

**BREEAM New Construction 2018
Pre-assessment Report
Ashbrook Point – New Industrial Units
Heald Green
Stockport
Manchester**

Prepared for:

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Structural
Engineering



Civil
Engineering



CDM
Co-ordination



Health and Safety
Consultancy



Approved
Inspectors



BREEAM
Assessors



Flood Risk
Assessments



Party Wall
Surveying



Fire
Consultancy



Specialist
Services



Traffic and
Transport

Prepared on behalf of Scott White and Hookins by:

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Position:
BREEAM Assessor

Signature:



Date: 10th August 2021

Ref	Date	Comment	By	Approved
503471	10/04/2021		PB	PB

Executive Summary

Scott White and Hookins has been commissioned by Pochin Quorum Ventures Ltd to carry out a BREEAM assessment on Ashbrook Point, the proposed new industrial units in Heald Green.

The building will need to be assessed against the BREEAM New Construction 2018 Shell and Core criteria. These criteria are determined by the BRE for a specific building using relevant information on building use, room functions and areas and building layout. The latest version of the criteria was issued by the BRE on 31st July 2019. These are presented in the BREEAM New Construction 2018 Scheme Document SD 5078 Version 3.0. This report details the pre-assessment performance of the development as measured against these criteria.

Following a pre-assessment estimate, the development has achieved a BREEAM score of 53.30%. This translates into a pre-assessment BREEAM rating of **Good**.

This pre-assessment estimate is based on design information available at the time of the assessment, a site visit and our experience of BREEAM compliance for similar buildings.

Subsequent design development and construction will affect the credits that can be taken or which have to be withheld. As a result the final credit score may differ from the score determined at this pre-assessment. However, continuous monitoring during the design development and construction stage will ensure that a rating of **Good** can be achieved on completion of the building.

Introduction

Scott White and Hookins was instructed by Pochin Quorum Ventures Ltd to carry out a BREEAM assessment on Ashbrook Point, the proposed new industrial units in Heald Green.

BREEAM New Construction 2018 seeks to minimise the adverse effects of new buildings on the environment at global and local scales, whilst promoting healthy indoor conditions for the occupants.

If required by the relevant Local Planning Authority, the environmental performance of a new building is assessed at the design and post construction stages, where it is compared against specific criteria by independent assessors. An overall rating of the building's performance is given using the terms Pass, Good, Very Good, Excellent, or Outstanding. This is determined from the total number of BREEAM criteria met and their respective environmental weighting (Table 1 below). There are also a number of mandatory (or 'minimum') credits applicable to each rating band, these are outlined later in this report.

Table 1: Ratings

<30%	Unclassified
≥30%	Pass
≥45%	Good
≥55%	Very Good
≥70%	Excellent
≥85%	Outstanding

BREEAM is a voluntary scheme and projects are assessed using a system of credits.

In this respect each BREEAM rating broadly represents performance equivalent to:

1. Outstanding: Less than the top 1% of UK new non-domestic buildings (innovator)
2. Excellent: Top 10% of UK new non-domestic buildings (best practice)
3. Very Good: Top 25% of UK new non-domestic buildings (advanced good practice)
4. Good: Top 50% of UK new non-domestic buildings (intermediate good practice)
5. Pass: Top 75% of UK new non-domestic buildings (standard good practice)

The credits themselves are grouped within the following categories:

- Management
- Health and Well Being
- Energy
- Transport
- Water
- Materials
- Waste
- Land Use and Ecology
- Pollution
- Innovation

BREEAM Scoring

The BREEAM categories outlined above, consist of a number of issues, each of which seek to mitigate the impact of the project and the environment. The BREEAM scoring for each issue is set against performance targets and assessment criteria that must be met for the target, and associated credits, to be achieved. The credits gained within each category are collated and an environmental weighting applied to each category score prior to these being combined into a final BREEAM score. These weighting factors have been derived from research carried out by BRE to establish the relative importance of each environmental issue.

The environmental weightings for each of the environmental sections included in the BREEAM New Construction 2018 scheme are as follows:

Table 2: BREEAM 2018 Environmental Weightings- Shell and Core Buildings

BREEAM Category	Environmental Weighting %
Management	11 %
Health & Wellbeing	8 %
Energy	14 %
Transport	11.5 %
Water	7 %
Materials	17.5 %
Waste	7 %
Land Use and Ecology	15 %
Pollution	9 %
TOTAL	100 %
Innovation (additional)	10 %

BREEAM 2018 Minimum Standard Credits

To achieve a BREEAM rating, the minimum percentage score (as outlined in Table 1) must be achieved, and the minimum standards applicable to the rating level must also be achieved (Table 3).

Table 3: Minimum BREEAM Standards

BREEAM Issue	BREEAM Rating / Minimum number of credits				
	Pass	Good	Very good	Excellent	Outstanding
Man 03 – Responsible construction practices	-	-	-	1	2
Man 04 – Commissioning and Handover	-	-	One credit (commissioning-test schedule and responsibilities)	One credit (commissioning-test schedule and responsibilities)	One credit (commissioning-test schedule and responsibilities)
Man 04 – Commissioning and Handover	-	-	Criterion 11 (Building User Guide)	Criterion 11 (Building User Guide)	Criterion 11 (Building User Guide)
Man05 - Aftercare	-	-	-	One credit (commissioning-implementation)	One credit (commissioning-implementation)
Ene 01 – Reduction of CO ₂ emissions	-	-	-	Four credits (Energy performance)	Six credits (Energy performance) and Four credits (Energy modelling and reporting)
Ene 02 – Energy monitoring	-	-	One credit (First sub-metering credit)	One credit (First sub-metering credit)	One credit (First sub-metering credit)
Wat 01 – Water consumption	-	1	1	1	2
Wat 02 – Water monitoring	-	Criterion 1 only	Criterion 1 only	Criterion 1 only	Criterion 1 only
Mat 03 – Responsible sourcing	Criterion 1 only	Criterion 1 only	Criterion 1 only	Criterion 1 only	Criterion 1 only
Wst 01 – Construction waste management	-	-	-	-	1
Wst 03 – Operational waste	-	-	-	1	1

BREEAM Credits for innovation

The final category in the BREEAM scheme gives further recognition to a project that innovates in the field of sustainable performance – above and beyond that rewarded elsewhere in the standard BREEAM issues.

A maximum of 10 innovation credits can be awarded for any assessment, with each contributing an additional 1% to the final BREEAM score.

There are two ways that a building can achieve an innovation credits. These are as follows:

1. Meeting Exemplary Performance Criteria

A number of the BREEAM issues also include exemplary performance criteria with the fixed details of the target / benchmark and evidence required to indicate compliance. These issues are given in Table 4 below. For each of the issues listed below, an additional credit can be gained by meeting the associated criteria.

Table 4: BREEAM issues with exemplary level requirements

Man 01 Project brief and design (Simple buildings only)
Man 03 Responsible construction practices
Hea 01 Visual comfort
Hea 02 Indoor air quality
Hea 06 Security
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
LE 02 Identifying and understanding the risks and opportunities for the project
LE 04 Change and enhancement of ecological value
Pol 03 Flood and surface water management (Simple buildings only).

2. Innovation Performance Application

The second route to innovation credits relates to the identification of a particular building feature, system or process being recognised as “innovative”. An application to BRE is made by the BREEAM Assessor outlining the details of the proposed feature and if this successfully meets their criteria an innovation credit can be awarded.

Approach and Stages of BREEAM Assessment

The BREEAM Assessment process can be split into the following key stages:

Pre-assessment

A pre assessment review is compiled at the early stages of the designing process, often around the time of planning consultation. As outlined in the executive summary, a pre assessment estimate is based on design information available at the time, along with site visits and the assessor's experience of BREEAM compliance for similar buildings. It provides a guide to the probable BREEAM rating that would be achieved in a formal BREEAM Assessment and is a useful tool for assessing the schemes apparent BREEAM rating. This report is based on a pre-assessment following a series of design team meetings and design development.

Design Stage

The design stage assessment represents the performance of the building at the design stage of the assessment, typically prior to the beginning of operations on site. If a formal design stage assessment is to be completed, then the subsequent interim report is submitted to BRE for certification. With the site work incomplete, this certification does not, therefore, represent the building's final 'as built' BREEAM performance, for which a post construction review is required.

In order to complete a formal design stage assessment, the design must be advanced to the point where the relevant information is available to enable the BREEAM assessor to demonstrate the building's performance against the reporting and evidential requirements of the technical guidance. The formal design stage assessment should therefore be carried out at the detailed design stages. Dependant on the program and procurement route to the scheme, there is often an overlap of the designing and construction stages. This can often lead to the final stages of the design stage review being completed once construction has commenced on site.

Post Construction Stage

The post construction assessment and subsequent final BREEAM certification represents the final 'as built' performance and BREEAM rating. A post construction assessment is carried out after practical completion of the building works. A post construction review serves to confirm the interim BREEAM rating achieved at the design stage in accordance with the reporting and evidential criteria of the technical guidance.

Post-occupancy Stage

The Post occupancy stage is an optional third stage of assessment under the UK New Construction scheme. This stage confirms the process of monitoring, reviewing and reporting on the performance of the building once occupied. It is carried out a minimum of 12 months after occupation and would normally be before a period of two years has lapsed from the date of 'full' occupation (defined as occupation of approximately 80% of the occupiable space in the building). This will focus on best practice project commissioning and handover and post-occupation support and aims to help the Design Team, Facilities Manager and building owner understand the actual performance of the

building and optimise this in line with design expectations. The assessment will review post occupancy monitoring processes and identify where there are deficiencies to rectify or opportunities to take. The post occupancy stage is only applicable to fully fitted and shell and core assessments, it is not available for shell only assessments.

The post occupancy stage will also entail a review of commitments made at the post-construction stage within the UK New Construction scheme.

Information Utilised

This pre-assessment, carried out prior to the planning application and is based on the following information:

1. Design Information including completed report and drawings
2. A BREEAM Workshop with the team on the 9th August 2021

A Pre-assessment Estimator has been used to calculate the likely BREEAM scoring for the development. Likely credit scores for each BREEAM issue, based on the above, have been entered into this.

Assumptions

Due to the stage of this review the outlined scoring include a number of considered assumptions as agreed with the team including as outlined below.

