Preliminary Assessment
BREEAM 2018 NC
51 Calthorpe Street

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Disclaimer

Contents:

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Overview

Eight Associates has been appointed, as registered BREEAM assessors, to carry out an assessment of the proposed new development of 51 Calthorpe Street. This assessment is under BREEAM 2018 New Construction Methodology.

This summary is a pre-assessment of the development and details the anticipated score following the information provided by the design team and the previous BREEAM pre-assessment produced by Price and Myers. BREEAM Accredited Professional Ben Shirbini has been in regular contact with the team and held subsequent discussions to confirm the approach.

The development consists of the new construction of shell and core office spaces, spread over the basement, lower ground and ground floors. Residential units make up the floors above.

Planning requirements for the newly constructed building are an 'Excellent' BREEAM rating.

Score Summary

The site reviewed currently achieves a score of 73.9%, which equates to an 'Excellent' rating, (70% is required for this rating).

The action plan on the following pages details the measures required to increase the score to 75.2%, which equates to an 'Excellent' rating.

Eight Associates recommend a safety margin of at least 3-5% to safeguard any rating at formal assessment.

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The BREEAM Standard

BREEAM (Building Research Establishment's Environmental Assessment Method) is the world's first sustainability rating scheme for the built environment. It sets the standard for best practice in sustainable design and has become the de facto measure used to describe a building's environmental performance.

To date BREEAM has been used to certify over 560,000 building assessments across the building life cycle and is being applied in over 80 countries.

BREEAM is developed, operated and maintained by BRE Global Ltd and the operation and direction of the method is overseen by an independent Sustainability Board, representing a wide cross-section of construction industry stakeholders. Further information about BREEAM, including copies of the BREEAM standards, can be found at www.breeam.org.

Aims of BREEAM

- To mitigate the impacts of buildings on the environment
- To enable buildings to be recognised according to their environmental benefits.
- To provide a credible, environmental label for buildings.
- To stimulate demand for sustainable buildings.

BREEAM New Construction

BREEAM New Construction is a performance-based assessment method and certification scheme for new buildings. The primary aim of BREEAM New Construction is to mitigate the life cycle impacts of new buildings on the environment in a robust and cost-effective manner. It attempts to quantify and reduce the environmental burdens of buildings by rewarding those designs that take positive steps to minimise their environmental impacts.

Projects are assessed at design and post-construction stages using a system of environmental issues grouped within the following sections:

- Management
- Health and Wellbeing
- Energy
- Transport
- Water
- Materials
- Waste
- Land Use & Ecology
- Pollution
- Innovation

Process of the Assessment

Under BREEAM New Construction 2018, assessments take place over two phases:

a. Design Stage (DS): This is based on the final design for the development and the intentions of the design team. Submission before the completion of RIBA Stage 4.
b. Post Construction Stage (PCS): This is based on the built development and requires the BREEAM assessor to carry out a site visit. Submission at RIBA Stage 6.

An interim certificate will be provided following submission of the Design Stage Assessment, with final certification being awarded following the completion of the PCS Assessment.

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All BREEAM assessments take place over two phases:

a. Design Stage Assessment: This is based on the final design for the development and the intentions of the design team.
b. Post Construction Review: This is based on the completed development and requires the BREEAM assessor to carry out a site inspection.

Following completion of the Design Stage Assessment, the BRE will issue an interim certificate; final certification is awarded following the completion of the Post Construction Review.

For projects with a short programme, it is also possible to complete a Post Construction Assessment (PCA), whereby the design and post-construction stages are combined; interim certificates are unavailable for Post Construction Assessments.

Ratings

The assessment process results in a rating on a scale of PASS, GOOD, VERY GOOD, EXCELLENT and OUTSTANDING. The rating bands for each are as follows:

Rating	Minimum score required	Performance equivalent to (% of UK new non-domestic buildings)
Pass (P)	30%	<75% (standard good practice)
Good (G)	45%	<50% (intermediate good practice)
Very Good (VG)	55%	<25% (advanced good practice)
Excellent (E)	70%	<10% (best practice)
Outstanding (O)	85%	<1% (innovator)

Mandatory credits

Some credits, or criteria within credits, are mandatory to achieve certain ratings:

BREEAM Issue	P	G	VG	E	O
Man 03: Responsible construction practices	–	–	–	1 credit	2 credits
Man 04: Commissioning & handover	–	–	1 credit[1]	1 credit	1 credit
Man 04: Commissioning & handover	–	–	Criterion 11[2]	Criterion 11	Criterion 11
Ene 01: Reduction of CO_2 emissions	–	–	–	4 credits	6 credits
Ene 02: Energy monitoring	–	–	1 credit	1 credit	1 credit
Wat 01: Water consumption	–	1 credit	1 credit	1 credit	2 credits
Wat 02: Water monitoring	–	Criterion 1[3]	Criterion 1	Criterion 1	Criterion 1
Mat 03: Responsible sourcing	Criterion 1[4]	Criterion 1	Criterion 1	Criterion 1	Criterion 1
Wst 01: Construction waste	–	–	–	–	1 credit
Wst 03: Operational waste	–	–	–	1 credit	1 credit

[1] The commissioning test schedule and responsibilities credit must be met.
[2] A Building User Guide must be developed prior to handover, for distribution to the building occupiers and premises managers.
[3] A water meter must be specified on the mains water supply to each building
[4] All timber and timer-based products used on the project must be legally harvested and traded.
Full details for each credit follow later in this document.

