LCA superstructure Up to six credits are available for development of a building LCA on of the superstructure design using either the BREEAM Simplified Building LCA tool or a Compliant LCA tool during concept design stage. - Carry out building LCA options appraisal of 2 to 4 significantly different superstructure design options throughout the design development, using a building LCA tool that is recognised by BREEAM - Submit to BRE at concept design stage <u>prior to planning submission.</u> - Submit updated LCA assessment to BRE at technical design stage. One credit LCA substructure Carry out building LCA options appraisal of a combined total of at least six significantly different substructure or hard landscaping design options (at least two shall be substructure and at least two shall be hard landscaping).	7	3 (+1)	Seven credits applicable to assessment type Three credits targeted One additional potential credit ACTION REQUIRED NOW LCA assessment to be undertaken prior to submission for planning permission. LCA to be submitted to BRE and assessed at the developed design stage.	Architect / Structural Engineer / Civil Engineer / QS

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member											
		Available	Targeted (Potential)													
	Exemplary level criteria One credit – Core building services options appraisal during concept design Carry out building LCA options appraisal of at least 3 significantly different core building services design options, using a building LCA tool that is recognised by BREEAM One credit – LCA and LCC alignment – Achieve Elemental LCC plan and Component Level LCC options appraisal credits include design options appraised as part of the LCA within the Elemental and Component LCC models. – Integrate the aligned LCA and LCC options appraisal activity within the wider design decision-making process. Record this in an options appraisal summary document including the relevant cost information from the ‘elemental LCC plan’ and ‘Component level LCC option appraisal’.	2	1	First credit: Credit not applicable to assessment type Second credit: Credit not currently targeted Third credit: Credit targeted ACTION REQUIRED NOW LCA assessment to be undertaken prior to submission for planning permission. LCA to be submitted to BRE and assessed at the developed design stage. Hoare Lea can be considered a suitably qualified third party and can therefore claim the credit for completion of the LCA assessment.	Architect / Structural Engineer / Civil Engineer / QS											
Mat 02 Environmental impacts from construction products - Environmental Product Declarations (EPD)	One credit: Where evidence provided demonstrates the designs features construction products with EPD that achieve a total EPD points score of at least 20, according to the BRE calculation methodology.	1	1	ACTION REQUIRED AT STAGE 4 Requirements to be included within the Employer’s Requirements documentation. It is anticipated that given there a few materials likely to be used, materials with EPDs can be sourced for project.	Architect											
Mat 03 (M), (M _e), (M _o) Responsible sourcing of construction products  Mandatory: Criterion 1 sustainable timber sourcing for all ratings	Pre-requisite All timber and timber based products used on the project are ‘legally harvested and traded timber’ First credit: Enabling sustainable procurement Where evidence provided demonstrates that a sustainability procurement plan is in place at by the concept design stage and is used by the design team to guide specification towards sustainable construction products.	1	1	ACTION REQUIRED NOW Requirements to be included within the Employer’s Requirements documentation. Contractor will be required to develop suitable reporting. Project team will be required to develop a sustainable procurement plan now for use throughout the project.	Architect & Contractor											
	Up to three credits: Where evidence provided demonstrates the available responsible sourcing of materials (RSM) can be awarded where the applicable building materials are responsibility sourced in accordance with the BREEAM methodology. <table><tr><th>RSM credits</th><th>% of available RSM points achieved</th><th>MAT03 Scope</th></tr><tr><td>1</td><td>≥ 10%</td><td>Superstructure</td></tr><tr><td>2</td><td>≥ 20%</td><td rowspan="2">As above, plus – Internal finishes – Substructure and hard landscaping </td></tr><tr><td>3</td><td>≥ 30%</td></tr></table>	RSM credits	% of available RSM points achieved	MAT03 Scope	1	≥ 10%	Superstructure	2	≥ 20%	As above, plus – Internal finishes – Substructure and hard landscaping	3	≥ 30%	3	0 (+1)	Three credits applicable to assessment type One potential credit only ACTION REQUIRED AT STAGE 4 Requirements to be included within the Employer’s Requirements documentation. Contractor will be required to develop suitable reporting.	Architect
	RSM credits	% of available RSM points achieved	MAT03 Scope													
1	≥ 10%	Superstructure														
2	≥ 20%	As above, plus – Internal finishes – Substructure and hard landscaping														
3	≥ 30%															
	Exemplary credit:	1	0	Credit not currently targeted	Architect											

