



**Access Self-Storage
Reading**

**Sustainability Report:
BREEAM**

Client	Precis
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Contents Page

Contents Page.....	4
Executive Summary.....	1
1.0 BREEAM	2
1.1 BREEAM Overview.....	2
1.2 BREEAM Scoring	2
2.0 BREEAM Detailed Assessment	3
2.1 Management.....	3
2.2 Health and Wellbeing.....	4
2.3 Energy	5
2.4 Transport	7
2.5 Water.....	7
2.6 Materials	8
2.7 Waste	9
2.8 Land Use and Ecology.....	10
2.9 Pollution.....	11
3.0 BREEAM Summary	12
 Appendix A Complete BREEAM Credit Breakdown	

Executive Summary

Precis are seeking full planning consent for the development of their Access Self-Storage facility at 62 Portman Road, Reading. The development comprises of an extension to the self-storage areas and provision of new office accommodation.

This report documents the environmental sustainability considerations that have been incorporated into the design of the proposed development, measures for contractors involved in the construction of the development, and initiatives relating to the eventual management and operation of the completed development, using the BREEAM pre-assessment process.

The BRE BREEAM Pre-Assessment Estimator tool has then been used to predict the rating the scheme will achieve at formal assessment stage. The formal design stage BREEAM assessment and certification will take place, and can only take place, later in the design process when all evidential documentation has been produced and can be provided.

Due to the nature of the commercial areas being provided, being primary storage areas with smaller areas of associated serviced-office provision, the extent to which some sustainability features could be incorporated, as would be required of high BREEAM ratings, is somewhat limited. However, based on the current design assumptions, it is anticipated that the scheme would achieve a score of **56.06%**, a BREEAM Very Good rating. This is considered an appropriate score for this development due to the relatively small scale of the applicable areas.

1.0 BREEAM

1.1 BREEAM Overview

BREEAM is a voluntary scheme that aims to quantify and reduce the environmental burdens of buildings by rewarding those designs that take positive steps to minimise their environmental impacts. Foreman Roberts were commissioned to carry out a pre-assessment of the development, based on the scheme BREEAM New Construction 2014.

The credits achievable under BREEAM are grouped within the following categories:

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

The assessment process results in a report covering the issues assessed together with a formal certification giving a rating of PASS, GOOD, VERY GOOD or EXCELLENT.

1.2 BREEAM Scoring

Within each of the BREEAM categories outlined above, there are a number of credit requirements that reflect the options available to designers and managers of buildings.

An environmental weighting is applied to the scores achieved under each category, as shown below, in order to calculate the final BREEAM score. The weighting factors have been derived from consensus based research with various groups such as government, material suppliers and lobbyists. This research was carried out by BRE to establish the relative importance of each environmental issue.

Issue Category	Issue Weighting
Management	12%
Health and Wellbeing	15%
Energy	19%
Transport	8%
Water	6%
Materials	12.5%
Waste	7.5%
Land Use and Ecology	10%
Pollution	10%

Rating	Score
Pass	25
Good	40
Very Good	55
Excellent	70

2.0 BREEAM Detailed Assessment

The following section summarises each of the credit requirements, and comments as to what is achieved by the current design, or what is reasonable to be expected of the design as it moves forward.

The full BREEAM assessment, along with the full breakdown of the credit requirements is provided within the Appendix of this report.

2.1 Management

Man 01 Project brief and design

The project delivery stakeholders have met to identify and define their roles, responsibilities and contributions for each of the key phases of project delivery.

Stakeholder consultation has been undertaken and the contributions and outcomes have been considered within the design.

4 of 4 credits to be achieved

Man 02 Life Cycle Costing and Service Life Planning.

Because of the relatively small scale of the development it is not anticipate that life cycle cost and service life planning will be undertaken.

Credit not sought

Man 03 Responsible Construction Practices

There will be a commitment to manage the construction site in an environmentally and socially considerate, responsible and accountable manner. The principal contractor will therefore operate an environmental management system (EMS) covering their main operations e.g. ISO 14001/EMAS or equivalent standard. The principal contractor will also implement best practice pollution prevention policies.

A Sustainability Champion will be appointed to monitor the project to ensure ongoing compliance the BREEAM target.

The principle contractor will comply with and achieve formal certification under the Considerate Constructors Scheme (or other compliant organisation) with a CCS score of between 35 and 39 achieved. This will be written into the employers requirements.

6 of 6 credits to be achieved

Man 04 Commissioning and Handover

Appropriate commissioning and testing will be undertaken in accordance with appropriate standards. An appropriate project team member will be appointed to monitor and programme pre-commissioning, commissioning, testing and, where necessary, re-commissioning activities on behalf of the client. A specialist commissioning manager will also be appointed during the design stage (by either the client or the principal contractor).

A Building User Guide (BUG) will be developed prior to handover for distribution to the building occupiers and premises managers.

The credit for a thermographic survey to be undertaken has not been taken since it is inappropriate to the scale of the development.

3 of 4 credits to be achieved

Man 05 Aftercare

There will be operational infrastructure and resources in place to provide aftercare support to the building occupier(s). This will include the collection and monitoring of energy and water consumption data for a minimum of 12 months, once the building is occupied. This is done to facilitate analysis of discrepancies between actual and predicted performance, with a view to adjusting systems and/or user behaviours accordingly.

Seasonal commissioning activities will be completed over a minimum 12 month period, once the building becomes substantially occupied.

The client will make a commitment to carry out a post occupancy evaluation (POE) exercise one year after initial building occupation. This is done to gain in-use performance feedback from building users to inform operational processes, including re-commissioning activities, and maintain or improve productivity, health, safety and comfort. The POE will be carried out by an independent party.

3 of 3 credits to be achieved

2.2 Health and Wellbeing

Hea 01 Visual Comfort

The criteria ensures that daylighting, artificial lighting and occupant controls are considered at the design stage to ensure best practice visual performance and comfort for building occupants.

Good levels of daylighting will be achieved in the offices due to their shallow depth therefore the daylighting credit is taken, as is the credit for views out.

Internal lighting in all relevant areas of the building will be designed to provide an illuminance (lux) level appropriate to the tasks undertaken, accounting for building user concentration and comfort levels. A lighting design strategy that provides illuminance levels in accordance with the CIBSE Code for Lighting 2012 and any other relevant industry standard, would meet the requirements.

All external lighting located within the construction zone will be designed to provide illuminance levels in accordance with relevant industry standards that enable users to perform outdoor visual tasks efficiently and accurately, especially during the night. BS5489-1:2013 and 12464-2:2014 are the required design standards.

4 of 4 credits to be achieved

Hea 02 Indoor Air Quality

These credits require the completion of an indoor air quality plan which considers dilution, control and removal of contaminant sources. Air intakes need to be positioned such as ingress of external pollutants are avoided, i.e. 20m from external sources of pollution or 10m from the buildings exhausts.

Further credits are achieved for paints and varnishes meeting VOC criteria and Formaldehyde and total volatile organic compound (TVOC) concentrations.

Due to the relatively small scale of the development, these credits are not currently sought but will be reviewed as the design progresses.

Credits not sought

Hea 03 Safe containment in laboratories

Not applicable to this assessment.

Hea 04 Thermal comfort

The completion of thermal modelling is not appropriate to the scale of the development; therefore this credit is not sought.

Credit not sought

Hea 05 Acoustic performance

The awarding of the credit requires the appointment of a suitable qualified acoustician to provide early stage advice on external noise sources affecting the development, and achieving high levels of acoustic performance internally within the building, demonstrated with suitable pre-completion testing.

Indoor ambient noise levels would need to comply with the “good practice” criteria of BS8233:1999, Tables 5 & 6. It is expected that this criteria will be met, and that the appropriate acoustician will be appointed at the relevant time.

3 of 3 credits to be achieved

Hea 06 Safety and Security

Measures are required that promote low risk, safe and secure access to and use of the building, including dedicated cycle lanes, footpaths, drop-off areas, pedestrian crossings and provision for delivery vehicles all with adequate lighting.