Early Stage Consideration
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Early stage considerations

There are a number of key actions that need to be undertaken at RIBA Stages 1 and 2 of the design to achieve BREEAM credits, as required for the project. Below is a summary of the credits that require these considerations to be made.

Credit	RIBA Stage	Requirement	Responsibility
Man 01 Stakeholder Consultation	Stage 2	Project stakeholders must meet to define their roles, responsibilities and contributions for each key phase of the project by the end of RIBA Stage 2.	Project Manager, key design team members
Man 01 Third Party Consultation	Stage 2	Public consultation must be carried out with third party stakeholders (e.g. future building users, local community group).	Architect, Planning Consultant, Client
Man 01 Sustainability Champion	Stage 1 Stage 2	Appoint a sustainability champion (BREEAM AP) Agree BREEAM performance target	Client / Project Manager
Man 02 Life Cycle Costing (LCC)	Stage 2	An elemental life cycle costing analysis must be carried out before the end of RIBA Stage 2	Cost Consultant
Hea 06 Security of site and building	Stage 2	Consult with a security consultant (ALO / CPDA) to clarify security measures that should be implemented within the design	Architect
Ene 04 Passive Design Analysis	Stage 2	A passive design analysis must be carried out at the early design stages to identify opportunities to implement passive design measures within the building design	Energy Specialist / M&E Consultant
Ene 04 Feasibility Study	Stage 2	A feasibility study must be carried out before the end of RIBA Stage 2 to establish the most appropriate local low or zero carbon (LZC) energy source(s) for the building	Energy Specialist
Tra 01 Transport Assessment and Travel Plan	Stage 2	A site-specific transport assessment and draft travel plan to assess existing local transport and identify improvements to make it more sustainable.	Transport Consultant
Mat 01 Environmental impacts from construction products – Building life cycle assessment (LCA)	Stage 2	Concept design stage: The options appraisal summary document must be carried out before the end of RIBA Stage 2	Life Cycle Analysis Consultant
Mat 03 Enabling sustainable procurement	Stage 2	A sustainable procurement plan must be developed by the design team to guide specification towards sustainable construction products.	Architect / client
Mat 06 Materials Efficiency	Stage 1	Materials efficiency must be investigated and considerations recorded at RIBA stage 2, and each stage thereafter.	Specialist Consultant / Architect / M&E

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Credit	RIBA Stage	Requirement	Responsibility
Wst 05 Adaptation to climate change	Stage 2	A climate change adaptation strategy appraisal must be carried out for structural and fabric resilience before the end of the Concept Design stage.	Specialist Consultant / M&E Consultant
Wst 06 Design for disassembly and adaptability	Stage 2	A building-specific functional adaptation strategy study must be undertaken by the Concept Design, which includes recommendations for measures to be incorporated to facilitate future adaptation.	Client / Design Team
LE02 Identifying & understanding the risks and opportunities for the project	Stage 1 – 2	A Suitably Qualified Ecologist (SQE) is appointed at a project stage that ensures early involvement in site configuration and, where necessary, can influence strategic planning decisions	Client / Project Manager / Ecologist
LE03 Managing negative impacts on ecology	Stage 1 – 2	Roles and responsibilities for managing negative impacts on the ecology are clearly defined and allocated to support successful delivery of project outcomes at an early enough stage to influence the Preparation and Brief or Concept Design	Client / Project Manager / Ecologist
LE 04 Ecological change and enhancement	Stage 2 – 2	An Ecologist must be appointed prior to the end of RIBA Stage 1 and carry out a site visit prior to any works on site.	Client / Project Manager
LE 05 Long term ecology management and maintenance	Stage 2 – 4	An Ecologist must be appointed prior to any activities on site to ensure all UK & EU legislation is complied with	Client / Project Manager

Extra appointment considerations

It should also be considered that there are a number of external consultant reports that will be required to meet some of the BREEAM requirements for the credits considered. These include the following appointments / reports:

- Commissioning: Specialist commissioning manager (Man 04)
- Testing and inspecting building fabric: Thermographic survey & report (Man 04)
- Daylighting consultant: Daylighting performance (Hea 01)
- Acoustician: Acoustic Performance (Hea 05) and Noise Attenuation (Pol 05)
- Indoor air quality consultant: Indoor air quality plan (Hea 02)
- Security consultant: Safety and Security (Hea 06)
- Energy consultant: Reduction of energy Use and Carbon Emissions (Ene 01), Low Carbon Design (Ene 04) and Thermal Comfort (Hea 04)
- Transport consultant: Travel Plan is required (Tra 01)
- Life cycle costing and assessment consultant (Mat 01 and Man 02)
- Ecologist: (LE 02, LE 03, LE 04, LE 05)
- Flood Risk consultant (if not covered by drainage engineer): Surface Water run off (Pol 03)

