

# Preliminary Assessment

## BREEAM 2014

### Refurbishment & Fit Out

# Northways Parade, Volvo Garage

#### Document information

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# Executive Summary

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#### Introduction

Eight Associates has been appointed, as registered BREEAM assessors, to carry out an assessment of the proposed refurbishment at Northway Parade, Volvo Garage, London. This project will be assessed under the BREEAM 2014 Refurbishment and Fit Out (Non-Domestic Buildings) methodology.

This summary is a pre-assessment of the development and details the anticipated score following the information provided by the design team at a meeting held in March 2020 with BREEAM Accredited Professional Becky Armstrong, and subsequent discussions.

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#### Project Summary

The project is being undertaken as part of plans to refurbish a Ground Floor Volvo Garage into a shared office workspace.

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#### Score Summary

The site reviewed currently achieves a score of 73.47%, which equates to an Excellent rating (70% required as minimum).

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

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# BREEAM Introduction

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#### The BREEAM standard

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

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

The assessment of the building results in a final report and issuing of a BRE Global BREEAM certificate detailing the performance of the assessed building against the environmental issues covered by the standard. The building's performance is expressed as a BREEAM rating of PASS, GOOD, VERY GOOD, EXCELLENT or OUTSTANDING.

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

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#### Aims of BREEAM

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

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#### BREEAM Refurbishment & Fit Out

BREEAM Refurbishment & Fit Out is a performance-based assessment method and certification scheme for existing buildings. The primary aim of BREEAM UK Refurbishment and Fit-out is to promote the delivery of sustainable refurbishment and fit-out, in order to mitigate the life cycle impacts of existing buildings on the environment in a robust and cost-effective manner. This is achieved through integration and use of the scheme by clients and their project teams at key stages in the design and refurbishment/fit-out works process.

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

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

# BREEAM Introduction

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#### Process of the assessment

BREEAM Refurbishment and Fit-out 2014 is a performance based assessment method and certification scheme for existing building refurbishment and fit-out projects. The primary aim of BREEAM Refurbishment and Fit-out 2014 is to promote the delivery of sustainable refurbishment and fit-out, in order to mitigate the life cycle impacts of existing buildings on the environment in a robust and cost effective manner.

The scheme intends to measure, evaluate, and reflect the performance of refurbishment or fit-out projects against best practice in an independent and robust manner.

All BREEAM assessments take place over two phases:

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

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

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

BREEAM Refurbishment and Fit-Out provides a modular framework for projects. The scheme is split into the following parts, which are selected according to the scope of works. Each part defines a set of individual measures and associated criteria against which a project is assessed.

- Part 1: Fabric and Structure.
- Part 2: Core Services.
- Part 3: Local Services.
- Part 4: Interior Design.

This approach provides the scheme's users with a flexible means of measuring the environmental performance of their building and comparing it with other buildings across the property market, backed with the assurance that independent third party certification of the assessment process provides.

A project can choose which parts they wish to gain certification against and the certificate will clearly highlight the parts that the project have been assessed under.

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#### Ratings

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

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

#### Mandatory credits

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

BREEAM Issue	P	G	VG	E	O
Man 03: Responsible construction practices	–	–	–	1 credit	2 credits
Man 04: Commissioning & handover			Criterion 9 <sup>1</sup>	Criterion 9	Criterion 9
Man 05: Aftercare	–	–		1 credit <sup>2</sup>	1 credit
Ene 01: Reduction of CO <sub>2</sub> emissions	–	–	–	6 credits	10 credits
Ene 02: Energy monitoring	–	–	1 credit <sup>3</sup>	1 credit	1 credit
Wat 01: Water consumption	–	1 credit <sup>4</sup>	1 credit	1 credit	2 credits
Wat 02: Water monitoring	–	Criterion 1 <sup>5</sup>	Criterion 1	Criterion 1	Criterion 1
Mat 03: Responsible sourcing	Criterion 1 <sup>6</sup>	Criterion 1	Criterion 1	Criterion 1	Criterion 1
Wst 01: Construction waste	–	–	–	–	1 credit
Wst 03: Operational waste	–	–	–	1 credit	1 credit

<sup>1</sup> A Building User Guide must be developed prior to handover, for distribution to the building occupiers and premises managers.

