

## Sustainability Statement

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Highgate Centre and AA Self Storage  
19 – 37 Highgate Road  
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## Contents

<b>1.</b>	<b>Introduction.....</b>	<b>1</b>
1.1.	Background .....	1
1.2.	Scope.....	1
1.3.	Purpose .....	1
1.4.	Relationship to other documents .....	1
1.5.	Structure .....	1
<b>2.</b>	<b>Planning Policy.....</b>	<b>2</b>
2.1.	National Policy .....	2
2.1.1.	National Sustainable Development Strategy .....	2
2.1.2.	National Planning Policy Framework .....	2
2.2.	Regional Policies .....	3
2.2.1.	London Plan 2015 .....	3
2.2.2.	Other London Policies .....	4
2.2.3.	London Borough of Camden Local Development Framework (2010) .....	4
<b>3.</b>	<b>BUILDING CERTIFICATION.....</b>	<b>6</b>
<b>4.</b>	<b>Sustainability .....</b>	<b>8</b>
4.1.	Energy .....	8
4.2.	Water .....	8
4.3.	Surface water run off.....	9
4.4.	Flood risk.....	9
4.5.	Ecology .....	9
4.6.	Transport.....	9
4.7.	Contamination .....	10
4.8.	Pollution .....	10
4.9.	Materials .....	10
4.10.	Construction.....	10
<b>5.</b>	<b>Appendix A – GLA SPG Sustainable Design and Construction .....</b>	<b>11</b>
5.2.2	INCREASING GREEN COVER .....	18
5.2.2	FLOODING .....	18
5.3	POLLUTION MANAGEMENT.....	19
5.3.1	LAND CONTAMINATION.....	19

## 1. Introduction

### 1.1. Background

Hilson Moran was appointed by Fortnum Developments to produce a Sustainability Statement in support of the proposed redevelopment of 19 – 37 Highgate Road and the neighbouring A&A Self Storage unit.

The site is located in the London Borough of Camden. The location of the site is shown Figure 1.



**Figure 1** Site Boundary plan

The use of the Site is currently split, with 19-37 Highgate Road currently used as a National Health Service (NHS) Day Centre and the adjacent unit currently used for self-storage purposes. Proposals for the Site comprise a mixed development with residential units, offices and relocation of the self-storage provision to below ground.

### 1.2. Scope

This document relates to the Greenwood Place development and is meant to be read as a stand-alone document. The document considers sustainability in the context of available local planning guidance.

### 1.3. Purpose

This document comprises Sustainability Statement Headlines for the Greenwood Place development and gives an overview of the infrastructure and management procedures that will ensure that the development operates under sustainable conditions as much as possible for the lifespan of the development. The Sustainability Statement Headlines will provide a framework for the developer to operate consistently with sustainability guidelines set out by the Greater London Authority. This document will be updated periodically as the design progresses.

### 1.4. Relationship to other documents

Other supporting documents which relate to this planning application include:

- Design & Access Statement (produced by Squire & Partners)
- Energy Strategy (produced by Hilson Moran)
- Acoustic Report (produced by Hilson Moran)
- Transport Assessment (produced by Motion)
- Flood risk assessment (produced by Hilson Moran)
- Ecology report (produced by Hilson Moran)
- Contaminated land report (produced by Hilson Moran)
- Planning statement (produced by Jon Dingle)

### 1.5. Structure

Following this introductory section, there is a comprehensive review of relevant national and local sustainability planning policy. Section 3 details the BREEAM / CfSH targets. Section 4 details the sustainability strategy proposed for the development. The report has the following appendices:

Appendix A – GLA Sustainability SPG checklist

Appendix B – CfSH pre assessment

Appendix C – BREEAM pre assessment

## 2. Planning Policy

### 2.1. National Policy

#### 2.1.1. National Sustainable Development Strategy

Sustainable Development policy as a subject separate from other environmental and socio-economic considerations started to develop in the late 1990s in the United Kingdom. The Sustainable Development Commission (SDC) is the Government’s independent adviser in sustainable development.

The first sustainable development strategy for the UK, titled “A better quality of life” was issued in 1999, supported by a baseline assessment of quality of life indicators in “Quality of life counts”.

“A better quality of life” outlines UK priorities for the future:

- more investment in people and equipment for a competitive economy;
- reducing the level of social exclusion;
- promoting a transport system which provides choice, and also minimises environmental harm and reduces congestion;
- improving the larger towns and cities to make them better places to live and work;
- directing development and promoting agricultural practices to protect and enhance the countryside and wildlife;
- improving energy efficiency and tackling waste; and
- working with others to achieve sustainable development internationally.

In addition, the document above outlines the definition of sustainable development policy in the UK, as reflecting the interaction of five principles, illustrated in Figure 2.

A revised sustainable development strategy, applicable only in England was produced in 2005 with an update of the UK Government Strategy Indicators. These documents group indicators into four key areas:

- Sustainable consumption and production;
- Climate change and energy;
- Protecting natural resources and enhancing the environment; and
- Creating sustainable communities and a fairer world.

This document concerns itself primarily with the first principle in Figure 2 – “Living within Environmental Limits”.

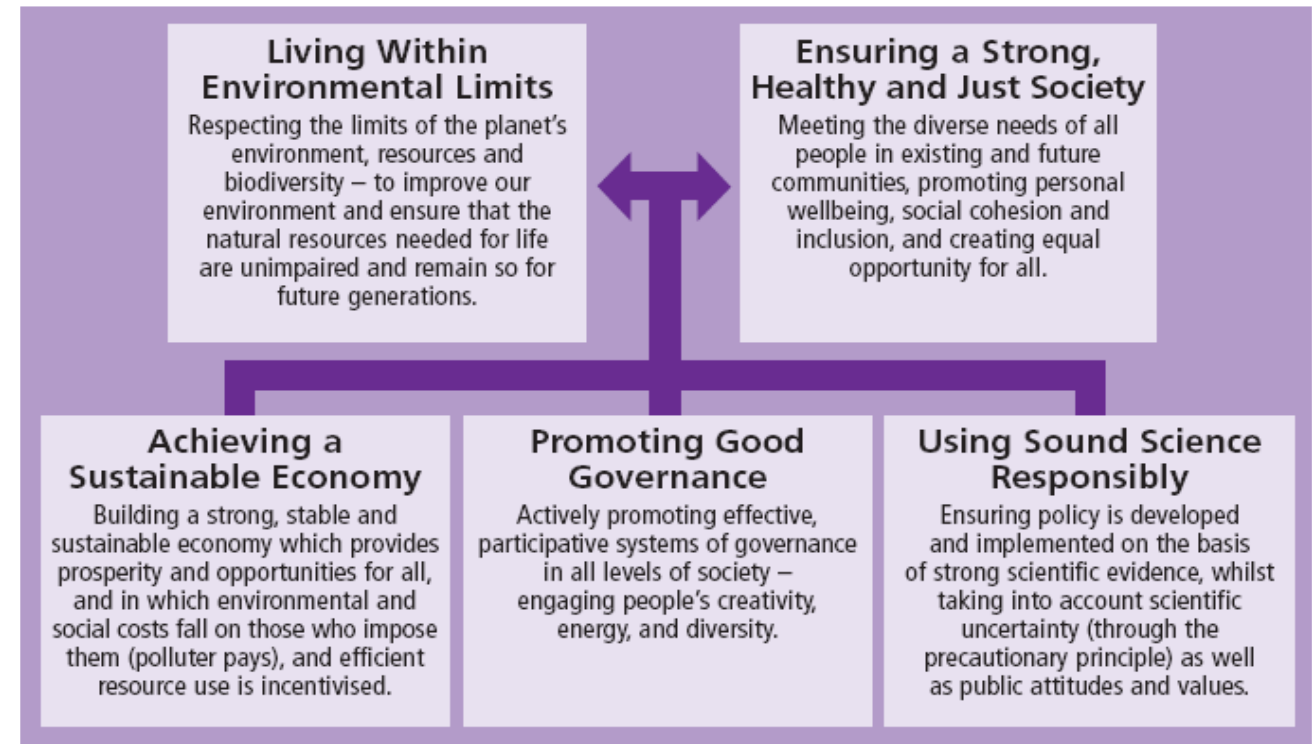


Figure 2 Shared principles of UK sustainable development policy

#### 2.1.2. National Planning Policy Framework

The National Planning Policy Framework was introduced in March 2012. This supersedes all Planning Policy Statements.

The NPP framework sets out the Government’s planning policies for England and how these are expected to be applied. Taken together, these policies articulate the Government’s vision of sustainable development, which should be interpreted and applied locally to meet local aspirations. The main relevant policies are:

- Paragraph-17: Support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change, and encourage the reuse of existing resources, including conversion of existing buildings, and encourage the use of renewable resources (for example, by the development of renewable energy);
- Paragraph-93: Planning plays a key role in helping shape places to secure radical reductions in greenhouse gas emissions, minimising vulnerability and providing resilience to the impacts of climate change, and supporting the delivery of renewable and low carbon energy and associated infrastructure. This is central to the economic, social and environmental dimensions of sustainable development
- Paragraph-95: To support the move to a low carbon future, local planning authorities should:
  - Plan for new development in locations and ways which reduce greenhouse gas emissions;
  - actively support energy efficiency improvements to existing buildings; and
  - when setting any local requirement for a building’s sustainability, do so in a way consistent with the Government’s zero carbon buildings Paragraph and adopt nationally described standards.