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
	Where evidence provided demonstrates that at least 50% of the available RSM points are achieved. Scope also includes core building services.			It is not likely that this credit can be achieved.	
Mat 05 Designing for durability and resilience	One credit: PART A: Protecting vulnerable parts of the building from damage - Protection measures are incorporated into the building's design and construction to reduce damage to the building's fabric or materials in case of accidental or malicious damage occurring. These measures must provide protection against: - Negative impacts of high user numbers in relevant areas of the building (e.g. corridors, lifts, stairs, doors etc.). - Damage from any vehicle or trolley movements within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas. - External building fabric damage by a vehicle. Protection where parking or manoeuvring areas are within 1 metre of the building façade and where delivery areas or routes are within 2 metres of the façade, i.e. specifying bollards or protection rails. - Potential malicious damage to building materials and finishes, in public and common areas where appropriate. PART B: Protecting exposed parts of the building from material degradation - Key exposed building elements have been designed and specified to limit long and short term degradation due to environmental factors. This can be demonstrated through one of the following: - The element or product achieving an appropriate quality or durability standard or design guide OR - A detailed assessment of the element's resilience when exposed to the applicable material degradation and environmental factors. - Include convenient access to the roof and façade for cost-effective cleaning, replacement and repair in the building's design. - Design the roof and façade to prevent water damage, ingress and detrimental ponding.	1	1	ACTION REQUIRED NOW Consideration for wear and damage to be made in addition to consideration for where (and how) protection measures will be included. Environmental degradation assessment to be undertaken to identify how materials will be likely to be impacted by environmental hazards.	Architect
Mat 06 Material efficiency	One credit: At the preparation and brief and concept design stages, set targets and report on opportunities and methods to optimise the use of materials. These must be done for each of the following stages - Preparation and brief - Concept design - Developed design - Technical design - Construction Develop and record the implementation of material efficiency - Developed design - Technical design - Construction	1	1	ACTION REQUIRED NOW Stage 1, 2, 3 to be completed by the project team. Stages 4, 5 to be completed by contractor. Requirements for later stages to be included within Employer's Requirements documentation.	Architect
Waste					
Wst 01 (Mo) Construction waste management 	One credit - Pre-demolition audit Complete a pre-demolition audit of any existing buildings, structures or hard surfaces being considered for demolition. This must be used to determine whether refurbishment or reuse is feasible and, in the case of demolition, to maximise the recovery of material for subsequent high grade or value applications. The audit must cover the content of Pre-demolition audit scope:	5	4	Pre-demolition audit: Credit targeted Construction resource efficiency: Credits targeted	Contractor

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member																								
		Available	Targeted (Potential)																										
Mandatory: One credit for Outstanding	- Be carried out at Concept Design stage (RIBA Stage 2) by a competent person prior to strip-out or demolition works - Guide the design, consider materials for reuse and set targets for waste management - Engage all contractors in the process of maximising high grade reuse and recycling opportunities - Compare actual waste arisings and waste management routes used with those forecast and investigate significant deviations from planned targets. Three credits - Construction resource efficiency: - Where a Resource Management Plan (RMP) has been developed covering the non-hazardous waste related to on-site construction and dedicated off-site manufacture or fabrication. - In addition, evidence provided demonstrates that non-hazardous construction waste (excluding demolition and excavation waste) generated by the building’s design and construction meets or exceeds the following resource efficiency benchmarks: <table><tr><th rowspan="2">BREEAM Credits</th><th colspan="2">Amount of waste generated per 100m² (gross internal floor area)</th></tr><tr><th>m³</th><th></th></tr><tr><td>One credit</td><td>≤ 13.3</td><td>≤ 11.1</td></tr><tr><td>Two credits</td><td>≤ 7.5</td><td>≤ 6.5</td></tr><tr><td>Three credits</td><td>≤ 3.4</td><td>≤ 3.2</td></tr><tr><td>Exemplary level</td><td>≤ 1.6</td><td>≤ 1.9</td></tr></table>	BREEAM Credits	Amount of waste generated per 100m ² (gross internal floor area)		m ³		One credit	≤ 13.3	≤ 11.1	Two credits	≤ 7.5	≤ 6.5	Three credits	≤ 3.4	≤ 3.2	Exemplary level	≤ 1.6	≤ 1.9			Exemplary credit: Credit not currently targeted ACTION REQUIRED NOW Any demolition for the site must be accompanied with a pre-demolition survey of the demolished buildings. The low waste benchmark levels will be required within the Employer’s Requirements documentation. These requirements can also identify that the diversion from landfill targets must be achieved. The exemplar level credits are not currently targeted.								
BREEAM Credits	Amount of waste generated per 100m ² (gross internal floor area)																												
	m ³																												
One credit	≤ 13.3	≤ 11.1																											
Two credits	≤ 7.5	≤ 6.5																											
Three credits	≤ 3.4	≤ 3.2																											
Exemplary level	≤ 1.6	≤ 1.9																											
	Fifth credit - Diversion of resources from landfill: Where evidence provided demonstrates that the following percentages of non-hazardous construction and demolition waste (where applicable) generated by the project have been diverted from landfill: <table><tr><th>BREEAM credits</th><th>Type of Waste</th><th>Volume</th><th>Tonnage</th></tr><tr><td rowspan="3">One credit</td><td>Non-demolition</td><td>70%</td><td>80%</td></tr><tr><td>Demolition</td><td>80%</td><td>90%</td></tr><tr><td>Excavation</td><td>N/A</td><td>N/A</td></tr><tr><td rowspan="3">Exemplary level</td><td>Non-demolition</td><td>85%</td><td>90%</td></tr><tr><td>Demolition</td><td>85%</td><td>95%</td></tr><tr><td>Excavation</td><td>95%</td><td>95%</td></tr></table>	BREEAM credits	Type of Waste	Volume	Tonnage	One credit	Non-demolition	70%	80%	Demolition	80%	90%	Excavation	N/A	N/A	Exemplary level	Non-demolition	85%	90%	Demolition	85%	95%	Excavation	95%	95%	1	1	As identified above, requirements to achieve these levels of diversion from landfill will be required to be included with Employer’s Requirements documentation.	Contractor
BREEAM credits	Type of Waste	Volume	Tonnage																										
One credit	Non-demolition	70%	80%																										
	Demolition	80%	90%																										
	Excavation	N/A	N/A																										
Exemplary level	Non-demolition	85%	90%																										
	Demolition	85%	95%																										
	Excavation	95%	95%																										