<sup>2</sup> Seasonal commissioning (only applicable to assessment parts 2 and 3)

<sup>3</sup> Complete required commissioning activities over a minimum 12-month period once the building has become occupied.

<sup>4</sup> A water meter must be specified on the mains water supply to each building

<sup>5</sup> All timber and timber-based products used on the project must be legally harvested and traded.

Full details for each credit follow later in this document.

# Score Breakdown

## BREEAM 2014

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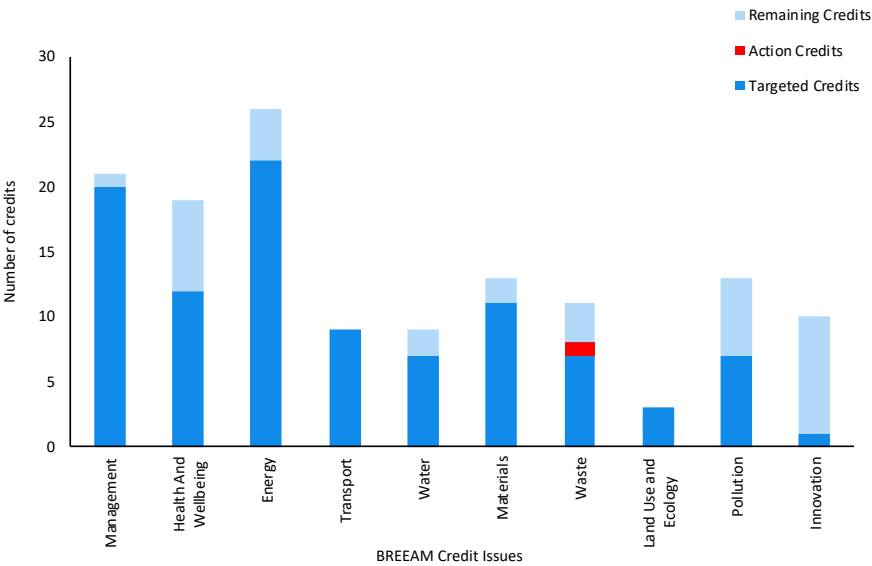
Rating summary

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

Credit Issue	Targeted Credits	Available Credits	% Achieved	Weighting	Score	Score with actions
Management	20	21	95.24%	13.75%	13.10%	13.09%
Health And Wellbeing	12	19	63.16%	14.84%	9.37%	9.37%
Energy	22	26	84.62%	17.15%	14.51%	14.51%
Transport	9	9	100.00%	6.87%	6.87%	6.87%
Water	7	9	77.78%	6.87%	5.34%	5.34%
Materials	11	13	84.62%	14.32%	12.11%	12.11%
Waste	7	11	63.64%	7.88%	5.01%	5.73%
Land Use and Ecology	3	3	0.00%	6.87%	0.00%	0.00%
Pollution	7	13	53.85%	11.45%	6.16%	6.16%
Innovation	1	10	10.00%	10.00%	1.00%	1.00%
Total					73.47%	74.18%
					EXCELLENT	EXCELLENT

Graphics breakdown

The graph below shows the credits currently targeted (dark blue), action credits (red) and remaining credits in each BREEAM section (light blue).



# Assessment Details

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#### Parts assessed

Part 1: ✓

Part 2: ✓

Part 3: ✓

Part 4: ✓

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#### Part 1: Fabric and Structure (not included in assessment)

A Part 1 assessment may be appropriate where there are one or more of the following alterations to the building fabric, and where the area to be renovated is greater than 50% of the surface of the individual element (or 25% of the total building envelope):

- ✓ Building facade
- ✓ Roof
- ✓ Windows

#### Part 2: Core Services (included in assessment)

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

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

#### Part 3: Local Services (included in assessment)

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

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

# Assessment Details

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#### Parts assessed

Part 1: ✓

Part 2: ✓

Part 3: ✓

Part 4: ✓

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#### Part 4: Interior Design (included in assessment)

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

- ✓ Wall coverings
- ✓ Floor coverings
- ✓ Ceiling covering or systems
- ✓ Partitions
- ✓ Raised floor system
- ✓ Furniture and fittings