- Paragraph-96: In determining planning applications, local planning authorities should expect new development to:
  - Comply with adopted Local Plan policies on local requirements for decentralised energy supply unless it can be demonstrated by the applicant, having regard to the type of development involved and its design, that this is not feasible or viable; and
  - Take account of landform, layout, building orientation,
- Paragraph 97: To help increase the use and supply of renewable and low-carbon energy, local planning authorities should recognise the responsibility on all communities to contribute to energy generation from renewable or low-carbon sources. They should:
  - Have a positive strategy to promote energy from renewable and low-carbon sources, including deep geothermal energy;
  - Design their policies to maximise renewable and low-carbon energy development while ensuring that adverse impacts are addressed satisfactorily;
  - Consider identifying suitable areas for renewable and low-carbon energy sources, and supporting infrastructure, where this would help secure the development of such sources;
  - Support community-led initiatives for renewable and low carbon energy, including developments outside such areas being taken forward through neighbourhood planning;
  - Identify opportunities where development can draw its energy supply from decentralised, renewable or low carbon energy supply systems and for co-locating potential heat customers and suppliers.
- Paragraph 98: When determining planning applications, local planning authorities should:
  - not require applicants for energy development to demonstrate the overall need for renewable or low carbon energy and also recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions; and
  - Approve the application if its impacts are (or can be made) acceptable. Once suitable areas for renewable and low carbon energy have been identified in plans, local planning authorities should also expect subsequent applications for commercial scale projects outside these areas to demonstrate that the proposed location meets the criteria used in identifying suitable areas

## 2.2. Regional Policies

### 2.2.1. London Plan 2015

#### POLICY 5.2 MINIMISING CARBON DIOXIDE EMISSIONS

Development proposals should make the fullest contribution to minimising carbon dioxide emissions in accordance with the following energy hierarchy:

- Be lean: use less energy
- Be clean: supply energy efficiently
- Be green: use renewable energy

The Mayor will work with boroughs and developers to ensure that major developments meet the following targets for carbon dioxide emissions reduction in buildings. These targets are expressed as minimum improvements over the Target Emission Rate (TER) outlined in the national Building

Regulations leading to zero carbon residential buildings from 2016 and zero carbon non-domestic buildings from 2019.

Year	Improvement on 2010 Building Regulations
2010 – 2013	25 per cent (Code for Sustainable Homes level 4)
2013 – 2016	40 per cent (equivalent to 35% improvement to Part I 2013)
2016 – 2031	Zero carbon

#### POLICY 5.3 SUSTAINABLE DESIGN AND CONSTRUCTION

The highest standards of sustainable design and construction should be achieved in London to improve the environmental performance of new developments and to adapt to the effects of climate change over their lifetime.

Development proposals should demonstrate that sustainable design standards are integral to the proposal, including its construction and operation, and ensure that they are considered at the beginning of the design process.

Major development proposals should meet the minimum standards outlined in the Mayor's supplementary planning guidance and this should be clearly demonstrated within a design and access statement. The standards include measures to achieve other policies in this Plan and the following sustainable design principles:

- minimising carbon dioxide emissions across the site, including the building and services (such as heating and cooling systems)
- avoiding internal overheating and contributing to the urban heat island effect
- efficient use of natural resources (including water), including making the most of natural systems both within and around buildings
- minimising pollution (including noise, air and urban runoff)
- minimising the generation of waste and maximising reuse or recycling
- avoiding impacts from natural hazards (including flooding)
- ensuring developments are comfortable and secure for users, including avoiding the creation of adverse local climatic conditions
- securing sustainable procurement of materials, using local supplies where feasible, and
- promoting and protecting biodiversity and green infrastructure.

#### POLICY 5.6 DECENTRALISED ENERGY IN DEVELOPMENT PROPOSALS

Development proposals should evaluate the feasibility of Combined Heat and Power (CHP) systems, and where a new CHP system is appropriate also examine opportunities to extend the system beyond the site boundary to adjacent sites.

Major development proposals should select energy systems in accordance with the following hierarchy:

- a) Connection to existing heating or cooling networks;
- b) Site wide CHP network;
- c) Communal heating and cooling;

Potential opportunities to meet the first priority in this hierarchy are outlined in the London Heat Map tool. Where future network opportunities are identified, proposals should be designed to connect to these networks.

#### POLICY 5.9 OVERHEATING AND COOLING

The Mayor seeks to reduce the impact of the urban heat island effect in London and encourages the design of places and spaces to avoid overheating and excessive heat generation, and to reduce overheating due to the impacts of climate change and the urban heat island effect on an area wide basis.

Major development proposals should reduce potential overheating and reliance on air conditioning systems and demonstrate this in accordance with the following cooling hierarchy:

- a) minimise internal heat generation through energy efficient design
- b) reduce the amount of heat entering a building in summer through orientation, shading, albedo, fenestration, insulation and green roofs and walls
- c) manage the heat within the building through exposed internal thermal mass and high ceilings
- d) passive ventilation
- e) mechanical ventilation
- f) active cooling systems (ensuring they are the lowest carbon options).

Major development proposals should demonstrate how the design, materials, construction and operation of the development would minimise overheating and also meet its cooling needs. New development in London should also be designed to avoid the need for energy intensive air conditioning systems as much as possible. Further details and guidance regarding overheating and cooling are outlined in the London Climate Change Adaptation Strategy.

#### 2.2.2. Other London Policies

- **The Supplementary Planning Guidance on Sustainable Design & Construction (2014).** This provides specific guidance for achieving high standards in sustainable construction and design. It sets out the Mayor's priorities which as well as best practice measures.
- **Green Light to Clean Power (the Mayor's Energy Strategy) 2004** sets out the Mayor's proposal for the way energy is supplied and used in London. The strategy sets out the 'Energy Hierarchy' on which the Energy Strategy for the proposed development is based.

- **Connecting with London's Nature (The Mayor's Biodiversity Strategy) 2002** sets out proposals for promoting and protecting biodiversity in London to ensure there is no overall loss of wildlife habitat in London, and that more open space is made available to London's residents.
- **Cleaning London's Air (The Mayor's Air Quality Strategy) 2002**, there was recently a consultation out for the 2009 version of this document.
- **Rethinking Rubbish in London (The Mayor's municipal Waste Strategy) 2003** sets out plans to manage London's municipal waste until 2020 in accordance with the waste hierarchy. There is a new Draft Municipal Waste Strategy which is currently going through consultation.
- **Delivering London's Energy Future – The Mayor's Climate Change Mitigation and Energy Strategy (2011):** The strategy to reduce London's CO2 emissions, maximise low carbon economic opportunities, ensure a reliable energy supply is secured and to meet or possibly exceed national climate change and energy objectives.

#### 2.2.3. London Borough of Camden Local Development Framework (2010)

##### Camden Development Policy 22 promoting sustainability design and construction

The Council will require development to incorporate sustainable design and construction measures. Schemes must:

- a) demonstrate how sustainable development principles have been incorporated into the design and proposed implementation; and
- b) incorporate green or brown roofs and green walls wherever suitable.

The Council will promote and measure sustainable design and construction by:

- c) expecting new build housing to meet Code for Sustainable Homes Level 3 by 2010 and Code Level 4 by 2013 and encouraging Code Level 6 (zero carbon) by 2016.;
- d) expecting developments (except new build) of 500 sq m of residential floor space or above or 5 or more dwellings to achieve "very good" in EcoHomes assessments prior to 2013 and encouraging "excellent" from 2013;
- e) expecting non-domestic developments of 500sqm of floorspace or above to achieve "very good" in BREEAM assessments and "excellent" from 2016 and encouraging zero carbon from 2019.

The Council will require development to be resilient to climate change by ensuring schemes include appropriate climate change adaptation measures, such as:

- f) summer shading and planting;
- g) limiting run-off;
- h) reducing water consumption;
- i) reducing air pollution; and
- j) not locating vulnerable uses in basements in flood-prone areas.



Camden Development Policy 23 – Water

The Council will require development to reduce their water consumption, the pressure on the combined sewer network and the risk of flooding by:

- a) incorporating water efficient features and equipment and capturing, retaining and re-using surface water and grey water on site.
- b) Limiting the amount and rate of run off and waste water entering the combined storm water and sewer network through SUD's to reduce the risk of flooding
- c) Encouraging the provision of attractive and efficient water features



### 3. BUILDING CERTIFICATION

The proposed development seeks to minimise its impact on the environment by incorporating best practice sustainable design into the buildings. The sustainability aspects of the development will be assessed using the following environmental assessment methodologies:

- Retail units – BREEAM 2014 New construction (Shell and Core)
- Office – BREEAM 2014 New construction (Shell and Core)
- Residential – Building Regulations Part F, G and L.