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member						
		Available	Targeted (Potential)								
Wst 02 Use of recycled and sustainably sourced aggregates	Pre-requisite If demolition occurs on site, to encourage the reuse of site-won material on site, complete a pre-demolition audit of any existing buildings, structures or hard surfaces in accordance with Wst01 requirements. One credit: Project sustainable aggregate points Where evidence provided identifies amounts of aggregate used for the project, the types of aggregate, its source (location) and the transport type. This information is used to calculate the Sustainable Aggregate points score. Credits are scored as follows: <table><tr><th>Project Sustainable Aggregate Credits</th><th>Project Sustainable Aggregate points</th></tr><tr><td>1</td><td>3.5–6.0</td></tr><tr><td>1 exemplary performance credit</td><td>> 6.0</td></tr></table> The calculation is based on the following aggregate uses: – Engineered fill – Concrete coarse aggregate – Concrete fine aggregate – Asphalt aggregate – Granular bedding for pipes – Granular bedding for hard landscape products – Hydraulically bound materials	Project Sustainable Aggregate Credits	Project Sustainable Aggregate points	1	3.5–6.0	1 exemplary performance credit	> 6.0	1	0	Credit not currently targeted Calculations required to identify the total amount of aggregate required for the project and the levels of recycled aggregate required to achieve compliance with the BREEAM criteria. It is not anticipated that there will be an appetite to contend for this credit.	Civil / Structural Engineer
Project Sustainable Aggregate Credits	Project Sustainable Aggregate points										
1	3.5–6.0										
1 exemplary performance credit	> 6.0										
	Exemplary level criteria: As above	1	0	Credit not currently targeted Calculations required to identify the total amount of aggregate required for the project and the levels of recycled aggregate required to achieve compliance with the BREEAM criteria. It is not anticipated that there will be an appetite to contend for this credit.	Civil / Structural Engineer						
Wst 03 (M_e) (M_o) Operational waste  Mandatory: – One credit for Excellent and above	One credit: Where evidence provided demonstrates that there is dedicated space(s) to cater for the segregation and storage of operational recyclable waste volumes generated by the assessed building/unit, its occupant(s) and activities. The dedicated space(s) must be: – Clearly labelled, to assist with segregation, storage and collection of the recyclable waste streams – Accessible to building occupants / facilities operators for the deposit of materials and collections by waste management contractors – 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. – The specified/installed operational waste facilities are compliant with the relevant NHS guidelines for that part of the UK. 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 must be provided as part of its waste management strategy: – Static waste compactor(s) or baler(s); situated in a service area or dedicated waste management space.	1	1	A waste storage area of sufficient footprint area is required to be provided. This will have specific areas for recyclable waste and general waste and will comply with the area requirements of the BREEAM criteria. The likelihood for a baler to be of use needs to be considered at the site. If there are central waste stores, these may be suitable for use.	Architect						