The second credit is achieved through consultation with suitably qualified security consultant (prior to RIBA stage C) and implementation of their recommendations.

Consultation with a Suitably Qualified Security Specialist (SQSS) will be undertaken which enables the second of the two credits to be achieved.

2 of 2 credits to be achieved

2.3 Energy

Ene 01 Reduction of CO₂ Emissions

A Building Regulations 2013 Part L calculation is required to calculate available credits. Up to 12 credits available. As indicated by the Energy Statement which accompanies the planning application, the non-residential aspect of the development will target at least 3 of the available 12 credits here.

3 of 12 credits to be achieved

Ene 02 Energy Monitoring

Separate accessible energy sub-meters, labelled with the end energy consuming use, will be provided for the following systems (where present) to achieve the credits:

- a. Space Heating
- b. Domestic Hot Water
- c. Humidification
- d. Cooling
- e. Fans (major)
- f. Lighting
- g. Small Power (lighting and small power can be on the same sub-meter where supplies are taken at each floor/department).
- h. Other major energy-consuming items where appropriate.

2 of 2 credits to be achieved

Ene 03 External lighting

External and communal lighting will be specified with dedicated energy efficient fittings. These will be controlled through time switch and/or daylight sensors to prevent operation during daylight hours, in order for the credit to be taken.

1 of 1 credits to be achieved

Ene 04 Low Carbon Design

A feasibility study has been carried out by an energy specialist to establish the most appropriate recognised local (on-site or near-site) low or zero carbon (LZC) energy source(s) for the building.

A local LZC technology/technologies has been specified for the building in line with the recommendations of this feasibility study and this method of supply results in a meaningful reduction in regulated carbon dioxide (CO₂) emissions.

1 of 3 credits to be achieved

Ene 05 Energy Efficient Cold Storage

Not applicable to this assessment. Criteria not applied.

Ene 06 Energy Efficient Transport Systems

The criteria recognises and encourages the specification of energy-efficient transportation systems. An analysis of the transportation demand and usage patterns for the building will be carried out to determine the optimum number and size of the lifts. This analysis will include estimates of energy consumption for the options, with the system with the lowest energy consumption specified.

The second credit is then achieved if three of the following energy-efficient features are specified:

- a. The lift operates in stand-by condition during off-peak periods.
- b. The lift uses energy-efficient lighting and display lighting.
- c. The use of variable-speed, variable-voltage, variable-frequency (VVVF) control of the drive motor.
- d. The use of regenerative drive units.

All three credits will be sought.

3 of 3 credits to be achieved

Ene 07 Energy Efficient Laboratory Systems

Not applicable to this assessment. Criteria not applied.

Ene 08 Energy Efficient Equipment

To achieve the credits the following equipment will have to have an Energy Star rating OR have been procured in accordance with the Government Buying Standards:

1. Office equipment
2. Other small powered equipment
3. Supplementary electric heating.

Since the offices are of a speculative nature it will not be possible to apply these credit criteria.

Credits not sought

Ene 09 Drying Space

Not applicable to this assessment. Criteria not applied.

2.4 Transport

Tra 01 Public Transport Accessibility

Credits are awarded on a sliding scale based on the assessed buildings' accessibility to the public transport network, using the Accessibility Index of the BREEAM Guidance Notes.

The Accessibility Index is based upon:

- a. The distance (m) from the main building entrance to each compliant public transport node
- b. The public transport type serving the compliant node e.g. bus or rail
- c. The average number of services stopping per hour at each compliant node during the standard operating hours of the building for a typical day.

It is currently estimated that just one of the available credits is achievable here, this will be confirmed by a transport assessment.

1 of 3 credits to be achieved

Tra 02 Proximity to Amenities

This criteria is aimed at encouraging and rewarding a building that is located in close proximity to local amenities, thereby reducing the need for extended travel or multiple trips.

The development is located close to various local amenities, such that this credit can be achieved.

1 of 1 credit to be achieved

Tra 03 Cyclist Facilities

Compliant cycle storage spaces that meet the needs of the building users and public users will be provided. Cycle spaces will be covered, have appropriate spacing, be overlooked by an occupied building or the main entrance to the building, and have adequate lighting.

It is not anticipated that cyclist facilities (showers, lockers, etc) will be provided. Therefore this additional credit is not currently sought.

1 of 2 credits to be achieved

Tra 04 Maximum Car Parking Capacity

This criteria is aimed at encouraging the use of alternative means of transport to the building other than the private car.

The number of car parking spaces will exceed 1 space per 4 building users; therefore the credits cannot be taken here.

Credits not sought

Tra 05 Travel Plan

A travel plan will be developed, tailored to the specific needs of the building users, and will be used to steer the design.

1 of 1 credit to be achieved

2.5 Water

Wat 01 Water Consumption

At this time of assessment it has been taken that the specification of efficient sanitary appliances should result in 25% improvement over the notional baseline performance using the BREEAM Wat 01 calculator. This will be set as a minimum requirement.

2 of 5 credits to be achieved

Wat 02 Water Monitoring

Water consumption monitoring, with a pulsed output for connection to any future BMS will be specified to all mains supplies to the building and water-consuming plant using 10% or more of the buildings total water demand.

1 of 1 credit to be achieved

Wat 03 Water Leak Detection and Prevention

A leak detection system will be specified capable of detecting a major water leak on the mains supply within the building, this system being audible when activated, able to identify different flow and therefore leakage rates, and programmable to suit occupiers water consumption criteria.

Water supply to toilet areas will be specified with flow control devices to ensure water is supplied only when needed.

2 of 2 credits to be achieved

Wat 04 Water Efficient Equipment

The design team has identified all unregulated water demands that could be realistically mitigated or reduced. Since no irrigation system will be provided, the credit can be achieved here.

1 of 1 credit to be achieved

2.6 Materials

Mat 01 Life Cycle Impacts

BREEAM credits are awarded on the basis of the building's quantified environmental life cycle impact. BREEAM Mat 1 calculator is used to assess the points achieved under each assessed element (external walls, windows, roof, upper floor slab, internal walls and floor finishes/coverings). A conservative estimate of 1 of the 2 credits being achieved is taken at this time.

1 of 2 credits to be achieved

Mat 02 Hard Landscaping and Boundary Protection

The credit requires at least 80% of all external hard landscaping and boundary protection to achieve A or A+ ratings, as defined in the Green Guide to Specification in order for this credit to be achieved. It is likely that this will be achievable; therefore this credit is taken.

1 of 1 credit to be achieved

Mat 03 Responsible Sourcing of Materials

The principal contractor will provide a sustainable procurement plan from which he will source materials for the project. Credits are awarded based on the responsible sourcing of materials for key building elements, with the number of credits awarded based upon the percentage of points achieved.

At this stage it is assumed that the contractor will include the provision for at least one of the available 3 credits under part b: responsible sourcing of materials, of the credit criteria.

All timber used on the project will be sourced in accordance with the UK Governments Procurement Policy.

2 of 4 credits to be achieved

Mat 04 Insulation

Thermal insulation products (including materials used for external walls, ground floor, roof and building services) will be specified such that an Insulation Index of 2 or greater is achieved when using the BREEAM Mat 04 calculator.

1 of 1 credit to be achieved

Mat 05 Designing for Robustness

Materials will be specified, and protection provided so as to protect vulnerable parts of the building such as areas exposed to high pedestrian traffic, vehicular and trolley movements, therefore minimising the frequency of replacement or repair.

1 of 1 credit to be achieved

Mat 06 Material Efficiency

Credit not sought due to the relatively small scale of the development.

1 of 1 credit to be achieved

2.7 Waste**Wst 01 Construction Waste Management**

Credits are available where the contractor demonstrates that the amount of non-hazardous construction waste, in m³/100m² (gross internal floor area), generated on site by the development is the same as or better than good or best practice levels.