AND at least one of the following:

- ✓ Sanitary fittings
  - ✓ Equipment (e.g. office equipment, display lighting, freezers)
  - ✓ Local electrical installations (e.g. sub-metering)
-

# Assessment Details

## BREEAM 2014

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#### Project specific details

Technical manual number:	SD216 Issue 1.1
Project type:	Change of use
Building type:	Office
Historic building?	No
Commercial and/or industrial scale refrigeration or storage specified?	No
New building user transportation systems?	Yes
Laboratories present?	No
Systems that significantly contribute towards unregulated energy demands?	Yes
Sanitary fittings within scope?	Yes
Office areas included?	Yes
Unregulated water demand?	Yes
Landscaping included?	No
Local cooling included?	Yes
Local heating or hot water included?	Yes
Externally mounted plant specified?	Yes
Speculative refurbishment?	No
External lighting included?	Yes
Simple building?	No
Is new insulation specified?	Yes
Are high grade aggregates to be used in the scope of the refurbishment scheme?	No

# Management

## BREEAM 2014

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#### Man 01: Project brief and design

#### Stakeholder consultation – project delivery (one credit)

4 of 4

During RIBA Stage 2 (Concept Design) the project team met to identify and define their roles and responsibilities, as well as contributions for each key phase of the project. During this stage the team produced a clear sustainability brief outlining the sustainability objectives for the project, the timescales and budget, specific client requirements, potential constraints, and any professional appointments that may be required.

One of one credit targeted.

#### Stakeholder consultation – third party (one credit)

This credit requires that prior to completion of RIBA Stage 2 (Concept Design), all relevant third party stakeholders (e.g. local residents, businesses, existing partnerships and networks) are consulted by the design team and it is demonstrated that the outcomes of the consultation exercise have influenced the initial project brief and concept design. At this stage, the client has carried out consultation with residents and a flexible workspace operator that has provided advice on the internal layouts. The client has also identified potential for further consultation with the occupants of the units on Harben Parade in near vicinity to the project.

One of one credit targeted.

#### Sustainability champion – initial design (one credit)

The project team has confirmed that a BREEAM Accredited Professional (AP) will be appointed (at end of RIBA Stage 2) to facilitate the setting and achievement of BREEAM performance targets for the project. The defined performance targets have been formally agreed by the client and the project team.

One of one credit targeted.

#### Sustainability champion – monitoring progress (one credit)

The project team has confirmed that the BREEAM Accredited Professional (AP) appointed for the design stage will also have the responsibility of monitoring and reporting progress against the established BREEAM targets by attending key project team meetings during all stages of the design.

One of one credit targeted.

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

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# Management BREEAM 2014 Refurbishment & Fit Out Northways Parade, Volvo Garage

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Man 02: Life cycle cost and service  
life planning (continued)

**Elemental Life Cycle Costing (two credits)**

4 of 4

The design team has confirmed that an [elemental life cycle cost analysis will be carried in accordance with PD 156865-2008](#).

Two of two credits targeted.

**Component Level Life Cycle Options Appraisal (one credit)**

The design team has confirmed that [a component level LCC options appraisal will be carried out by RIBA stage 4 to minimise life cycle costs and maximise value](#)

One of one credit targeted.

**Capital Cost Reporting (one credit)**

The design team has committed to report the capital cost for the building in pounds per square metre (£k/m<sup>2</sup>), via the BREEAM Assessment Scoring and Reporting tool in line with BREEAM requirements. *One of one credit targeted.*

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

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# Management

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#### Man 03: Responsible construction practices

##### Timber (prerequisite)

6 of 6

All timber is to be legally harvested and traded. This is a prerequisite for this issue; no credits can be awarded unless this requirement is met.

##### Environmental Management (one credit)

The design team has confirmed that the principal contractor appointed for the scheme will operate an Environmental Management System, certified under ISO14001/ EMAS or an equivalent standard, covering their main operations.

One of one credit targeted.

##### Sustainability champion (construction – one credit)

A sustainability champion (BREEAM AP) will be appointed to monitor the project on site to ensure on-going compliance with the relevant sustainability performance criteria and BREEAM targets during the construction and handover stages.