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
	- Vessel(s) for composting 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 composting facility. - Where organic waste is to be stored/ composted on site, a water outlet is provided adjacent to or within the facility for cleaning and hygiene purposes.				
Wst 04 Speculative floor and ceiling finishes	One credit For tenanted areas (where the future occupant is not known), prior to full fit-out works, carpets, other floor finishes and ceiling finishes have been installed in a show area only. In a building developed for a specific occupant, that occupant has selected (or agreed to) the specified floor and ceiling finishes.	0		Credit not applicable to assessment type This credit is only applicable for Offices assessments	
Wst 05 Adaptation to climate change	One credit - Structural and fabric resilience: Where evidence provided demonstrates that a climate change adaptation strategy appraisal for structural and fabric resilience has been conducted by the end of Concept design (RIBA Stage 2) covering hazard identification and assessment, risk estimation, evaluation and management. Appraisal to identify & evaluate impact on the building over its life cycle from expected extreme weather conditions arising from climate change and, where feasible, mitigate against these impacts ID hazards taking into account the following: structural stability, robustness, weather proofing and detailing, material durability, health and safety of occupants, impact on building contents and business continuity	1	0 (+1)	Potential target only ACTION REQUIRED NOW A climate change adaptation plan is required to be developed. This plan and report are required to be concluded at RIBA Stage 2. As a result of this, the reporting against the requirements need to be commenced now.	Architect & Structural Engineer
	Exemplary credit: 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. In addition to achieving the first credit above, the following must also be achieved: - Hea 04 – Thermal comfort: Project team demonstrate how the building has been adapted, or designed to be easily adapted in future using passive design solutions - Ene 01 – Reduction in energy use and carbon emissions At least 6 credits in this issue have been achieved - Ene 04 – Low carbon design Passive design analysis credit has been achieved - Wat 01 – Water consumption Minimum of three credits in this issue have been achieved - Mat 05 – Designing for durability and resilience Building elements incorporate appropriate design and specification measures to limit material degradation due to environmental factors - Pol 03 Surface water run off Flood risk- A minimum of one credit has been achieved. Surface water run off- Two credits have been achieved.	0		Credit not applicable to assessment type This credit is not currently targeted as it is unclear whether all credits will be achieved.	Architect & Structural Engineer

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
Wst 06 Design for disassembly and adaptability	One credit - Design for disassembly and functional adaptability - recommendations Where evidence provided demonstrates that the design team conducts a study to explore the ease of disassembly and the functional adaptation potential of different design scenarios. Recommendations are required to be developed at the concept design stage.	1	1	ACTION REQUIRED NOW A design for disassembly report is required for the project that identifies how the development can be disassembled and materials recovered in order to support circular economy aims. The report should be undertaken now.	Architect
	One credit - Disassembly and functional adaptability – implementation Provide an update, during Technical Design, on: – How the recommendations or solutions proposed by Concept Design have been implemented where practical and cost effective. Omissions have been justified in writing to the assessor. – Changes to the recommendations and solutions during the development of the Technical Design. Produce a building adaptability and disassembly guide to communicate the characteristics allowing functional adaptability and disassembly to prospective tenants.	1	1	Anticipated that the report recommendations can be incorporated into the design.	
Land Use and Ecology					
LE 01 Site selection	First credit - Previously occupied land: Where evidence is provided to demonstrate that at least 75% of the proposed development’s footprint is on an area of land which has previously been developed for use by industrial, commercial or domestic purposes in the last 50 years.	1	1	ACTION REQUIRED NOW Site Investigation reports to be provided that identify that the project has been at least 75% by areas previously developed.	Architect
	Second credit - Contaminated land: – Where evidence provided demonstrates that the site is significantly contaminated as confirmed by a contaminated land specialist’s site investigation, risk assessment and appraisal. The client or principal contractor must confirm that remediation of the site will be carried out in accordance with the remediation strategy and its implementation plan.	1	0	Credit not currently targeted ACTION REQUIRED NOW Site Ground Investigation Report and Contamination report to identify the level of contamination at the site and the remediation required/undertaken. It is not currently anticipated that there will be suitable levels of contamination on the site.	Contamination Specialist
LE 02 Identifying and understanding the risks and opportunities for the project	Pre-requisite - Assessment route selection An assessment route for the project has been determined using BREEAM Guidance Note GN34 BREEAM Ecological Risk Evaluation Checklist. The client or contractor confirms compliance will be and is monitored against all relevant UK and EU or international legislation relating to the ecology of the site.	2	2	Survey and evaluation: Credit targeted Determining ecological outcomes: Credit targeted ACTION REQUIRED NOW Ecology report to be commissioned/provided in order to consider how this credit can be approached.	Ecologist
	Up to two credits Depending on the route for compliance taken the following number of credits are available.				
				Project team member route (Route 1)	
	Project team member route (Route 1)	Ecologist route (Route 2)			
Survey and evaluation	1 credit	1 credit			