1. The Contractor appointed will hold a third party certified ISO14001 EMS
2. The Contractor will assign responsibility to an individual to monitor construction site impacts (utilities and transportation)
3. Thermal modelling of the building will be carried out and meet the first credit requirements.
4. A credit compliant water meter will be specified on the mains supply to each building.
5. M&E consultant will carry out daylighting calculations and these will meet the credit requirements.
6. The assessor has used judgement for the credits that are considered likely to be achieved in the Land Ecology section. It is noted an ecologist is appointed and their reports will confirm targeted credits.
7. Ecologists recommendations, once confirmed will be implemented.

The above information was used to prepare the Pre-assessment Estimator in Appendix 1.

Conclusion

Following a pre-assessment estimate, the development has achieved a BREEAM score of 53.30% This translates into a pre-assessment BREEAM rating of **Good**.

This estimate is based on the design information available at the time of the pre-assessment, and feedback from the design team during the pre-assessment meeting regarding commitments during design stage and post-construction assessments. Targeted credits must be evidenced to the assessor appropriately prior to them being awarded at formal assessment stages.

Subsequent design development and construction will affect the credits that can be taken or which have to be withheld. As a result the final credit score may differ from the score determined at this pre-assessment. However, continuous monitoring during the design development and construction stage will ensure that a rating of Good can be achieved on completion of the building.

Appendix 1 is the summary of performance showing the targeted credits at this stage.

Appendix 1

Pre-assessment Summary of Performance

See on next page

Project: Ashbrook Point, Heald Green, Stockport
Scheme: BREEAM UK New Construction 2018
Target level: Good
Stage: Pre-Assessment
Date: 09/08/2021

Revision: 1.0

Pass	30%
Good	45%
Very Good	55%
Excellent	70%
Outstanding	85%

Pre-assessment RAG rating key:

It is anticipated that the credit/pre-requisite will be targeted/met.

It is anticipated that this credit will not be targeted.

Potential credit.

Current Targeted' Rating Total:53.30%

Equating to BREEAM:Good

(Provided all "minimum standard" issues are met)

BREEAM 2018 Assumptions						
Project scope		Shell & core				
Building type (main description)		Industrial				
Sub-group		Warehouse				
Assessment stage		Pre-assessment				
Building floor area (GIA)		1,450 m² - offices around 370m²				
Building floor area (NIFA)		TBC				
Is the building designed to be untreated?		Warehouse areas TBC				
Building services - heating system type		TBC				
Building services - cooling system type		TBC				
Are commercial or industrial-sized refrigeration and storage systems specified?		No				
Are building user lifts present?		No				
Are building user escalators or moving walks present?		No				
Are laboratories present?		No				
Are there fume cupboard(s) and/or other containment devices present?		No				
Does the building have external areas within the boundary of the assessment development?		Yes				
Are there statutory requirements, or other issues outside of the control of the project, that impact the ability to provide outdoor space?		No				
Are there any systems specified that contribute to the unregulated energy load?		No				
Are the post-occupancy stage credits targeted in Ene 01 issue?		No				
BREEAM NC 2018 Criteria		Potential Design stage Evidence Approach	Credits Available	Current Targeted	Resp.	Comments
Man 01 Project Brief and Design						
Man 01a Project delivery planning	One credit - Project delivery planning 1. Prior to completion of the Concept Design, the project delivery stakeholders (see Definitions on page 37) meet to identify and define for each phase of project delivery: 1.a Roles 1.b Responsibilities 1.c Contributions. 2. Consider each one of the following items when defining roles, responsibilities and contributions for each key phase of the project: 2.a End user requirements 2.b Aims of the design and design strategy 2.c Particular installation and construction requirements of limitations 2.d Occupiers' budgets and technical expertise in maintaining any proposed systems 2.e Maintainability and adaptability of the proposals 2.f Operational energy (see Assessment scope on page 120) 2.g Requirements for the production of project and end user documentation 2.h Requirements for commissioning, training and aftercare support. Where the building occupants are not known, the list of considerations above still applies. The appropriate project delivery stakeholder considers each item, based on likely scenarios of building occupancy. 3. The project team demonstrates how the project delivery stakeholders' contributions and the consultation process outcomes influence the following: 3.a Initial Project Brief 3.b Project Execution Plan (see Definitions on page 37) 3.c Communication Strategy (see Definitions on page 37) 3.d Concept Design	Meeting minutes. Summary document of roles and responsibilities.	1	1	Design Team	It is anticipated that one credit will be targeted. One credit targeted.
Man 01b Stakeholder consultation (interested parties)	One credit - Stakeholder consultation (interested parties) 4. Prior to completion of the Concept Design, the design team consult with all interested parties (see Definitions on page 37) on matters that cover the minimum consultation content (see Methodology). 5. Demonstrate how the stakeholder contributions and consultation exercise outcomes influence the Initial Project Brief and Concept Design. 6. Prior to completion of the detailed design (RIBA Stage 4, Technical Design or equivalent), all interested parties (see Definitions on page 37) give and receive consultation feedback.	A list of interested parties consulted. A consultation plan setting out the process and the scope of the consultation. Agenda/minutes from the consultation meetings. Documentation demonstrating consultation feedback and subsequent actions. Additional information on page 40.	1	1	Design Team	It is anticipated that one credit will be targeted. One credit targeted.
Man 01c Prerequisite	Prerequisite for BREEAM Advisory Professional (Concept and Developed Design) 8. The project team, including the client, formally agree strategic performance targets (see Definitions on page 37) early in the design process, see Definitions on page 37, (with the support of the BREEAM AP where appointed).	Appointment letter.	-	MET	BREEAM AP	Required for Man01c or d credits to be achieved.
Man 01c BREEAM AP (Concept Design)	One credit - BREEAM AP (Concept Design) 9. Involve a BREEAM AP in the project at an appropriate time and level to: 9.a Work with the project team, including the client, to consider the links between BREEAM issues and assist them in maximising the project's overall performance against BREEAM, from their appointment and throughout Concept Design. 9.b Monitor progress against the performance targets (see Definitions on page 37) agreed under criterion 8 above throughout all stages after their appointment where decisions critically impact BREEAM performance. 9.c Proactively identify risks and opportunities related to the achievement of the targets agreed under criterion 8. 9.d Provide feedback to the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets. 9.e Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team.	Relevant section/clauses of the building specification or contract. Project programme, indicating the dates by which the key work stages (Preparation and Design) are to be completed. Meeting notes/minutes, recorded correspondence or schedules that can demonstrate BREEAM issues are a regular agenda item and AP attendance. The AP progress report (for each work stage).	1	1	BREEAM AP	One credit targeted.

BREEAM NC 2018 Criteria		Potential Design stage Evidence Approach	Credits Available	Current Targeted	Resp.	Comments
Man 02 Life cycle cost and service life planning - Credits for each one of the three parts are awarded independently from one another						
Man 02c Capital cost reporting	One credit - Capital cost reporting 6. Report the capital cost for the building in pounds per square meter of gross internal floor area (£k/m²) as part of the submission to BRE. See also Methodology and Additional information on page 44.	Provide capital cost report.	1	1	Principal Contractor	It is anticipated that one credit will be targeted. One credit targeted.
Man 03 Responsible construction practices - Minimum standards one credit RCM for Excellent, two credits RCM for Outstanding						
Man 03a Prerequisite	Prerequisite - Legally harvested and traded timber 1. All timber and timber-based products used during he construction process of the project are 'legally harvested and traded timber' (see Definitions page 50). For other materials there are no prerequisite requirements at this stage.	Relevant section/clauses of the building specification or contract OR A signed and dated letter of commitment to meet the relevant criteria OR Timber Policy	-	MET	Principal Contractor	Required for Man03 credits to be achieved. Pre-requisite will need to be met for any of the Man 03 credits to be achieved.
Man 03b Environmental management	One credit - Environmental management 3. All parties who at any stage manage the construction site (e.g. the principal contractor, the demolition contractor) operate an EMS covering their main operations. The EMS must: 3.a Be third party certified, to ISO 14001:2015(10), EMAS (EU Eco-Management and Audit Scheme) or equivalent standard; OR 3.b In compliance with BS 8555:2016(11) have: 3.b.i Appropriate structure 3.b.ii Reached implementation stage phase four 'implementation and operation of the environmental management system' 3.b.ii Completed the defined phase audits one to four. 4. All parties who at any point manage the construction site (e.g. the principal contractor, the demolition contractor) implement best practice pollution prevention policies and procedures on site in accordance with Working at construction and demolition sites: PPG6, Pollution Prevention Guidelines(12).	Relevant section/clauses of the building specification or contract OR A signed and dated letter of commitment to meet the relevant criteria OR 3rd party certified EMS certificate	1	1	Principal Contractor	To be included within contractor requirements. One credit targeted.
Man 03e Responsible construction management	Up to two credits - Responsible construction management 7. One credit: Achieve items listed as required for one credit in table 4.1. 8. Two credits: Achieve criterion 7. 9. Achieve 6 additional items in table 4.1.	Use BREEAM recognised responsible construction management scheme to support in this process e.g. Considerate Construction Scheme and Fleet Operator Recognition Scheme.	2	2	Principal Contractor	Two credits requires a CCS score or at least 35 points and committing to ensuring a clear site and access prior to handover. It is anticipated that two credits will be targeted. Two credits targeted.
Man 03f Monitoring of construction site impacts	Up to two credits - Monitoring of construction site impacts 10. Assign responsibility to an individual for monitoring, recording and reporting energy usage, water consumption and transportation data (where measured) resulting from all on-site construction processes (and dedicated off-site manufacturing) throughout the build programme. To ensure the robust collection of information, this individual must have the appropriate authority and responsibility to request and access the data required. Where appointed, the BREEAM AP could perform this role.	Relevant section/clauses of the building specification or contract OR A formal letter of commitment from the client/developer	-	MET	Principal Contractor / BREEAM AP	Required for Man03g and h credits to be achieved.
Man 03g Utility consumption	First monitoring credit - Utility consumption Energy consumption 11. Achieve criterion 10. 12. Set targets for the site energy consumption to kWh (and where relevant, litres of fuel used) as a result of the use of construction plant, equipment (mobile and fixed) and site accommodation. 13. Monitor and record data for the energy consumption described in criterion 12. 14. Report the total carbon dioxide emissions (total kgCO2/project value) from the construction process via BREEAM Projects (for the purposes of potential future BREEAM performance benchmarking). Water consumption 15. Achieve criterion 10. 16. Set targets for the potable water consumption (m³) arising from the use of construction plant, equipment (mobile and fixed) and site accommodation. 17. Monitor and record data for the potable water consumption described in criterion 16. 18. Use the collated data to report the total net water consumption (m³), i.e. consumption minus any recycled water use from the construction process via BREEAM Projects (for the purposes of potential future BREEAM performance benchmarking).	Relevant section/clauses of the building specification or contract OR A formal letter of commitment from the client/developer	1	1	Principal Contractor	It is anticipated that one credit will be targeted. One credit targeted.
Man 03h Transportation of construction materials and waste	Second monitoring credit - transportation of construction materials and waste 19. Achieve criterion 10. 20. Set targets for transportation movements and impacts resulting from delivery of the majority of construction materials to site and construction waste from site. As a minimum cover: 20.a Transportation of materials from the point of supply to the building site, including any transport, intermediate storage and point of supply (see Definitions on page 50). Monitor as a minimum: 20.a.i Materials used in major building elements (i.e. those defined in BREEAM issue Mat 01 Environmental impacts from construction products - Building life cycle assessment (LCA_ on page 208). 20.a.ii Ground works and landscaping materials. 20.b Transportation of construction waste from the construction gate to the waste disposal processing or recovery centre gate. This monitoring must cover the construction waste groups outlined in the projects resource management plan. 21. Monitor and record data from the transportation movements as described in criterion 20. 22. Using the collated data, report separately for materials and waste, the total transport-related carbon dioxide emissions (kgCO2-eq), plus total distance travelled (km) via BREEAM Projects (for the purposes of potential future BREEAM performance benchmarking).	Relevant section/clauses of the building specification or contract OR A formal letter of commitment from the client/developer	1	1	Principal Contractor	It is anticipated that one credit will be targeted. One credit targeted.