One of one credit targeted.

##### Considerate construction (two credits)

The contractor will be required to register the scheme under the Considerate Constructors Scheme (CCS) and will be committed to achieve at least 35 points, with a minimum of 7 points in each section.

Two of two credits targeted.

##### Monitoring of Construction-site impacts (two credits)

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

- Monitor and record data on energy consumption from the use of construction plant, equipment and site accommodation;
- Monitor and record data on water consumption from the use of construction plant, equipment and site accommodation;
- Monitor and record transport data resulting from delivery of the majority of construction materials to site and construction waste from site.

Two of two credits targeted.

In total, six of six credits are currently targeted for this issue.

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# Management

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#### Man 04: Commissioning and handover

##### Commissioning (two credits)

3 of 4

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

Two of two credits targeted.

##### Testing and inspecting building fabric (one credit)

The design team has decided not to pursue this credit as the scope of works includes primarily finishes refurbishment and only partial change to external building elements and any defects' rectification will incur additional cost. Internal insulation across the whole envelope is included in the design package.

The available credit has not been targeted.

##### Handover (one credit)

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

One of one credit targeted.

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

#### Man 05: Aftercare

##### Mandatory requirements:

Parts 2 & 3 – Seasonal Commissioning must be carried out to achieve an Excellent rating.

##### Aftercare support (one credit)

3 of 3

There will be operational infrastructure and resources in place to provide aftercare support to the building occupier and to coordinate the collection and monitoring of energy and water consumption data for a minimum of 12 months, once the building is occupied.

One of one credit targeted.

##### Seasonal commissioning (one credit)

The design team has not confirmed client commitment to seasonal commissioning activities over a minimum 12-month period. Details on this will be clarified once the client gains certainty in occupational patterns. The commission requirements include:

- Testing of all building services under full load conditions,
- Where applicable, testing should also be carried out during periods of extreme (high or low) occupancy.
- Interviews with building occupants,
- Re-commissioning of systems (if applicable), and incorporating any revisions in operating procedures into the operations and maintenance (O&M) manuals

One of one credit targeted.

##### Post Occupancy Evaluation (one credit)

The design team has confirmed client commitment to [undertaking a Post Occupancy Evaluation \(POE\) study within 12 months of initial building occupation](#).

One of one credit targeted.

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

# Health & Wellbeing

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#### Hea 01: Visual comfort

#### Control of glare from sunlight (one credit)

3 of 7

The design team has confirmed that occupant controllable blinds will be provided in all relevant occupied areas to reduce the potential for disabling glare. The glare control strategy will be designed to maximise daylight levels under all conditions, while avoiding glare, in order to avoid increasing lighting energy consumption.

One of one credit targeted.

#### Daylighting (three credits)

The design team has confirmed commitment to undertake a daylighting assessment against the BREEAM criteria. The Energy assessor on the scheme has advised that an average daylight factor of 2% is feasible across at least 40% of the floor plate of the current layout design.

One of three credits targeted.

#### View out (two credits)

The design team has decided not to target this item as the proposed design offers limited potential for achieving the required distance of workstations to windows, permanent opening provision of view out and percentage of opening in wall area.

None of the available credits have been targeted.

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

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

- Where specified, all fluorescent and compact fluorescent lamps will be fitted with high frequency ballasts;
- Internal lighting will provide illuminance levels in accordance with the SLL Code of Lighting 2012 (and any other relevant industry standard);
- For areas where computer screens are regularly used the lighting design will comply with the appropriate sections of CIBSE Lighting Guide 7;
- All external lighting will provide illuminance levels that enable users to perform outdoor visual tasks efficiently and accurately;
- Internal lighting will be appropriately zoned to allow for occupant control within relevant building areas in accordance with the BREEAM criteria;
- External lighting will be specified in accordance with BS 5489-1:2013 Lighting of roads and public amenity areas and BS EN 12464-2:2014 Light and lighting – Lighting of workplaces – Part 2: Outdoor workplaces);

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

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# Health & Wellbeing

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#### Hea 02: Indoor air quality