Issue	Credit Requirements			Credits		Comments / Actions	Responsible Team Member
				Available	Targeted (Potential)		
	Determining the ecological outcomes for the site		1 credit				
	Survey and evaluation Route 1 Completion of the BREEAM Ecological Risk Evaluation Checklist indicates Assessment route 1 can be used as the assessment Route 2 - An appropriate individual is appointed at a project stage that ensures early involvement in site configuration and, where necessary, can influence strategic planning decisions. - Prior to the completion of the preparation and brief, an appropriate level of survey and evaluation: - For sites where complex ecological systems are likely to be present) has been carried out to determine the ecological baseline of the site, taking account of the zone of influence to establish: - Current and potential ecological value and condition of the site, and related areas within the zone of influence. - Direct and indirect risks to current ecological value - Capacity and feasibility for enhancement of the ecological value of the site and, where relevant, areas within the zone of influence. - Data are collated and shared with project team to inform the site preparation, design or construction works. Determining the ecological outcomes for the site (Routes 1 and 2) - Survey and evaluation criteria (criteria 3–6 above) relevant to the chosen route have been achieved. - During Concept Design, the project team liaise and collaborate with representative stakeholders to identify and consider ecological outcome for the sites (appropriate to the scale and type of development) for the project. - When determining the ecological outcome for the site, this must involve the identification, appraisal and selection of specific solutions and measures sufficiently early to influence key project planning decisions. This must be done in accordance with the following hierarchy of action: - avoidance - protection - reduction or limitation of negative impacts - on site compensation and, - enhancement, considering the capacity and feasibility within the site, or where viable, off-site. - Following this the optimal ecological outcome for the site is selected after liaising with representative stakeholders and the project team.						
	Exemplary level criteria Determine the ecological outcomes for the site (sustainability-related activities) When determining the optimal ecological outcome for the site consider, in addition to those outlined above, the wider site sustainability-related activities and the potential for ecosystem service related benefits.			1	0	Credit not currently targeted Identified as a potential target subject to discussions with project ecologist.	
LE 03 Managing negative impacts on ecology	Pre-requisite – Identification and understanding the risks and opportunities for the site - The client or contractor has confirmed that compliance is monitored against all relevant UK, and EU or International legislation relating to the ecology of the site - LE02 has been achieved			3	3	Planning, liaison and implementation: Credit targeted Managing negative impacts: ACTION REQUIRED NOW Ecology report to be commissioned/provided in order to consider how this credit can be approached. It is anticipated that there will be	Ecologist

Issue	Credit Requirements			Credits		Comments / Actions	Responsible Team Member									
				Available	Targeted (Potential)											
		Project team member route (Route 1)	Ecologist Route (Route 2)			no negative impacts on biodiversity given the lack of any at the site at present.										
	Planning, liaison and implementation	1 credit	1 credit													
	Managing negative impacts of the project (limitation or compensation)	1 credit	1 or 2 credits													
	One credit – Planning, liaison, implementation and data - Roles and responsibilities have been clearly defined, allocated and implemented to support successful delivery of project outcomes at an early enough stage to influence the concept design or design brief. - Site preparation and construction works have been planned for and are implemented at an early project stage to optimise benefits and outputs. - The project team liaising and collaborating with representative stakeholders, taking into consideration data collated and shared, have implemented solutions, and measures have been selected Up to two credits – Managing negative impacts of the project Route 1 (one credit) Negative impacts from site preparation and construction works have been managed according to the hierarchy and no net impact has resulted. Route 2 (up to two credits) Negative impacts from site preparation and construction works have been managed according to the hierarchy: For sites where complex ecological systems are likely to be present) and either: - No overall loss of ecological value has occurred (2 credits) OR, - The loss of ecological value has been limited as far as possible (1 credit)															
LE 04 Change and enhancement of ecological value	Pre-requisite - Identifying and understanding the risks and opportunities for the project - LE 03 has been achieved. Including the following, specific to the aims of this issue: - Roles and responsibilities have been clearly defined, allocated and implemented to support successful delivery of project outcomes - Site preparation and construction works have been planned for and implemented at a stage that is sufficiently early in the project to optimise benefits and outputs. - The client or contractor confirms compliance is monitored against all relevant UK, EU or international legislation relating to the ecology of the site. <table><tr><td></td><td>Project team member route (Route 1)</td><td>Ecologist route (Route 2)</td></tr><tr><td>Liaison, implementation and data</td><td>N/A</td><td>1 credit</td></tr><tr><td>Enhancement of ecology</td><td>1 credit</td><td>up to 3 credits</td></tr></table> Route 1 One credit - Enhancement of ecology - The project team liaising and collaborating with representative stakeholders, taking into consideration data collated and shared, have implemented solutions and measures based on recommendations from recognised 'local'				Project team member route (Route 1)	Ecologist route (Route 2)	Liaison, implementation and data	N/A	1 credit	Enhancement of ecology	1 credit	up to 3 credits	4	1	Route 1 - Enhancement of ecology: Credit not applicable to assessment type Route 2 - Liaison, implementation and data collection: Route 2 - Enhancement of ecology: Three credits applicable to assessment type Credits not currently targeted ACTION REQUIRED NOW Ecology report to be commissioned/provided in order to consider how this credit can be approached. It is not anticipated that any major actions will be required and no enhancement of ecological value is anticipated.	Ecologist & Contractor
	Project team member route (Route 1)	Ecologist route (Route 2)														
Liaison, implementation and data	N/A	1 credit														
Enhancement of ecology	1 credit	up to 3 credits														