The mix of buildings and proposed BREEAM targets along with sub targets for the development is set out in Table 1.

Description	Target Rating	Sub targets
Office	Excellent	Min of 60% of credits for water, Min of 40% for materials, Min 25% of energy will be targeted
Self Storage	Very good	Min of 60% of credits for water, Min of 40% for materials, Min 25% of energy will be targeted

Table 1 BREEAM Targets

Detailed BREEAM pre assessment reports have been prepared to support the detailed planning application which can be found in the appendix of this report.

In order to achieve a particular BREEAM 2014 rating for the retail and other commercial buildings, mandatory credits must be achieved. The mandatory credits applicable to the ‘Very good’ rating are highlighted in the Table 2.

The final BREEAM score is dependent on achieving the credit requirements for the minimum standards (mandatory credits), the tradable credits and the innovation credits. The tradable credits have an environmental rating applied to them to enhance or decrease the value of the credit depending on the perceived environmental rating of the credit.

	BREEAM NC Mandatory credits		
	Very good	Excellent	Outstanding
Man 03: Responsible construction practices	N/a	CCS between 25 and 34	CCS Score between 35 and 39
Man 04: Commissioning and handover	N/a	Building User Guide	Building User Guide
Man 5: Aftercare	N/a	Seasonal commissioning	Seasonal commissioning
Ene 01: Reduction of energy use and carbon emissions	N/a	EPR >0.375	EPR >0.60
Ene 02: Energy monitoring	Sub-metering	Sub-metering	Sub-metering
Wat 01: Water consumption	12.5% reduction	12.5% reduction	25% reduction
Wat 02: Water monitoring	water meter	water meter	water meter
Mat 03: Responsible sourcing of materials	Legally harvested and traded timber	Legally harvested and traded timber	Legally harvested and traded timber
Wst 01: Construction waste management	N/a	N/a	1 credit
Wst 03: Operational waste	N/a	Specific storage for recycled waste	Specific storage for recycled waste
LE03: Minimising impact on existing site ecology	change in ecological value of between 0 and -9 plant species	change in ecological value of between 0 and -9 plant species	change in ecological value of between 0 and -9 plant species

Table 2 BREEAM 2014 mandatory credits

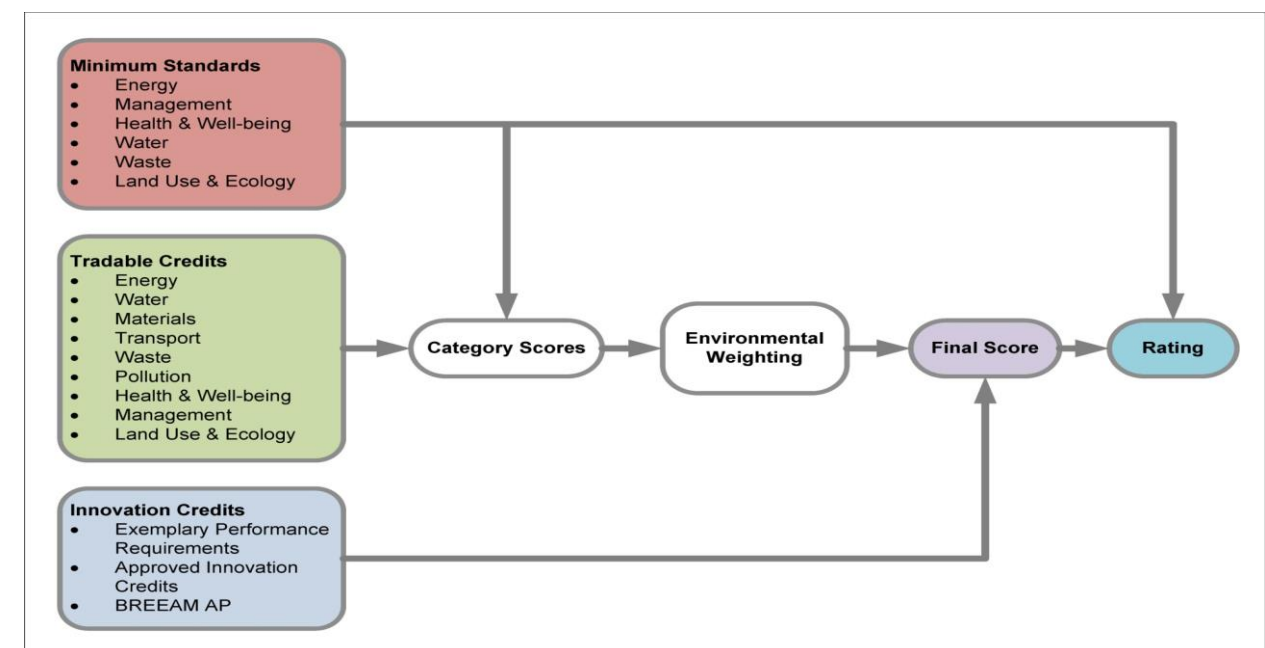


Figure 3 BREEAM score and rating

The BREEAM assessment process is set out in Figure 4. This is split into three distinct stages:

**Feasibility** – The initial design stage assessment is carried out by awarding points for environmental improvement within each of the categories based on a review of drawings and information supplied by the design team. Each credit is assessed as being definite, possible or difficult. The predicted score is based on the definite and possible scores being achieved in the final assessment.

**Consultancy** – The consultancy stage normally takes place from RIBA Stage C to E, where the individual credit are assessed in detail by the design team to ensure the credits requirements are incorporated into the design specifications and drawings. The pre assessment reports will be updated periodically during this period to show the status of the assessment.

**Assessment** – In order to be able to award each credit the design team / contractor must provide evidence in the form of details documented in the design drawings and specification according to the requirements in the technical guidance. The assessment process is normally carried out in two stages which are the interim stage assessment followed by the post-completion assessment. Following the successful quality assurance checks by the BRE the final BREEAM certificate of compliance is issued.