2 of the available 3 credits have currently been taken which requires the amount of waste generated per 100m² of gross internal floor area of less than 7.5m³ (or 6.5 tonnes).

At least 70% by volume (80%) by tonnage of non-demolition non-hazardous construction waste generated by the project will be diverted from landfill and will achieve the additional credit under part b of the credit criteria.

3 of 4 credits to be achieved

Wst 02 Recycled Aggregates

The percentage of high grade aggregates that are recycled or secondary aggregate, must meet the minimum % levels (by weight or volume) to contribute to the total amount of recycled or secondary aggregate in order to achieve this credit.

The total amount of recycled or secondary aggregate specified must be greater than 25% (by weight or volume) of the total high grade aggregate specified for the project.

It can prove difficult to achieve these credit criteria, therefore this credit is not currently taken at this time.

Credit not sought

Wst 03 Operational Waste

A central dedicated space will be provided for the storage of the building's operational recyclable waste streams, clearly labelled, accessible to all staff and of appropriate capacity, such that the credit can be achieved.

1 of 1 credits to be achieved

Wst 04 Speculative Floor and Ceiling Finishes

Not applicable to this assessment

Wst 05 Adaption to Climate Change

The credit criteria requires a climate change adaptation strategy appraisal for structural and fabric resilience by the end of Concept Design (RIBA Stage 2 or equivalent). Undertaking such an appraisal is not appropriate for the scale of the development.

Credit not sought

Wst 06 Functional Adaptability

The credit criteria requires a building-specific functional adaptation strategy study undertaken by the client and design team by Concept Design (RIBA Stage 2 or equivalent), which includes recommendations for measures to be incorporated to facilitate future adaptation. Undertaking such an appraisal is not appropriate for the scale of the development.

Credit not sought

2.8 Land Use and Ecology

LE 01 Re-use of Land

At least 75% of the proposed extension is on land that was previously occupied by buildings and hard land-scaping, therefore the credit criteria is met.

A further credit is achieved if the site is considered to be contaminated and the required remediation has taken place, however, the site cannot be considered to be contaminated.

1 of 2 credits to be achieved

LE 02 Ecological Value of Site and Protection of Ecological Features

The sites construction zone is defined as land of low ecological value, and any existing features of ecological value that will require protection from damage during site preparation and construction works will be. Therefore the credit would be achieved.

2 of 2 credits to be achieved

LE 03 Minimising Impact on Existing Site Ecology

The existing site is of low ecological value, and the change in ecological value of the site will be less than zero.

2 of 2 credits to be achieved

LE 04 Enhancing Site Ecology

Credits are achieved if action is taken to maintain and enhance the ecological value of the site as a result of development.

A suitably qualified ecologist will be appointed to report on enhancing and protecting the ecology of the site, and the general recommendations of the report will be implemented.

Although it is anticipated that the enhancement and protection recommendations made by the suitably qualified ecologist will be met, the second credit is not taken at this time until their report is completed.

1 of 2 credits to be achieved

LE 05 Long Term Impact on Biodiversity

A suitably qualified ecologist will be appointed and will confirm that all relevant UK and EU legislation relating to protection and enhancement of ecology will be complied with during the

design and construction process, and will produce a landscape and habitat management plan covering at least the first five years after project completion.

In addition, the following elements of the 'additional criteria' will be provided:

- The principal contractor will nominate a 'biodiversity Champion' who will ensure detrimental impacts on site biodiversity are minimised.
- He will record actions taken to protect biodiversity and monitor their effectiveness.
- New ecologically valuable habitat, appropriate to the local area will be created.

2 of 2 credits to be achieved

2.9 Pollution

Pol 01 Impact of Refrigerants

Due to the type of cooling system utilised (VRF) it will not be possible to provide equipment which uses the refrigerant types in order to achieve this credit, nor will a suitable refrigerant leak detection system be able to be provided, therefore these credits are not sought.

Credits not sought.

Pol 02 NO_x Emissions

Due to the use of air source heat pumps to heat the office areas, and therefore the heat medium being electricity which has high relative NO_x emissions associated, these credits are not achievable.

1 of 3 credits to be achieved

Pol 03 Surface Water Run-off

The development is situated in a flood zone that is defined as having a low annual probability of flooding. Therefore the full 2 credits available under part a of the credit criteria are met.

A code compliant site specific Flood Risk Assessment (FRA) will be commissioned in order to achieve additional credits within this heading and to detail the actual/likely annual probability of flooding assessed for the site, and the provision of drainage measures to ensure peak rate of run-off is no greater for the developed site than for the pre-developed site.

A conservative estimate of 1 of the available credits under part b of the criteria being achieved has been taken at this stage of the design.

3 of 5 credits to be achieved

Pol 04 Reduction of Night Time Light Pollution

Any external lighting design will be in compliance with the guidance in the Institution of Lighting Engineers (ILE) Guidance notes for the reduction of obtrusive light, 2005, and facilities will be provided to control external and security lighting between the hours of 2300 and 0700 hrs.

1 of 1 credit to be achieved

Pol 05 Noise Attenuation

The noise level from the proposed site/building, as measured in the locality of the nearest or most exposed noise sensitive development, will be a difference no greater than +5dB during the day (07:00 to 23:00) and +3dB at night (23:00 to 07:00) compared to the background noise level.

1 of 1 credit to be achieved

3.0 BREEAM Summary

BREEAM 2014 New Construction Assessment Report: Rating & Key Performance Indicators

Overall Indicative Building Performance

Building Name	Access Self-Storage Reading
Indicative Building Score	56.06%
Indicative BREEAM Rating	Very Good

Summary of Indicative Building Performance by Environmental Section and Assessment Issue

	Credits Available	Indicative Credits Achieved	Indicative Contribution to Score
Management			
Man 01 Project Brief and Design	4.0	4.0	2.29%
Man 02 Life Cycle Cost and Service Life Planning	4.0	0.0	0.00%
Man 03 Responsible Construction Practices	6.0	6.0	3.43%
Man 04 Commissioning and Handover	4.0	3.0	1.71%
Man 05 Aftercare	3.0	3.0	1.71%
Total Indicative Environmental Section Performance	21.0	16.0	9.14%
Health & Wellbeing			
Hea 01 Visual Comfort	4.0	4.0	3.53%
Hea 02 Indoor Air Quality	5.0	0.0	0.00%
Hea 03 Safe Containment in Laboratories	N/A	N/A	N/A
Hea 04 Thermal Comfort	3.0	0.0	0.00%
Hea 05 Acoustic Performance	3.0	3.0	2.65%
Hea 06 Safety and Security	2.0	2.0	1.76%
Total Indicative Environmental Section Performance	17.0	9.0	7.94%
Energy			
Ene 01 Reduction of CO ₂ Emissions	12.0	3.0	1.96%
Ene 02 Energy Monitoring	2.0	2.0	1.30%
Ene 03 External Lighting	1.0	1.0	0.65%
Ene 04 Low Carbon Design	3.0	1.0	0.65%
Ene 05 Energy Efficient Cold Storage	N/A	N/A	N/A
Ene 06 Energy Efficient Transportation Systems	3.0	3.0	1.96%
Ene 07 Energy Efficient Laboratory Systems	N/A	N/A	N/A
Ene 08 Energy Efficient Equipment	2.0	0.0	0.00%
Ene 09 Drying Space	N/A	N/A	N/A
Total Indicative Environmental Section Performance	23.0	10.0	6.52%
Transport			
Tra 01 Public Transport Accessibility	5.0	1.0	0.82%
Tra 02 Proximity to Amenities	1.0	1.0	0.82%
Tra 03 Cyclist Facilities	2.0	1.0	0.82%
Tra 04 Maximum Car Parking Capacity	2.0	0.0	0.00%
Tra 05 Travel Plan	1.0	1.0	0.82%
Total Indicative Environmental Section Performance	11.0	4.0	3.27%
Water			
Wat 01 Water Consumption	5.0	2.0	1.56%
Wat 02 Water Monitoring	1.0	1.0	0.78%
Wat 03 Water Leak Detection and Prevention	2.0	2.0	1.56%
Wat 04 Water Efficient Equipment	1.0	1.0	0.78%
Total Indicative Environmental Section Performance	9.0	6.0	4.67%