Score Breakdown
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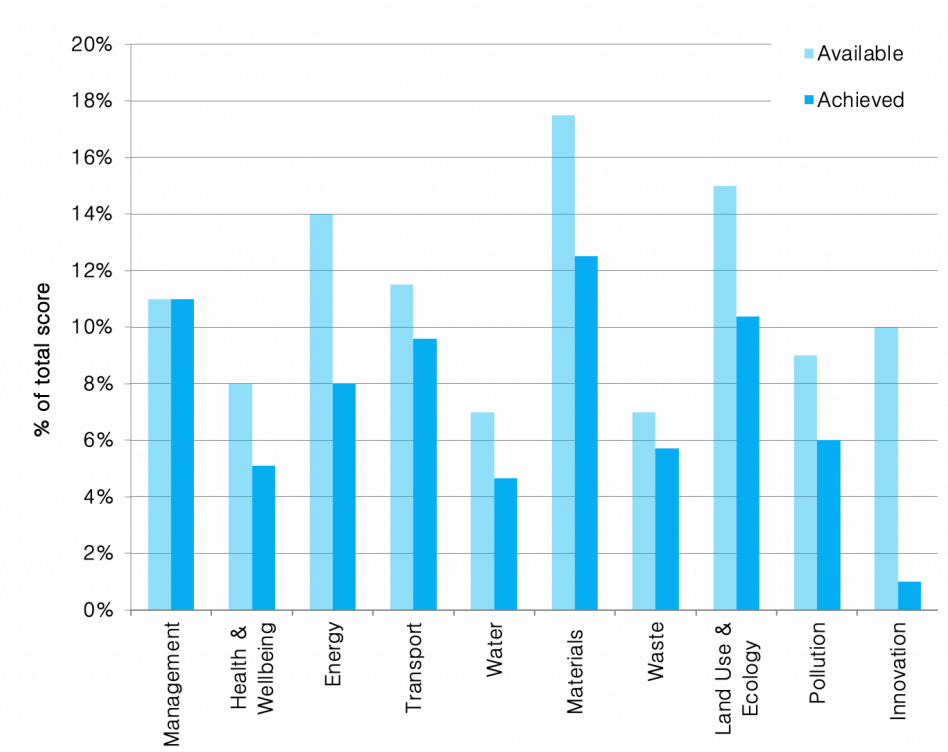
Rating Summary

The following summary represents the scheme's preliminary score based on the assumptions in the following pages. Please contact the assessor if a score sheet is required.

Credit Categories	% Achieved	Weighting	Score
Management	100.00%	11.0%	11.00%
Health and Wellbeing	63.64%	8.0%	5.09%
Energy	57.14%	14.0%	8.00%
Transport	83.33%	11.5%	9.58%
Water	66.67%	7.0%	4.66%
Materials	71.43%	17.5%	12.50%
Waste	81.82%	7.0%	5.72%
Land Use and Ecology	69.23%	15.0%	10.38%
Pollution	66.67%	9.0%	6.00%
Innovation	10.00%	10.0%	1.00%
Total Score			**73.90%**
Rating			**Excellent**

Graphical breakdown



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Man 01: Project brief and design

Project delivery planning (one credit)

The design team has met to identify roles and responsibilities, as well as contributions for each key phase of the project.

One of one credit targeted.

Stakeholder Consultation (one credit)

The design team have confirmed that prior to completion of the Concept Design, consultation with all interested parties will occur. Prior to completion of the detailed design, all interested parties must give and receive consultation feedback.

One of one credit targeted.

BREEAM AP (two credits)

The design team has confirmed that a BREEAM Accredited Professional (AP) will be involved to monitor and report progress against the established BREEAM targets by attending key project team meetings during all stages of the design and construction.

The BREEAM AP attended the initial design team meeting and will continue to attend key meetings, identifying risks and opportunities to achieving each target and provide feedback to the project team.

Two of two credits targeted.

In total, four out of four credits are targeted for this issue.

Man 02: Life cycle cost and service life planning

Elemental Life Cycle Costing (two credits)

An elemental life cycle cost analysis will be carried out by RIBA stage 2 in accordance with PD 156865-2008.

Two of two credits targeted.

Component Level Life Cycle Options Appraisal (one credit)

A component level LCC options appraisal will be carried out by RIBA stage 4 to minimise life cycle costs and maximise value.

One of one credit targeted.

Capital Cost Reporting (one credit)

The design team has committed to report the capital cost for the building in pounds per square metre (£k/m^2), via the BREEAM Assessment Scoring and Reporting tool in line with BREEAM requirements.

One of one credit targeted.

In total, four out of four credits are targeted for this issue.

Man 03: Responsible construction practices

Timber (pre-requisite)

All timber is to be legally harvested and traded.

This is a pre-requisite for this issue; no credits can be awarded unless this requirement is met.

Environmental Management (one credit)

The design team will appoint a principal contractor who operates an Environmental Management System, certified under ISO14001/ EMAS or an equivalent standard, covering their main operations.

One of one credit targeted.