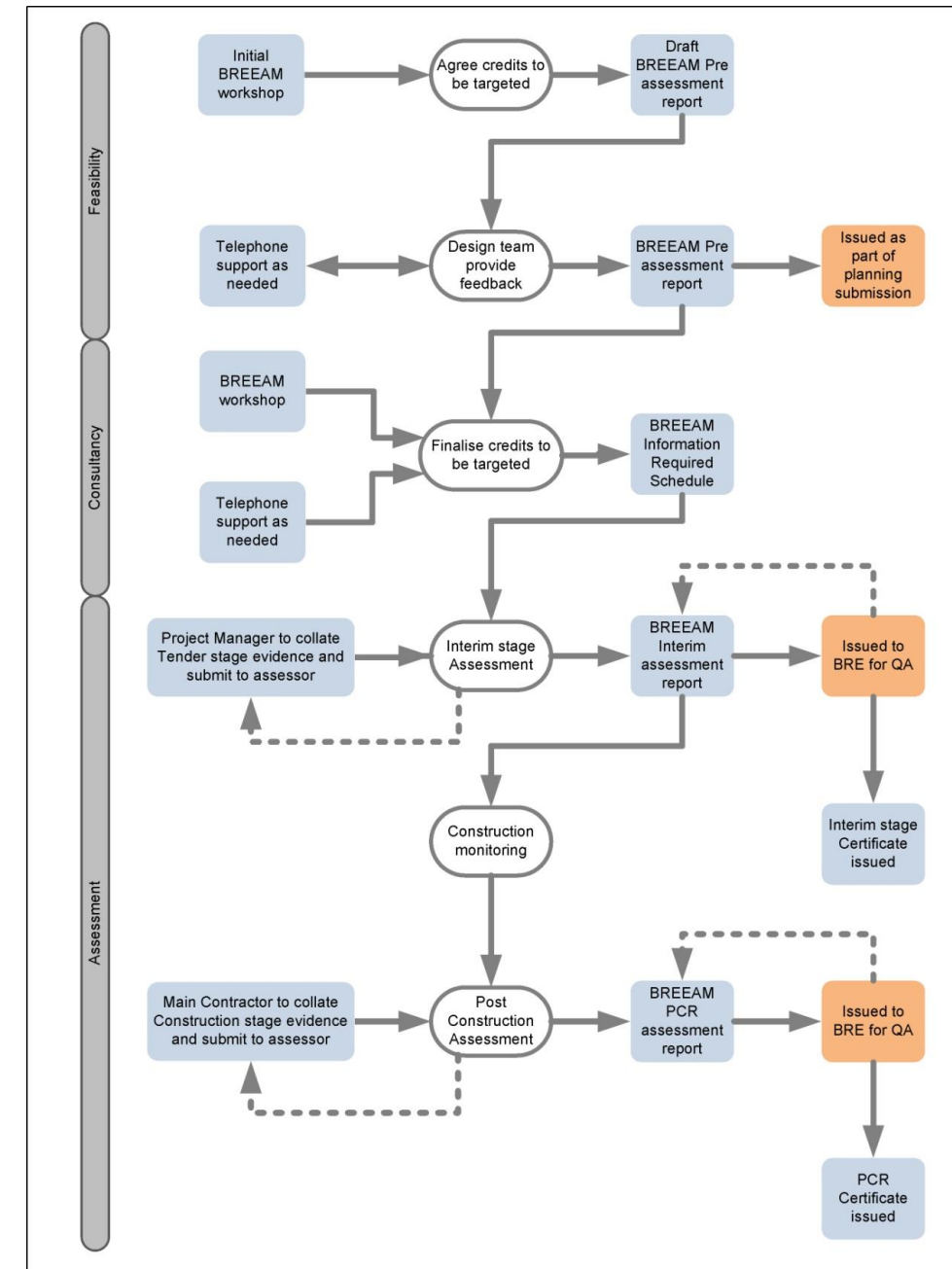


Figure 4 BREEAM assessment process

## 4. Sustainability

### 4.1. Energy

The Energy Strategy identifies the energy efficiency measures that have been assessed and incorporated throughout RIBA Stage 2 design to ensure compliance with, and where feasible, exceedance of relevant national, regional and local policy, including carbon dioxide (CO<sub>2</sub>) emissions reduction targets. The proposed design measures were considered using current industry Best Practice and applying the London Plan Energy Assessment guidance, resulting in an overall regulated CO<sub>2</sub> saving of 15.35%.

The methodology of this Energy Strategy robustly follows the London Plan’s Energy Hierarchy, as follows:

- **Be Lean:** A wide range of passive and energy efficiency measures are incorporated in the design, including very good levels of thermal insulation, building air tightness, daylight infiltration reducing reliance on artificial lighting, efficient artificial lighting and controls, as well as high efficiency building services that exceed Part L:2013 requirements and reduce the overall CO<sub>2</sub> emissions of the scheme.
- **Be Clean:** All low carbon technologies have been assessed for viability in the proposed scheme. Gas-fired CHP is proposed for the development, with the potential to connect to neighbourhood heating schemes in the future.
- **Be Green:** A detailed assessment of renewable energy opportunities and viability has been undertaken, which has determined that Air Source Heat Pumps (in heating mode), are a viable technology for integration into the scheme.

Measures that reduce the predicted CO<sub>2</sub> emissions from the proposed development have been considered and thoroughly assessed by the project team. Limiting factors include the urban context of the site, view constraints and a limited site footprint and roof area. Notwithstanding, all possible viable measures have been integrated into the proposed design and specification to result in a significant improvement beyond the Part L 2013 target emission rate.

### 4.2. Water

The potable water demand in the development will be minimised through best practice sanitary ware / equipment and best practice landscape irrigation. The following table sets out the proposed targets for water use reduction for this development.

Residential	Max 105 ltrs /person/day	Water efficiency calculator for new dwellings
Office	Min 25% improvement	BREEAM 2014 Wat1 water calculator
Retail	Min 25% improvement	BREEAM 2014 Wat1 water calculator

**Table 3** Water use targets

A detailed feasibility study of grey water harvesting has been carried out for the project. This appraised the following two options:

- Grey Water to serve residential elements of the site only (3,000ltr/day system)
- Grey Water to serve all elements of the site. (6,000ltr/day system)

The following table summarises the results of this study:

	Residential Only	All uses
Total daily water demand	11,600 ltrs	14,600 ltrs
Daily water available to feed into grey water system (baths / showers)	7,800 ltrs	8,800 ltrs
Daily toilet flushing demand	2,500 ltrs	4,500 ltrs
% water saved due to grey water system	21%	31%
Annual water demand met by grey water	900 m <sup>3</sup>	1,640m <sup>3</sup>
Annual water and sewerage savings	£1,855	£3,375
Installed cost of grey water system (excludes additional soil pipes and grey water distribution system)	£20,000	£30,000
Grey water maintenance (over 10 years)	£10,000	£14,000
Simple payback	16 years	13 years

**Table 4** Grey Water feasibility

Whilst both of these systems have the potential to reduce potable water consumption, the system payback is very long and considered unviable. In additional technical issues such as increased riser areas for additional soil pipes and grey water pipework reduce the overall efficiency of the building.

The following table lists out typical water efficient features and provides a recommendation on whether these should be considered / incorporated in the development.

	Description	Residential	Office
Water metering	Utility meters to have pulse outputs plus sub meters to each high water use area.	Yes	Yes
Major leak detection	Smart metering systems can identify when there is a major leak	Yes	Yes
Solenoid valves in toilet cores	Shuts off water in toilet core when nobody is using toilets preventing water being wasted due to dripping taps, etc	N/a	Yes
Presence detector taps	Shuts off water supply to taps when nobody is using them.	N/a	Yes
Low water flow taps	Taps to be selected with flow rates < 6.0ltrs/min. This reduces water use associated with taps. Reduces hot water demand.	Yes	Yes

	Description	Residential	Office
Low water flow showers	Showers to be selected with flow rates < 8ltrs/min. This reduces water use associated with taps. Reduces hot water demand.	Yes	Yes
Low water use toilets	Use 6/3 ltr ultra low flush toilets. Use 4/2.5 ltr ultra low flush toilets.	Yes Consider	Yes Consider
Water use urinals	Uses an one way valve (typically oil based) to stop smells.	N/a	Consider
Rain water Harvesting	Rainwater is collected from roofs and filtered before being held in a storage tank. Ideally storage tank is below ground to keep water cool to maximise water quality. Water is used for irrigation	No	No
Grey water harvesting	Water collected from basins / showers is collected and treated to be used as toilet flushing water	No	No
Landscape planting	Planting to be selected with a low water draught resistant or be 100% served by rainwater harvested water.	Yes	Yes

**Table 5** Water reduction initiatives

These strategies will be reviewed and developed during detail design to ensure the targets are achieved.

### 4.3. Surface water run off

In order to comply with the London Plan requirements, the development will provide at least 105m<sup>3</sup> of rainwater attenuation so as to limit run-off rate discharges leaving the site by 50% over the lifetime of the development. The attenuation to be achieved through the implementation of a combination of a storage tank and permeable paving in suitable areas of the site. The Site will be managed by the developer, who will take on responsibility for the maintenance of the installed Sustainable Drainage Systems (SuDS). The attenuated surface waters will be discharged eventually to the public sewer, with anti-flood valves included to prevent surcharge from the external outfall into properties. Infiltration SuDS were not considered appropriate due to the inclusion of a 2 storey basement across the whole site.

See the Flood Risk assessment prepared by Hilson Moran for more details.

### 4.4. Flood risk

Although the development site falls within Flood Zone 1 as identified by the Environment Agency for fluvial flooding, the site is at medium risk from surface water flooding over the lifetime of the development as a result of the collection of surface water in Greenwood Place. Constraints on the development prevent raising of the ground floor levels above the flood level identified. As a result, mitigation measures are required to provide flood resistance, with manually operated flood barriers along the north and western boundaries of the Site proposed to protect vulnerable areas of the site

from this risk. Responsibility for the installation of the barriers would remain with the site management, with a 24/7 presence on site.

See the Flood Risk assessment prepared by Hilson Moran for more details.

### 4.5. Ecology

Although the existing site is predominantly comprised of artificial habitats, the landscaping includes a number of scattered broadleaved trees that are considered to be of intrinsic biodiversity value at the Local scale due to their potential to support bird and invertebrate species. The field survey area was also identified to support Japanese knotweed (*Fallopia japonica*), an invasive non-native species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). Although the species is not present within the development footprint, presence along the boundary wall with the Christ Apostolic Church will require consideration during the construction phase to ensure the works remain legally compliant and ensure the potential threat of damage to the proposed development during operation is negated.

A range of mitigation measures have been proposed to ensure impacts upon biodiversity are minimised, with a range of ecological enhancements recommended to ensure the development delivers a biodiversity enhancement in line with planning policy requirements. The enhancement measures include appropriate landscaping of the site with species of known wildlife benefits and, where possible, of local provenance, and the provision of faunal habitat aids including bird boxes and bat roosts. Recommendations have also been provided to ensure the biodiversity features of the final development are maintained and continue to provide biodiversity benefits long-term.

See the Ecological Assessment prepared by Hilson Moran for more details.

### 4.6. Transport.

The site has an excellent level of accessibility to public transport. Public Transport Accessibility Levels (PTALs) provide a guide to the relative accessibility of an area. PTAL scores range from 1 to 6b, where 6b is the highest score and 1 is the lowest. Using the Transport for London (TfL) PTAL assessment methodology the site achieves a PTAL of 6a when measured from the centre of the application site. This rating suggests that the site has a very good level of accessibility to public transport services. Consequently the proposed development will be car free.

