Da Vinci House, Saffron Hill
BREEAM Pre Assessment Report

Prepared for:
Iceni Projects

Prepared by:
Sustainable Construction Services

Note

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Document	Revision	Date
BREEAM Pre Assessment Report	-	21.07.2017

1. EXECUTIVE SUMMARY

Sustainable Construction Services has been commissioned to support the approach to sustainability for the change of use of existing lower ground and part ground floor at Da Vinci House, Saffron Hill. The focus has been on sustainability, but BREEAM has been used as a framework for driving the agenda of sustainability on the project.

The building is a multi storey residential space. The proposal seeks full planning permission for the conversion of the vacant residential car park at Lower Ground floor level, to new office floor space (Class B1a).

The key aim of the development is to achieve the highest possible sustainable performance that it can realistically afford in this difficult economic climate. BREEAM has largely been used as a framework for these discussions as it provides a solid benchmark for comparing modern day buildings in view of their sustainable credentials. Measures within BREEAM have been considered alongside the context of the Camden Local Plan.

Rather than prescribe a BREEAM rating target, this report seeks to discuss the option of a 'realistic' BREEAM score and a 'potential' BREEAM score. The BREEAM Pre-assessment Tracker can be seen in Appendix A. The Tracker demonstrates if the assessment was undertaken as the project is, a BREEAM rating of 'Pass' could be achieved, however additional credits could be added on to reach 'Very Good' although some of the credits would likely not add to the sustainability value of the project and would be part of a "box ticking" exercise. The Pre assessment review found that achieving BREEAM Excellent would be realistically impossible to achieve on a project of this nature.

Due to the scope of size and scope of the works, it is not recommended that BREEAM 'Very Good' is key target; however the priority will be on maximising sustainable features and bringing tangible value rather than spending money on specific items simply to achieve BREEAM credits.

Rather than disregard BREEAM, we advocate that some of the underlying principles of BREEAM can be adhered to should the project team follow a set of recommended measures [See section 7] to maximise the sustainability value of the project without any extra costs and administration.

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3. INTRODUCTION

3.1. BASIS OF THE REPORT

Sustainable Construction Services has been commissioned to support the approach to sustainability for the re-development of the lower ground floor at Da Vinci House, Saffron Hill. The focus has been on sustainability, but BREEAM has been used as a framework for driving the agenda of sustainability on the project.

3.2. DESCRIPTION OF PROPOSED DEVELOPMENT

The building is a multi storey residential space. The proposed plans facilitate the change of use from car park to office space; furthermore the following internal and external alterations shall also be carried out;

- Relocation of 2 no. car parking spaces from lower ground to ground floor.
- Removal of existing vehicle ramp.
- Relocation of existing residential refuse store (to contain 2 no. general waste, and 2 no. recycling bins, to better existing arrangement).
- Insertion of new lift.
- Creation of new commercial refuse store (to contain 1 no. general waste and 1 no. recycling bin).
- Reconfiguration of existing fire escape to Saffron Hill, to create new office entrance.
- Marking out of pedestrian and cycle walk-way to existing vehicular access from St Cross Street.
- Relocation of residential plant area (internal only).
- Installation of 2 no. air conditioning units (internal only).
- Installation of double-leaf doors to existing external plant area on west corner of the site (for maintenance access, only).
- Installation of 8 no. secure cycle parking space (7 no. long-stay and 1 no. short-stay).
- Provision of 5 no. W/C self-contained cubicles, 1 no. wheelchair-accessible W/C cubicle and 2 no. combined shower/W/C self-contained cubicles.
- Installation of ceiling and floor insulation, together with MF ceiling frame board to enclose ceiling services area.
- Installation of new triple-panel glazed screens and louvre grills to existing external residential plant area.
- Replacement of existing Fire Exit door to Saffron Hill with new double-leaf glazed entrance door.

The key aim of the development is to achieve the highest possible sustainable performance that it can realistically afford in this difficult economic climate. BREEAM 'Excellent' is a key target, but the priority will be on maximising sustainable features and bringing tangible value rather than spending money on specific items simply to achieve BREEAM credits as part of a "box ticking" exercise.

3.3. AIM OF THE REPORT

The aim of the report is to provide a full commentary and analysis of the value of BREEAM and other sustainable measures in relation to the project and provide recommendations on how the project can most effectively deliver in relation to its aims.