BREEAM AP (pre-requisite)

The client and the contractor formally agree performance targets.

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BREEAM AP (Site) (one credit)

The contractor will be required to appoint a BREEAM AP to ensure on-going compliance with the relevant sustainability performance on site. They will be involved with the project team undertaking regular spot checks to ensure risks are minimised and monitoring construction progress.

One of one credit targeted.

Responsible construction management (two credits)

The contractor will be required to complete all items ticked in the responsible construction management checklist in Appendix A.

Two of two credits targeted (+ 1 exemplary credit).

Monitoring of Construction-site impacts (two credits)

The design team has confirmed that an individual is responsible for monitoring, recording and reporting the following:

- Energy (kWh) consumption for the site as a result of construction plant, equipment and site accommodation. Total carbon dioxide emissions must be reported.
- Water (m^3) consumption arising from the use of construction plant, equipment and site accommodation.
- Transport resulting from delivery of construction materials to site and removal of construction waste from site. The following information must be recorded:
  i. Materials used in major building elements
     - Ground works and landscaping materials
     - Transportation of construction waste

  ii. Litres of fuel used
     - Distance travelled (km) for
     - Carbon dioxide emissions ($kgCO_2$ eq)

Two of two credits targeted.

In total, six of six credits are targeted for this issue (+ 1 exemplary credit).

Man 04: Commissioning and handover

Commissioning (two credits)

A member of the design team will be appointed to monitor commissioning in line with best practice (CIBSE, BSRIA and Current Building Regulations), with a specialist commissioning agent appointed for any complex systems.

Two of two credits targeted.

Testing and inspecting building fabric (one credit)

The design team has confirmed that a thermographic survey and air tightness testing will be carried out for the project. This can be achieved by a Level 2 thermographer carrying out a thermographic survey at post-construction stage.

The survey will include all elements of the building fabric that enclose an internal heated and/or conditioned zone of the building. In order to secure this credit a commitment must be made to rectify any defects identified by this survey.

One of one credit targeted.

Handover (one credit)

The production of a technical manual and a non-technical building user guide in line with the BREEAM requirements is planned. In addition, a training schedule will be prepared for building occupiers / facilities managers to aid handover.

One of one credit targeted.

In total, four of four credits are targeted for this issue.

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Hea 01: Visual comfort

Daylighting (two credits)

The design team has confirmed that daylight modelling is not expected to be carried out to address the BREEAM requirements, therefore this credit issue is not currently targeted.

Zero of two credits targeted.

View out (one credit)

The design team are currently unable to confirm whether the workstations layouts and available window areas will be compliant with the BREEAM criteria. As such, this credit has not been targeted.

Zero of one credit targeted.

Internal and external lighting levels, zoning and controls (one credit)

The design team has confirmed the following will be met for the scheme:

- All external lighting will provide illuminance levels that enable users to perform outdoor visual tasks efficiently and accurately;
- External lighting will be specified in accordance with BS 5489–1:2013 Lighting of roads and pubic amenity areas and BS EN 12464–2:2014 Light and lighting – Lighting of workplaces – Part 2: Outdoor workplaces);

One of one credit targeted.

In total, one of four credits are targeted for this issue.

Hea 02: Indoor air quality

Indoor Air Quality plan (prerequisite)

The design team has confirmed that an Indoor Air Quality (IAQ) plan will be produced in line with BREEAM requirements.

Ventilation (one credit)

The design team has confirmed that it will not be possible to locate air intakes 10m from sources of external pollution (e.g. car parks, road) over a horizontal distance.

Zero of one credit targeted.

In total, zero of one credit is targeted for this issue.

Hea 04: Thermal comfort

Thermal modelling (one credit)

Thermal modelling, in line with CIBSE AM11, will be undertaken for the development using full dynamic thermal analysis software. Summer and winter operative temperature ranges in occupied spaces will be in accordance with the criteria set out in CIBSE Guide A Environmental design.

One of one credit targeted.

Design for future thermal comfort (one credit)

The design team has confirmed that the thermal modelling will include an allowance for a projected climate change environment.

One of one credit targeted.

In total, two of two credits are targeted for this issue.

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Hea 05: Acoustic performance

Sound insulation (one credits)

The design team has confirmed that the building will comply with the requirements set out in Section 7 of BS 8233:2014 for indoor ambient noise level.

The above will be confirmed via a programme of pre-completion testing, carried out by a compliant test body.

One of one credits are targeted for this issue.

Hea 06: Security

Security of site and building (one credit)

The design team has confirmed that a suitably qualified security consultant from the local police will be consulted during the planning process and recommendations will be incorporated into the design.

One of one credit is targeted for this issue.

Hea 07: Safe and healthy surroundings

Safe access (one credit)

The design team has confirmed that dedicated and safe cycle paths will be provided from the site entrance to any cycle storage, as well as safe footpaths providing suitable links.

Pedestrian drop-off areas will allow direct access to footpaths, and delivery areas will not be accessed through or cross general parking areas and other pedestrian or cyclist paths.

One of one credit targeted.

Outside space (one credit)

The design team has confirmed there will be an outside amenity area provided for building users, which is quiet, accessible to all and provides seating in a landscaped area. One of one credit targeted.