Cycle parking for the new dwellings will be provided in accordance with the adopted standards outlined in Section 2. The Further Alternations to the London Plan guidelines indicate that the development should provide a minimum of 102 cycle parking spaces for residents. It is therefore intended that one or two secure cycle parking spaces will be provided within each flat in a designated cycle cupboard. The additional spaces will be provided at 1<sup>st</sup> floor level and will hold a total of 39 cycles. In addition to this, 22 secure cycle spaces will be provided at the 1<sup>st</sup> floor level associated with the office space.

Convenient access to local facilities is provided via existing pedestrian infrastructure in the vicinity of the site. Highgate Road benefits from wide footways on either side. Greenwood Place benefits from a footpath on its western side which provides pedestrian links around the site. These footways also connect the site with the bus stops that are located on Highgate Road as well as providing a direct route to Kentish Town High Street. The TfL London Cycling Guide 7 and 14 highlights cycling routes in



the vicinity of the proposed development. Highgate Road is a recommended route by cyclists, as it is a quieter road, which poses good opportunities for cycling as a method of travel.

#### 4.7. Contamination

A Phase 1 and Phase 2 contamination assessment has been carried out.

Evidence of low levels of historic solvent contamination (trichloroethene 'TCE' and tetrachloroethylene 'PCE') within Made Ground deposits was recorded. The source of these solvents is strongly suspected to originate from the former ICI warehouses.

No evidence on onsite sources of these contaminants has been identified.

The concentrations of TCE and PCE (and associated degradation VOCs) recorded in soil samples are low. There is no evidence from this preliminary investigation that significant contamination exist at the application Site or that significant harm is presented to its users by any suspected residual contamination of soil underlying the Greenwood Place Community Centre.

The concentrations of solvents recorded in the borehole gas samples were all many thousand times lower than the Health and Safety Executive's Workplace Exposure Limits

The proposed development of the Site would entail the total removal of all Made Ground deposits and several metres of underlying clay for the construction of the basement. The basement foundations will be supported by a secant pile wall, effectively forming a barrier to soils and groundwater outside of the Site boundary.

See the Phase II Contamination Assessment prepared by Hilson Moran for more details

#### 4.8. Pollution

Noise pollution from the development will be avoided by ensuring that all plant and equipment is designed to be at least 10dB below the background noise levels. The background noise has been established by a noise survey.

Air pollution from the development will be minimised through the specification of Low NOx boilers and ensuring that the combined heat and power unit meets Appendix 7 of the SPG. See Air Quality report prepared by Hilson Moran for more details.

Light pollution will be avoided through the specification of efficient external lighting and complying with the ILS Guidance Notes for the Reduction of Obstrusive Light.

#### 4.9. Materials

The design intent is to ensure as many of the materials are sustainably sourced and do not have a high embodied energy. Materials will be selected where possible from the BRE Green Guide to minimise the embodied energy. The BREEAM scheme award credits for responsible sourcing and embodied energy.

At this early stage of the design process material selections and sourcing decisions have not been made. This will be considered in detail as the design progresses with the aim to secure as many

BREEAM credits are practically achievable. At this stage a conservative estimate has been made in the BREEAM pre assessments and the aim will be to improve on these scores where possible.

Where ever possible and appropriate recycled materials will be incorporated into the design. The structural design will aim to be as 'lean' as possible, maximising the use of direct load paths wherever possible to minimise materials. Wherever possible the VOC content of paints, glues and carpets, etc will be minimised.

It is envisaged that:

- All timber and timber products will be responsibly sourced. (FSC certified, applies to formwork and other miscellaneous items)
- Peat & natural limestone will not be specified.
- All materials and insulation products shall have a GWP < 5.

Refer to Design and Access Statement for more details.

#### 4.10. Construction

A site waste management plan will be developed for the project during the detailed design stage of the project. This will aim to minimise the waste created and ensure that at least 80% of waste is diverted from landfill.

All demolition will be carried out in accordance with ICE protocol.

The contractor will be contractually responsible for ensuring the site is managed in accordance with best practice. A Considerate Constructors Scheme score of 35 is currently targeted.

Throughout the construction process the main contractor will be required to:

- Monitor the environmental impacts of their activities by setting targets and recording energy and water consumption throughout construction.
- Operate an ISO14001 compliant Environmental Management System.
- Ensure that all temporary site timber used during construction complies with the UK Government Timber Procurement Policy by ensuring that 100% of temporary site timber is FSC or PEFC certified.
- Implement best practice dust and pollution prevention measures.

The main contractor will also be encouraged to monitor the carbon dioxide emissions arising from the transport of construction materials waste materials to and from the site.



## 5. Appendix A – GLA SPG Sustainable Design and Construction

MP: Mayor's Priorities MBP: Mayor's Best Practice	LONDON PLAN POLICY	RELATED BREEAM CREDITS	APPLICABLE TO DEVELOPMENT	
<b>5.1 RESOURCE MANAGEMENT</b>				
<b>5.1.1 LAND</b>				
<b>OPTIMISING THE USE OF LAND</b>				
<b>MP:</b> Through both their Local Plans and planning decisions, boroughs should ensure development patterns reflect the strategic spatial vision for London's growth as set out in Chapter 2 of the London Plan.	1.1, 2.6, 2.7, 2.8, 2.9, 2.10, 2.11, 2.12, 2.13, 2.14, 2.15, 2.16, 2.17, 2.18, 3.3, 6.1		<input checked="" type="checkbox"/>	The site layout and building massing have been optimised to ensure both maximum development of the site and high quality internal spaces are achieved as well as community contributions are achieved as per the 'Development Agreement'.
<b>MP:</b> Through both their Local Plans and planning decisions, boroughs should aim for 100% of development to be delivered on previously developed land.	1.1, 3.3	Man 05	<input checked="" type="checkbox"/>	
<b>MP:</b> Developers should optimise the scale and density of their development, considering the local context, to make efficient use of London's limited land.	3.4, 4.3, 7.6		<input checked="" type="checkbox"/>	
<b>BASEMENTS AND LIGHTWELLS</b>				
<b>MBP:</b> Where there is pressure for basement developments, boroughs should consider whether there are any particular local geological or hydrological issues that could particularly affect their construction, and adopt appropriate policies to address any local conditions.	3.5, 5.12, 5.13, 5.14, 7.13, 7.19, 7.21		<input checked="" type="checkbox"/>	A Basement Impact Assessment (BIA) has been carried out for the site, (Ref: 19 Greenwood place, London-Basement impact assessment – CG/18500). This Assessment addresses all of the points within the "Basement and Lightwell" section. This report is to be issued with the planning application to the local council.  This will also be issued to future contractors for information and specific construction requirements.  The neighbouring properties are all substantially set back from the site boundary and separated either by private landscaping (to the church) or by public highways (Greenwood Place and Highgate Road). As a consequence, the impact on neighbouring properties in terms of construction vibration will be minimal. The BIA has identified the development as "Category 1" (the lowest rating)
<b>MP:</b> When planning a basement development, developers should consider the geological and hydrological conditions of the site and surrounding area, proportionate to the local conditions, the size of the basement and lightwell and the sensitivity of adjoining buildings and uses, including green infrastructure.	5.12, 5.13, 7.13, 7.19		<input checked="" type="checkbox"/>	
<b>MP:</b> When planning and constructing a basement development, developers should consider the amenity of neighbours.	5.3, 5.18, 6.3, 7.14, 7.15	Man 02	<input checked="" type="checkbox"/>	
<b>LOCAL FOOD GROWING</b>				
<b>MP:</b> To protect existing established food growing spaces.	2.18, 3.2, 5.3, 5.10, 5.11,		<input checked="" type="checkbox"/>	Private amenity spaces will be provided to each residential unit (either balconies or patios at ground floor level). This will allow opportunity for residents to grow plants if they choose to do so. Likewise, a generous
<b>MBP:</b> To provide space for individual or communal food growing, where possible and appropriate.			<input checked="" type="checkbox"/>	