#### Indoor Air Quality plan (one credit)

3 of 5

The design team has confirmed commitment to produce and implement an indoor air quality plan that meets the BREEAM criteria is produced and implemented for the site. This should consider the following:

- Removal, dilution and control of contaminant sources
- Procedures for pre-occupancy flush out
- Protection of Heating Ventilation and Air Conditioning (HVAC) systems from sources of pollution during refurbishment/fit-out works e.g. dust
- Procedures for protecting the indoor air quality of areas outside of the refurbishment or fit-out zone
- Procedures for identifying and implementing third party testing and analysis required to ascertain that the contaminant sources have been removed effectively before occupancy
- Commitments for maintaining indoor air quality in-use.

One of one credit targeted.

#### Ventilation (one credit)

The design team has confirmed that the scheme will meet fresh air rates in line with ventilation requirements, air quality sensors are provided. In addition, air intakes and extracts must be at least 10 metres apart and intakes 20 metres from sources of external pollution.

One of one credit targeted.

#### Volatile organic compounds – VOCs (one credit)

The design team has confirmed that at least 5 of the product types listed in the BREEAM 2014 RFO manual table 20 will meet the emission limits, testing requirements and any additional requirements in line with requirements.

One of one credit targeted.

#### Post-construction indoor air quality measurement (one credit)

The design team has confirmed that the credit for this part of the issue will not be targeted at design stage – testing to measure VOC and formaldehyde concentration levels at post-construction stage is not expected to be undertaken.

The available credit has not been targeted.

#### Adaptability – Potential for Natural Ventilation (one credit)

The design team has confirmed this credit cannot be targeted as there is limited potential for natural ventilation to provide sufficient air change in occupied areas.

The available credit has not been targeted.

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

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# Health & Wellbeing

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#### Hea 04: Thermal comfort

##### Thermal modelling (one credit)

3 of 3

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

One of one credit targeted.

##### Design for future thermal comfort (one credit)

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

One of one credit targeted.

##### Thermal zoning and controls (one credit)

The thermal modelling analysis has been undertaken, and has informed the thermal comfort strategy. The heating and cooling is zoned and controlled appropriately for the building type and its users requirements.

One of one credit targeted.

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

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#### Hea 05: Acoustic performance

A suitably qualified acoustician has been appointed for the development to advise on the acoustic performance levels.

2 of 3

As this is an Office assessment, the design team has confirmed that the building will comply with the requirements set out in Section 7 of BS 8233:2014 for:

- Sound insulation
- Indoor ambient noise level
- Room acoustics

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

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

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#### Hea 06: Security

##### Security of site and building (one credit)

1 of 1

The design team has confirmed commitment to consult with a suitably qualified security consultant from the local police throughout the planning process and incorporate recommendations into the design.

One of one credit targeted.

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# Energy

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#### Ene 01: Reduction of CO<sub>2</sub> emissions

Energy modelling and BRUKL will be produced for the existing building and proposed design at design stage, based on Part L 2013 standards. Based on the building services and fabric specified, it is assumed that at least thirteen of the available fifteen credits under this issue will be achieved.

13 of 15

Please note that the BREEAM guidance requests "A copy of the Building Regulations Output Document from the Part L Approved Documents check (BRUKL Output Document)" and an "As Built" copy of the document for the PCR stage.

In total, thirteen of fifteen credits are currently targeted for this issue.

#### Ene 02: Energy monitoring

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

2 of 2

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

##### Mandatory requirement:

One credit is required for sub-metering of major energy consuming systems in order to achieve a Very Good rating.

1. Energy metering systems are installed that enable at least 90% of the estimated annual energy consumption of each fuel to be assigned to the various end-use categories of energy consuming systems.
2. The energy consuming systems in buildings with a total useful floor area greater than 1,000m<sup>2</sup> are metered using an appropriate energy monitoring and management system.
3. The systems in smaller buildings are metered either with an energy monitoring and management system or with separate accessible energy sub-meters with pulsed or other open protocol communication outputs, to enable future connection to an energy monitoring and management system
4. The end energy consuming uses are identifiable to the building users, for example through labelling or data outputs.

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

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

The design team has confirmed that there will be sub-metering per floor plate.