This report will consider how the development addresses the issues raised in the Camden Local Plan and wider environmental issues.

4. CAMDEN LOCAL PLAN

The relevant aims of the Camden Local Plan [June, 2017] are as follows;

To promote sustainable transport for all and to make Camden a better place to cycle and walk around, to reduce air pollution, reliance on private cars and congestion and to support and promote new and improved transport links.

To make sure that development in Camden minimises its energy use by encouraging local efficient energy generation, achieving the highest possible environmental standards, and is designed to adapt to, and reduce the effects of, climate change.

To support development that makes best use of its site, taking into account quality of design, its surroundings, sustainability, amenity, heritage, transport accessibility and any other considerations relevant to the site.

We will promote the most efficient use of Camden's land and buildings while also seeking to improve the quality of our environment, protect the amenity of occupiers and neighbours. We will consider higher intensity redevelopment of premises or sites that are suitable for continued business provided that the level of employment floor space is increased.

We will seek to protect the quality of life of occupiers and neighbours so shall consider the impact of; visual privacy, sunlight, artificial lighting levels, transport impacts, construction itself, noise levels, odours/fumes/dust, microclimate, water.

We will seek to consider the effects of climate change in the future including; subsidence, due to increased shrinking and expanding of Camden's clay base; poorer air quality, a hotter microclimate, increased summer electricity use due to increased demand for cooling, and threats to the quantity and quality of our water supply.

The Green Action for Change, Camden's environmental sustainability plan [2011-2020] works in hand with the Camden Local Plan, this places importance on the following;

- Reducing carbon emissions
- Improving air quality
- Adapting to climate change
- Reducing waste

The Camden Local Plan [June, 2017] also sets out a clear set of requirements for all new developments.

All development should adopt appropriate climate change adaptation measures such as: the protection of existing green spaces and promoting new appropriate green infrastructure, not increasing, and wherever possible reducing, surface water runoff through increasing permeable surfaces and use of Sustainable Drainage Systems, incorporating bio-diverse roofs, combination green and blue roofs and green walls where appropriate and measures to reduce the impact of urban and dwelling overheating, including application of the cooling hierarchy.

Cooling hierarchy

- Minimise internal heat generation through energy efficient design
- Reduce the amount of heat entering a building in summer through orientation, shading, fenestration, insulation and green roofs and walls
- Manage the heat within the building through exposed internal thermal mass and high ceilings
- Passive ventilation
- Mechanical ventilation
- Active cooling

The Council will promote and measure sustainable design and construction by ensuring development schemes demonstrate how adaptation measures and sustainable development principles have been incorporated into the design and proposed implementation. Such as;

- Green space
- Sustainable drainage
- Urban heat island effect
- Cooling
- Sustainable design and construction measures

Expecting non-domestic developments of 500sqm of floorspace or above to achieve “Excellent” in BREEAM assessments.

5. APPROACH TO SUSTAINABILITY

The Saffron Hill redevelopment has embraced the needs of sustainability in line with the Camden Local Plan. The reasons for this are given below;

Sustainable transport

- The works include adding cycle storage and showers to the ground floor to encourage building users to use more sustainable transport methods. The client has undertaken a transport survey of the building users to ensure cycle storage has been sized appropriately to demand.
- The works will ensure that there are no car parking spaces for office users, which helps to reduce the environmental, economical and health impacts related to congestion and can reduce the green house gas emissions associated with the business.

Re-use of site

- The re-purposed lower ground floor provides much needed office space in which the business can grow into, in a suitable and accessible location – this provides much needed floor space for employment and makes the best use of the site. This also helps to prevent further 'sprawl' of development.
- The change of use/refurbishment of the existing building has saved the need for a new construction project which would could consume more land and use more materials.

Quality of life

- The project does not impact on visual privacy and does not overshadow other buildings.
- There is no external lighting specified which could contribute to light pollution, lighting will be controlled to ensure lighting is not used where it is not required.
- The external condensers shall also contained inside the building to prevent any noise impact.
- Natural ventilation was excluded as it may not allow the building to achieve sufficient ventilation rates, comfort levels and indoor air quality levels.