BREEAM NC 2018 Criteria				Potential Design stage Evidence Approach	Credits Available	Current Targeted	Resp.	Comments
Man 04 Commissioning and handover - Minimum standards one credit commissioning schedule & responsibilities for Very Good, Excellent & Outstanding Criterion 11 BUG for Very Good, Excellent & Outstanding								
Man 04a Commissioning - testing schedule and responsibilities	One credit - Commissioning - testing schedule and responsibilities 1. Prepare a schedule of commissioning and testing. The schedule identifies and includes a suitable timescale for commissioning and re-commissioning of all complex and non-complex building services and control systems and for testing and inspecting building fabric. 2. The schedule identifies the appropriate standards for all commissioning activities to be conducted, where applicable, in accordance with: 2.a Current Building Regulations 2.b BSRIA guidelines (16) 2.c CIBSE guidelines (17) 2.d Other appropriate standards (see Methodology). Exclude from the assessment any process of manufacture-related equipment specified as part of the project. However, include such equipment in cases where they form an integral part of the building HVAC services, such as heat recovery systems. 3. Where a BMS is specified: 3.a Carry out commissioning of air and water systems when all control devices are installed, wired and functional. 3.b Include physical measurements of room temperatures, off-coil temperatures and other key parameters, as appropriate, in commissioning results. 3.c The BMS or controls installation should be running in auto with satisfactory internal conditions prior to handover. 3.d All BMS schematics and graphics (if BMS is present) are fully installed and functional to user interface prior to handover. 3.e Fully train the occupier or facilities team in the operation of the system. 4. Appoint an appropriate project team member to monitor and programme pre-commissioning, commissioning and testing. Where necessary include re-commissioning activities on behalf of the client. 5. The principal contractor accounts for the commissioning and testing programme, responsibilities and criteria within their budget and main programme of works. Allow the required time to complete all commissioning and testing activities prior to handover. Note: 1.0 Commissioning testing schedule and responsibilities and design and preparation is applicable according to the scope of services being specified or installed.			Appointment letter or commissioning responsibilities schedules Relevant section/clauses of the building specification or contract Principal Contractors programme Commissioning schedule	1	1	M&E Consultant / Principal Contractor	It is anticipated that one credit will be targeted. One credit targeted.
Man 04b Commissioning - design and preparation	One credit - Commissioning - design and preparation 6. Achieve criteria 1 to 5. 7. During the design stage, the client or the principal contactor appoints an appropriate project team member (see criterion 4), provided they are not involved in the general installation works for the building services systems, with responsibility for: 7.a Undertaking design reviews and giving advise on suitability for ease of commissioning. 7.b Providing commissioning management input to construction programming and during installation stages. 7.c Management of commissioning, performance testing and handover or post-handover stages. For buildings with complex building services and systems, this role needs to be carried out by a specialist commissioning manager (see Definitions on page 58).			Appointment letter or commissioning responsibilities schedules Relevant section/clauses of the building specification or contract Principal Contractors programme Commissioning schedule	1	1	Principal Contractor	It is anticipated that one credit will be targeted. One credit targeted.
Man 04d Rating Min Standard	Rating Related Min Standard- Very Good Rating and Above BUG criteria as outlined in 11 below is fully met.			Building User Guide	-	MET	Principal Contractor	Required for Good rating or above to be achieved.
Man 04d Handover	One credit - Handover 11. Prior to handover, develop two building user guides (see Methodology) for the following users: 11.a A non-technical user guide for distribution to the building occupiers. 11.b A technical user guide for the premises facilities managers. A draft copy is developed and discussed with users first (where the building occupants are known) to ensure the guide is most appropriate and useful to potential users. 12. Prepare two training schedules timed appropriately around handover and proposed occupation plans for the following users: 12.a A non-technical training schedule for the building occupants. 12.b A technical training schedule for the premises facilities managers. Note 1.1 The guides and training schedules include, as far as possible, all relevant sections regarding the services and fabric installed. On completion of works the building owner, agent or user, hands it over to the fit-out contractor, who can then complete the relevant sections based on the fit-out strategy.			Building User Guide Training schedule	1	1	Principal Contractor	It is anticipated that one credit will be targeted. One credit targeted.
					18	12	1	
			11%		11.00	7.33	0.61	
Hea 01 Visual Comfort								
Hea 01b Daylighting (building type dependent)	Up to two credits - Daylighting (building type dependent) 4 Daylighting criteria have been met using either of the following options: 4.a The relevant building areas meet good practice daylight factors and other criteria as outlined in Table 5.1 and Table 5.2 OR 4.b The relevant building areas meet good practice average and minimum point daylight illuminance criteria as outlined in Table 5.3 on the next page.			Daylighting calculations.	1	1	M&E Consultant / Daylighting Consultant	M&E Consultant can do daylighting calcs. One credit targeted.
Hea 01c View Out	One credit - View out 5. 95% of the floor area in 95% of spaces for each relevant building area provides an adequate view out (see Adequate View Out definition on page 84*). 6. In addition, the building type criteria for Prisons, multi-residential and healthcare are outlined in Table 5.6. *Where relevant building areas are within 8m of an external wall which as a window or permanent opening, and the window/opening is ≥20% of the surrounding wall area. Where the room depth is greater than 8m, the percentage of window or opening must instead be the same as, or greater than, than values in Table 1.0 BS8206:Part 2. The view out must be a view of a landscape or buildings (rather than just sky) at seated level (1.2-1.3m) with the relevant building areas and should ideally be through an external window. A view into an internal courtyard or atrium will comply provided the distance from the opening to the back wall of the courtyard/atrium is at least 10m. The view cannot be an internal view across the room, as this is likely to become obstructed by partitions, filing cabinets etc. An internal view cannot offer the additional benefits of an external view. Note: 1.0 If it is not possible to confirm which areas of the building will contain workstations, benches or desks, all areas of the building designed for or likely to be occupied by workstations, benches or desks, must comply with the relevant criteria.			Design drawings Relevant section/clauses of the building specification or contract Window schedule	1	1	Architect	It is anticipated that one credit will be targeted. One credit targeted.