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

# Energy

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#### Ene 03 – External Lighting

The design team has confirmed that any external lighting will have an average initial luminous efficacy of greater than 60 luminaire lumens per circuit Watt. All external light fittings will be automatically controlled to prevent operation during daylight hours and presence detection in areas of intermittent pedestrian traffic.

1 of 1

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

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#### Ene 04: Low carbon design

##### Passive Design Analysis (one credit)

1 of 3

The design team has decided not to target this credit at this stage because of limited potential to demonstrate significant opportunity for energy savings through passive design measures. This has been reviewed by the energy assessor against the BREEAM requirements.

The available credit has not been targeted.

##### Free Cooling (one credit)

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

The available credit has not been targeted.

##### Low and Zero Carbon Technologies (one credit)

A feasibility study will be carried out by an independent energy specialist to establish the most appropriate local low or zero carbon energy source for the development, and an LZC technology will be specified in line with the recommendations of this report (resulting in a reduction in CO<sub>2</sub> emissions).

One of one credit targeted.

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

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# Energy

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#### Ene 06: Energy efficient transportation systems

##### Energy consumption (one credit)

3 of 3

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

One of one credit targeted.

##### Energy efficient features (two credits)

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

- A standby condition for off-peak periods.
- The lift car lighting and display lighting provides an average luminous efficacy across all fittings in the car of >70 luminaire lumens per circuit Watt.
- Use of a drive controller capable of variable speed, variable-voltage, and variable-frequency (VVF) control of the drive motor.

Regenerative drives are considered where these would produce an energy saving greater than the additional standby energy used to support the drives.

Two of two credit targeted.

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

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#### Ene 08: Energy efficient equipment

The design team has committed to encouraging a reduction in the building's unregulated energy load through the use of energy efficient equipment. As such it has been confirmed that the project team will:

2 of 2

- Identify the building's unregulated energy consuming loads and estimate their contribution to the total annual unregulated energy consumption of the building, assuming a typical/standard specification.
- Identify the systems and/or processes that use a significant proportion of the total annual unregulated energy consumption of the development and its operation.
- Specify office equipment products with Energy Star rating, any white goods with A/ A+ rating, and any display lighting will have a minimum luminaire efficacy of  $\geq 60$  luminaire lumens per circuit Watt. In addition all heating systems within habitable areas must be controllable by occupants.

Two of two credit targeted.

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# Transport

## BREEAM 2014

### Refurbishment & Fit Out

## Northways Parade, Volvo Garage

#### Tra 01: Public transport accessibility

The development is located within central London, in close proximity to a number of underground stations and bus stops. Full credits are assumed.

3 of 3

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

#### Tra 02: Proximity to amenities

The development is located in central London within close proximity to local amenities. Full credits are assumed.

1 of 1

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

#### Tra 03: Cyclist Facilities

##### Cycle storage (one credit)

2 of 2

The design team has confirmed that the development will provide cycle racks of one space per 10 staff and compliant cyclist facilities.

The cycle storage will be within the undercroft to protect from the weather, secured in fixed racks, any lighting will comply with BREEAM criteria and they will be easily accessible. One of one credit targeted.

##### Cyclist facilities (one credit)

One shower will be provided for every 10 cycle spaces. Both male and female users must be catered for i.e. either separate showers within shared gender-specific facilities (required provision split 50–50) or single shower cubicles and changing space for mixed use.

Changing areas will be provided and include adequate space and facilities to hang/store clothing and equipment whilst changing/showering. The number of lockers is at least equal to the number of cycle spaces provided and are either in or adjacent to compliant changing rooms. The lockers are sized appropriately for the storage of a cyclist's equipment.

One of one credit targeted.

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

#### Tra 04: Maximum car parking capacity

The design team has confirmed that there will be no car parking spaces so the credit can be achieved automatically as its aim is to help reduce car-related emissions.

2 of 2

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

#### Tra 05: Travel Plan

A site specific travel plan will be developed as part of the feasibility and design stages, which will consider all types of travel relevant to the building type and users.