Materials

Mat 01 Life Cycle Impacts	2.0	1.0	1.35%
Mat 02 Hard Landscaping and Boundary Protection	1.0	1.0	1.35%
Mat 03 Responsible Sourcing	4.0	2.0	2.70%
Mat 04 Insulation	1.0	1.0	1.35%
Mat 05 Designing for Durability and Resilience	1.0	1.0	1.35%
Mat 06 Material Efficiency	1.0	0.0	0.00%
Total Indicative Environmental Section Performance	10.0	6.0	8.10%

Waste

Wst 01 Construction Waste Management	4.0	3.0	3.19%
Wst 02 Recycled Aggregates	1.0	0.0	0.00%
Wst 03 Operational Waste	1.0	1.0	1.06%
Wst 04 Speculative Floor and Ceiling Finishes	N/A	N/A	N/A
Wst 05 Adaptation to Climate Change	1.0	0.0	0.00%
Wst 06 Functional Adaptability	1.0	0.0	0.00%
Total Indicative Environmental Section Performance	8.0	4.0	4.25%

Land Use and Ecology

LE 01 Site Selection	2.0	1.0	1.00%
LE 02 Ecological Value of Site and Protection of Ecological Features	2.0	2.0	2.00%
LE 03 Minimising Impact on Existing Site Ecology	2.0	2.0	2.00%
LE 04 Enhancing Site Ecology	2.0	1.0	1.00%
LE 05 Long Term Impact on Biodiversity	2.0	2.0	2.00%
Total Indicative Environmental Section Performance	10.0	8.0	8.00%

Pollution

Pol 01 Impact of Refrigerants	3.0	0.0	0.00%
Pol 02 NOx Emissions	2.0	0.0	0.00%
Pol 03 Surface Water Run Off	5.0	3.0	2.50%
Pol 04 Reduction of Night Time Light Pollution	1.0	1.0	0.83%
Pol 05 Reduction in Noise Pollution	1.0	1.0	0.83%
Total Indicative Environmental Section Performance	12.0	5.0	4.17%

Innovation

Inn 01 innovation	10.0	0.0	0.00%
Total Indicative Environmental Section Performance	10.0	0.0	0.00%

Appendix A Complete BREEAM Credit Breakdown

BREEAM 2014 New Construction Industrial/Storage					FOREMAN roberts
This is BREEAM 2014 new construction office pre-assessment. It is based on various assumptions following attendance at early stage design team meetings and workshops, and is issued for comment from the wider team. Once finalised, this pre-assessment will form the basis of the Sustainability Statement to be issued for planning.					
The guidance on credit requirements below is high level. The full technical guidance is available from the BRE which contains further clarifications on the credit requirements. This also lists the evidence that must be supplied for the full assessment report for BREEAM certification in order for the credits and a BREEAM rating to be achieved. This detailed guidance is available from www.breeam.org . The manual is free to download but registration is required. A PCR is required for BREEAM 2014, credits included in the design need to be monitored throughout construction to make sure that they are implemented at completion.					
Key (M) Minimum requirements for Excellent rating. Written by: Gary Saunders Approved by: Richard Pearce					
		05-Jul-16	Rev. 0		
		05-Jul-16			
Credit Reference	Credit Name	Available Credits	Targeted Credits	Credit Requirements	Comments
Management					
Each Credit is worth 0.57%					
Man 01	Project Brief and Design			First Credit: Stakeholder consultation (project delivery) Prior to completion of the Concept Design (RIBA Stage 2 or equivalent), the project delivery stakeholders have met to identify and define their roles, responsibilities and contributions for each of the key phases of project delivery. The project team demonstrate how the project delivery stakeholder contributions and the outcomes of the consultation process have influenced or changed the Initial Project Brief, including if appropriate, the Project Execution Plan, Communication Strategy, and the Concept Design. Second Credit: Stakeholder consultation (third party) Prior to completion of the Concept Design stage, all relevant third party stakeholders have been consulted by the design team and this covers the minimum consultation content. This consultation should have influenced or changed the Initial Project Brief and Concept Design. Feedback to all parties is also required.	
	Part A: Stakeholder Consultation	2	2		These credits should be achievable and will be sought.
	Part B: Sustainability Champion	2	2	One credit - Sustainability Champion (design) A Sustainability Champion has been appointed to facilitate the setting and achievement of BREEAM performance target(s) for the project. During the feasibility stage (Stage 1, Preparation and Brief stage, as defined by the RIBA Plan of Work 2013 or equivalent). The defined BREEAM performance target(s) has been formally agreed at RIBA Stage 2 or equivalent. This must be demonstrated via the BREEAM Assessor's design stage assessment report. One credit - Sustainability Champion (monitoring progress) The Sustainability Champion design stage credit has been achieved. A Sustainability Champion is appointed to monitor progress against the agreed BREEAM performance target(s) throughout the design process and formally report progress to the client and design team.	BREEAM AP will be involved through the whole process. Both credits have been taken as being achievable.
Man 02	Life Cycle Cost & Service Life Planning				
	Elemental life cycle cost (LCC)	2	0	An elemental life cycle cost (LCC) analysis has been carried out at Process Stage 2 (RIBA Stage 2) together with any design option appraisals in line with 'Standardised method of life cycle costing for construction procurement' PD 156865:2008 The LCC is to cover the building's basic structure and envelope over multiple cash flow scenarios.	These credits will not be sought
	Component level LCC Plan	1	0	A component level LCC plan has been developed by the end of Process Stage 4 (equivalent to Technical Design – RIBA Stage 4) in line with PD 156865:2008. Components are: a. Envelope, e.g. cladding, windows, and/or roofing b. Services, e.g. heat source cooling source, and/or controls c. Finishes, e.g. walls, floors and/or ceilings d. External spaces, e.g. alternative hard landscaping, boundary protection.	These credits will not be sought
	Capital cost reporting	1	0	Report the capital cost for the building in pounds per square metre (£/m2), via the BREEAM Assessment Scoring and Reporting tool. Note: this will remain confidential.	These credits will not be sought
Man 03	Responsible Construction Practices				
	Pre-Requisite	-	-	All timber and timber based products used on the project are 'legally harvested and traded timber'.	This is a pre-requisite so if required in order to achieve actual credits.
	Part A: Environmental Management	1	1	The principal contractor operates an environmental management system (EMS) covering their main operations e.g. ISO 14001/EMAS or equivalent standard. The principal contractor implements best practice pollution prevention policies.	It is expected that any contractor on this project would operate an ISO14001 standard, so this credit would be achieved.
	Sustainability Champion (Construction)	1	1	A Sustainability Champion is appointed to monitor the project to ensure ongoing compliance the BREEAM target. The Sustainability Champion will ideally be site based or will visit the site regularly. Can either be BREEAM AP or BRE Site Sustainability Manager Membership Scheme.	This credit will be sought and included in any employers requirements.
	Part B: Considerate Construction	2	2	Where the principal contractor has registered with Considerate Constructors. One credit: a CCS score between 25 and 34 Two credits: a CCS score between 35 and 39 Exemplary level performance: a CCS score of 40 or more.	It is expected that suitable contractors would be able to achieve between 35 and 39 points for the 2 credits.
	Part C: Monitoring of Construction Site Impacts	2	2	Responsibility has been assigned to an individual(s) for monitoring, recording and reporting energy use, water consumption (first credit) and transportation construction materials and waste (second credit) throughout the construction.	It is expected that suitable contractors would be able to achieve the requirements of these credits.