Microclimate

- The project team have sized the building services carefully to ensure plant is not oversized; this shall help to ensure minimisation of heat emitted into the local environment and prevent waste energy.

Water use

- The project team are committed to specifying low water use fittings i.e. taps and WC's and shall install a water meter to help occupants monitor and manage water use. The additional waste water as a result of the works will be relatively minimal.
- Due to the fact the works consist of a one floor office conversion, the opportunity for climate change adaption is strictly limited. However, there is deemed to be no change in run-off as a result of the development and the site is in an area of low flood risk and the proposals have no significant impact on run-off or flood management policy.

Energy efficiency

- LZC technologies i.e. high efficiency heat pumps with heat recovery have been incorporated; artificial cooling has been provided to ensure the building is comfortable for occupants in the potential extreme heat conditions cause by climate change.
- Additional insulation has been added to the exposed floor, ceilings and walls to prevent heat loss and improve energy efficiency.
- Energy meters shall be labelled to allow building users to record, monitor and limit energy use. No external landscaping is included within the scope of the works which prevents unregulated water use.

Materials

- All timber used throughout the project shall be FSC certified.
- Materials with a good Green Guide Rating and materials that be re-used/recycled at the end of life shall be preferred where possible.

Adaption to climate change in the future

- The building footprint or main structure is mostly unchanged, therefore the works are not likely to affect issues of subsidence.
- The building shall have mechanical ventilation systems to help prevent issues of poorer air quality.
- The building shall have artificial cooling to ensure occupants are comfortable should the climate get significantly hotter, or suffer disproportionally from the urban heat island effect.
- Only 2 heat pumps are specified for the building, therefore the increase in summer electricity use for cooling should not be largely significant.

Reducing waste

- The proposed works give provision of a recyclable bin store area.

Green space

- There are no green spaces within the project boundary.
- There is no roof space available for green roofs associated with this project.

Cooling

- Building plant has been sized to ensure no excessive heat from the services will be emitted.
- The design is open plan meaning no one area is likely to severely overheat.
- The building is mostly underground, where windows are limited and is not likely to suffer from excessive solar gain.
- The building shall have high ceilings.
- Passive ventilation is not possible due to the restrictive site location.

The requirement to ensure non-domestic developments of 500sqm of floor space or above to achieve BREEAM “Excellent” is discussed in length later in this report. This report goes on to examine how the project also fits in with the principles of BREEAM.

For the reasons outlined above, it is our view that the Saffron Hill redevelopment fits the general principles and helps to deliver to core objectives of the Camden Local Plan.

6. ABOUT BREEAM

6.1. BACKGROUND TO BREEAM

BREEAM is a voluntary scheme that aims to quantify and reduce the environmental burdens of buildings by rewarding designs that take positive steps to minimise their environmental impacts. To deliver this, BREEAM sets out a standardised approach to sustainability.

BREEAM is a globally recognised scheme that shown to be a clear leader in sustainability in the built environment. BREEAM uses quantified measures to determine environmental quality based on the latest developments and research in the industry. BREEAM covers a host of issues associated with sustainability, which shall be realised through intelligent design, planning, execution and management.

Projects are assessed using a system of credits. The credits are grouped within the following categories:

- Management
- Health and Wellbeing
- Energy
- Transport
- Water
- Materials
- Waste
- Land Use and Site Ecological Value
- Pollution

The assessment process results in a report covering the issues assessed together with a formal certification giving a rating on a scale of 'Pass', 'Good', 'Very Good', 'Excellent' and 'Outstanding'.

6.2. 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.

The environmental weightings are as follows:

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%

The final BREEAM score will be made up of a combination of individual credits depending on the scope of the building and the preferred sustainability approach. The overall number of 'credits' achieved determine the performance of the overall assessment.

6.3. BREEAM SCOPE

Based on the scope of the works, the most appropriate BREEAM scheme is the Refurbishment & Fit Out Scheme 2014 'Part 3'. The assessment type was based on the following information;

- Refurbishment & Fit Out
- Change of use
- >500m^2
- New local services
- Not fully fitted i.e. 'Category A' Only fit out

The BREEAM credits scoped into the assessment can be seen in the BREEAM Tracker in the Appendix to this report.

The Tracker has two columns. The first one highlights the 'realistic' scenario. These are the credits that are deemed to be easily achieved.