1 of 1

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

# Water

## BREEAM 2014

### Refurbishment & Fit Out

## Northways Parade, Volvo Garage

#### Wat 01: Water consumption

##### Mandatory requirement:

At least one credit is required in order to achieve a Very Good or an Excellent rating

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

3 of 5

Three of five credits are currently targeted for this issue.

#### Wat 02: Water Monitoring

##### Mandatory requirement:

A water meter must be specified (even if this issue is not targeted) in order to achieve an Excellent rating

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

1 of 1

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

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

#### Wat 03: Water leak detection and prevention

##### Leak detection (one credit)

2 of 2

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

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

##### Sanitary shut-off system (one credit)

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

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

#### Wat 04: Water efficient equipment

The design team has confirmed that there will be no water consuming equipment (e.g. mains-fed irrigation) that would a meaningful reduction in unregulated water demand. Therefore the requirements of this credit issue are met by default. One of one credit targeted.

1 of 1

# Materials

## BREEAM 2014

### Refurbishment & Fit Out

### Northways Parade, Volvo Garage

#### Mat 01: Environmental impact of materials

The design team has confirmed that a project life cycle assessment study will be undertaken by a third-party in order to measure the life cycle environmental impact of materials used for the project. The Energy assessor on the scheme has confirmed it is feasible to target above 85% of points achieved in the Mat01 calculator and therefore the maximum amount of credits have been targeted including one Exemplary credit

6 of 6  
+ 1  
exemp.

In total, six of six credits, plus one exemplary credit are currently targeted for this issue.

#### Mat 03: Responsible sourcing of materials

##### Mandatory requirement:

The pre-requisite for this issue must be complied with (even if this issue is not targeted) in order to achieve all ratings.

##### Pre-requisite

The design team has confirmed that all timber used on the project will be legally harvested and traded timber.

2 of 4

##### Sustainable procurement plan (one credit)

The main contractor will implement a sustainable procurement to guide specification towards sustainable construction products.

One of one credit targeted.

##### Measuring Responsible Sourcing (three credits)

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

One of three credits targeted.

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

#### Mat 04: Insulation

The design team has confirmed that any insulation specified and installed for the external walls, ground floor, roof and building services will be A or A+ rated under the Green Guide.

1 of 1

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

#### Mat 05: Designing for durability and resilience

##### Protecting Vulnerable Parts of the Building from Damage

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

1 of 1

##### Protecting Exposed Parts of the Building from Material Degradation

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

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

# Materials

## BREEAM 2014

### Refurbishment & Fit Out

# Northways Parade, Volvo Garage

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#### Mat 06: Material efficiency

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

1 of 1

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

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

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

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# Waste

## BREEAM 2014

### Refurbishment & Fit Out

## Northways Parade, Volvo Garage

#### Wst 01: Project waste management

##### Pre-refurbishment audit (one credit)

3 of 7

The design team will complete a pre-refurbishment audit of any existing buildings or hard surfaces being considered for demolition. This will be used to determine materials can be reused or recycled where possible, in line with BREEAM requirements.

One of one credit targeted.

##### Reuse and direct recycling of materials (two credits)

The design team has decided not to target this credit as there is currently little visibility on the opportunity for materials specified for the scheme to be re-used (on or off site) or sent back to the manufacturer in line with BREEAM requirements for one credit. This will be reviewed later in the design and construction stages.

None of the available credits have been targeted.

##### Resource efficiency (three credits)

The design team has confirmed that a BREEAM compliant resource management plan will be produced and will ensure that non-hazardous waste generated by the building's design and construction (excluding demolition and excavation waste) is less than 11.3m<sup>3</sup> (or 3.5 tonnes) per 100m<sup>2</sup> of gross internal floor area.

One of three credits targeted.

##### Diversion of resources from landfill (one credit)

It is likely that at least 85% (by volume) or 90% (tonnage), for the refurbishment / fit out works, of non hazardous construction waste generated will be diverted from landfill.

One of one credit targeted.

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

#### Wst 03: Operational waste

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

1 of 1

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

#### Wst 04: Speculative finishes

The design team has confirmed that the tenant will be the occupier, therefore this credit can therefore be awarded by default.