Commissioning and Handover					
Man 04	Part A: Commissioning and testing schedule and responsibilities	1	1	A schedule of commissioning and testing is prepared. Commissioning activities will be conducted in accordance with, current Building Regulations, BSRIA and CIBSE guidelines and/or other appropriate standards. Where a building management system (BMS) is specified, specialist commissioning is required in addition to the above. An appropriate project team member is appointed to monitor and programme pre-commissioning, commissioning, testing and, where necessary, re-commissioning activities on behalf of the client. The principal contractor accounts for the commissioning and testing programme, responsibilities and criteria within their budget and main programme of works, allowing for the required time to complete all commissioning and testing activities prior to handover.	The credit will be sought
	Part B: - Commissioning building services	1	1	The above credit is achieved. A specialist commissioning manager is appointed during the design stage (by either the client or the principal contractor). Responsibilities include: - Giving advice on suitability for ease of commissioning. - Commissioning management. - Management of commissioning, performance testing and handover/post-handover stages.	The credit will be sought
	Part C: Testing and inspecting building fabric	1	0	The above credit is achieved. Thermographic survey and airtightness testing is carried out to assess the integrity of the building fabric, including continuity of insulation, avoidance of thermal bridging and air leakage paths. Any defects identified are rectified prior to building handover and close out.	This credits will not be sought
	Part D: Handover (M)	1	1	A Building User Guide (BUG) is developed prior to handover for distribution to the building occupiers and premises managers.	The credit will be sought
Aftercare					
Man 05	Part A: Aftercare support	1	1	There is (or will be) operational infrastructure and resources in place to provide aftercare support to the building occupier(s). There is (or will be) operational infrastructure and resources in place to co-ordinate the collection and monitoring of energy and water consumption data for a minimum of 12 months, once the building is occupied. This is done to facilitate analysis of discrepancies between actual and predicted performance, with a view to adjusting systems and/or user behaviours accordingly.	The credit will be sought
	Part B: Seasonal commissioning	1	1	Seasonal commissioning activities will be completed over a minimum 12 month period, once the building becomes substantially occupied:	The credit will be sought
	Part C: Post Occupancy Evaluation	1	1	The client or building occupier makes a commitment to carry out a post occupancy evaluation (POE) exercise one year after initial building occupation. This is done to gain in-use performance feedback from building users to inform operational processes, including re-commissioning activities, and maintain or improve productivity, health, safety and comfort. The POE is carried out by an independent party	The credit will be sought
	Number of Credits	21	16		
Percentage		12	9.14		

Health & Well-being					
Each Credit is worth 0.88%					
Visual Comfort					
Hea 01	Part A: Glare Control	1	1	The potential for disabling glare has been designed out of all relevant building areas using a glare control strategy, either through building form and layout and/or building design measures. The glare control strategy avoids increasing lighting energy consumption.	Glare control will be provided to the office areas to allow this credit to be achieved.
	Part B: Daylighting	1	1	All occupied spaces, unless indicated in Relevant definitions to have the following: Average daylight factor required 2% for 80% of floor area and either A or B & C below: A. A uniformity ratio of at least 0.3 or a minimum point daylight factor of at least 0.3 times the relevant average daylight factor. Spaces with glazed roofs, such as atria, must achieve a uniformity ratio of at least 0.7 or a minimum point daylight factor of at least 0.7 times the relevant average daylight factor value. B. At least 80% of the room has a view of sky from desk or table top height (0.7m). C. The room depth criterion is satisfied. Or 80% of occupied spaces to have at least 300lux for 2000 hours per year (minimum at worst lit point of 90 lux). Additional innovation credits available for exemplary performance.	Since the offices are not deep plan the required levels of daylighting will likely be achieved.
	Part C: View Out	1	1	95% of the floor area in relevant building areas is within 7m of a wall which has a window or permanent opening that provides an adequate view out. The window/opening must be ≥ 20% of the surrounding wall area.	Since the offices are not deep plan the required levels of daylighting will likely be achieved.
	Part D: Internal and External Lighting	1	1	Internal lighting Internal lighting in all relevant areas of the building is designed to provide an illuminance (lux) level appropriate to the tasks undertaken, accounting for building user concentration and comfort levels. A lighting design strategy that provides illuminance levels in accordance with the CIBSE Code for Lighting 2012 and any other relevant industry standard, would meet the requirements. External lighting All external lighting located within the construction zone is designed to provide illuminance levels in accordance with relevant industry standards that enable users to perform outdoor visual tasks efficiently and accurately, especially during the night. BS5489-1:2013 and 12464-2:2014 are the required design standards.	Credit will be sought

Hea 02	Indoor Air Quality				
	Part A: - Indoor air quality (IAQ) plan	1	0	An indoor air quality plan will need to be produced	Not being sought
	Part B: Ventilation	1	0	The building has been designed to minimise the concentration and recirculation of pollutants in the building as follows: Provide fresh air into the building in accordance with the criteria of the relevant standard for ventilation. Design ventilation pathways to minimise the build-up of air pollutants in the building, such as: In an air conditioned and mixed mode buildings/spaces: The building's air intakes and exhausts are over 10m apart and intakes are over 20m from sources of external pollution.	Credit not being sought.
	Part C: Volatile Organic Compounds (products)	1	0	All decorative paints and varnishes specified meet the criteria for testing requirements and VOC levels. Additionally, 5 of the following must meet BREEAM requirements for VOC testing and levels: wood panels, timber structures, wood flooring, resilient textile and laminated floor coverings, suspended ceiling tiles, flooring adhesives and wall coverings. Additional innovation credits available for exemplary performance which includes specifying all of the above products in accordance with the BREEAM requirements and testing of formaldehyde emission levels.	Credit not being sought.
	Part D: Volatile Organic Compounds (post construction)	1	0	The formaldehyde concentration level is measured post construction via testing and must meet minimum targets set by the credit criteria. If the levels are found to exceed these targets the project team must confirm measures that have or will be taken, in accordance with the IAQ plan to reduce the levels to the required limits.	Credit not being sought.
Hea 04	Part E: Adaptability - Potential for natural ventilation	1	0	The building ventilation strategy is designed to be flexible and adaptable to potential building occupant needs and climatic scenarios e.g. natural ventilation	Although the offices will utilise natural ventilation, since the previous credits are not being sought, neither will this one.
	Thermal Comfort				
	Part A: Thermal Modelling	1	0	Thermal modelling has been carried out using software in accordance with CIBSE AM11 Building Energy and Environmental Modelling.	Credit not being sought.
	Part B: Adaptability for a Projected Climate Change Scenario	1	0	The thermal modelling demonstrates that the relevant requirements are achieved for a projected climate change environment e.g. CIBSE Guide A and CIBSE TMS2	Credit not being sought.
Hea 05	Part C: Thermal Zoning and Controls	1	0	Thermal modelling is carried out. The thermal modelling analysis has informed the temperature control strategy for the building and its users. The strategy for proposed heating/cooling system(s) demonstrates that it has informed the heating and cooling strategy. This can include zones with occupant control required for these zones which should be on based on discussions with the end user or alternatively building type design guidance.	Credit not being sought.
	Acoustic performance				
Hea 06	Acoustic performance	3	3	The building meets the appropriate acoustic performance standards and testing requirements. One credit for the following Internal indoor ambient noise levels Achieve indoor ambient noise levels that comply with the design ranges (Section 7 of BS 8233:2014). Note: Post completion testing is required.	An acoustician will be appointed and provide their recommendations with these credits will be sought by the design.
	Safety & Security				
Hea 06	Part A: Safe Access	1	1	Where external site areas form part of the assessed development the following apply: Dedicated cycle paths provide direct access from the site entrance(s) to any cycle storage provided, without the need to deviate from the cycle path. Footpaths on-site provide direct access from the site entrance(s) to the building entrance(s) and connect to public footpaths off-site. Drop-off areas are designed off/adjointing to the access road and provide direct access to pedestrian footpaths. Dedicated pedestrian crossings are provided where pedestrian routes cross vehicle access routes, and appropriate traffic calming measures are in place to slow traffic down at these crossing points. The lighting for access roads, pedestrian routes and cycle lanes is designed in accordance with BS 5489-1:2013 Lighting of roads and public amenity areas. Where vehicle delivery access and drop-off areas form part of the assessed development, similar design criteria to the above applies.	Credits will be sought by the design.
	Part B: Security of Site and Building	1	1	A Suitably Qualified Security Specialist (SQSS) conducts an evidence-based Security Needs Assessment (SNA) during or prior to Concept Design (RIBA Stage 2 or equivalent) and provides a set of recommendations which are implemented.	The appropriate consultations will be undertaken with these credits then sought by the design.
	Number of Credits	17	9		
	Percentage	15	7.94		