The other 'potential' column looks at additional credits that can be added to boost the BREEAM rating. The tracker gives a brief summation of the requirements of each credit and provides commentary on all or some of the following; [1] If it can be achieved, [2] what the perceived value of the credit is and [3] whether the credit is recommended.

6.4. MANAGEMENT

This category encourages the adoption of sustainable management practices in connection with design, refurbishment, fit-out, commissioning, and handover and aftercare activities to ensure that robust sustainability objectives are set and followed through into the operation of the building. Specific measures considered include;

- Early discussions between the project team and the client on the project to ensure sustainability measures can be easily considered and adopted within the design.
- Using the Considerate Constructors Scheme to minimise the impact of construction process on the environment.
- Energy, water and transport records to be kept on site with the aim of reducing excessive resource use.
- A building user guide and training schedule which enables the building users to understand features within the building and use them more efficiently.
- Provision will be made following the building handover to ensure all systems and defects are managed.

6.5. HEALTH AND WELLBEING

This category encourages the increased comfort, health and safety of building occupants, visitors and others within the vicinity. Specific measures considered include;

- Considerate and efficient lighting design.
- A strategy covering issues relating to indoor air quality.
- Review building design and servicing strategy to be more comfortable for building users.
- Review the acoustic performance of the space.

6.6. ENERGY

This category encourages the specification and design of energy efficient building solutions, systems and equipment that support the sustainable use of energy in the building and sustainable management in the building's operation.

The refurbishment works provide a significant opportunity significant to upgrade and improve building services efficiency in line with modern day standards. Specific measures to reduce energy use could include;

- Provide an energy metering system that allows building users to record, monitor and manage energy use.
- Provide an energy efficient lift suited to the size and demand of the building.
- Provision of low energy lighting and high efficiency heating and cooling equipment.

6.7. TRANSPORT

This category encourages better access to sustainable means of transport for building users.

Due to the location of the site and its access to public transport services, the building will be highly accessible, close to amenities and promote sustainable transport modes.

Within the design there is already provision for and access to cycle storage based on a survey of building users. This is in line with the Camden Local Plan which aims to encourage cycling to work by ensuring buildings have the necessary cycle storage and facilities.

Works include the removal of car parking spaces, this change ensures there are no car parking spaces for commercial building users (only for residents living in flats above), which encourages building users to use more sustainable transport methods. This is line with the Camden Local Plan which aims to limit available car parking provision.

6.8. WATER

This category encourages sustainable water use in the operation of the building and its site.

The credits within this section focus on the use of new low water use fittings and the design approach to water leak prevention. Specific measures to reduce energy use could include;

- Specifying sanitary fittings with low water use.
- Water meter installed to help monitor water use.
- Install flow control devices to reduce risk of water leaks in restrooms.

There is no unregulated water use on site, nor any landscaping which required irrigation so the impact of the project on water use will be minimised.

6.9. MATERIALS

This category encourages steps taken to reduce the impact of construction materials through design, refurbishment, maintenance and repair.

The refurbishment of an existing building is the first positive step to reduce resource use when compared with building new premises for the same purpose. This is in line with the Camden Local Plan ensuring the needs of businesses for space in a suitable location it vital to the economy. The vast majority of the materials shall be retained and where possible, upgraded. Specific measures to reduce energy use could include;

- Specifying Green Guide 'A' rated materials which encourages the procurement of materials with a lower environmental impact.
- The contract will set out a clear framework for the responsible sourcing of materials.
- The use of Green Guide 'A' rated insulation products.

The repurposing of the space prevents excessive material use but does provide an opportunity to upgrade materials where desirable. The conservative use of materials has already been considered within the design, for example in this project the need for suspended ceiling systems has been mitigated.

6.10. WASTE

This category encourages the sustainable management of construction and operational waste through future maintenance and repairs associated with the building structure and interiors. Specific measures to reduce energy use could include;

- Carrying out a review to identify potential waste streams and maximise the potential to re-use the demolition materials.
- Managing construction waste levels in line with challenging targets.
- Considering how the building can be easily adapted/re-used in the future for other uses to reduce unnecessary new development.