In total, two of two credits are targeted for this issue.

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Ene 01: Reduction of CO_2 emissions

Energy performance (nine credits)

An Energy Performance Certificate will be produced at design stage, based on Part L 2013 standards., Based on the building services and fabric specified, it is assumed that one of the available nine credits under this issue will be achieved.

One of nine credits targeted.

Prediction of operational energy consumption (four credits)

It has been confirmed that relevant members of the design team will hold a preliminary design workshop focusing on operational energy consumption. An energy model and report will be produced to predict operational energy consumption figures by end used, design assumptions and input data. A risk assessment will also be carried out to highlight any significant design, technical and process risks.

Four of four credits targeted.

Five of thirteen credits are targeted for this issue.

Ene 02: Energy monitoring

Sub-metering of end-use categories (one credit)

Pulsed sub-meters will be provided to ensure the following are met:

1. Energy metering systems are installed that enable at least 90% of the estimated annual energy consumption of each fuel to be assigned to the various end-use categories of energy consuming systems.
2. The energy consuming systems are metered using an appropriate energy monitoring and management system.
3. The systems in smaller buildings are metered either with an energy monitoring and management system or with separate accessible energy sub-meters with pulsed or other open protocol communication outputs, to enable future connection to an energy monitoring and management system
4. The end energy consuming uses are identifiable to the building users.

In addition, an accessible energy monitoring and management system or with pulsed or other open protocol communication outputs are to be provided. These will cover a significant majority of the energy supply to the relevant function areas or departments within the building.

One of one credit targeted.

Sub-metering of high energy load and tenancy areas (one credit)

The design team has confirmed that there will be sub-metering per relevant function areas.

One of one credit targeted.

In total, two of two credits are targeted for this issue.

Ene 03: External lighting (one credit)

The design team has confirmed that any external lighting will have an average initial luminous efficacy of greater than 70 luminaire lumens per circuit Watt. All external light fittings will be automatically controlled to prevent operation during daylight hours.

One of one credit is targeted for this issue.

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Ene 04: Low carbon design

Passive Design Analysis (one credit)

The project team will carry out an analysis of the proposed building design/development to influence decisions made during Concept Design stage and identify opportunities for the implementation of passive design solutions is not expected to be completed.

One of one credit targeted.

Free Cooling (one credit)

The design team has confirmed that the credit for free cooling will not be targeted.

Zero of one credit targeted.

Action credit: This credit may be targeted if free cooling solutions can be demonstrated as complying with the BREEAM criteria.

Low and Zero Carbon Technologies (one credit)

A feasibility study will be carried out by an independent energy specialist to establish the most appropriate local low or zero carbon energy source for the development, and an LZC technology will be specified in line with the recommendations of this report (resulting in a reduction in CO_2 emissions).

One of one credit targeted.

In total, two of three credits are targeted for this issue.

Ene 06: Energy Efficient Transportation Features

Energy consumption (one credit)

The design team has confirmed that a transportation demand and usage pattern analysis will be undertaken for the building to determine the optimum number and size of lifts is accordance with BS EN ISO 25745. The energy consumption will be calculated for at least two types of system and the one with the lowest energy consumption will be specified.

One of one credit targeted.

Energy efficient features (one credit)

The design team has confirmed they will be specifying the following energy efficient features for each lift:

- A standby condition for off-peak periods.
- The lift car lighting and display lighting will have an average luminous efficacy across all fittings in the car of >70 luminaire lumens per circuit Watt.
- Use of a drive controller capable of variable speed, variable-voltage, and variable-frequency (VVF) control of the drive motor.
- Regenerative drives will be considered where these would produce an energy saving greater than the additional standby energy used to support the drives.

One of one credit targeted.

In total, two of two credits are targeted for this issue.

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Tra 01: Transport assessment and travel plan (two credits)

The design team has confirmed that during the feasibility and design stages a travel plan will be developed based on a site-specific travel assessment or statement.

The travel plan will include proposals to increase/improve sustainable modes of transport and movement of people and goods.

Two of two credits are targeted for this issue.

Tra 02: Sustainable transport measures

Transport options implementation (ten credits)

The design team has confirmed the potential sustainable transport measures which can be targeted, which will include:

- An accessibility index of greater than 8;
- Local compliant amenities in the form of food outlet, ATM and appropriate outdoor space;
- Cycle storage;
- Cyclist facilities in the form of lockers and changing space.

Eight out of ten credits are targeted for this issue.

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Wat 01: Water consumption (five credits)

The design team has confirmed that they will aim for a 40% improvement in water consumption (litres/person/day) compared to BREEAM's notional baseline performance.

Three of five credits are targeted for this issue.

Wat 02: Water monitoring (one credit)

The design team has confirmed that a pulsed water meter will be installed on the mains water supply to the building.

Water-consuming plant or building areas consuming 10% or more of the building's total water demand, will be fitted with easily accessible sub-meters or have water monitoring equipment integral to the plant or area.

One of one credit is targeted for this issue.