BREEAM NC 2018 Criteria		Potential Design stage Evidence Approach	Credits Available	Current Targeted	Resp.	Comments																														
Hea 01d Internal and external lighting levels, zoning and control	One credit - External lighting 10. All external lighting located within the construction zone is specified in accordance with BS5489-1:2013 Code for the practice for the design of road lighting. Lighting of roads and public amenity areas(35) and BS EN 12464-2:2014(36) Light and lighting - Lighting of workplaces- Part 2:Outdoor workplaces. External lighting should provide illuminance levels that enable users to perform outdoor visual tasks efficiently and accurately, especially during the night. 11. Where no external light fittings are specified (either separate from or mounted on the external building façade or roof), the criteria relating to external lighting do not apply and the credit can be awarded on the basis of compliance with criteria 8–9.c above.	Design drawings and/or room data sheets/schedules Relevant section/clauses of the building specification or contract OR A letter of formal confirmation of compliance from the relevant design team member. Further information on page 40 'Additional Information'	1	1	M&E Consultant	It is anticipated that one credit will be targeted. One credit targeted.																														
Hea 04 Thermal comfort																																				
Hea 04a - Thermal modelling	Note: 2.0 The issue is not applicable to industrial units that only contain an operational or storage area and are without office space or other occupied spaces. One credit - Thermal modelling 1. Thermal modelling has been carried out using software in accordance withCIBSEAM11(78) Building Energy and Performance Modelling. 2. The software used to carry out the simulation at the detailed design stage provides full dynamic thermal analysis. For smaller and more basic building designs with less complex heating or cooling systems, an alternative less complex means of analysis may be appropriate (such methodologies must still be in accordance with CIBSEAM11). 3. The modelling demonstrates that: 3.a For air-conditioned buildings, summer and winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental design(79), Table 1.5;or other appropriate industry standard (where this sets a higher or more appropriate requirement or level for the building type) 3.b For naturally ventilated buildings: 3.b.i Winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental design, Table 1.5. Or other appropriate industry standard (where this sets a higher or more appropriate requirement or level for the building type) 3.b.ii The building is designed to limit the risk of overheating, in accordance with the adaptive comfort methodology outlined in either of the following standards as appropriate; CIBSE TM52: The limits of thermal comfort: avoiding overheating in European buildings(80) or CIBSE TM59:Design methodology for the assessment of overheating risk in homes(81) 4. For air-conditioned buildings, the PMV(predicted mean vote) and PPD (predicted percentage of dissatisfied) indices based on the above modelling are reported via the BREEAM assessment scoring and reporting tool. Note: 1.1 Thermal modelling assumptions must be reasonable and represent typical use patterns and loads given the parameters and function of the building. Thermal modelling may need to be completed on the basis of a typical notional layout.	Relevant section/clauses of the building specification or contract or correspondence (e.g. letter, email or meeting minutes) from the design team Thermal modelling results TOR data from the design team	1	1	M&E Consultant	It is anticipated that one credit will be targeted. One credit targeted.																														
Ene 01 Reduction of energy use and carbon emissions - Minimum standards for four credits for Energy Performance for Excellent and six credits for Energy Performance & four credits for Energy Modelling and Reporting for Outstanding																																				
Ene 01a Energy performance	Up to nine credits - Energy performance 1 Calculate an Energy Performance Ratio for New Construction (EPR NC). Compare the EPR NC achieved with the benchmarks in Table 6.1 and award the corresponding number of BREEAM credits. See notes 1.1 and 1.2 on page 121 of the manual. <table><caption>Table 6.1 Ene 01 EPR_{NC} benchmarkscale</caption><thead><tr><th rowspan="2">BREEAM credits</th><th rowspan="2">EPR_{NC}</th><th colspan="2">Minimum standards</th></tr><tr><th>Rating</th><th>Minimum requirements</th></tr></thead><tbody><tr><td>1</td><td>0.1</td><td rowspan="4">Excellent</td><td rowspan="4">Requires a performance improvement progressively better than the relevant national building regulations compliant standard (see Energy performance on the facing page).</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></tr><tr><td>5</td><td>0.5</td><td rowspan="4">Outstanding</td><td rowspan="4">Requires 4 credits to be achieved (equivalent to an EPR_{NC} of at least 0.4).</td></tr><tr><td>6</td><td>0.6</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 AND zero net regulated CO₂ emissions*.</td><td></td><td></td></tr></tbody></table>	BREEAM credits	EPR _{NC}	Minimum standards		Rating	Minimum requirements	1	0.1	Excellent	Requires a performance improvement progressively better than the relevant national building regulations compliant standard (see Energy performance on the facing page).	2	0.2	3	0.3	4	0.4	5	0.5	Outstanding	Requires 4 credits to be achieved (equivalent to an EPR _{NC} of at least 0.4).	6	0.6	7	0.7	8	0.8	9	0.9 AND zero net regulated CO ₂ emissions*.			A copy of the Building Regulations Output Document from the approved software, as follows: 1. England Wales (Part L): Approved Documents checks (BRUKL Output Document) 2. Scotland (Section 6): Specification checks 3. N. Ireland (Part F): Approved Documents checks (BRUKL Output Document) 4. Where relevant for multi-residential buildings, a copy of the calculations based on design stage SAP outputs. The output documents must be based on the “As designed” stage of analysis. output documents from the approved software reflecting performance at the as-built stage of analysis. This must account for any changes to the specification during construction and the measured air leakage rate, ductwork leakage and fan performances(as required by building regulations).	9	3	M&E Consultant	M&E Consultant to send through draft once available. It is anticipated that three credits will be targeted. SWH to review BRUKL's. Three credits targeted.
BREEAM credits	EPR _{NC}			Minimum standards																																
		Rating	Minimum requirements																																	
1	0.1	Excellent	Requires a performance improvement progressively better than the relevant national building regulations compliant standard (see Energy performance on the facing page).																																	
2	0.2																																			
3	0.3																																			
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5	0.5	Outstanding	Requires 4 credits to be achieved (equivalent to an EPR _{NC} of at least 0.4).																																	
6	0.6																																			
7	0.7																																			
8	0.8																																			
9	0.9 AND zero net regulated CO ₂ emissions*.																																			
Ene 02 Energy monitoring - Minimum standards one credit for first sub-metering credit for Very Good, Excellent & Outstanding																																				
Ene 02a Sub metering of end-use categories	One credit - Sub-metering of end-use categories 1. Install energy metering systems so that at least 90% of the estimated annual energy consumption of each fuel is assigned to the end-use categories(see Methodology below). 2. Meter the energy consumption in buildings according to the total useful floor area: 2.a If the area is greater than 1,000 m², by end-use category with an appropriate energy monitoring and management system. 2.b If the area is less than 1,000 m², use either: 2.b.i an energy monitoring and management system or 2.b.ii separate accessible energy sub-meters with pulsed or other open protocol communication outputs, for future connection to an energy monitoring and management system (see Definitions on page 135). 3. Building users can identify the energy consuming end uses, for example through labelling or data outputs.	Relevant section/clauses of the building specification or contract. Design drawings	1	1	M&E Consultant	BMS/AMR should be included in the development if the 'useful space' of the building is more than 1,000m2 as per KBCN00069 - useful floor area to be reviewed going forward to determine whether BMS will be required or not- if unconditioned then not. It is anticipated that one credit will be targeted. One credit targeted.																														

BREEAM NC 2018 Criteria				Potential Design stage Evidence Approach	Credits Available	Current Targeted	Resp.	Comments
Ene 02b Sub metering of high energy load and tenancy areas	One credit - Sub-metering of high energy load and tenancy areas 4. Monitor a significant majority of the energy supply with: 4.a An accessible energy monitoring and management system for: 4.a.i tenanted areas or 4.a.ii relevant function areas or departments in single occupancy buildings. OR 4.b Separate accessible energy sub-meters with pulsed or other open protocol communication outputs for future connection to an energy monitoring and management system for: 4.b.i tenanted areas or 4.b.ii relevant function areas or departments in single occupancy buildings. 5. Sub-meter per floor plate in large single occupancy or single-tenancy buildings with one homogeneous function, for example hotel bedrooms, offices. Note: 1.1 Criteria 4 and 5, meters must be installed on the energy supply to each separate tenanted unit or floor plate within the assessed development.			Relevant section/clauses of the building specification or contract. Design drawings	1	1	M&E Consultant	It is anticipated that one credit will be targeted. One credit targeted.
Ene 03 External lighting								
Ene 03a External lighting	One credit - External lighting 1. No external lighting (which includes lighting on the building, at entrances and signs). OR 2. External light fittings within the construction zone with: 2.a Average initial luminous efficacy of not less than 70 luminaire lumens per circuit Watt 2.b Automatic control to prevent operation during daylight hours 2.c Presence detection in areas of intermittent pedestrian traffic			Relevant section/clauses of the building specification or contract - Evidence received Design drawings	1	1	M&E Consultant	It is anticipated that one credit will be targeted. One credit targeted.
Ene 04 Low carbon design								
Ene 04c Low and zero carbon technologies	One credit - Low zero carbon feasibility study 9. An energy specialist (see Definitions on page 156) completes a feasibility study (see Low and zero carbon feasibility study on page 153) by the end of Concept Design. 10. Establish the most appropriate recognised local (on-site or near-site) low or zero carbon (LZC) energy sources for the building or development (see Scope of LZC systems and how they are assessed on page 154), based on the feasibility study. 11. Specify local LZC technologies for the building or development in line with the feasibility study recommendations. 12. Quantify the reduced regulated carbon dioxide (CO ₂ -eq) emissions resulting from the feasibility study			Results from a dynamic simulation ² model demonstrating reductions in CO ₂ emissions from the specified low zero carbon technology.	1	1	M&E Consultant	It is anticipated that one credit will be targeted. Sustainability strategy has been produced which may cover some of this criteria - renewable energy sources have been reviewed. One credit targeted.
					19	7	0	
				14%	14.00	5.15	0.00	
Tra 01 Transport assessment and travel plan								
Tra 01a Travel plan	Two credits – Travel plan 1. No later than Concept Design stage, undertake a site-specific transport assessment (or statement) and a draft travel plan, which can demonstrably be used to influence the site layout and built form; see Methodology. 2. The site-specific travel assessment or statement covers as a minimum: 2.a Existing travel patterns and opinions of existing building or site users towards cycling and walking, identifying constraints and opportunities, if relevant 2.b Travel patterns and transport impact of future building users 2.c Current local environment for walkers and cyclists(accounting for visitors who may be accompanied by young children) 2.d Reporting of the number and type of existing accessible amenities, see Table 7.1 below, within 500m of the site 2.e Disabled access(accounting for varying levels of disability and visual impairment) 2.f Calculation of the existing public transport Accessibility Index (AI),see Methodology on the next page 2.g Current facilities for cyclists 3. Following a transport assessment (in accordance with the requirements set out in criteria 2a-2g) develop a site-specific travel plan, that provides a long term management strategy which encourages more sustainable travel. The travel plan includes measures to increase or improve more sustainable modes of transport and movement of people and goods during the building's operation; see Methodology. 4. If the occupier is known, involve them in the development of the travel plan. 5. Demonstrate that the travel plan will be implemented post construction and be supported by the building's management in operation.			A copy of the Travel Plan. A copy of the site-specific transport survey/assessment. Design drawings demonstrating examples of design measures implemented in support the travel plan's findings. OR Where a detailed site plan is not available, a formal letter from the client confirming that measures will be implemented into the final design in support the travel plan's findings. A letter of confirmation from either the building's occupier, or in the case of a speculative development, the developer.	2	2	Transport Consultant	It is anticipated that two credits will be targeted. Highways Technical note has been produced. Two credits targeted.
Tra 02 Sustainable transport measures - Only assess against criteria that applies to the AI of the project. Ensure the issue total sums the 'available credits' for the correct AI								
Tra 02 Prerequisite	Prerequisite 1. Achieve criteria 3-5 in the Tra 01 Transport assessment and travel plan issue.				-	MET	Transport Consultant	Required for Tra02 credits to be achieved.
Tra 02a Transport options implementation <25	Ten credits – Transport options implementation AI<25 2. Identify the sustainable transport measures, in Table 7.4 page 174. 3. Award credits according to the existing Accessible Index (AI) of the project, and the total number of points achieved for the options implemented, see Table 7.3.			Identify sustainable transport measures. Scale map highlighting the location of the building and all public transport nodes in proximity of the building. Timetables for each service at each public transport node considered. The calculated Accessibility Index for the building. A formal letter from the future building occupier confirming provision of and details for the dedicated bus service(s).	10	4	Transport Consultant / Architect	AI is currently anticipated to be <25. This could change following further reviews and therefore the credits targeted could also change. It is anticipated that four credits will be targeted and two potential. Six credits targeted.