6.11. LAND USE & ECOLOGY

This category was scoped out for the purposes of this assessment. Therefore no credits can be awarded in this section. However, the re-furbishment of an existing building has potential to protect biodiversity where this development could have occurred on Greenfield land.

6.12. POLLUTION

This category addresses the prevention and control of pollution and surface water run-off associated with the building's location and use. Specific measures to reduce energy use could include;

- The specification of refrigerant systems with a low environmental impact.
- Review noise to prevent excessive noise pollution levels.

The building will use new, efficient refrigerant systems compared to older models. This will provide an opportunity to use more modern, efficient technologies.

Due to the fact the building is a built up area next to two busy roads, and the plant is located indoors, it is unlikely the noise generated by the building plant will have any significant effect on noise pollution levels.

7. DISCUSSION & RECOMMENDATIONS

The Pre Assessment Tracker demonstrates that if a BREEAM assessment were carried out on the project as it currently stands, the overall score would be approximately 37.2% which would achieve a BREEAM 'Pass' rating. The relevant credits can be indentified in the 'realistic credits' column of the tracker.

The remaining credits were also assessed in terms of their feasibility. Additional credits were added to show what the project could achieve. The Tracker shows the 'Potential' score at 55.1% which is just over the benchmark for BREEAM 'Very Good'.

This score is significantly lower than would be needed at such an early time in the project's design development to say with certainty that BREEAM 'Very Good' can be achieved. Therefore its achievement is highly unlikely.

As previously discussed, many of the additional credits included within the 'potential' scenario may not provide any sustainability value to this particular project and could result in simply 'buying' credits to achieve a BREEAM rating.

The Pre Assessment tracker confirmed that achieving BREEAM 'Excellent' is realistically impossible. The additional credits required for 'Excellent' were excluded on the following grounds:

Credit	Name	Credits Available	Comment
Man 01	Sustainability Champion	2	This credit cannot be achieved as the project has progressed beyond RIBA Stage 1
Hea 02	Ventilation Air Quality	1	This credit cannot be achieved as the project is too close to the road and therefore within 20 meters of external pollution
Hea 02	Potential Adaptation for Natural Ventilation	1	Mechanical ventilation is specified as natural ventilation is unachievable. This also affects indoor air quality, acoustics and overheating/thermal comfort
Ene 04	Passive Design Analysis	1	The building is limited to the lower ground floor, therefore most passive measures are not applicable
Mat 01 + Exemplary	Life Cycle Impacts	5	All 'local' services will be new – this credit requires the re-use of local services
Pol 02	NOx Emissions	3	The building shall be heated/cooled via heat pumps, BREEAM accounts the NOx associated with electricity used to power the VRV and therefore cannot be achieved
Ene 01 [Exemplary]	Energy Consumption	1	The building must be 'zero carbon' , the project would have to add a significant amount of PV or LZC technology which may not be de facto possible and will add significant costs to the project

Given the costs of registering and certifying the project with the BRE and the fact the project is also only just over the threshold for an assessment to be carried out, it is arguable that conducting a BREEAM cannot be justified in terms of value for money. Therefore this may threaten the economic viability of the project is a full BREEAM assessment is undertaken.

Based on the outcomes of the BREEAM Pre assessment, it is not advocated that a BREEAM 'Excellent' is targeted as it is impossible to achieve.

A BREEAM rating of 'Very Good' could be achieved at a significant extra cost and pursuing this is unlikely to bring any significant additional sustainability value to the project.

Provided the project team follow the recommendations below, the majority of the principles of BREEAM will be followed in a more prudent, pragmatic and cost-effective way.

Recommendations for the design team;

- The design team shall continue to facilitate consultation amongst the design team to help identify ways to improve building performance.
- The project team shall seek advice on commissioning at an early stage to ensure. commissioning is fully accounted for within the programme of works to ensure services work as designed and at maximum efficiency.
- The project team shall specify products with a low VOC content to encourage a healthy air quality.
- The project team shall specify low flow taps, showers & WCs to restrict water use.
- The project team shall specify materials that have a lower environmental impact and are covered by an ISO 14001 or better where possible.
- The project team shall specify insulation with a green guide rating of 'A' and low GWP.
- The project team shall ensure all lighting is in line with CIBSE guidelines and is zoned appropriately to allow for occupant control and prevent wasted light.
- The project team shall consider specifying high efficiency heat pumps with a low GWP and refrigerant charge where possible.