Wat 03: Water leak detection and prevention

Leak detection (one credit)

The design team has confirmed a major leak detection system on the mains water supply within the building and between the building and the utilities water meter will be provided. The system will comply with the following:

- Permanent and automated
- Activated when the flow of water is at a flow rate above a pre-set maximum for a pre-set period of time
- Able to identify different flow and leakage rates
- Programmable to suit the owner/occupiers' water consumption criteria.
- Where applicable, designed to avoid false alarms caused by normal operation of large water-consuming plant such as chillers.

One of one credit targeted.

Sanitary shut-off system (one credit)

Flow control devices that regulate the supply of water to each WC area/facility according to demand will be installed (and therefore minimise water leaks and wastage from sanitary fittings).

One of one credit targeted.

In total, two of two credits are targeted for this issue.

Wat 04: Water efficient equipment (one credit)

The design team has confirmed that there will not be any sources of unregulated water demand (e.g. irrigation systems or vehicle wash equipment) installed within the development. All other domestic scale water systems are assessed under the Wat 01 credit issue. Therefore, this can be awarded by default.

One of one credit is targeted for this issue.

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Mat 01: Environmental impacts from construction products – Building life cycle assessment (LCA)

Superstructure (six credits)

The design team has confirmed that a Life Cycle Assessment (LCA) will be carried out at key stages to demonstrate that the specification of material build-ups and their impact has been considered.

Three of six credits are targeted.

Substructure and hard landscaping options appraisal during Concept Design (one credit)

The design team has confirmed that during Concept Design opportunities have been identified to reduce environmental impacts.

One of one credit is targeted.

In total, four of seven credits are targeted.

Mat 02: Environmental impacts for construction products – Environmental Product Declarations (EPD) (one credit)

The design team has confirmed that construction products will be specified which will have an EPD. Overall, a total EPD points score of at least 20 will be achieved.

One of one credit targeted.

Mat 03: Responsible sourcing of materials

Pre-requisite

The design team has confirmed that all timber used on the project will be sourced in accordance with the UK Government's Timber Procurement Policy.

Enabling sustainable procurement (one credit)

The developer or architect will implement a sustainable procurement plan before Concept Design to guide specification towards sustainable construction products.

One of one credit targeted

Measuring Responsible Sourcing (three credits)

The design team has confirmed that, where possible, key building elements will be responsibly sourced (e.g. all timber FSC certified, and any bricks, pavers, concrete, glass, metals, plaster etc. covered by BRE Global, BES 60001 certification, or EMS certified for both the key process and supply chain extraction process).

Two of three credits targeted.

In total, three of four credits are targeted for this issue.

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Mat 05: Designing for durability and resilience (one credit)

Protecting Vulnerable Parts of the Building from Damage

Materials and features will be specified to protect vulnerable parts of both the internal and external areas of the building.

Protecting Exposed Parts of the Building from Material Degradation

The relevant building elements incorporate appropriate design and specification measures to limit material degradation due to environmental factors. The elements will either achieve an appropriate quality or durability standard or a resilience assessment will be carried out on the element.

One of one credit is targeted for this issue.

Mat 06: Material efficiency (one credit)

The design team has confirmed that opportunities will be identified, and appropriate measures investigated and implemented, to optimise the use of materials in building design, procurement, construction, maintenance and end of life.

The above will be carried out by the design team in consultation with the relevant parties at each of the following RIBA stages:

- Preparation and Brief
- Concept Design
- Developed Design
- Technical Design
- Construction.

One of one credit is targeted for this issue.

Waste
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Wst 01: Construction site waste management

Pre-demolition audit (one credit)

The design team has confirmed that a pre-demolition audit of any existing buildings or hard surfaces will be carried out. This will be used to determine whether refurbishment or reuse of materials is feasible.

One of one credit targeted.

Construction resource efficiency (three credits)

The design team has confirmed that a BREEAM compliant Site Waste Management Plan will be produced and will ensure that non-hazardous waste generated by the building's design and construction (excluding demolition and excavation waste) is less than 7.5 m^3 (or 6.5 tonnes) per 100 m^2 of gross internal floor area.

Two of three credits targeted.

Action plan: An additional credit can be achieved if the total waste generated is less than 3.4m^3 (or 3.2 tonnes) per 100m^2 of gross internal floor area.

Diversion of resources from landfill (one credit)

It is currently foreseen that at least 70% by volume (80% by weight) of non-hazardous waste generated by the project will be diverted from landfill, and 80% by volume (90% by weight) of demolition waste will be diverted from landfill.

One of one credit targeted.

In total, four of five credits are targeted for this issue.

Wst 02: Use of recycled and sustainably sourced aggregates (one credit)

Pre-requisite

The design team will complete a pre-demolition audit of any existing buildings or hard surfaces being considered for demolition (as outlined in Wst 01) to encourage the reuse of site-won material on site.

Project Sustainable Aggregate Points (one credit)

The use and type of aggregates must be identified, as well as the total amount of recycled and/or secondary aggregate, the region the aggregate was sourced and the distance travelled. At present, the design team are not expecting to monitor this information.

Zero of one credit is targeted for this issue.