1 of 1

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

# Waste

## BREEAM 2014

### Refurbishment & Fit Out

# Northways Parade, Volvo Garage

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#### Wst 05: Adaptation to climate change

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#### Resilience of structure, fabric, building services and renewables installation (one credit) 1 of 1

The design team has confirmed that a climate change adaptation strategy will be carried by the end of RIBA Stage 2 in order to identify, evaluate and where feasible mitigate the impact of from expected extreme weather conditions arising from climate change on the building over its projected life cycle.

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

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#### Wst 06: Functional adaptability

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#### Functional adaptability (one credit) 1 of 1

The design team will conduct a study to explore the ease of functional adaptation of different scenarios before the end of Concept Design. Recommendations/ solutions will be developed based on the study that aims to enable and facilitate future adaptation.

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

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# Land Use and Ecology

## BREEAM 2014

### Refurbishment & Fit Out

## Northways Parade, Volvo Garage

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#### LE 04: Change and enhancement of ecological value

The design team has confirmed a suitably qualified ecologist will be appointed and the recommendations in their Ecology Report for the enhancement of site ecology will be implemented in the final design. The ecologist will need to confirm that the ecological value of the site has increased as a result of the development.

1 of 1

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

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#### LE 05: Long term ecology management and maintenance

The design team has confirmed a suitably qualified ecologist will be appointed prior to commencement of activities on-site and confirm that all relevant UK and EU legislation relating to the protection and enhancement of ecology will be complied with during the refurbishment process. In addition, a landscape and habitat management plan covering at least five years will be completed and at least 2 additional measures to improve the site's long-term biodiversity will be adopted.

2 of 2

In total, two of two credit is currently targeted for this issue.

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# Pollution

## BREEAM 2014

### Refurbishment & Fit Out

## Northways Parade, Volvo Garage

#### Pol 01: Impact of refrigerants

##### Pre-requisite

1 of 3

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

##### Impact of refrigerants (two credits)

After a Concept Design Stage review of the cooling strategy of the scheme it was established that it will have Direct Effect Life Cycle CO<sub>2</sub> equivalent emissions (DELC CO<sub>2</sub>e) of ≤ 1000 kgCO<sub>2</sub>e/kW cooling/heating capacity.

One of two credits targeted.

##### Leak detection (one credit)

The design team has confirmed that the credit for leak detection will not be targeted at this stage as it is subject to further discussions with the client and design team.

Zero of one credit targeted.

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

#### Pol 02: Local air quality

The design team has confirmed that it is unlikely that the system for meeting the heating and hot water demand of the building will have NO<sub>x</sub> emissions greater than 100mg/kWh, as these systems will be fed from the grid, which BREEAM considers to have a high NO<sub>x</sub> under this scheme.

0 of 3

None of the available credits have been targeted.

#### Pol 03: Surface water run-off

##### Low flood risk (two credits)

3 of 5

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

Two of two credits targeted.

##### Surface water run-off (two credits)

The design team has confirmed that the surface water run-off from the site will be no greater than it was pre-development. However, the design (and site constraints) do not allow for the surface water volume to be reduced.

One of two credits targeted.

Continues overleaf...

# Pollution

## BREEAM 2014

### Refurbishment & Fit Out

# Northways Parade, Volvo Garage

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#### Pol 03: Surface water run-off (continued)

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##### Minimising watercourse pollution (one credit)

The design team has confirmed that the credit for minimising watercourse pollution will not be targeted at design stage, as there is no scope to include the necessary attenuation measures to ensure there is no discharge from the site for rainfall depths of up to 5mm.

The available credit has not been targeted

In total, three of five credits currently targeted for this issue

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#### Pol 04: Reduction of night time light pollution

The design team has confirmed that external lighting will be designed and installed in compliance with ILP Guidance. All external lighting will have the capacity to be switched off automatically between 11pm and 7am. There will be no illuminated advertising.

1 of 1

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

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#### Pol 05: Noise attenuation

The Current Acoustic strategy confirms there will be 10db improvement over planning requirements. A Suitably Qualified Acoustic Consultant will conduct a noise impact assessment in compliance with BS7445:1991. Where noise sources from the development are greater than +5dB (during the day) and +3dB (during the night) compared to the background noise level, attenuation measures will be specified.

1 of 1

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

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