Recommendations for the contractor;

- The contractor shall ensure the client is fully trained in all new systems and provide information on how the systems can be managed which can be made available to the building user.
- The contractor shall allow for aftercare provision that include meetings with the client and ensure any defects are rectified and the building operates efficiently and comfortably.
- The contractor to ensure the services are sized to ensure the correct levels of heating and cooling can be provided.
- The contractor to ensure all meters are labelled to ensure that building users can take meter readings and monitor energy use.
- The contractor shall aim to procure local materials where possible.
- The contractor to re-use demolition waste where possible.
- The contractor to split waste streams on site, limit construction waste levels and use recycling schemes where possible.
- The contractor shall construct and implement a Construction Management Plan to help identify and mitigate impacts of the construction process.
- The contractor shall sign up to the considerate constructors scheme.

- The contractor shall encourage sustainable transport of staff, materials and waste to site.
- The Council shall limit the effects of pollution and dust from construction works in line with best practice.

8. APPENDIX A PRE ASSESSMENT TRACKER

BREEAM Pre Assessment Tracker
Da Vinci House, Saffron Hill
BREEAM 2014 RFO Part 3

21st July 2017

By: H.B.

Checked: M.E.

Key / notes:

Credits for Very Good

55% needed for Very Good Rating

Realistic Credits	Potential Credits
Pass	Very Good
37.2%	55.1%

Ref	Credit Name	Max	Realistic Credits	Potential Credits	Requirements (simplified for ease of understanding)	Comment
Management Each credit is worth aprox 1%						
Man 01	Consultation [Project Delivery]	1	1	1	Project team to provide evidence of design team consultation	Project team already doing this in principle
	Consultation [Third Party]	1			Project team to get feedback from building users about design features and act on them	This typically requires a multiple consultation events, which can be time consuming and expensive and may not benefit the project due to its use and scale
	Sustainability Champion [Design]	1			Project team to appoint BREEAM AP before RIBA Stage 2	This cannot be achieved as the project has progressed beyond the point at which the credit can be achieved
	Sustainability Champion [Monitoring Progress]	1			Project team to appoint BREEAM AP before RIBA Stage 2	This cannot be achieved as the project has progressed beyond the point at which the credit can be achieved
Man 02	Elemental Life Cycle Cost	2			Project team to appoint a consultant to carry out a Life Cycle Cost report	The report is likely to have limited value due to the comparably small amount of new materials required
	Component Level LCC Plan	1			Project team to appoint a consultant to carry out a Component Cycle Cost report	The report is likely to have limited value due to the comparably small amount of new materials required
	Capital Cost Reporting	1	1	1	Project team to report capital cost of project	This credit is an 'easy win' and does not require any additional cost

Ref	Credit Name	Max	Realistic Credits	Potential Credits	Requirements (simplified for ease of understanding)	Comment
Man 03	Environmental Management	1			Contractor must be ISO 14001 certified	This may not be achievable if using a 'small' contractor for this scale of project
	Sustainability Champion	1		1	Project team to appoint a BREEAM AP to advise ensure ongoing BREEAM compliance throughout construction	This will be an extra cost but may not change the project's sustainable performance in a significant way
	Considerate Construction	2		1	Contractor to sign up to CCS scheme and achieve 35 points on final site visit	The construction process is likely to be comparably small in scale and impact so may not be of much value but the principels to be followed
	Construction Site Impacts	2		1	Contractor to monitor energy & water on site as well as all transport records	The construction process is likely to be comparably small in scale and impact so may not be of much value
Man 04	Commissioning & Responsibilities	1	1	1	Project team to ensure provisions are made early on for commissioning activities	This is typically done as part of any project
	Commissioning Building Services	1	1	1	Project team to appoint a specialist commissioning manager for undertaking commissioning reviews/giving advice	This will be an extra cost, however the principle can be typically done as part of the project anyway
	Handover	1		1	Project team to produce building user guide and training schedule for building users/client	The user guide is usually an additional cost, building training is typically undertaken anyway as part of the handover process
Man05	Aftercare support	1		1	Contractor to provide aftercare services to the client following handover	This may be an extra cost, or can be done as part of a typical project anyway
	Seasonal Commissioning	1		1	Contractor to provide commission services in different conditions up to 1 yr after handover	This will be the responsibility of the occupants
	Post Occupancy Evaluation	1			Client to commit to carry out an evaluation of building performance after 1 year of occupancy	This will be the responsibility of the occupants
Health & Well-being Each credit is worth aprox 1.5%						
Hea 01	Internal & External Lighting	1	1	1	Project team to ensure lighting levels are in line with current CIBSE standards and is zoned appropriately	This may already be done as part of the project