Wst 03: Operational waste (one credit)

The design team has confirmed that a dedicated recyclable waste storage area will be provided for the scheme. The space will be clearly labelled and accessible. A compactor / baler and composting facilities are not required for the building function.

One of one credit is targeted for this issue.

Wst 05: Adaptation to climate change

Resilience of structure, fabric, building services and renewables installation (one credit)

The design team has confirmed that a climate change adaptation strategy will be undertaken for the development.

One of one credit is targeted for this issue.

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Wst 06: Design for disassembly and adaptability

Design for disassembly and functional adaptability recommendations (one credit)

The design team has conducted a study to explore the ease of disassembly and functional adaptation potential of different scenarios before the end of Concept Design. Recommendations/ solutions have been developed based on the study that aims to enable and facilitate disassembly and functional adaptation.

One of one credit targeted.

Disassembly and functional adaptability implementation (one credit)

The design team will provide an update during Technical Design of how the recommendations have been implemented or developed.

One of one credit targeted.

In total, two of two credits are targeted for this issue.

Land Use and Ecology
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LE 01: Site selection

Previously developed land (one credit)

At least 75% of the proposed development is situated on previously developed land.

One of one credit targeted.

Contaminated land (one credit)

The site has not been confirmed as being significantly contaminated and requiring remediation prior to development, therefore the credit cannot currently be targeted.

Zero of one credit targeted.

In total, one of two credits is targeted for this issue.

LE 02: Identifying and understanding the risks and opportunities for the project

Prerequisite – Assessment route role

The contractor will confirm that compliance is monitored against all relevant UK and EU legislation relating to the ecology of the site.

Route 2 – Survey and evaluation (two credits)

The design team has confirmed that a suitably qualified ecologist (SQE) was appointed at an early project stage to ensure early involvement in the project. An appropriate level of survey and evaluation has been carried out (during the preparation and brief) to determine the ecological baseline of the site.

Two of two credits are targeted for this issue.

LE 03: Managing negative impacts on ecology

Pre–requisite – Identification and understanding the risks and opportunities for the site

LE 02 is achieved to meet the pre–requisite requirements.

Planning, liaison, implementation and data (one credit)

The design team has confirmed that individuals are aware of their roles and responsibilities. The potential impact of site preparation and construction works has been identified by the ecologist, to optimise benefits and outputs.

The project team (whilst liaising and collaborating with representative stakeholders and, taking into consideration data collated and shared), has confirmed they will propose solutions and selected measures to be implemented during site preparation and construction works.

One of one credit targeted.

Route 2 – Managing negative impacts of the project (two credits)

The design team has confirmed that negative site impacts from site preparation and construction works will be managed according to the hierarchy but there may be a small overall loss of ecology.

One of two credits targeted.

In total, two of three credits are targeted for this issue.

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LE 04: Change and enhancement of ecological value

Prerequisite – Identifying and understanding the risks and opportunities for the project

Roles and responsibilities have been clearly defined by the design team, site preparation and construction works have been planned, and all UK and EU legislation has been complied with.

Route 2 – Liaison, implementation and data collection (one credit)

The design team has confirmed they have liaised and collaborated with representative stakeholders, taking into consideration data collated and shared, and they will implement solutions and measures selected in a way that enhances ecological value on and off site.

One of one credit targeted.

Route 2 – Enhancement of ecology (up to three credits)

The project team has confirmed they will liaise and collaborate with representative stakeholders, taking into consideration data collated and shared. They will implement solutions and measures based on recommendations from recognised 'local' ecological expertise, providing solutions and measures which enhance the site.

Data collated has been provided to the local environmental records centres nearest to, or relevant for, the site.

One of three credits targeted pending ecologist calculations.

In total, two of four credits are targeted for this issue.

LE 05: Long term ecology management and maintenance

Prerequisite – Roles and responsibilities, implementation, statutory obligations

The design team confirms that all UK and EU legislation has been complied with.

Planning, liaison, data, monitoring and review management and maintenance (one credit)

The project team has confirmed that they will liaise and collaborate with representative stakeholders, taking into consideration data collated and shared, on solutions and measures implemented. Monitoring and reporting of outcomes and successes will be completed.

One of one credit targeted.

Landscape and ecology management plan (or similar) development (one credit)

The project team has confirmed that the landscape and ecology management plan will be developed in accordance with BS 42020:2013, covering as a minimum the first five years after the project completes.

One of one credit targeted.

In total, two of two credits are targeted for this issue.

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Pol 01: Impact of refrigerants

Pre-requisite

All systems with electronic compressors will comply with the requirements of BS EN 378:2008 (parts 2 and 3) and, where systems containing ammonia are installed, the Institute of Refrigeration Ammonia Refrigeration Systems Code of Practice.

Impact of refrigerants (two credits)

The design team has confirmed that the cooling strategy of the scheme will have Direct Effect Life Cycle CO_2 equivalent emissions (DELC CO_2e) of ≤ 1000 $kgCO_2e/kW$ cooling/heating capacity.

One of two credits targeted.

Leak detection (one credit)

The design team has confirmed that an automated diagnostic procedure for detecting refrigerant leakage will not be installed within the development.