MP: Mayor's Priorities MBP: Mayor's Best Practice	LONDON PLAN POLICY	RELATED BREEAM CREDITS	APPLICABLE TO DEVELOPMENT	
MBP: To take advantage of existing spaces to grow food, including adapting temporary spaces for food growing.	5.21, 7.18, 7.22.		<input checked="" type="checkbox"/>	roof terrace will be provided to the serviced office space at second floor level. If the operator or tenants choose to do so, they will have substantial space for growing of plants.
<b>5.1.2 SITE LAYOUT AND BUILDING DESIGN</b>				
MBP: Any existing buildings that can be practically refurbished, retrofitted, altered, or extended should be retained and reused.	5.3, 5.4	LE 01	<input checked="" type="checkbox"/>	<p>A diverse mix of uses will be provided on the site including assisted living units, private residential units, office space and self-storage space.</p> <p>The existing buildings on the site are in poor state of repair and do not contribute positively to the streetscape. Likewise, the trees that exist on the site are not considered to be of great ecological value – two of the three are wild and the third is an ornamental cherry tree.</p> <p>The proposed development incorporates a greater area of publically accessible open space than the current site configuration does. This public open space is provided in the form of a pedestrian route that connects Highgate Road to the proposed Greenwood Centre.</p> <p>The layout of residential blocks has been organised in order to optimise the number of dual aspect and south facing units.</p> <p>A green roof is proposed to the roof of Building 2 penthouse, along with a brown 'sedum' roof to Building 1 and areas of planting are proposed in the public route between Buildings 1 and 2.</p> <p>Natural ventilation via opening windows is proposed to all residential units.</p> <p>Noise disturbance from Highgate Road will be avoided in the office space, through use of mechanical ventilation and cooling.</p> <p>Flood risk will be mitigated through provision of flood gates that can be manually installed in the event of a flash flood.</p>
MBP: A mix of uses, where suitable should be included to provide a range of services commensurate to the public transport accessibility.	4.3		<input checked="" type="checkbox"/>	
<p>MP: The design of the site layout, footprint, scale and height of buildings as well as the location of land uses should consider:</p> <p><b>EXISTING FEATURES</b></p> <p>the possible retention and reuse of existing buildings and structures; and the retention of existing green infrastructure, including trees and potential for its improvement and extension;</p> <p><b>NEW DESIGN OF DEVELOPMENT</b></p> <ul style="list-style-type: none"> <li>the existing landform;</li> <li>the potential to take advantage of natural systems such as wind, sun and shading;</li> <li>the principles sets out London Plan policies 7.1 and 7.6;</li> <li>the potential for adaption and reuse in the future;</li> <li>potential for incorporating green infrastructure;</li> <li>potential for incorporating open space, recreation space, child play space;</li> <li>energy demands and the ability to take advantage of natural systems and low and zero carbon energy sources;</li> <li>site wide infrastructure;</li> <li>access to low carbon transport modes;</li> <li>potential to address any local air quality, noise disturbance, flooding and land contamination issues; and</li> <li>the potential effect on the micro-climate.</li> </ul>	2.18, 5.2, 5.3, 5.4, 5.6, 5.7, 5.9, 5.10, 5.11, 5.12, 5.13, 5.16, 5.18, 5.21, 6.1, 6.7, 6.9, 6.10, 7.1, 7.6, 7.14, 7.15, 7.18, 7.19, 7.21, 7.22	Mat 01	<input checked="" type="checkbox"/>	



MP: Mayor's Priorities MBP: Mayor's Best Practice	LONDON PLAN POLICY	RELATED BREEAM CREDITS	APPLICABLE TO DEVELOPMENT																			
<b>5.1.3 Energy And Carbon Dioxide Emissions</b>																						
<p><b>MP:</b> The overall carbon dioxide emissions from a development should be minimised through the implementation of the energy hierarchy set out in London Plan policy 5.2.</p> <p><b>MP:</b> Developments should be designed to meet the following Regulated carbon dioxide standards, in line with London Plan policy 5.2.</p> <p><b>Residential buildings</b></p> <table border="1"> <thead> <tr> <th>Year</th> <th>Improvements beyond 2010 Building Regulations</th> </tr> </thead> <tbody> <tr> <td>2010 - 2013</td> <td>25 per cent</td> </tr> <tr> <td>1st October 2013 - 2016</td> <td>40 per cent</td> </tr> <tr> <td>2016 - 2031</td> <td>Zero carbon</td> </tr> </tbody> </table> <p><b>Non-domestic buildings</b></p> <table border="1"> <thead> <tr> <th>Year</th> <th>Improvements beyond 2010 Building Regulations</th> </tr> </thead> <tbody> <tr> <td>2010 - 2013</td> <td>25 per cent</td> </tr> <tr> <td>1st October 2013 - 2016</td> <td>40 per cent</td> </tr> <tr> <td>2016 - 2019</td> <td>As per the Building Regulation requirements</td> </tr> <tr> <td>2019 - 2031</td> <td>Zero carbon</td> </tr> </tbody> </table> <p>Note: <i>The above targets were updated relative to 2013 Building Regulations. The 2013-2016 target for new developments is 35% beyond 2013 Building Regulations.</i></p> <p><b>MBP:</b> Developments should contribute to ensuring resilient energy infrastructure and a reliable energy supply, including from local low and zero carbon sources.</p> <p><b>MBP:</b> Developers are encouraged to include innovative low and zero carbon technologies to minimise carbon dioxide emissions within developments and keep up to date with rapidly improving technologies.</p>	Year	Improvements beyond 2010 Building Regulations	2010 - 2013	25 per cent	1st October 2013 - 2016	40 per cent	2016 - 2031	Zero carbon	Year	Improvements beyond 2010 Building Regulations	2010 - 2013	25 per cent	1st October 2013 - 2016	40 per cent	2016 - 2019	As per the Building Regulation requirements	2019 - 2031	Zero carbon	5.2, 5.3	Ene 01, 02, 03, 04	<input checked="" type="checkbox"/>	<p>The Energy Strategy identifies the energy efficiency measures that have been assessed and incorporated throughout RIBA Stage 2 design to ensure compliance with, and where feasible, exceedance of relevant national, regional and local policy, including carbon dioxide (CO<sub>2</sub>) emissions reduction targets. The proposed design measures were considered using current industry Best Practice and applying the London Plan Energy Assessment guidance, resulting in an overall regulated CO<sub>2</sub> saving of <b>15.35%</b>.</p> <p>Fabric and system efficiency figures used in the assessments need to be verified for viability during future</p> <p>The methodology of this Energy Strategy robustly follows the London Plan's Energy Hierarchy, as follows:</p> <ul style="list-style-type: none"> <li>• Be Lean: A wide range of passive and energy efficiency measures are incorporated in the design, including very good levels of thermal insulation, building air tightness, daylight infiltration reducing reliance on artificial lighting, efficient artificial lighting and controls, as well as high efficiency building services that exceed Part L:2013 requirements and reduce the overall CO<sub>2</sub> emissions of the scheme.</li> <li>• Be Clean: All low carbon technologies have been assessed for viability in the proposed scheme. Gas-fired CHP is proposed for the development, with the potential to connect to neighbourhood heating schemes in the future.</li> <li>• Be Green: A detailed assessment of renewable energy opportunities and viability has been undertaken, which has determined that Air Source Heat Pumps (in heating mode), are a viable technology for integration into the scheme.</li> </ul>
Year	Improvements beyond 2010 Building Regulations																					
2010 - 2013	25 per cent																					
1st October 2013 - 2016	40 per cent																					
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	5.2	<input checked="" type="checkbox"/>																				
	5.1, 5.5, 5.6, 5.7, 5.8, 5.17	<input checked="" type="checkbox"/>																				
	5.2, 5.17	<input checked="" type="checkbox"/>																				
<b>ENERGY DEMAND ASSESSMENT</b>																						





MP: Mayor's Priorities MBP: Mayor's Best Practice	LONDON PLAN POLICY	RELATED BREEAM CREDITS	APPLICABLE TO DEVELOPMENT	
MP: Development applications are to be accompanied by an energy demand assessment	5.2	Ene 01, 02	<input checked="" type="checkbox"/>	<ul style="list-style-type: none"> <li>The Energy Strategy report includes information the Energy demand assessment of the proposed development</li> </ul>
<b>USE LESS ENERGY</b>				
MP: The design of developments should prioritise passive measures.	5.2, 5.3, 5.9	Ene 01, 02	<input checked="" type="checkbox"/>	<ul style="list-style-type: none"> <li>Passive design measures are described in the Energy Strategy report in the context of the London Plan's 'Be Lean' tier of the Energy Hierarchy.</li> </ul>
MBP: Developers should aim to achieve Part L 2010 Building Regulations requirements through design and energy efficiency alone, as far as is practical.	5.2, 5.3		<input checked="" type="checkbox"/>	
<b>EFFICIENT ENERGY SUPPLY</b>				
MP: Where borough heat maps have identified district heating opportunities, boroughs should prepare more detailed Energy Master Plans (EMPs) to establish the extent of market competitive district heating networks.	5.5, 5.6	Ene 04	<input checked="" type="checkbox"/>	<ul style="list-style-type: none"> <li>The development is not close to any existing or proposed district heating schemes. A site wide community heating system with a micro CHP is proposed.</li> <li>Sleeves and a route for future district heating will be safeguarded to allow connection in the future.</li> <li>A site wide community heating system with micro CHP is proposed to provide low carbon heat to the development.</li> <li>See Energy Strategy prepared by Hilson Moran for more details</li> </ul>
MP: Developers should assess the potential for their development to: <ul style="list-style-type: none"> <li>connect to an existing district heating or cooling network;</li> <li>expand an existing district heating or cooling network, and connect to it; or</li> <li>establish a site wide network, and enable the connection of existing buildings in the vicinity of the development.</li> </ul>			<input checked="" type="checkbox"/>	
MP: Where opportunities arise, developers generating energy or waste heat should maximise long term carbon dioxide savings by feeding the decentralised energy network with low or zero carbon hot, and where required, cold water.			<input checked="" type="checkbox"/>	
<b>RENEWABLE ENERGY</b>				
MP: Boroughs and neighbourhoods should identify opportunities for the installation of renewable energy technologies in their boroughs and neighbourhoods.	5.4, 5.7	Ene04	<input checked="" type="checkbox"/>	<ul style="list-style-type: none"> <li>The Energy Strategy report incorporates a feasibility study of renewable energy technologies considered.</li> </ul>
MP: Major developments should incorporate renewable energy technologies to minimise overall carbon dioxide emissions, where feasible.	5.7		<input checked="" type="checkbox"/>	