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member									
		Available	Targeted (Potential)											
	ecological expertise, specialist input and guidance to inform the adoption of locally relevant ecological solutions and measures which enhance the site. - Data collated is provided to the local environmental records centres nearest to, or relevant for, the site. Route 2 One credit - Liaison, implementation and data collation - The project team liaising and collaborating with representative stakeholders, taking into consideration data collated and shared, have implemented the solutions and measures selected in a way that enhances ecological value in the following order: - On site, and where this is not feasible, - Off site within the zone of influence. Up to three credits - Enhancement of ecology - Credits are awarded on a scale of 1 to 3, based on the calculation of the change in ecological value occurring as a result of the project. This must be calculated in accordance with the process set out in either GN 35 - BREEAM, CEEQUAL, HQM Ecology Assessment Issues – Route 1 or GN 36 - BREEAM, CEEQUAL, HQM Ecology Assessment Issues													
LE 05 Long term ecology management and maintenance	Pre-requisite - Roles and responsibilities, implementation, statutory obligations - The client or contractor has confirmed that compliance is being monitored against all relevant UK, EU and international standards relating to the ecology of the site. - Where pursued, LE 04 has been achieved, including the following specific aims of this issue: - Roles and responsibilities have been clearly defined, allocated and implemented to support successful delivery of project outcomes. - Site preparation and construction works have been planned for and implemented at a stage that is sufficiently early in the project to optimise benefits and outputs. Up to two credits are available depending on the route selected. One credit - Planning, liaison, data, monitoring and review management and maintenance <table><tr><th></th><th>Project team member route (Route 1)</th><th>Ecologist route (Route 2)</th></tr><tr><td>Liaison, monitoring implementation and evolving management and maintenance solutions</td><td>1 credit</td><td>1 credit</td></tr><tr><td>Landscape and habitat management plan</td><td></td><td>1 credit</td></tr></table> One credit - Planning, liaison, data, monitoring and review management and maintenance - The project team liaise and collaborate with representative stakeholders, taking into consideration data collated and shared, on solutions and measures implemented to: - monitor and review implementation and the effectiveness - develop and review management and maintenance solutions, actions or measures. - In support of the above and to help ensure their continued relevance over the period of the project the following should be considered:		Project team member route (Route 1)	Ecologist route (Route 2)	Liaison, monitoring implementation and evolving management and maintenance solutions	1 credit	1 credit	Landscape and habitat management plan		1 credit	2	2	Planning, liaison, data, monitoring and review: Landscape and ecology management plan: ACTION REQUIRED NOW Ecology report to be commissioned/provided in order to consider how this credit can be approached.	Ecologist & Contractor
	Project team member route (Route 1)	Ecologist route (Route 2)												
Liaison, monitoring implementation and evolving management and maintenance solutions	1 credit	1 credit												
Landscape and habitat management plan		1 credit												

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
	- Monitoring and reporting of on the ecological outcomes for site implemented at the design and construction stage - Monitoring and reporting of outcomes and successes from the project - Arrangements for the ongoing management of landscape and habitat connected to the project (on and, where relevant, off site) - Maintaining the ecological value of the site and its relationship or connection to its zone of influence - Maintaining the site in line with the any sustainability linked activities, e.g. ecosystems benefits (LE 02). - Remedial or other management actions are carried out which relate to those identified in LE 02, LE 03 and LE 04. - As part of the tenant or building owner information supplied, include a section on Ecology and Biodiversity to inform the owner or occupant of local ecological features, value and biodiversity on or near the site. One credit - Landscape and ecology management plan (or similar) development - Landscape and ecology management plan, or similar, is developed in accordance with BS 42020:2013(210) covering as a minimum the first five years after project completion and includes: - Actions and responsibilities, prior to handover, to give to relevant individuals - The ecological value and condition of the site over the development life. - Identification of opportunities for ongoing alignment with activities external to the development project and which supports the aims of BREEAM's Strategic Ecology Framework - Identification and guidance s to trigger appropriate remedial actions to address previously unforeseen impacts - Clearly defined and allocated roles and responsibilities. - The landscape and management plan or similar is updated as appropriate to support maintenance of the ecological value of the site.				
Pollution					
Pol 01 Impact of refrigerants	Pre-requisite: All systems (with electronic compressors) must comply with the requirements of BS EN 378:2008, and where refrigeration systems containing ammonia are installed, they must comply with the Institute of Refrigeration Ammonia Refrigeration Systems Code of Practice. Three credits: No refrigerant Where evidence provided demonstrates that the building does not require the use of refrigerant within its building services or plant. Two credits: DELC Where evidence provided demonstrates that the systems specified using refrigerants have Direct Effect Life Cycle CO₂ equivalent emissions (DELC CO_{2e}) of ≤100 kgCO_{2e}/kW cooling/heating capacity. OR Where air-conditioning or refrigeration systems are installed the refrigerants used have a Global Warming Potential (GWP) ≤10. One credit: Where evidence provided demonstrates that the systems using refrigerants have Direct Effect Life Cycle CO₂ equivalent emissions of (DELC CO_{2e}) of ≤1000 kgCO_{2e}/kW cooling/heating capacity.	0	0	No refrigerant use credits: Credits not applicable to assessment type DELC credit(s): Credits not applicable to assessment type	MEP