Zero of one credit is targeted.

In total, one of three credits are targeted for this issue.

Pol 02: Local air quality (two credits)

The design team has confirmed that the preferred technology for providing heating, cooling and hot water will be Air Source Heat pump (ASHP) units. Where gas boilers are installed, these will have a maximum NOx emission level of 24 mg/kWh.

Two of two credits are targeted for this issue.

Pol 03: Surface water run-off

Flood risk (two credits)

A site-specific Flood Risk Assessment will be undertaken for the site, confirming the site is situated in a low flood risk area.

Two of two credits targeted.

Surface water run-off (one credit)

The design team has confirmed that that measures will be specified to ensure that the peak run off rate for the developed site shows a 30% improvement for the developed site compared to the pre-developed site.

However it is yet to be confirmed that the post development run-off volume, over the development lifetime, is no greater than it would have been prior to the site's development.

One of two credits are targeted.

Minimising watercourse pollution (one credit)

The design team has confirmed that the credit for minimising watercourse pollution will not be targeted at design stage.

Zero of one credit targeted.

In total, three of five credits are targeted for this issue.

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Pol 04: Reduction of night-time light pollution (one credit)

The design team has confirmed that external lighting will be designed and installed in compliance with ILP Guidance. All external lighting will have the capacity to be switched off automatically between 11pm and 7am.

One of one credit is targeted for this issue.

Pol 05: Noise attenuation (one credit)

The design team has confirmed that a Suitably Qualified Acoustic Consultant will conduct a noise impact assessment in compliance with BS 4142:2014. The noise level from the assessed building, as measured in the locality of the nearest or most exposed noise- sensitive development, must be at least 5dB lower than the background noise throughout the day and night. If the noise sources from the assessed building are greater than the levels required, measures will be installed to attenuate the noise at its source to a level where it will comply with the criterion.

One of one credit is targeted for this issue.

Action Plan
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Action plan

The following Action Plan outlines the credits that could be targeted to achieve an 'OUTSTANDING' rating. Please note that Eight Associates recommends a safety margin of 3-5% above the minimum score in order to ensure that the rating is secured at assessment stage.

Current Score	Excellent (minimum 70%)	73.9%,
Ene 04: Low carbon design	**Free cooling** The free cooling credit may be targeted if free cooling solutions can be demonstrated as complying with the BREEAM criteria.	0.7%
Wst 01: Construction waste management	**Construction resource efficiency** An additional credit can be achieved if the total waste generated is less than 3.4m3 (or 3.2 tonnes) per 100m2 of gross internal floor area.	0.7%
Score with actions	Excellent (minimum 70%). Mandatory requirements for Excellent are met.	75.2%

Appendix A – Man 03
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Ref	Criteria	Required for one credit
Risk evaluation and implementation		
The principal contractor evaluates the risks (on site sand off site), plans and implements actions to minimise the identified risks, covering the following, where appropriate:		
Vehicle movement		
a	Manage the construction site entrance to minimise the impacts (e.g. safety, disruption) arising from vehicles approaching and leaving the development footprint.	✓
b	Ensure the development footprint is accessible for delivery vehicles fitted with safety features (e.g. side under run protection) to remove or limit the need for on street loading or unloading. Where on-street loading is unavoidable, this should be appropriately managed.	✓
c	Identify access routes to the development footprint, including for heavy vehicles to minimise traffic disruption and safety risks to others.	✓
Pollution Management		
d	Minimise the risks of air, land and water pollution.	✓
e	Minimise the risks of nuisance from vibration, light and noise pollution.	✓
Tidiness		
f	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.	✓
g	Ensure clear and safe access in and around the buildings at the point of handover.	✓

Ref	Criteria	Required for one credit
Health and Wellbeing		
h	Provide processes and equipment required to respond to medical emergencies.	✓
i	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.	✓
j	Establish management practices and facilities encouraging equality, fair treatment and respect of all site operatives.	✓
k	Provide secure, clean and organised facilities (e.g. changing and storage facilities) for site operatives within the development footprint.	✓
Security processes		
l	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		
The principal contractor is responsible for ensuring:		
m	Aspects of the construction process that might impact the community are communicated regularly, ensuring that nuisance and intrusion are minimised.	✓
n	Ensure ongoing training is provided, and up to date, for personnel and visitors (covering items a to l above, as appropriate.)	✓

Continued Overleaf

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Ref	Criteria	Required for one credit
Training, awareness and feedback		
o	The principal contractor ensures that site operatives are trained for the tasks they are undertaking (including any site-specific considerations).	✓
p	The fleet operators undertake driver training and awareness to promote safety within the development footprint and off site.	✓
Monitoring and reporting		
The principal contractor ensures:		
q	The fleet operator captures and investigates any road accidents, incidents and near misses and reports them back to the principal contractor. The principal contractor analyses these items.	✓
r	All visitor, workforce and community accidents, incidents and near misses are recorded and action is taken to reduce the likelihood of them reoccurring.	✓
s	Processes are in place to facilitate collecting and recording feedback from the community and to address any concerns related to the development footprint.	✓