Energy					
Each Credit is worth 0.65%					
Ene 01	Reduction of Energy Use and Carbon Emissions				
	Energy Performance (M)	12	3	Up to 12 credits Building Regulations 2013 Part L calculation required to calculate available credits. Up to 12 credits available. 5 additional innovation credits available for exemplary performance	SBEM Calculations for the building show that 3 credits can be achieved here.
Ene 02	Energy Monitoring				
	Part A: Sub-metering of Major Energy Consumption Systems (M)	1	1	Energy metering systems are installed that enable at least 90% of the estimated annual energy consumption of each fuel to be assigned to the various end-use categories of energy consuming systems.	The credit will be sought by the design
Ene 03	Part B: Sub-metering of High Energy Load and Tenancy Areas	1	1	An accessible energy monitoring and management system or separate accessible energy sub-meters with pulsed outputs covering a significant majority of the energy supply to relevant function areas or departments within the building.	The credit will be sought by the design
	External Lighting				
Ene 03	External Lighting	1	1	The building has been designed to operate without the need for external lighting OR The average initial luminous efficacy of the external light fittings within the construction zone is not less than 60 luminaire lumens per circuit Watt. All external light fittings are automatically controlled for prevention of operation during daylight hours and presence detection in areas of intermittent pedestrian traffic.	The credit will be sought by the design

Ene 04	Low Carbon Designs				
	Part A: Passive Design	1	0	The first credit within issue Hea 04 Thermal comfort has been achieved to demonstrate the building design can deliver appropriate thermal comfort levels in occupied spaces. The project team carries out an analysis of the proposed building design/development to influence decisions made during Concept Design stage (RIBA Stage 2 or equivalent) and identify opportunities for the implementation of passive design solutions that reduce demands for energy consuming building services. The building uses passive design measures to reduce the total heating, cooling, mechanical ventilation and lighting loads and energy consumption in line with the findings of the passive design analysis and the analysis demonstrates a meaningful reduction in the total energy demand as a result.	Due to the nature of the design, this credit will not be sought.
	Part B: Free Cooling	1	0	The passive design analysis credit is achieved. The passive design analysis carried out includes an analysis of free cooling and identifies opportunities for the implementation of free cooling solutions. The building uses free cooling strategies to reduce the cooling energy demand, i.e. it does not use active cooling.	Due to the nature of the design, this credit will not be sought.
	Part C: Low or Zero Carbon Technologies	1	1	A feasibility study has been carried out by the completion of the Concept Design stage (RIBA Stage 2) by an energy specialist to establish the most appropriate recognised local (on-site or near-site) low or zero carbon (LZC) energy source(s) for the building. A local LZC technology/technologies has been specified for the building in line with the recommendations of this feasibility study and this method of supply results in a meaningful reduction in regulated carbon dioxide (CO₂) emissions.	The credit will be sought by the completion of a feasibility study and the utilisation of PV on the development.
Ene 06	Energy Efficient Transportation Systems				
	Part A: Energy Consumption	1	1	An analysis of the transportation demand and usage patterns for the building has been carried out to determine the optimum number and size of lifts. The energy consumption has been calculated in accordance with BS EN ISO 25745 and the transportation system with the lowest energy consumption is specified.	The required analysis will be undertaken to enable the credit to be achieved.
	Part B: Energy Efficient Features	2	2	The above credit is achieved. For each lift, the following three energy efficient features are specified: a. The lifts operate in a standby condition during off-peak periods. b. The lift car lighting and display lighting provides an average lamp efficacy, of >55 lamp lumens/circuit Watt. c. The lift uses a drive controller capable of variable speed, variable-voltage, and variable-frequency (VVVF) control of the drive motor. Where the use of regenerative drives is demonstrated to save energy, they are specified.	The required analysis will be undertaken to enable the credit to be achieved.
Ene 08	Energy Efficient Equipment				
	Energy Efficient Equipment	2	0	The building's unregulated energy consuming loads are identified and estimated. Demonstrate a meaningful reduction in the total annual unregulated energy Such as small power and plug-in equipment. To achieve the credits the following equipment will have to have an Energy Star rating OR have been procured in accordance with the Government Buying Standards: 1. Office equipment 2. Other small powered equipment 3. Supplementary electric heating.	Since restrictions on equipment cannot be imposed on the incoming tenants, this credit cannot be achieved.
		23	10		
		15	6.52		

Transport					
Each Credit is worth 0.82%					
Tra 01	Public Transport Accessibility				
	Accessibility Index	5	1	The public transport Accessibility Index (A) or PTAL rating for the assessed building is calculated and credits awarded based on this rating.	Further information will be required to determine the number of credits achievable, 1 of the 5 credits have been taken at this time due to the limited transport options to the development.
Tra 02	Proximity to Amenities				
	Proximity to Amenities	1	1	Where the building is located within close proximity of (500m), and accessible to, four of the following local amenities, with at least three of the cored amenities. Core amenities • Food outlet • ATM • Outdoor open space • Recreational/leisure facilities for sport/fitness Additional amenities • Public postal facilities • Community space • Pharmacy • Public Sector GP • Child care or school	The building is within 500m of the amenities required to achieve the credit.
Tra 03	Cyclist Facilities				
	Cycle Storage	2	1	One credit - Cycle storage Compliant cycle storage spaces that meet the needs of the building users and public users are installed. Cycle spaces will need to be covered, have appropriate spacing, be overlooked by an occupied building or the main entrance to the building, and have adequate lighting. One Credit - Cyclist facilities The above credit is achieved. At least two of the following are provided: a. Showers b. Changing facilities c. Lockers d. Drying spaces.	Cycle storage space will be being provided as part of the development in order to achieve the credits here. It is not anticipated that lockers, showers etc will be provided due to the shell nature of the development.
Tra 04	Maximum car parking capacity				
	Car parking capacity	2	0	One credit where the number of parking spaces is 1 per 5 building users Two credits where the number of building users is 1 per 6 building users.	Due to the extent of car-parking provided these credits will not be achieved.
Tra 05	Travel plan				
	Travel plan	1	1	A travel plan has been developed as part of the feasibility and design stages. The travel plan includes a package of measures to encourage the use of sustainable modes of transport and movement of people and goods during the building's operation and use. These measures are to be implemented.	A travel plan will be provided such that the credit can be achieved.
Number of Credits		11	4		
Percentage		9	3.27		

Water					
Each Credit is worth 0.78%					
Wat 01	Water Consumption			Up to five credits Up to 5 credits can be awarded for the reduction of potable water consumption for sanitary use. Credits are awarded based on an improvement over BRE benchmarks for water use specific to development types. The calculation covers: WCs, Urinals, Taps (wash basin and kitchen taps), Showers, Baths, Dishwashers, Washing machines. Additional innovation credit available for exemplary performance.	2 credits will be achieved here by the design.
	Water Consumption (M)	5	2		
Wat 02	Water Monitoring			The specification of a water meter on the mains water supply to each building. Water-consuming plant or building areas, consuming 10% or more of the building's total water demand, are either fitted with accessible sub-meters or have water monitoring equipment integral to the plant or area. Each meter (main and sub) has a pulsed output.	Water metering will be provided in order to achieve these credits.
	Water Monitoring (M)	1	1		
Wat 03	Water Leak Detection & Prevention			A leak detection system which is capable of detecting a major water leak on the mains water supply within the building and between the building and the utilities water meter is installed.	Suitably specified leak detection systems will be specified in order to achieve these credits.
	Part A: Leak Detection System	1	1		
	Part B: Flow Control Devices			Flow control devices that regulate the supply of water to each WC area according to demand are installed (and therefore minimise water leaks and wastage from sanitary fittings).	Suitably specified leak detection systems will be specified in order to achieve these credits.
		1	1		
Wat 04	Water efficient equipment			The design team has identified all unregulated water demands that could be realistically mitigated or reduced. Such as water efficient irrigation systems or drought resistant planting.	Although there is an area of external planting, there will be no irrigation systems provided.
	Water Efficient Equipment	1	1		
Number of Credits		9	6		
Percentage		7	4.67		