BREEAM NC 2018 Criteria				Potential Design stage Evidence Approach	Credits Available	Current Targeted	Resp.	Comments
Assessment option	Public transport measures							
1	1. 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 types				1	0		Point not targeted.
2	2. 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; OR				2	0		Point not targeted.
	3. 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 OR				3	0		Point not targeted.
	4. Provide a dedicated service, such as a bus route or service (See Methodology on page 178).				3	0		Point not targeted.
3	5. 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	0		Point not targeted.
Assessment options	Private transport measures							
4	6. Provide electric recharging stations of a minimum of 3kw for at least 10% of the total car parking capacity for the development.				1	1		One point targeted.
5	7. Set up a car sharing group or facility to facilitate and encourage building users to car share. 8. Raise awareness of the sharing scheme with marketing and communication materials. 9. Provide priority spaces for car sharers for at least 5% of the total car parking capacity for the development. 10. Locate priority parking spaces nearest the development entrance used by the sharing scheme participants				1	0		Point not targeted.
Assessment options	Active travel measures							
6	11. 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. 12. 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	0		Potential.
7	13. Install compliant cycle storage spaces to meet the minimum levels set out in Table 7.5 on page 176.				1	1		One point targeted.
8	14. Option 7 has been achieved. 15. Provide at least two compliant cyclists' facilities for the building users, (including pupils where appropriate to the building type) – see Definitions for the scope of each compliant facility: – Showers – Changing facilities – Lockers – Drying spaces.				1	1		For shell & core assessments, if additional facilities, such as showers and drying space, are not provided in core areas and internal walls are not provided to tenanted areas, these must be indicated on design drawings and all relevant services provided. This would include capped-off supplies and electrical points as necessary in order to facilitate the completion of the compliant facilities by the tenant. One point targeted.
9	Existing amenities: 16. At least three existing accessible amenities are present, see Table 7.6 on page 177, where relevant for a Building Group				1	1		One point targeted.
10a	17. Ensure a minimum of one new accessible amenity, in accordance with Table 7.6 on page 177, for the relevant Building Group, is provided. OR				2	0		Points not currently targeted.
10b	18. Ensure more than one new accessible amenity, in accordance with Table 7.6 on page 177 for the relevant Building Group, is provided.				3	0		Points not currently targeted.
11	19. Implement one site-specific improvement measure, not covered by the options already listed in this issue, in line with the recommendations of the travel plan. Submit these for review by BRE.				1-3	0		Points not currently targeted.
					12	6	0	
				12%	11.5	5.75	0	

BREEAM NC 2018 Criteria				Potential Design stage Evidence Approach	Credits Available	Current Targeted	Resp.	Comments								
Wat 01 Water consumption - Minimum standards one credit for Good, Very Good, Excellent & two credits for Outstanding																
Wat 01 Water consumption	Up to five credits - Water consumption 1. Use the BREEAM Wat 01 calculator to assess the efficiency of the domestic water-consuming components. 2. Use the standard Wat 01 method (see Methodology on the facing page)to compare the water consumption (litres/person/day)for the assessed building against a baseline performance. Award BREEAM credits based upon Table 8.1 below. Where it is not possible to use the standard method, complete the assessment using the alternative Wat 01 method (see Methodology). 3. If a greywater or rainwater system (see Definitions on page 195) is specified, use its yield in L/person/day to offset potable water demand from components. 4. If a greywater or rainwater system is specified and installed: 4.a Greywater systems in compliance with BS8525-1:2010 Greywater systems- Part 1 Code of Practice (153) 4.b Rainwater systems in compliance with BS8515:2009+A1:2013 Rainwater harvesting systems- Code of practice(154) Achieve Assessment scope - Criterion 6 on page 199, if you intend to pursue a post occupancy stage certification. Additionally for Healthcare building types only: 5 If applicable, the flushing control for each WC or urinal must be suitable for operation by patients with frail or infirm hands or activated by electronic sensors. Additionally for Prison building types only: 6 Sanitary components specified within a prison cell have a volume controller specified on the individual fittings or water supply to each cell (see Definitions on page 195). Note: 1.0 Components to be included as a minimum: WCs, wash-hand basin taps, showers, urinals, kitchen taps: kitchenette. If the developer is not installing some of these, use the baseline values for any unknown components. All water-consuming components and greywater or rainwater systems specified and installed by the developer are assessed. Components not listed above and located within tenant areas that are not specified by the developer, but will be specified by the tenant do not need to be assessed. In cases where the end client is known and they make a commitment to specify and install specific water-consuming components, assess the issue based on the relevant information. 1.1 Where components are not specified and installed by the developer but by the tenant, the minimum standard will not prevent the assessment from achieving a BREEAM rating.			A completed copy of the BREEAM Wat 01 calculator	Documentary evidence supporting the data used to complete the calculator tool.	Relevant section/clauses of the building specification/ design drawings confirming technical details of	1. Sanitary components	2.Rainwater and greywater collection system	OR where detailed documentary evidence is not available at this stage;	Completed BREEAM Wat 01 calculator	A letter of instruction to a contractor/supplier or a formal letter from the developer giving a specific undertaking, providing sufficient information to allow the water calculations to be completed.	5	2	M&E Consultant / Architect	It is anticipated that two credits will be targeted and one potential credit.	Two credits targeted.
Wat 02 Water monitoring - Minimum standards criterion one only for all ratings except Pass																
Wat 02a Rating Min Standard	Rating Related Min Standard- Good Rating and Above 1 Specify a water meter on the mains water supply to each building. This includes instances where water is supplied via a borehole or other private source.			Relevant section/clauses of the building specification or contract	Design drawings	-	MET	M&E Consultant	Required for Good rating or above to be achieved.							
Wat 02a Water monitoring	One credit - Water monitoring 1 Specify a water meter on the mains water supply to each building. This includes instances where water is supplied via a borehole or other private source. 2 For water-consuming plant or building areas consuming 10% or more of the building's total water demand: 2.a Fit easily accessible sub-meters OR 2.b Install water monitoring equipment integral to the plant or area. 3 For each meter (main and sub): 3.a Install a pulsed or other open protocol communication output AND 3.b Connect it to an appropriate utility monitoring and management system, e.g. a building management system (BMS), for the monitoring of water consumption. If there is no BMS system in operation at Post Construction stage, award credits provided that the system used enables connection when the BMS becomes operational. 4 In buildings with swimming pools, or large water tanks and aquariums, fit separate sub-meters on the water supply of the above and any associated changing facilities(toilets, showers etc.) irrespective of their water consumption levels. 5 In buildings containing laboratories, fit a separate water meter on the water supply to any process or cooling loop for 'plumbed-in' laboratory process equipment, irrespective of their water consumption levels. Additionally for those pursuing a post occupancy stage certification: 6 The water monitoring strategy used enables the identification of all water consumption for sanitary uses as assessed under Wat 01 (litres/person/day), if a post occupancy stage certification is sought. Note: 1.0 Demonstrate compliance with criterion 2 on page 199 for water-consuming plant or building areas identifiable by the developer. Do not assess water-consuming plant or building areas to be added or installed by the tenant. Where no water-consuming plants are installed by the developer, the credit is awarded based on the rest of the criteria. 1.1 Minimum standard is applicable, however the assessor may, for speculative assessments, subject to their justification and evidence from the design team, seek review by BRE.			Relevant section/clauses of the building specification or contract	Design drawings	1	1	M&E Consultant	BMS/AMR to be included in developments where the 'useful space' of the building is more than 1,000m2 as per KBCN00069.	It is anticipated that one credit will be targeted.	One credit targeted.					
Wat 03 Leak detection																
Wat 03b Flow control devices	One credit - Flow control devices 3. Install flow control devices that regulate the water supply to each WC area or sanitary facility according to demand, in order to minimise undetected wastage and leaks from sanitary fittings and supply pipework. Note: 1.2 Assess the water supplies to WC areas or facilities as per criterion 3 regardless of whether the WC areas of facilities are fitted out or not.			Relevant section/clauses of the building specification or contract -	Design drawings	Manufacturers product details	1	1	M&E Consultant	It is anticipated that one credit will be targeted.	One credit targeted.					
						8	4	0								
				7%		7	3.5	0								
Mat 02 Environmental impacts from construction products - Environmental Product Declarations (EPD)																
Mat 02a Specification of products with a recognised EPD	One credit - Specification of products with a recognised environmental product declaration (EPD) 1. Specify construction products with EPD that achieve a total EPD points score of at least 20, according to the Methodology on page 221. 2. Enter the details of each EPD into the Mat 01/02 Results Submission Tool, including the material category classification. The Mat 01/02 Results Submission Tool will verify the EPD points score and credit award.			Copies of Environmental Product Declarations	A link/reference to the EPD's Product Category Rules	Mat 01/02 Results Submission Tool	1	1	Architect	Could be included as a contractual requirement.	One credit targeted.					
Mat 03 Responsible sourcing of construction products - Minimum standards for criterion 1 only for all ratings																
Mat 03a Pre requisite	Prerequisite - Legally harvested and traded timber 1. All timber and timber-based products used on the project are legally harvested and traded timber as per the UK Government's Timber Procurement Policy (TPP) (see Definitions on page 228). Compliance with criterion 1 is a minimum requirement for achieving any BREEAM rating. There are no prerequisite requirements for other materials.			Relevant section/clauses of the building specification or contract	OR	A signed and dated letter of commitment to meet the relevant criteria	OR	Timber Policy	-	MET	Principal Contractor	Required for any Mat03 credits to be achieved.				