Ref	Credit Name	Max	Realistic Credits	Potential Credits	Requirements (simplified for ease of understanding)	Comment
Hea 02	Indoor Air Quality Plan	1	1	1	Project team to appoint a consultant to provide an indoor air quality plan	The principles will be adopted but the plan may be an additonal cost
	Ventilation Air Quality	1			Project team to ensure ventilation is designed in line with BS EN 13779:20071	The building is too close to the road to achieve this credit
	Potential Adaptation for Natural Ventilation	1			Project team to design all spaces to be naturally ventilated	The project shall have a mechanical ventilation for pollution, acoustic and thermal comfort reasons, therefore the credit is unachievable
Hea 04	Thermal Modelling	1		1	Project team to appoint a consultant to provide a thermal comfort report	This will be an extra cost, majority of the spaces will be artificially cooled to meet comfort conditions and so is unlikley to realistically change the design in any way
Hea 05	Acoustic Performance	2		1	Project team to appoint an acoustician to carry out pre-completion testing of the space to specific acoustic standards	For a project as small as this it would be unusual to undertake a full acoustic design
Energy Each credit is worth aprox 3.8%						
Ene 01	Energy Consumption	1	1	1	Project team to provide BRUKL or confirm services before and after refurbishment	The initial information provided by the team suggests this is achievable
Ene 02	Energy Sub Metering	1	1	1	Project team to provide an appropriate energy metering system to ensure 90% of energy consumption by fuel is metered	This requirement will be met by the project anyway as it is a building regulations requirement
	Sub Metering Department Areas	1	1	1	Project team to provide additional secondary meters to areas using significant energy use.	It is not anticipated any additional meters will be needed to achieve this credit
Ene 04	Passive Design Analysis	1			Project team to appoint consultant to do a passive design report	The building is limited to the ground/basement level of the building therefore it would not be feasible to carry out this analysis
Ene 06	Lift Specification	1	1	1	Project team to appoint consultant to complete a vertical transport demand analysis	This credit would be awarded by default as platform lifts are excluded from the requirements
	Energy Efficient Features	1	1	1	Project team to install a lift with the necessary energy efficient features i.e. Efficient lighting, Variable speed control	This credit would be awarded by default as platform lifts are excluded from the requirements
Transport Each credit is worth aprox 1.3%						
Tra 04	Car Parking Capacity	2	2	2	Project team to ensure car parking spaces are limited to 1 space per 6 building users	No parking is allocated to the building users (within the office space/scope of works)

Ref	Credit Name	Max	Realistic Credits	Potential Credits	Requirements (simplified for ease of understanding)	Comment
Water						
Wat 01	Water Fittings	5	2	2	Project team to install low water use fittings i.e. Taps, WC's	This is an 'easy win' , two credits are projected as a conservative estimate
Wat 02	Water Monitoring	1	1	1	Project team to ensure a water meter is fitted on the incoming supply to the refurbished area (if building is leasehold)	The design meets the requirement for this credit provided the water meter has a pulsed output and the WC areas consume >10% of the buildings annual water use
Wat 03	Solenoid Valves	1		1	Project team to install a solenoid valve to the WC area on the ground floor	This should be an easy and cost effective credit to achieve, however there is only one area in which this would apply
Materials						
Mat 01	Life Cycle Impacts	6			Project team to complete table confirming what %age of materials are re-used	As there is no local services that can be retained, no credits will be achieved in this issue
Mat 03	Sustainable Procurement Plan	1		1	Contractor to provide a Sustainable Procurement Plan which includes a commitment to responsible sourcing of materials	Depending on the contractor, this may be an 'easy win' however, it is unlikely. The contractor must commit to producing the plan for the purpose of this project
	Responsible Sourcing of Materials	3		1	Project team to specify three materials that are responsible sourced i.e. FSC timber +'BES 6001' concrete + 'BES 6001' plasterboard	Based on the scope of works, this should be achievable however the team would need to agree on the products used.
Mat 04	Insulation	1	1	1	Project team to ensure all insulation is Green Guide 'A' Rated	This is typically an 'easy win' as most large insulation manufacturers' products are Green Guide 'A' rated
Mat 06	Material Efficiency	1			Project team to hold meetings from RIBA Stage 1 onwards about material efficiency with the aim of designing out and minimising waste	This cannot be achieved as the project has progressed beyond RIBA Stage 1