Materials					
Each Credit is worth 1.35%					
Mat 01	Life Cycle Impacts			BREEAM awards credits on the basis of the building's quantified environmental life cycle impact through assessment of the main building elements, these are: -External walls -Windows -Roof -Upper floor slab -Floor finishes/ coverings These elements will be asessed by their Green Guide rating using the BRE Mat 01 calculator tool. Three additional innovation credits are available for exemplary performance.	A minimum of one credit will be targeted here.
	Life Cycle Impacts	2	1		
Mat 02	Hard landscaping & Boundary Protection			Where at least 80% of all external hard landscaping and 80% of all boundary protection (by area) in the construction zone achieves an A or A+ rating, as defined in the Green Guide to Specification.	Credit is thought to be achievable and will be sought.
Mat 03	Responsible Sourcing of Materials			All timber and timber based products used on the project are 'legally harvested and traded timber'. The principal contractor sources materials for the project in accordance with a documented sustainable procurement plan. These credits can be awarded where building materials are responsibly sourced in accordance with the BREEAM methodology. Materials sourced with FSC and BES 6001 certificates will comply.	Pre-requisite to be met. Credit is thought to be achievable and will be sought. One credit currently targeted, to be reviewed as design progresses.
	Pre-Requisite (M)	-	-		
	Part A: Sustainable Procurement Plan	1	1		
Mat 04	Insulation			Any new insulation specified for use within the following building elements must be assessed: a. External walls b. Ground floor c. Roof d. Building services. Insulation Index for the building fabric and services insulation is the same as or greater than 2.5	Credit is thought to be achievable and will be sought.
	Embodied Energy	1	1		
Mat 05	Designing for Durability and Resilience			Protecting vulnerable parts of the building from damage The building incorporates suitable durability and protection measures or design features/solutions to prevent damage to vulnerable parts of the internal and external building and landscaping elements. The relevant building elements incorporate appropriate design and specification measures to limit material degradation due to environmental factors. Protecting exposed parts of the building from material degradation Building elements incorporate appropriate design and specification measures to limit material degradation due to environmental factors. e.g. External walls and hard landscaping from solar radiation and vegetation.	Credit is achievable within the design and will be sought.
	Designing for Durability and Resilience	1	1		
Mat 06	Material Efficiency			Opportunities have been identified, and appropriate measures investigated and implemented, to optimise the use of materials in building design, procurement, construction, maintenance and end of life. The above is carried out by the design/construction team in consultation with the relevant parties at each of the following RIBA stages: a. Preparation and Brief b. Concept Design c. Developed Design d. Technical Design e. Construction.	Credit will not be sought.
	Material Efficiency	1	0		
Number of Credits		10	6		
Percentage		13.5	8.10		

Waste																								
Each Credit is worth 1.06%																								
Wst 01	Construction Site Waste Management																							
	Part A: Construction Resource Efficiency	3	2	Resource Management Plan (RMP) has been developed covering the non-hazardous waste related to on-site construction and dedicated off-site manufacture or fabrication (including demolition and excavation waste) generated by the building's design and construction. Note: where existing buildings on the site will be demolished, a pre-demolition audit must be undertaken. 1 Credit ≤ 13.3m³ or ≤ 11.1tonnes per 100m² 2 Credits ≤ 7.5m³ or ≤ 6.5tonnes per 100m² 3 Credits ≤ 3.4m³ or ≤ 3.2tonnes per 100m² It is usual for the principle contractor to target 2 of the available credits under construction resource efficiency.																				
	Part B: Diversion of Resources from Landfill	1	1	The following percentages of non-hazardous construction (on-site and off-site manufacture/fabrication in a dedicated facility), demolition and excavation waste (where applicable) generated by the project have been diverted from landfill: <table><tr><td>Type of waste</td><td>Volume</td><td>Tonnage</td></tr><tr><td>Non demolition</td><td>70%</td><td>80%</td></tr><tr><td>Demolition</td><td>80%</td><td>90%</td></tr></table> Additional innovation credit available for exemplary performance Exemplary level credit <table><tr><td>Type of waste</td><td>Volume</td><td>Tonnage</td></tr><tr><td>Non demolition</td><td>85%</td><td>90%</td></tr><tr><td>Demolition</td><td>85%</td><td>95%</td></tr><tr><td>Excavation</td><td>95%</td><td>95%</td></tr></table> It is usual for the principle contractor to target this credit.	Type of waste	Volume	Tonnage	Non demolition	70%	80%	Demolition	80%	90%	Type of waste	Volume	Tonnage	Non demolition	85%	90%	Demolition	85%	95%	Excavation	95%
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Non demolition	70%	80%																						
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Type of waste	Volume	Tonnage																						
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Demolition	85%	95%																						
Excavation	95%	95%																						
Wst 02	Recycled Aggregates																							
	Recycled Aggregates	1	0	The percentage of high grade aggregates that are recycled or secondary aggregate, must meet the minimum % levels (by weight or volume) to contribute to the total amount of recycled or secondary aggregate. The total amount of recycled or secondary aggregate specified must be greater than 25% (by weight or volume) of the total high grade aggregate specified for the project. The recycled or secondary aggregates are EITHER: a. Construction, demolition and excavation waste obtained on-site or off-site OR b. Secondary aggregates obtained from a non-construction post-consumer industrial by product source. Additional innovation credit available for exemplary performance. It can prove difficult to achieve the credit criteria, therefore this credit is not currently taken at this time - subject to further confirmation as the design progresses.																				
Wst 03	Operational Waste																							
	Operational Waste (M)	1	1	Dedicated space is provided for the segregation and storage of operational recyclable waste volumes generated by the assessed building/unit, its occupant(s) and activities. This space must be clearly labelled, accessible to building occupants or facilities operators, appropriate to the building type & size. This can be met by the design of the relevant areas, therefore one credit targeted.																				
Wst 04	Speculative Floor and Ceiling Finishes																							
	Speculative Floor and Ceiling Finishes	N/A	N/A	For tenanted areas (where the future occupant is not known), prior to full fit-out works, carpets, other floor finishes and ceiling finishes have been installed in a show area only. N/A to this type of building																				
Wst 05	Adaptation to Climate Change																							
	Structural and Fabric Resilience	1	0	Conduct a climate change adaptation strategy appraisal for structural and fabric resilience by the end of Concept Design (RIBA Stage 2 or equivalent), Additional innovation credit available for exemplary performance. A suitable climate change adaptation strategy appraisal would be required in order to achieve this credit, which we would consider to be excessive for such a scheme. Therefore the credit is not sought.																				
Wst 06	Functional Adaptability																							
	Functional Adaptability	1	0	A building-specific functional adaptation strategy study has been undertaken by the client and design team by Concept Design (RIBA Stage 2 or equivalent), which includes recommendations for measures to be incorporated to facilitate future adaptation. Functional adaptation measures have been adopted in the design by Technical Design stage (RIBA Stage 4 or equivalent) in accordance with the functional adaptation strategy recommendations, where practical and cost effective. We would suggest that it would be excessive to target this credit unless a higher rating is required.																				
	Number of Credits	8	4																					
	Percentage	8.5	4.25																					
Land Use & Ecology																								
Each Credit is worth 1%																								
LE 01	Site Selection																							
	Part A: Previously Occupied Land	1	1	At least 75% of the proposed development's footprint is on an area of land which has previously been occupied by industrial, commercial or domestic buildings or fixed surface infrastructure. At least 75 of site can be considered "previously developed land" therefore this credit will be achieved.																				
	Part B: Contaminated Land	1	0	A contaminated land specialist'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: a. The degree of contamination b. The contaminant sources/types c. The options for remediating sources of contamination which present an unacceptable risk. 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 specialist. It is not anticipated that the site can be classified as contaminated. Credit not targeted.																				
LE 02	Ecological Value of Site & Protection of Ecological																							
	Part A: Ecological Value of Site	1	1	Land within the construction zone is defined as 'land of low ecological value' using either: The BREEAM checklist for defining land of low ecological value. OR A Suitably Qualified Ecologist (SQE) who has identified the land as being of 'low ecological value' within an ecological assessment report, based on a site survey. It is likely that the site will be able to be classified of low ecological value. An ecology report will be provided that confirms the status of the site.																				
	Part B: Protection of Ecological Features	1	1	All existing features of ecological value within and surrounding the construction zone and site boundary area are adequately protected from damage during clearance, site preparation and construction activities in line with BS42020: 2013. In all cases, the principal contractor is required to construct ecological protection recommended by the SQE, prior to any preliminary site construction or preparation works (e.g. clearing of the site or erection of temporary site facilities). Any features of ecological value close to the new extension will be adequately protected such that this credit will be achieved.																				