BREEAM NC 2018 Criteria				Potential Design stage Evidence Approach	Credits Available	Current Targeted	Resp.	Comments																								
Mat 03b Enabling sustainable procurement	One credit - Enabling sustainable procurement 2. A sustainable procurement plan must be used by the design team to guide specification towards sustainable construction products. The plan must: 2.a Be in place before Concept Design. 2.b Include sustainability aims, objectives and strategic targets to guide procurement activities. Note: targets do not need to be achieved for the credit to be awarded but justification must be provided for targets that are not achieved. 2.c Include a requirement for assessing the potential to procure construction products locally. There must be a policy to procure construction products locally where possible. 2.d Include details of procedures in place to check and verify the effective implementation of the sustainable procurement plan. In addition, if the plan is applied to several sites or adopted at an organisational level it must: 2.e Identify the risks and opportunities of procurement against a broad range of social, environmental and economic issues following the process set out in BS ISO20400:2017(166)			Evidence of level of responsible sourcing achieved for each construction product. For example, certificates. Completed copy of the Mat 03 Calculator tool. Evidence to show how the Mat 03 calculator tool has been completed.	1	1	Design Team	SWH to provide a template/example. One credit targeted.																								
	Up to 3 credits - Measuring responsible sourcing 3. Use the Mat 03 calculator tool and methodology to determine the number of credits achieved for the construction products specified or procured. Credits are awarded in proportion to the scope of the assessment and the number of points achieved, asset out in Table 9.10.				3	2	Principal Contractor	It is anticipated that two credits will be targeted. Two credits targeted.																								
Mat 05 Designing for durability and resilience																																
Mat 05a Protecting vulnerable parts of the building from damage	One credit Protecting vulnerable parts of the building from damage 1. 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: 1.a Negative impacts of high user numbers in relevant areas of the building (e.g. corridors, lifts, stairs, doors etc.). 1.b Damage from any vehicle or trolley movements within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas. 1.c 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. 1.d Potential malicious damage to building materials and finishes, in public and common areas where appropriate. Protecting exposed parts of the building from material degradation 2. 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: 2.a The element or product achieving an appropriate quality or durability standard or design guide, see Table 9.14 on the next page. If none are available, use BS7543:2015(168) as the default appropriate standard OR 2.b A detailed assessment of the element's resilience when exposed to the applicable material degradation and environmental factors. 3. Include convenient access to the roof and façade for cost-effective cleaning, replacement and repair in the building's design. 4. Design the roof and façade to prevent water damage, ingress and detrimental ponding. See Table 9.14 on the next page for an example list of relevant industry durability and quality standards.			Design drawings illustrating vulnerable areas/parts of the building. Design drawings and/or relevant section/clauses of the building specification or contract confirming the durability measures specified.	1	1	Architect	It is anticipated that one credit will be targeted. One credit targeted.																								
Mat 06 Material efficiency																																
Mat 06a Material efficiency	One credit - Material efficiency 1. 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. See Table 9.15 on page 237: 1.a Preparation and Brief 1.b Concept Design 1.c Developed Design 1.d Technical Design 1.e Construction 2. Develop and record the implementation of material efficiency, see Table 9.15 below, during: 2.a Developed Design 2.b Technical Design 2.c Construction 3. Report the targets and actual material efficiencies achieved.			A copy of the report.	1	0	Architect / Principal Contractor	One potential credit.																								
					14	5		0																								
				18%	17.5	6.25		0																								
Wst 01 Construction waste management - Minimum standards one credit for Outstanding																																
Wst 01b Construction resource efficiency	Up to three credits - Construction resource efficiency 3. Prepare a compliant Resource Management Plan (RMP) covering: 3.a Non-hazardous waste materials (from on-site construction and dedicated off-site manufacture or fabrication, see Definitions on page 245), including demolition and excavation waste. 3.b Accurate data records on waste arisings and waste management routes. 4. Meet or improve upon the benchmarks in Table 10.1 for non-hazardous construction waste, excluding demolition and excavation waste. <table><caption>Table 10.1 Construction waste resource efficiency benchmarks</caption><thead><tr><th>BREEAM credits</th><th colspan="2">Amount of waste generated per 100 m² (gross internal floor area)</th></tr><tr><th></th><th>m³ (actual, not bulk volume)</th><th>tonnes</th></tr></thead><tbody><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></tbody></table>			BREEAM credits	Amount of waste generated per 100 m ² (gross internal floor area)			m ³ (actual, not bulk volume)	tonnes	One credit	≤ 13.3	≤ 11.1	Two credits	≤ 7.5	≤ 6.5	Three credits	≤ 3.4	≤ 3.2	Exemplary level	≤ 1.6	≤ 1.9	A copy of the Resource Management Plan and, where relevant, the pre-demolition audit Relevant section/clauses of the building specification or contract AND/OR A letter from the client or their representative	3	2	Principal Contractor	It is anticipated that two credits will be targeted. Two credits targeted.						
BREEAM credits	Amount of waste generated per 100 m ² (gross internal floor area)																															
	m ³ (actual, not bulk volume)	tonnes																														
One credit	≤ 13.3	≤ 11.1																														
Two credits	≤ 7.5	≤ 6.5																														
Three credits	≤ 3.4	≤ 3.2																														
Exemplary level	≤ 1.6	≤ 1.9																														
Wst 01c Diversion of resources from landfill	One credit - Diversion of resources from landfill 5. Meet, where applicable, the diversion from landfill benchmarks in Table 10.2 for non-hazardous construction waste and demolition and excavation waste generated. 6. Sort waste materials into separate key waste groups as per Table 10.3 on page 247, either on-site or through a licensed contractor for recovery. <table><caption>Table 10.2 Diversion from landfill benchmarks</caption><thead><tr><th>BREEAM credits</th><th>Type of waste</th><th>Volume</th><th>Tonnage</th></tr></thead><tbody><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></tbody></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	Principal Contractor	It is anticipated that one credit will be targeted. One credit targeted.
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%																													

BREEAM NC 2018 Criteria				Potential Design stage Evidence Approach	Credits Available	Current Targeted	Resp.	Comments						
Wst 02 Use of recycled and sustainably sourced aggregates														
Prerequisite	Prerequisite - Pre-demolition audit 1. 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 Assessment Scope - Criterion 1.				-	MET	Demolition Contractor	Pre-demolition audit must be produced for the following credit to be achieved.						
Wst 02a Project sustainable aggregate points	One credit - Project Sustainable Aggregate Points 2. Identify all aggregate uses and types on the project Table 10.5 and Table 10.6 on the next page 3. Determine the quantity in tonnes for each identified use and aggregate type. 4. Identify the region in which the aggregate source is located. 5. Calculate the distance in kilometres travelled by all aggregates by transport type. 6. Enter the information into the BREEAM Wst 02 calculator to calculate the Project Sustainable Aggregate points. The corresponding number of BREEAM credits will be awarded as shown in Table 10.4 <table><caption>Table 10.4 Credits available relating to the Project Sustainable Aggregate points</caption><thead><tr><th>Project Sustainable Aggregate Credits</th><th>Project Sustainable Aggregate points</th></tr></thead><tbody><tr><td>1</td><td>3.5–6</td></tr><tr><td>1 exemplary performance credit</td><td>> 6</td></tr></tbody></table>			Project Sustainable Aggregate Credits	Project Sustainable Aggregate points	1	3.5–6	1 exemplary performance credit	> 6	Completed copy of Wst 02 calculator Documentary evidence supporting the data used to complete the Calculator tool. Documentation confirming the source of recycled/secondary aggregates and that the required amount can be provided	1	1	Design Team and Contractor	One credit targeted.
Project Sustainable Aggregate Credits	Project Sustainable Aggregate points													
1	3.5–6													
1 exemplary performance credit	> 6													
Wst 03 Operational waste - Minimum of one credit for Excellent & Outstanding														
Wst 03a Operational waste	One credit - Operational waste 1. Provide a dedicated space for the segregation and storage of operational recyclable waste generated. The space is: 1.a Clearly labelled, to assist with segregation, storage and collection of the recyclable waste streams 1.b Accessible to building occupants or facilities operators for the deposit of materials and collections by waste management contractors 1.c Of a capacity appropriate to the building type, size, number of units (if relevant) and predicted volumes of waste that will arise from daily or weekly operational activities and occupancy rates. 2. For consistent and large amounts of operational waste generated, provide: 2.a Static waste compactors or balers; situated in a service area or dedicated waste management space 2.b Vessels for composting suitable organic waste OR adequate spaces for storing segregated food waste and compostable organic material for collection and delivery to an alternative composting facility 2.c A water outlet provided adjacent to or within the facility for cleaning and hygiene purposes where organic waste is to be stored or composted on site. Note: 2.0 Small industrial units: For an industrial building or development site consisting of a number of smaller units, each ≤200m² floor area, shared facilities that meet the above criteria for the building or site as a whole are sufficient to achieve this credit.			Design drawings and/or relevant section/clauses of the building specification or contract confirming provision and scope of dedicated facilities. Project team meeting minutes / letter confirming likely building waste streams and indicative volumes.	1	1	Architect	It is anticipated that one credit will be targeted. Drawings show a bin store with segregation. One credit targeted.						
Wst 05 Adaptation to climate change														
Wst 05a Resilience of structure, fabric, building services and renewables installation	One credit - Resilience of structure, fabric, building services and renewables installation 1. Conduct a climate change adaptation strategy appraisal using: 1.a A systematic risk assessment to identify the impact of expected extreme weather conditions arising from climate change on the building over its projected life cycle. The assessment covers the installation of building services and renewable systems, as well as structural and fabric resilience aspects and includes(see Methodology below): 1.a.i Hazard identification 1.a.ii Hazard assessment 1.a.iii Risk estimation 1.a.iv Risk evaluation 1.a.v Risk management. 2. Develop recommendations or solutions based on the climate change adaptation strategy appraisal, before or during Concept Design, that aim to mitigate the identified impact. 3. Provide an update during Technical Design demonstrating how the recommendations or solutions proposed at Concept Design have been implemented where practical and cost effective. Omissions have been justified in writing by the assessor.			Relevant section/clauses of the building specification or contract. Design drawings. Report/study.	1	1	Architect with input from Design Team	It is anticipated that one credit will be targeted. SWH can provide template/example. One credit targeted.						
Wst 06 Design for disassembly and adaptability														
Wst 06a Design for disassembly and adaptability - recommendations	One credit - Design for disassembly and functional adaptability - recommendations 1. Conduct a study to explore the ease of disassembly and the functional adaptation potential of different design scenarios (see Methodology on page 269) by the end of Concept Design. 2. Develop recommendations or solutions (see Methodology on page 269) based on the study (criterion 1 above), during or prior to Concept Design, that aim to enable and facilitate disassembly and functional adaptation.			Disassembly and functional adaptability study, implementation plan report, building adaptability and disassembly guide.	1	1	Architect	It is anticipated that one credit will be targeted. One credit targeted.						
Wst 06b Disassembly and functional adaptability - implementation	One credit - Disassembly and functional adaptability – implementation 3. Achieve criteria 1 and 2 4. Provide an update, during Technical Design, on: 4.a 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. 4.b Changes to the recommendations and solutions during the development of the Technical Design. 5. Produce a building adaptability and disassembly guide to communicate the characteristics allowing functional adaptability and disassembly to prospective tenants.			Disassembly and functional adaptability study, implementation plan report, building adaptability and disassembly guide.	1	1	Architect	It is anticipated that one credit will be targeted. One credit targeted.						
					9	8	0							
			7%		7	6.22	0							