MP: Mayor's Priorities MBP: Mayor's Best Practice	LONDON PLAN POLICY	RELATED BREEAM CREDITS	APPLICABLE TO DEVELOPMENT	
<b>5.1.4 CARBON DIOXIDE OFFSETTING</b>				
MP: Boroughs should establish a carbon off-set fund and identify suitable projects to be funded.	5.2, 5.4		<input checked="" type="checkbox"/>	<ul style="list-style-type: none"> <li>The shortfall from the 35% London Plan Policy 5.2 target CO<sub>2</sub> reduction target is reported in the Energy Strategy report in accordance with the Mayor's 'Energy Planning' guide (2014).</li> <li>The development has a shortfall of 42.3tonnes of CO<sub>2</sub> per annum from the London Plan Policy 5.2 target emissions reduction of 35% relative to 2013 Building Regulations.</li> </ul>
Where developments do not achieve the Mayor's carbon dioxide reduction targets set out in London Plan policy 5.2, the developer should make a contribution to the local borough's carbon dioxide off-setting fund.		Ene 01, 02, 03, 04	<input checked="" type="checkbox"/>	
<b>5.1.5 RETROFITTING</b>				
MP: Boroughs should set out policies to encourage the retrofitting of carbon dioxide and water saving measures in their borough.	5.4, 5.15	Ene 01, Ene 02, Wat 01	<input checked="" type="checkbox"/>	
MP: Where works to existing developments are proposed developers should retrofit carbon dioxide and water saving measures.			<input checked="" type="checkbox"/>	
<b>5.1.6 MONITORING ENERGY USE</b>				
MBP: Developers are encouraged to incorporate monitoring equipment and systems where appropriate to enable occupiers to monitor and reduce their energy use.	5.2, 5.3	Ene 08	<input checked="" type="checkbox"/>	<ul style="list-style-type: none"> <li>Each dwelling will have a utility electricity meter and a heat meter.</li> <li>Metering will be provided for the commercial/landlord areas in accordance with CIBSE TM39.</li> </ul>
<b>5.1.7 SUPPORTING A RESILIENT ENERGY SUPPLY</b>				
MBP: Developers are encouraged to incorporate equipment that would enable their schemes to participate in demand side response opportunities.	5.2, 5.3		<input checked="" type="checkbox"/>	<ul style="list-style-type: none"> <li>As per 5.1.6 above.</li> </ul>
<b>5.1.8 WATER EFFICIENCY</b>				
MP: Developers should maximise the opportunities for water saving measures and appliances in all developments, including the reuse and using alternative sources of water.	5.3, 5.13, 5.15	Wat 01, Wat 03	<input checked="" type="checkbox"/>	<ul style="list-style-type: none"> <li>The dwellings will be designed to meet a water consumption rate of 105 litres or less per person per day by the use of low water use fixtures and fittings.</li> <li>Rainwater retention/harvesting is not proposed. Rain water attenuation is proposed.</li> <li>Utility domestic cold water meters will be provided to each dwelling.</li> <li>Utility domestic cold water meters will be provided to the office and self storage unit</li> <li>Major leak detection systems will be installed on the water supplies to the office and self storage unit.</li> </ul>
MP: Developers should design residential schemes to meet a water consumption rate of 105 litres or less per person per day.	5.3, 5.15		<input checked="" type="checkbox"/>	
MP: New non-residential developments, including refurbishments, should aim to achieve the maximum number of water credits in a BREEAM assessment or the 'best practice' level of the AECB (Association of Environment Conscious Building) water standards.			<input checked="" type="checkbox"/>	
MP: Where a building is to be retained, water efficiency measures should be retrofitted.	5.3, 5.13, 5.15		<input checked="" type="checkbox"/>	



MP: Mayor's Priorities MBP: Mayor's Best Practice	LONDON PLAN POLICY	RELATED BREEAM CREDITS	APPLICABLE TO DEVELOPMENT	
MP: All developments should be designed to incorporate rainwater harvesting.			<input checked="" type="checkbox"/>	
MBP: All residential units, including individual flats / apartments and commercial units, and where practical, individual leases in large commercial properties should be metered.	5.15		<input checked="" type="checkbox"/>	
<b>5.1.9 MATERIALS AND WASTE</b>				
<b>DESIGN PHASE</b>				
<p>MP: The design of development should prioritise materials that:</p> <ul style="list-style-type: none"> <li>• have a low embodied energy, including those that can be re-used intact or recycled;</li> <li>• at least three of the key elements of the building envelope (external walls, windows roof, upper floor slabs, internal walls, floor finishes / coverings) are to achieve a rating of A+ to D in the BRE's The Green Guide of specification;</li> <li>• can be sustainably sourced;</li> <li>• at least 50% of timber and timber products should be sourced from accredited Forest Stewardship Council (FSC) or Programme for the Endorsement of forestry Certification (PEFC) source;</li> <li>• are durable to cater for their level of use and exposure; and will not release toxins into the internal and external environment, including those that deplete stratospheric ozone</li> </ul>	5.3, 5.20, 7.6, 7.14	Mat 01, Mat 02, Mat 03, Hea 03, Pol 01	<input checked="" type="checkbox"/>	<ul style="list-style-type: none"> <li>• All new timber used in the project will be sourced in accordance with the UK Government's Timber Procurement Policy. The majority of building materials will be sourced responsibly in accordance with supply chain tiers established by the BREEAM Mat 02 methodology. This includes a requirement for timber to be FSC or PEFC certified.</li> <li>• Insulation materials used in the building fabric and for building services will also have a high Green Guide rating and will be responsibly sourced to comply with BREEAM Mat 03 requirements.</li> <li>• Paints, varnishes and materials used to fit out the apartments will meet the testing requirements and emissions levels for Volatile Organic Compounds (VOC) emissions against relevant standards listed by BREEAM Hea 03.</li> <li>• All materials used in the construction will have a rating of D to A+.</li> </ul>
MBP: The design of developments should maximise the potential to use pre-fabrication elements.	5.3, 7.6		<input checked="" type="checkbox"/>	
<b>CONSTRUCTION PHASE</b>				
MP: Developers should maximise the use of existing resources and materials and minimise waste generated during the demolition and construction process through the implementation of the waste hierarchy.	5.3, 5.17	Wst 03	<input checked="" type="checkbox"/>	<ul style="list-style-type: none"> <li>• A pre-refurbishment audit of the existing building is required through the targeted BREEAM Wst 03 credit.</li> <li>• A Site Waste Management Plan will identify opportunities to minimise and divert waste from landfill. Demolition material, where present should be included in the audit.</li> </ul>





MP: Mayor's Priorities MBP: Mayor's Best Practice	LONDON PLAN POLICY	RELATED BREEAM CREDITS	APPLICABLE TO DEVELOPMENT	
<b>HEAT AND DROUGHT RESISTANT PLANTING</b>				
<b>MBP:</b> The design of developments should prioritise landscape planting that is drought resistant and has a low water demand for supplementary watering.	5.3, 5.15	Wat 02	<input checked="" type="checkbox"/>	The landscape planting will be considered during the next design stage. The design will prioritise planting which is drought resistant or has a low water demand, whilst seeking maximum BREEAM credits for ecological enhancement.
<b>RESILIENT FOUNDATIONS</b>				
<b>MBP:</b> Developers should consider any long term potential for extreme weather events to affect a building's foundations and to ensure they are robust.	5.3, 7.6		<input checked="" type="checkbox"/>	The Buildings foundations are/will be designed to all current standards which allow for flooding of the site and surrounding areas.
<b>5.2.2 INCREASING GREEN COVER</b>				
<b>URBAN GREENING</b>				
<b>MP:</b> Developers should integrate green infrastructure into development schemes, including by creating links with wider green infrastructure network.	2.18, 5.3, 5.10, 5.11		<input checked="" type="checkbox"/>	A biodiverse green / brown roof will be installed on the roof of Block B1.
<b>MP:</b> Major developments in the Central London Activity Area (CAZ) should be designed to contribute to the Mayor's target to increase green cover by 5% in this zone by 2030.	5.10		<input checked="" type="checkbox"/>	
<b>TREES</b>				
<b>MP:</b> Developments should contribute to the Mayor's target to increase tree cover across London by 5% by 2025.	5.3, 5.10, 7.21		<input checked="" type="checkbox"/>	Three trees will be lost due to the proposed development. These are not considered to be of great ecological value – two of the three are wild and the third is an ornamental cherry tree.  These are not being replaced.
<b>MP:</b> Any loss of a tree/s resulting from development should be replaced with an appropriate tree or group of trees for the location, with the aim of providing the same canopy cover as that provided by the original tree/s.			<input checked="" type="checkbox"/>	
<b>5.2.2 FLOODING</b>				
<b>SURFACE WATER FLOODING AND SUSTAINABLE DRAINAGE</b>				
<b>MP:</b> Through their Local Flood Risk Management Strategies boroughs should identify areas where there are particular surface water management issues and develop policies and actions to address these risks.	5.3, 5.12	Pol 02, Pol 03	<input checked="" type="checkbox"/>	The development will include at least 105m <sup>3</sup> of rainwater water attenuation so as to limit run-off rate discharges leaving the site by 50%.  Attenuation is to be provided by a combination of a blue roof, storage tank and permeable paving.  The Site will be managed by the developer who will take on all responsibility for the maintenance of installed SuDS.
<b>MP:</b> Developers should maximise all opportunities to achieve greenfield runoff rates in their developments.	5.12, 5.13		<input checked="" type="checkbox"/>	
<b>MP:</b> When designing their schemes developers should follow the drainage hierarchy set out in London Plan policy 5.13.	5.13		<input checked="" type="checkbox"/>	