LE 03	Minimising Impact on Existing Site Ecology				
	Change in Ecological Value (M)	2	2	Two credits - Change in ecological value greater than zero species One credit - Change in ecological no worse than minus nine species.	Ecology report will be provided that confirms that at the two credit can be achieved here due to no change in ecological value on the site.
LE 04	Enhancing Site Ecology				
	Part A: Ecologists Report and Recommendations	2	1	One credit - Ecologist's report and recommendations A suitably qualified ecologist (SQE) has been appointed by the client or their project representative by the end of the Preparation and Brief stage (RIBA Stage 1 or equivalent) to advise on enhancing the ecology of the site at an early stage. The SQE has provided an Ecology Report with appropriate recommendations which will be implemented in the final design and build. One credit - Increase in ecological value The first credit is met. The recommendations of the Ecology Report for the enhancement of site ecology have been implemented in the final design and build, and the SQE confirms that this will result in an increase in ecological value of the site, with an increase of six plant species or greater.	Ecology report will be provided and it is anticipated that one credit will be able to be achieved here.
LE 05	Long term impact on biodiversity	2	2	Suitably Qualified Ecologist (SQE) is appointed prior to commencement of activities on-site, they confirm that all relevant UK and EU legislation relating to the protection and enhancement of ecology has been complied with during the design and construction process. Landscape and habitat management plan is produced for the site. Up to 2 credits for implementing the ecologist recommendations such as protecting ecology on site, training the work force etc.	An ecologist will be appointed to provide the necessary information to achieve this credit. Two credit will be targeted as they should be achievable.
Number of Credits		10	8		
Percentage		10	8.00		

Pollution					
Each Credit is worth 0.83%					
Impact of refrigerants					
Pol 01	Pre-requisite	N/A	N/A	All systems (with electric compressors) must comply with the requirements of BS EN378:2008, similar applies to ammonia based systems.	N/A
	Impact of refrigerant	2	0	Two credits where the systems using refrigerants have Direct Effect Life Cycle CO2 equivalent emissions (DELCO2e) of ≤ 100kgCO2e/kW cooling/heating capacity or One credit Where the systems using refrigerants have Direct Effect Life Cycle CO2 equivalent emissions (DELCO2e) of ≤ 1000kgCO2e/kW cooling/heating capacity	Credits not achievable within the design
	Leak detection	1	0	Systems using refrigerants have a permanent automated refrigerant leak detection system installed. The system must be capable of automatically isolating and containing the remaining refrigerant.	Credits not achievable within the design
NOx Emissions					
Pol 02	NOx Emissions	2	0	Where the plant installed to meet the building's delivered heating and hot water demand has, under normal operating conditions, a NOx emission level as follows: ≤ 100 mg/kWh 1 credit ≤ 70 mg/kWh 2 credit ≤ 40 mg/kWh 3 credit	Due to the use of air source heat pumps to heat the office areas these credits are not achievable.
Surface Water Run-off					
Pol 03	Part A: Flood Risk	2	2	Two credits - Low flood risk Where a site-specific flood risk assessment (FRA) confirms the development is situated in a flood zone that is defined as having a low annual probability of flooding. The FRA must take all current and future sources of flooding into consideration. One credit - Medium/high flood risk Where a site-specific FRA confirms the development is situated 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. To increase the resilience and resistance of the development to flooding, one of the following must be achieved: a. The ground level of the building and access to both the building and the site, are designed to be at least 600mm above the design flood level of the flood zone. OR b. The final design of the building and the wider site reflects the recommendations made by an appropriate consultant.	A site specific FRA will be produced, however, at this stage it is assumed that the site is situated in a zone that is defined as having a low annual probability of flooding. Two credits targeted.
	Part B: Surface Water Run-Off	2	1	One credit The peak rate of run-off from the site to the watercourses is no greater for the developed site than it was for the pre-development site. One Credit Flooding will not occur in the event of a local drainage system failure. And Run-off volume is no greater than it would have been prior to the assessed site's development including allowances for climate change. Or Peak rate of run-off is reduced to -The pre-development 1-year peak flow rate; OR -The mean annual flow rate Qbar; OR -2L/s/ha.	A site specific FRA will be produced, however, one credit is taken at this time for the peak run-off being no greater for the developed site than was for the pre-developed site.
	Part C: Minimising Water Course Pollution	1	0	One credit - Minimising watercourse pollution There is no discharge from the developed site for rainfall up to 5mm. Suitable and appropriate attenuation measures are installed to reduce watercourse pollution from the following areas, vehicle manoeuvring areas, car parks, waste disposal areas, delivery and storage facilities or plant areas. All water pollution prevention systems have been designed and installed in accordance with the industry standards.	A site specific FRA will be provided and further advice is required in order to determine if the credits can be targeted, therefore the credit is not taken at this time.
Reduction of Nighttime Light Pollution					
Pol 04	Reduction of Nighttime Light Pollution	1	1	Where external lighting pollution has been eliminated through effective design that removes the need for external lighting without adversely affecting the safety and security of the site and its users. OR The external lighting strategy has been designed in compliance with ILP Guidance notes for the reduction of obtrusive light, 2011. All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00.	The credit will be sought.

Pol 05	Reduction of noise pollution			A noise impact assessment has been carried out. The noise level from the proposed site/building, as measured in the locality of the nearest or most exposed noise sensitive development, is a difference no greater than +5dB during the day (07:00 to 23:00) and +3dB at night (23:00to 07:00) compared to the background noise level.	The credit will be sought.
	Reduction of noise pollution	1	1		
	Number of Credits	12	5		
	Percentage	10	4.17		

Innovation Credits			
Each Credit is worth 1%			
Man 03	Responsible Construction Practices	1	0
Man 05	Aftercare	1	0
Hea 01	Visual Comfort	1	0
Ene 01	Reduction of Energy Use and Carbon Emissions	5	0
Wat 01	Water Consumption	1	0
Mat 01	Life Cycle Impacts	3	0
Mat 03	Responsible Sourcing of Materials	1	0
Wst 01	Construction Site Waste Management	1	0
Wst 02	Recycled Aggregates	1	0
Wst 05	Adaptation to Climate Change	1	0
Number of Credits		16	0
Percentage		10	0.00

Totals (Core Credits)	56.06
Innovation Credits	0.00
Percentage	56.06
BREEAM Rating	Very Good