BREEAM NC 2018 Criteria		Potential Design stage Evidence Approach	Credits Available	Current Targeted	Resp.	Comments												
Le 01 Site selection																		
Le 01b Contaminated land	One credit - Contaminated land 2. A contaminated land professional's site investigation, risk assessment and appraisal has deemed land within the site to be affected by contamination. The site investigation, risk assessment and appraisal have identified: 2.a The degree of contamination 2.b The contaminant sources or types 2.c The options for remediating sources of contamination which present an unacceptable risk. 3. The client or principal contractor confirms that remediation of the site will be carried out in accordance with the remediation strategy and its implementation plan as recommended by the contaminated land professional (see Definitions).	A copy of the remediation strategy and implementation plan. Evidence to demonstrate the recommendations set out in the remediation strategy plan have been implemented.	1	1	Ground Investigation Specialist	Noted that traces of asbestos have been detected. One credit targeted.												
Le 02 Identifying and understanding the risks and opportunities for the project - number of credits available depend on route																		
Le 02a Prerequisite	Prerequisite - Assessment route selection 1. The client or contractor confirms compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site. Table 11.1 Credits awarded for each assessment route <table><tr><th></th><th>Foundation route (Route 1)</th><th>Comprehensive route (Route 2)</th></tr><tr><td>Survey and evaluation</td><td>1 credit</td><td>1 credit</td></tr><tr><td>Determining ecological outcomes</td><td></td><td>1 credit</td></tr><tr><td>Exemplary criteria</td><td>1 credit</td><td>1 credit</td></tr></table>		Foundation route (Route 1)	Comprehensive route (Route 2)	Survey and evaluation	1 credit	1 credit	Determining ecological outcomes		1 credit	Exemplary criteria	1 credit	1 credit	Completed Guidance Note 34: BREEAM Ecology Risk Evaluation Checklist.	-	MET	Ecologist / Principal Contractor	It is anticipated that Route 2 will be taken.
	Foundation route (Route 1)	Comprehensive route (Route 2)																
Survey and evaluation	1 credit	1 credit																
Determining ecological outcomes		1 credit																
Exemplary criteria	1 credit	1 credit																
Le 02b Survey and evaluation	One or up to two credits depending on route -Survey and evaluation Foundation route (Route 1) 2. The site is evaluated using the BREEAM Ecological Risk Evaluation Checklist (Guidance Note 34) confirming that the Foundation route can be used (see Methodology and Definitions). OR Comprehensive route (Route 2) 3. A Suitably Qualified Ecologist (SQE) carried out a survey and evaluation (see Methodology) for the site early enough to influence site preparation works, layout and, where necessary, strategic planning decisions (typically Preparation and brief stage) (see Definitions). 4. The SQE's survey and evaluation determines the site's ecological baseline (see Definitions), including: a. Current and potential ecological value and condition of the site, and related areas within the zone of influence. b. Direct and indirect risks to current ecological value from the project c. Capacity and feasibility for enhancement of the site's ecological value of the site and, where relevant, areas within the zone of influence. 5. Recommendations and data collected from the survey and evaluation are shared with appropriate project team members to influence decisions made for activities during site preparation, design and construction works, which can support ecological features (see Methodology and Definitions). Determining ecological outcomes Foundation and Comprehensive routes (Routes 1 and 2) 6. Survey and evaluation criteria relevant to the chosen route (criterion 2 if following the Foundation route or Criteria 3-5 above for the Comprehensive route). 7. The project team liaise and collaborate with representative stakeholders (see Methodology) early enough to influence key planning decisions (typically Concept Design stage) to: 7.a Identify the optimal ecological outcomes for the site. 7.b Identify, appraise and select measures to meet the optimal ecological outcomes for the site (criterion 7.a), in line with the mitigation hierarchy of action, according to the route being used (see Definitions): <table><tr><th>Foundation route</th><th>Comprehensive route</th></tr><tr><td>1. Avoidance 2. Protection</td><td>1. Avoidance 2. Protection 3. Reduction or limitation of negative impacts 4. On site compensation and 5. Enhancement, considering the capacity and feasibility within the site, or where viable, off-site.</td></tr></table>	Foundation route	Comprehensive route	1. Avoidance 2. Protection	1. Avoidance 2. Protection 3. Reduction or limitation of negative impacts 4. On site compensation and 5. Enhancement, considering the capacity and feasibility within the site, or where viable, off-site.	A copy of the Ecological Survey and Evaluation document. Note: A phase 1 habitat assessment or other equivalent type of assessment can act as acceptable evidence as long as it can be shown that they cover the content of the assessment criteria.	2	2	Ecologist / Principal Contractor	It is anticipated that two credits will be targeted. Two credits targeted.								
Foundation route	Comprehensive route																	
1. Avoidance 2. Protection	1. Avoidance 2. Protection 3. Reduction or limitation of negative impacts 4. On site compensation and 5. Enhancement, considering the capacity and feasibility within the site, or where viable, off-site.																	

BREEAM NC 2018 Criteria		Potential Design stage Evidence Approach	Credits Available	Current Targeted	Resp.	Comments									
Le 03 Managing negative impacts on ecology - credits available depend on route															
Le 03a Prerequisite	Prerequisite – Ecological risks and opportunities 1. LE02's 'Survey and evaluation and Determining ecological outcomes' criteria have been achieved using the Foundation route (Route 1) or the Comprehensive route (Route 2) Table 11.2 Credits awarded according to assessment route <table><tr><th></th><th>Foundation route (Route 1)</th><th>Comprehensive route (Route 2)</th></tr><tr><td>Planning and measures on-site</td><td>1 credit</td><td>1 credit</td></tr><tr><td>Managing negative impacts</td><td>1 credit</td><td>1 or 2 credits</td></tr></table>		Foundation route (Route 1)	Comprehensive route (Route 2)	Planning and measures on-site	1 credit	1 credit	Managing negative impacts	1 credit	1 or 2 credits		-	MET	Ecologist / Principal Contractor	Pre-requisite will need to be met.
	Foundation route (Route 1)	Comprehensive route (Route 2)													
Planning and measures on-site	1 credit	1 credit													
Managing negative impacts	1 credit	1 or 2 credits													
Le 03b Planning liaison, implementation and data	One credit – Planning and measures on-site Routes 1 and 2 2. Further planning to avoid and manage negative ecological impacts on-site is carried out (see Methodology) early enough to influence the concept design and design brief as well as site preparation planning (typically Concept Design stage). 3. On-site measures for managing negative ecological impacts during site preparation and construction are implemented in-practice (e.g. mitigation measures to protect existing ecological features) (see Methodology). 4. Criteria 2-3 are based on input from the project team in collaboration with representative stakeholders and data collated as part of the 'Determining ecological outcomes' in Le02 Ecological risks and opportunities (see Methodology).		1	1	Ecologist / Principal Contractor	It is anticipated that one credit will be targeted. One credit targeted.									
Le 03b Planning liaison, implementation and data	Up to two credits – Managing negative impacts of the project Foundation route (Route 1) (one credit) 5. Criteria 2 and 3 are achieved. 6. Negative impacts from site preparation and construction works have been managed according to the hierarchy (see Methodology) and no overall loss of ecological value has occurred. Comprehensive route (Route 2) (up to two credits) 7. Criteria 2-4 have been achieved. 8. Negative impacts from site preparation and construction works have been managed according to the mitigation hierarchy, in line with the SQE's recommendations (see Methodology) and, either: a. No overall loss of (see Definitions) ecological value has occurred (2 credits) OR where criterion 8a is not possible: b. The loss of ecological value has been minimised (Minimising Loss) (1 credit)		2	1	Ecologist / Principal Contractor	 									