MP: Mayor's Priorities MBP: Mayor's Best Practice	LONDON PLAN POLICY	RELATED BREEAM CREDITS	APPLICABLE TO DEVELOPMENT	
MP: Developers should design Sustainable Drainage Systems (SuDS) into their schemes that incorporate attenuation for surface water runoff as well as habitat, water quality and amenity benefits.	5.3, 5.13, 5.14		<input checked="" type="checkbox"/>	
<b>FLOOD RESILIENCE AND RESISTANCE OF BUILDINGS IN FLOOD RISK AREAS</b>				
MP: Development in areas at risk from any form of flooding should include flood resistance and resilience measures in line with industry best practice.	5.3, 5.12, 5.13	Pol 03		Mitigation measures include the installation of manually operated flood barriers along the north and west boundaries of the Site.
<b>FLOOD RISK MANAGEMENT</b>				
MP: Developments are designed to be flexible and capable of being adapted to and mitigating the potential increase in flood risk as a result of climate change.	5.3, 5.12	Pol 03	<input checked="" type="checkbox"/>	The site lies in Environment Agency (EA) Flood Zone 1 (low flood risk), with the risk of flooding from groundwater, sewer and artificial sources also considered to be low.
MP: Developments incorporate the recommendation of the TE2100 plan for the future tidal flood risk management in the Thames estuary.			<input checked="" type="checkbox"/>	However, the risk of surface water flooding along Greenwood Place has been identified as presenting a medium risk to the development over its lifetime and requiring mitigation measure to be implemented in the design.
MP: Where development is permitted in a flood risk zone, appropriate residual risk management measures are to be incorporated into the design to ensure resilience and the safety of occupiers.			<input checked="" type="checkbox"/>	Mitigation measures include the installation of manually operated flood barriers along the north and west boundaries of the Site.
<b>OTHER SOURCES OF FLOODING</b>				
MP: All sources of flooding need to be considered when designing and constructing developments.	5.3, 5.12, 5.13	Pol 03	<input checked="" type="checkbox"/>	All sources of flooding have been considered in preparing the flood risk assessment for the site. See Flood Risk Assessment prepare by Hilson Moran for more details.
<b>5.3 POLLUTION MANAGEMENT</b>				
<b>5.3.1 LAND CONTAMINATION</b>				
MP: Developers should set out how existing land contamination will be addressed prior to the commencement of their development.	3.2, 5.3, 5.21		<input checked="" type="checkbox"/>	A Phase 1 and Phase 2 contamination assessment has been carried out. Evidence of low levels of historic solvent contamination (trichloroethene 'TCE' and tetrachloroethylene 'PCE') within Made Ground deposits was recorded. The source of these solvents is strongly suspected to originate from the former ICI warehouses. No evidence on onsite sources of these contaminants has been identified.
MP: Potentially polluting uses are to incorporate suitable mitigation measures.			<input checked="" type="checkbox"/>	The concentrations of TCE and PCE (and associated degradation VOCs) recorded in soil samples are low. There is no evidence from this preliminary investigation that significant contamination exist at the application Site or that significant harm is presented to its users by any suspected residual contamination of soil underlying the Greenwood Place Community Centre. The concentrations of solvents recorded in the borehole gas samples were all many thousand times lower than the Health and Safety Executive's Workplace Exposure Limits



MP: Mayor's Priorities MBP: Mayor's Best Practice	LONDON PLAN POLICY	RELATED BREEAM CREDITS	APPLICABLE TO DEVELOPMENT	
				The proposed development of the Site would entail the total removal of all Made Ground deposits and several metres of underlying clay for the construction of the basement. The basement foundations will be supported by a secant pile wall, effectively forming a barrier to soils and groundwater outside of the Site boundary. See the Phase II Contamination Assessment prepared by Hilson Moran for more details
<b>5.3.2 AIR QUALITY</b>				
MP: Developers are to design their schemes so that they are at least 'air quality neutral'.	7.14	Pol 01, Hea 03, 05, Man 02, 03	<input checked="" type="checkbox"/>	The proposed development is Air Quality Neutral, and thus minimises the generation of air pollution. The proposed development introduced new receptors and has ensured that residential use our only included on higher floors away from Highgate Road. The plant included within the proposed development meets Appendix 7 of the SPG. A CEMP will be completed prior to demolition and construction activities taken place on site.
MP: Developments should be designed to minimise the generation of air pollution.	5.3, 7.14		<input checked="" type="checkbox"/>	
MP: Developments should be designed to minimise and mitigate against increased exposure to poor air quality.	3.2, 5.3, 7.14		<input checked="" type="checkbox"/>	
MP: Developers should select plant that meets the standards for emissions from combined heat and power and biomass plants set out in Appendix 7 of the SPG.	7.14		<input checked="" type="checkbox"/>	
MP: Developers and contractors should follow the guidance set out in the emerging SPG on The control of dust and emissions from construction and demolition when constructing their development.	5.3, 7.14		<input checked="" type="checkbox"/>	
<b>5.3.3 NOISE</b>				
MP: Areas identified as having positive sound features or as being tranquil should be protected from noise.	3.2, 7.15		<input checked="" type="checkbox"/>	All plant will be designed to meet the noise limits set out in the Acoustic Planning report prepared by Hilson Moran.
MP: Noise should be reduced at source, then designed out of a scheme to reduce the need for mitigation measures.	3.2, 5.3, 7.6.7, .15		<input checked="" type="checkbox"/>	
<b>5.3.4 LIGHT POLLUTION</b>				
MP: Developments and lighting schemes should be designed to minimise light pollution.	5.2, 5.3, 6.7		<input checked="" type="checkbox"/>	All external lighting will be designed to minimise light pollution in order to achieve the BREEAM credit for avoiding light pollution.
<b>5.3.5 SURFACE WATER RUNOFF</b>				
MP: In their aim to achieve a greenfield runoff rate developers should incorporate sustainable urban drainage systems (SuDS) into their schemes which also provide benefits for water quality.	5.3, 5.13, 5.14	Pol 02, Pol 03, Man 03	<input checked="" type="checkbox"/>	The development will include at least 105m <sup>3</sup> of rainwater water attenuation so as to limit run-off rate discharges leaving the site by 50%. Attenuation is to be provided by a combination of a storage tank and permeable paving. The demolition and construction teams will be required to follow best practice guidance to prevent pollution.
MBP: Encourage good environmental practice to help reduce the risk from business activities on the London water environment.			<input checked="" type="checkbox"/>	



MP: Mayor's Priorities MBP: Mayor's Best Practice	LONDON PLAN POLICY	RELATED BREEAM CREDITS	APPLICABLE TO DEVELOPMENT	
MBP: Encourage those working on demolition and construction sites to prevent pollution by incorporating prevention measures and following best practice.	5.3, 5.14		<input checked="" type="checkbox"/>	
<b>5.3.6 WASTEWATER RUNOFF</b>				
MP: Residential developments discharging domestic sewage should connect to the public foul sewer or combined sewer network where it is reasonable to do so.	5.3, 5.14		<input checked="" type="checkbox"/>	This is standard procedure and will be fully developed.
MP: Commercial developments discharging trade effluent should connect to the public foul sewer or combined sewer network where it is reasonable to do so subject to a trade effluent consent from the relevant sewerage undertaker.			<input checked="" type="checkbox"/>	N/A as the proposed commercial spaces are assumed to be dry no trade effluent is produced.
MP: Developments should be properly connected and post-construction checks should be made by developers to ensure that mis-connections do not occur.			<input checked="" type="checkbox"/>	This will be covered within standard post construction testing by the contractor.