Ref	Credit Name	Max	Realistic Credits	Potential Credits	Requirements (simplified for ease of understanding)	Comment
Waste						
Wst 01	Pre demolition Audit	1		1	Project team to carry out a predemolition audit with the aim of maximising material recovery and re-use	The concrete and steel constitutes the majority of demolition waste, all the steel shall be re-used and the concrete shall be diverted from landfill.
	Re-use and recycling of materials	2			Contractor to ensure a set %age of waste materials are directly re-used/recycled	This credit is high risk and rarely achieved as all types of waste are included in the target
	Construction Resource Efficiency	3	1	2	Contractor to ensure waste levels do not exceed a set target of <1.2 tonnes per 100m2 floor area	Two credits are projected as a conservative estimate
	Diversion of Resources from Landfill	1	1	1	Contractor to ensure 90% [tonnage] of construction waste and 95% [tonnage] demolition waste is diverted from landfill	This credit can be achieved provided the contractor monitors waste
Wst 06	Functional Adaptability	1	1	1	Project team to undertake a review of the functional adaptability of the refurbishment area and implement suggested measures into the design	This concept has already been considered within the design. Open plan spaces allow for future segregation and services can be relocated easily.
Pollution						
Pol 01	Impact of Refrigerant	3		1	Project team to ensure the refrigerant systems have a DEL CO2 of <100kgCO2	This credit can be achieved if the refrigerant systems are specified with the requirements in mind
Pol 02	NOx Emissions	3			Project team to ensure the plant used for space heating has a NOx level of <100mg/kWh	This credit cannot be achieved due to the high NOx level associated with grid electricity used to power the VRV system
Pol 03	Flood Risk	2	2	2	Project team to demonstrate the project is within a an area with a low probability of flooding	The Environmental Agency flood map shows the project is within a Floor Zone 1 (low probability of flooding)
Pol 05	Noise Pollution	1		1	Project team to appoint a consultant to provide a report which confirms the plant does not contribute to an increase in levels of noise pollution	This credit is an additional cost, however it is low risk as the plant is indoors and the background noise levels are likely to be high

Ref	Credit Name	Max	Realistic Credits	Potential Credits	Requirements (simplified for ease of understanding)	Comment
Exemplary Credits						
Man 03	Responsible construction practices CCS 40	1			The contractor must achieve in excess of 40 points on the final site visit	This is a risk item and means extra additional facilities must be provided for staff which may not be justifiable for a small site
Man 05	Aftercare 3yrs data collection	1			The client must commit to recording building data for up to three years	This will be the responsibility of the occupants
Ene 01	Energy Consumption	1			The BRUKL must confirm building achieves an EPR (NDR) ≥ 0.9 and zero net regulated CO2 emissions	This would be extremely challenging for a project of this nature as it would require changing the entire services strategy
Wat 01	Water consumption	1			The water using components of the building must achieve a very low level of water use	This often requires installing a greywater/rainwater system which there is no opportunity to do on this project
Mat 01	Life cycle impacts	1			The materials (services) within the scope of the credits must be mostly recycled/reused	This is rarely achieved, the services must be mostly recycled or re-used
Mat 03	Responsible sourcing of materials	1			Over half of all materials provided must be certified to BES 6001	This is rarely achieved, it is likely that not all materials used on the project have a BES 6001 rating
Wst 01	Construction waste management	1			Waste levels must be <0.3 tonnes per 100m2 of floor area and hit diversion from landfill targets	This is an extremely onerous requirement and has rarely been achieved

"Disclaimer: This credit tracker is meant to be used as document for tracking the BREEAM credits that have been targeted, it is is not a comprehensive list of the BREEAM actions.