BREEAM NC 2018 Criteria				Potential Design stage Evidence Approach	Credits Available	Current Targeted	Resp.	Comments		
Le 05b Ecology management and maintenance	One credit - Management and maintenance throughout the project - Foundation and Comprehensive routes (Route 1 and Route 2) 3. Measures have been implemented to manage and maintain ecology throughout the project. These measures are based on input from the project team in collaboration with representative stakeholders and data collated as part of the 'Determining ecological outcomes' in Le02 (see Methodology). To ensure the optimal ecological outcomes agreed in Le02 are met in-practice, these measures must monitor and review the effectiveness of the mitigation and enhancement measures in place for Le03 and Le04 to ensure they are implemented. 4. A section on Ecology and Biodiversity has been included as part of the tenant or building owner information supplied, to inform the owner or occupant of local ecological features, value and biodiversity on or near the site (see Methodology). This should include detailed management and maintenance plans as required by landscape and asset managers as well as relevant parts of the handover information for occupiers written in a format that encourages understanding and supportive behaviours. One credit - Landscape and ecology management plan (or similar) development - One credit for Route 2, to be included as part of Route 1 evidence, but no additional credit given 5. A Landscape and Ecology Management Plan, or equivalent, has been developed in accordance with BS42020:2013 Section 11.1 covering at least the first five years after project completion as a minimum and including: a. Actions and responsibilities of relevant individuals, prior to handover b. The ecological value and condition of the site at handover and how this is expected to develop and change over time c. Identification of opportunities for ongoing alignment with activities beyond the development project, which supports the aims of BREEAM's Strategic Ecology Framework d. Identification and guidance to trigger appropriate remedial actions to address previously unforeseen impacts e. Clearly defined and allocated roles and responsibilities for delivering the plan 6. The landscape and management plan or similar will be updated to support maintenance of the ecological value of the site (see sections relating to Maintenance and Monitoring in CIEEM, CIRIA, IEMA, for helpful guidance).			Ecologist's report	Design drawings including proposed and existing (pre-development) site plan/survey	Written confirmation from the client/design team confirming how the ecologist's recommendations will be implemented.	2	2	Ecologist / Project Team	It is anticipated that two credits will be targeted. Two credits targeted.
					13	8	10			
				15%	15	9.23	11.54			
Pol 01 Impacts of refrigerants										
Pol 01a No refrigerant use	Three credits - No refrigerant use 1. No refrigerant use within the installed plant or systems. OR alternatively, where the building does use refrigerants, the three credits can be awarded as follows: Prerequisite 2. All systems with electric compressors comply with the requirements of BS EN378:2016 (207) (parts 2 and 3). Refrigeration systems containing ammonia comply with the Institute of Refrigeration Ammonia Refrigeration Systems code of practice(208) ² Two credits - Impact of refrigerant 3. The direct effect life cycle CO₂ equivalent emissions (DEL_{CO2}) of ≤ 100 CO₂ -eq/kW. For systems which provide cooling and heating, the worst performing output based on the lower of kW cooling output and kW heating output is used to complete the calculation. To calculate the DEL_{CO2}, refer to the relevant definitions in Methodology below and Additional information on page 303. OR 4. All refrigerants used have a global warming potential (GWP) ≤ 10. OR One credit - Impact of refrigerant ² 5. Systems using refrigerants have a DEL_{CO2} of ≤ 1000 kgCO₂ -eq/kW cooling and heating capacity. One credit - Leak detection 6. All systems are hermetically sealed or only use environmentally benign refrigerants(see Leak detection and Hermetically sealed systems on page 301). OR 7.Where the systems are not hermetically sealed: 7.a Systems have: 7.a.i A permanent automated refrigerant leak detection system, that is robust and tested, and capable of continuously monitoring for leaks. OR 7.a.ii An inbuilt automated diagnostic procedure for detecting leakage is enabled. 7.b In the event of a leak, the system must be capable of automatically responding and managing the remaining refrigerant charge to limit loss of refrigerant (see Automatic isolation and containment of refrigerant on page 303). Note 1.0 If the building is designed to avoid the need for refrigerant-containing building services, so no refrigerant use will be specified for the fit-out, the available credits can be awarded by default.			Completed copy of Pol 01 calculator tool. Documentary evidence supporting the data used to complete the calculator tool.	A copy of the specification clause or letter from the M&E engineer / system manufacturer confirming relevant refrigeration type and system information.	3	1	M&E Consultant	It is anticipated that one credit will be targeted. One potential - it is anticipated that leak detection will be included and CO2 eq rates will be known further into design. One credit targeted.	
Pol 02 Local air quality										
Pol 02a Local air quality	Up to two credits - Local air quality 1. All heating and hot water is supplied by non-combustion systems. For example, only powered by electricity. OR alternatively; 2. 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 on page 328. The measurements must be provided by manufacturers. Must determine whether the development is in a high or low pollution zone (methodology).				2	2	M&E Consultant	BRE note: the scope of your assessment is the Shell and Core work undertaken by the developer/main contractor, regardless of the (future) fitout specification. If all heating and hot water systems are powered by non-combustion systems in the S+C, you are achieving criterion 1. Two credits targeted.		
Pol 03 Flood and surface water management										
Pol 03a Prerequisite	Prerequisite 1. An appropriate consultant is appointed to carry out and demonstrate the development's compliance with all criteria.				-	MET	Civil Engineer	Required for Any Pol03 credits to be achieved.		
Pol 03b Flood resilience	Up to two credits - Flood resilience Two credits - Low flood risk 2. 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 (see Sources of flooding on page 312). One credit - Medium or high flood risk 3. A site-specific FRA confirms the development is in a flood zone that is defined as having a medium or high annual probability of flooding and is not in a functional floodplain. The FRA must take all current and future sources of flooding into consideration (see Sources of flooding on page 312). For smaller sites refer to Level of detail required in the FRA for smaller sites on page 312, which overrides criterion 2 above. 4. To increase the resilience and resistance of the development to flooding, one of the following must be achieved: 4.a The ground level of the building and access to both the building and the site, are designed (or zoned) so they are at least 600 mm above the design flood level of the site's flood zone (see 600 mm threshold on page 312). 4.b 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 (214)				2	2	Civil Engineer	Site is in a low flood risk zone. It is anticipated that two credits will be targeted. Two credits targeted.		

BREEAM NC 2018 Criteria				Potential Design stage Evidence Approach	Credits Available	Current Targeted	Resp.	Comments
Pol 03c Prerequisite	Prerequisite for surface water run-off credits 5. 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.				-	MET	Civil Engineer	Required for Pol03d or Pol03e credits to be achieved.
Pol 03d Surface water run off - rate	One credit - Surface Water Run-Off - Rate 6. For brownfield sites, 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. 7. For greenfield sites, drainage measures are specified so that the peak rate of run-off from the site to the watercourses (natural or municipal) is no greater for the developed site than it was for the pre-development site. This should comply at the 1-year and 100-year return period events. 8. Relevant maintenance agreements for ownership, long term operation and maintenance of all specified SuDS are in place. 9. Calculations include an allowance for climate change. This should be made in accordance with current best practice planning guidance (definitions on page 338).			Calculation results for the pre-and post-development peak rate of run-off.	1	1	Civil Engineer	It is anticipated that one credit will be targeted. One credit targeted.
Pol 03e Surface water run off - volume	One credit - Surface Water Run-Off - Volume 9. Flooding of property will not occur in the event of local drainage system failure (caused either by extreme rainfall or a lack of maintenance); AND EITHER 10. Drainage design measures are specified so that 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. This must be for the 100-year 6-hour event, including an allowance for climate change (see criterion 14). 1.1 Any additional predicted volume of run-off for this event is prevented from leaving the site by using infiltration or other SuDS techniques. OR (only where criteria 10 and 11 cannot be achieved): 12. 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. 13. Drainage design measures are specified so that the post-development peak rate of run-off is reduced to the limiting discharge. The limiting discharge is defined as the highest flowrate from the following options: 13.a The pre-development one-year peak flowrate 13.b The mean annual flowrate (Qbar) 13.c 2L/s/ha. For the one-year peak flowrate, the one-year return period event criterion applies. 14. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS are in place. 15. For either option, above calculations must include an allowance for climate change; this should be made in accordance with current best practice planning guidance			Information showing the proposed drainage solution, system failure flood flow routes, potential flood ponding levels and ground floor levels. Calculation results for the pre-and post-development volume of run-off. Calculation results of the limiting discharge.	1	1	Civil Engineer	It is anticipated that one credit will be targeted. One credit targeted.
Pol 03f Minimising watercourse pollution	One credit - Minimising watercourse pollution 16. There is no discharge from the developed site for rainfall up to 5 mm (confirmed by the appropriate consultant). 17. Areas with a low risk source of watercourse pollution, an appropriate level of pollution prevention treatment is provided, using appropriate SuDS techniques. 18. Areas with a high risk of contamination or spillage of substances, such as petrol and oil, have separators(or an equivalent system) are installed in surface water drainage systems. 19. Chemical or liquid gas storage areas have a means of containment fitted to the site drainage system (i.e. Shutoff valves). This is to prevent the escape of chemicals to natural water courses in the event of a spillage or bunding failure. 20. All water pollution prevention systems have been designed and installed in accordance with the recommendations of documents such as the SuDS manual(215) 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. 21.A comprehensive and up to date drainage plan of the site will be made available for the building or site occupiers. 22. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS must be in place.			The consultants report detailing the design specifications, calculations and drawings to support the 5mm rainfall discharge criteria. Design drawings and/or relevant section/clauses of the building specification or contract indicating 1. High and low risk areas of the site 2. Specification of SUDS, source control systems, oil/petrol separators and shut-off valves as appropriate A letter or other formal correspondence from the project team: 1. Confirming water pollution prevention systems are designed in accordance with PPG3 and the SUDS manual (where appropriate) 2. Outlining indicative examples of compliance with PPG3 and the SUDS manual 3. Confirming a copy of the drainage plan will be produced and handed over to the building occupier. 4. Confirming design of all external storage and delivery areas is in compliance with relevant Pollution Prevention Guidance 5. Outlining indicative examples of compliance with the PPG.	1	1	Civil Engineer	It is anticipated that one credit will be targeted. One credit targeted.
Pol 04 Reduction of night time light pollution								
Pol 04a Reduction of night time light pollution	One credit - Reduction of night time light pollution 1. External lighting pollution has been eliminated through effective design that removes the need for external lighting. This does not adversely affect the safety and security of the site and its users. OR alternatively, where the building does have external lighting, one credit can be awarded as follows: 2. The external lighting strategy has been designed in compliance with Table 2 (and its accompanying notes) of the Institution of Lighting Professionals (ILP) Guidance notes for the reduction of obtrusive light, 2011(221). 3. All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00. 4. If safety or security lighting is provided and will be used between 23:00 and 07:00, this part of the lighting system complies with the lower levels of lighting recommended during these hours in Table 2 of the ILP guidance notes. 5. Illuminated advertisements are designed in compliance with ILP PLG05 The Brightness of Illuminated Advertisements.(221)			Design drawings Relevant section/clauses of the building specification or contract or external lighting design data/calculations In the case of the external lighting design, the M&E engineer or lighting designer must provide indicative examples of where and how the strategy complies with the assessment criteria.	1	1	M&E Consultant	It is anticipated that one credit will be targeted. One credit targeted.
					12	9	0	
			9%		9	6.75	0	
	Currently no innovation credits are targeted. Innovation credit information available at team's request.							
Weighted Section Total				10.0%	10.00	0.00	0.00	
			Overall Total		110.00	53.38	12.15	