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
	One credit: Refrigerant leak detection Where evidence provided demonstrates that the systems using refrigerants have a permanent automated refrigerant leak detection system installed, capable of automatically isolating and containing the remaining refrigerant(s) charge in response to a leak detection incident.	0		Credit not applicable to assessment type	MEP
Pol 02 Local air quality	Up to two credits: All heating and hot water is supplied by non-combustion systems. For example, only powered by electricity OR alternatively; Emissions from all installed combustion plant that provide space heating and domestic hot water do not exceed the levels set in Table 12.4 and Table 12.5 within the BREEAM Criteria document. The measurements must be provided by manufacturers, following the labelling requirements of the European directive 2009/125/EC. No credits can be awarded for Pol 02 if any of the combustion appliances are not covered in Table 12.4 and Table 12.5 within the BREEAM. Emissions from all installed combustion plant that provide space heating and domestic hot water are required to not exceed the levels set in Table 1.21 and Table 1.22 within the BREEAM criteria.	0		Credits not applicable to assessment type	MEP
Pol 03 Surface water run off	Pre-requisite An appropriate consultant is appointed to carry out and demonstrate the development's compliance with all criteria. Part 1: Flood resilience (Up to Two credits) Two credits - Low flood risk: A site-specific flood risk assessment (FRA) confirms the development is in a flood zone that is defined as having a low annual probability of flooding. The FRA takes all current and future sources of flooding into consideration. These sources include: - Fluvial (rivers) - Tidal - Surface water: sheet run-off from adjacent land (urban or rural) - Groundwater: most common in low-lying areas underlain by permeable rock (aquifers) - Sewers: combined, foul or surface water sewers - Reservoirs, canals and other artificial sources One credit - Medium/high flood risk: Where evidence provided demonstrates that the assessed development is located in a zone defined as having a medium or high annual probability of flooding AND the ground level of the building, car parking and access is at least 600mm above the design flood level of the flood zone for the site's location OR the final design of the building and the wider site reflects the recommendations made by an appropriate consultant in accordance with the hierarchy approach outlined in section 5 of BS 8533:2017	2	2	ACTION REQUIRED NOW Flood Risk Assessment to be provided/commissioned that identifies the site's flood risk. It is currently anticipated that there is a low flood risk at the site.	Drainage Consultant
	Part 2: Surface water run-off Pre-requisite: Surface water run-off design solutions must be bespoke, i.e. they must take account of the specific site requirements and natural or man-made environment of and surrounding the site. The priority levels detailed in the Methodology must be followed, with justification given by the appropriate consultant where water is allowed to leave the site. First credit:	2	2	First credit: Credit targeted Second credit: Credit targeted The surface water runoff rate and runoff volume are likely to be achieved as the site is fully covered by impermeable surfaces. The	Drainage Consultant

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
	Drainage measures are specified so that the peak rate of run-off from the site to the watercourses (natural or municipal) shows a 30% improvement for the developed site compared with the pre-developed site. This should comply at the 1-year and 100-year return period events, including allowance for climate change. Additionally relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SUDs are in place. Second credit: Where evidence provided demonstrates that the consultant has confirmed that there is no risk of flooding of property in the event of a local drainage system failure, AND EITHER - The post development run-off volume, over the development lifetime, is no greater than it would have been prior to the assessed site's development, including an allowance for climate change. - Any additional predicted volume of run-off for the 100-year 6-hour event must be prevented from leaving the site by using infiltration or other Surface Drainage System (SUDs) techniques OR (only where criterion no. 9 or 10 for this credit cannot be achieved) - Justification from the Appropriate Consultant indicating why the above criteria cannot be achieved i.e. where infiltration or other SUDs techniques are not technically viable options. - The post development peak rate of run-off is reduced to a limiting discharge. The limiting discharge is defined as the highest flow rate from the following options: - The pre-development one-year peak flow rate - The mean annual flow rate (Qbar) - 2L/s/ha.			runoff rate credit may be possible to be achieved based on attenuation systems, but the runoff volume credit is not likely to be achieved.	
	Part 3: Minimising watercourse pollution One credit: Where evidence provided demonstrates that the following water course pollution prevention measures are covered: - Appropriate Consultant confirms that there will be no discharge from the developed site for rainfall up to 5mm. - Specification of Sustainable Drainage Systems (SUDs) or source control systems such as permeable surfaces or infiltration trenches - Specification of oil/petrol separators (or equivalent system) in surface water drainage systems, where there is a high risk of contamination or spillage of substances - Chemical or liquid gas storage areas have a means of containment fitted to the site drainage system - All water pollution prevention systems have been designed and installed in accordance with the recommendations of documents such as the SUDS manual and other relevant industry best practice. They must be bespoke solutions taking account of the specific site requirements and natural or man-made environment of and surrounding the site. - A comprehensive and up-to-date drainage plan of the site will be made available for the building/site occupiers. - Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SUDS must be in place. - All external storage and delivery areas are designed and detailed in accordance with the current best practice planning guidance	1	0	Credit not currently targeted This credit is not likely to be achieved as there are unlikely to be soakaways dealing with rainwater events.	Drainage Consultant
Pol 04 Reduction in night time light pollution	One credit: Where evidence provided demonstrates that the lighting system has been designed in accordance with the following requirements:	1	1	INCLUDE WITHIN ER DOCUMENTATION This requirement can be incorporated into the project's employer's requirements (MEP)	MEP

Issue	Credit Requirements	Credits		Comments / Actions	Responsible Team Member
		Available	Targeted (Potential)		
	- The external lighting strategy has been designed in compliance with Table 2 (and its accompanying notes) of the ILE Guidance notes for the reduction of obtrusive light, 2011. - All external lighting (except for safety and security lighting) can be automatically switched off between 2300hrs and 0700hrs. This can be achieved by providing a timer for all external lighting set to the appropriate hours. - If safety or security lighting is provided and will be used between 2300hrs and 0700hrs, this part of the lighting system complies with the lower levels of lighting recommended during these hours in Table 2 of the ILE's Guidance notes, for example by using an automatic switch to reduce the lighting levels at 2300 or earlier. - Illuminated advertisements, where specified, must be designed in compliance with ILE Technical Report 5 - The Brightness of Illuminated Advertisements.			documentation to require the contractor to achieve.	
Pol 05 Reduction of noise pollution	One credit: Where evidence provided demonstrates that there is either no noise-sensitive areas or buildings within 800m radius of the assessed development OR Where there are or will be noise-sensitive areas or buildings within 800m radius of the assessed development a noise impact assessment in compliance with BS 4142:2014 has been carried out and the following noise levels measured/determined: - Existing background noise levels at the nearest or most exposed noise-sensitive development to the proposed development or at a location where background condition can be argued to be similar. - The noise level from the proposed site/building, as measured in the locality of the nearest or most exposed noise-sensitive development is a difference no greater than +5dB during the day (07:00 to 23:00) and +3dB at night (23:00 to 07:00).	0		Credit not applicable to assessment type	Acoustician
Innovation					
Exemplary credits summary	Exemplary credits Up to a maximum of ten credits are available: Where the building demonstrates exemplary performance by meeting defined exemplary level performance criteria in one or more of following BREEAM assessment issues: - Man 03 Responsible construction practices - Hea 01 Visual comfort - Hea 02 Indoor air quality - Ene 01 Reduction of energy use and carbon emissions - Wat 01 Water consumption - Mat 01 Environmental impacts from construction products - Building life cycle assessment (LCA) - Mat 03 Responsible sourcing of construction products - Wst 01 Construction waste management - Wst 02 Use of recycled and sustainably sourced aggregates - Wst 05 Adaptation to climate change One innovation credit can be awarded for each individual BREEAM issue exemplary performance level complied with. Approved Innovations One innovation credit can be awarded for each innovation application approved by BRE Global, where the building complies with the criteria defined within an Approved Innovation application form.	10	2	The following exemplary level credits have included in the BREEAM target strategy: MAN03-06 Considerate Construction MAT01 Building Life Cycle assessment - Third party verification The following exemplary level credits have included in the BREEAM potential strategy: MAN03-06 Considerate Construction MAT01 Building Life Cycle assessment - Third party verification	Contractor & Architect

7. Appendix C: Credit Weightings BREEAM 2018

The weightings for the associated credits depending on the assessment route are shown in Table D1 below.

Section	Section Weighting			No. of credits available	Value of Each Credit
	Fully-fitted	Shell only	Shell and core		
Management	11.0%	12.0%	11.0%	15	0.80%
Health and Wellbeing	14.0%	7.0%	8.0%	6	1.17%
Energy	16.0%	9.5%	14.0%	13	0.73%
Transport	10.0%	14.5%	11.5.0%	12	1.21%
Water	7.0%	2.0%	7.0%	2	1.00%
Materials	15.0%	22.0%	17.5%	14	1.57%
Waste	6.0%	8.0%	7.0%	10	0.80%
Land Use and Ecology	13.0%	19.0%	15.0%	13	1.46%
Pollution	8.0%	6.0%	9.0%	6	1.00%
Innovation	10.0%	10.0%	10.0%	10	1.00%

Table D1: BREEAM Credit Weightings



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