Hurley Palmer Flatt

# Pope's Road Sustainability Statement

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# 1.0 EXECUTIVE SUMMARY

This document identifies how the proposed development of Pope's Road, in the London Borough of Lambeth, will meet the objectives of the London Plan Policy 5.3 Sustainable Design and Construction and the principles outlined in the Mayor of London's Sustainable Design, Construction Supplementary Planning Guidance (SPG) and 3.7 Draft London Plan – Consolidated Suggested Changes Version July 2019. These documents require Local Authorities to ensure future developments meet the highest standards of sustainable design and construction and reflect this principle in local policy. Please refer to Section 3 and 4 herein for further information on policies and specific Local Authority policy relating to sustainability.

The Pope's Road scheme has been developed with sustainable design principles at its core. An integrated and holistic design approach has been adopted, and this document aims to contextualise the ways in which opportunities to enhance the sustainability of the scheme have been addressed.

The Sustainability Strategy for Pope's Road aims to:

- Match or exceed today's requirements;
- Anticipate tomorrow's needs; and
- Adapt and remain relevant into the future.

All legislative policies applicable to the proposed development have been used to inform the design decisions taken. Summarising the ways in which such policies are addressed by the proposed scheme assists in demonstrating the sustainability merits achievable through a considered design approach.

## 2.0 INTRODUCTION

This document has been produced to highlight how the proposed design and construction of the Pope's Road development will meet relevant energy and sustainability requirements. It is structured following the objectives set out in the *Greater London Authority (GLA) London Plan (2016) policies and the Draft New London Plan (2019).*

The application site comprises a funnel shaped parcel of land situated between two large railway viaducts. The site is bound by Pope's Road to the West, at its widest point, and Valentia Place to the East, at its narrowest point. The Site comprises a single storey building currently in use as a retail store.

The proposed development consists of the demolition of the existing building and erection of a part G + 19, part G + 8 storey building comprising flexible A1/A3/B1/D1/D2 uses at basement, ground and first floor, with restaurant (A3) use on floor 8 and B1 accommodation on floors 2 to 19, with plant enclosures at roof level, and associated cycle parking, servicing and all necessary enabling works

The scheme has been developed with sustainable design principles at its core. An integrated and holistic design approach has been adopted, and this document aims to contextualise the ways in which opportunities to enhance the sustainability of the scheme have been addressed

The Sustainability Strategy aims to:

- Match or exceed today's requirements;
- Anticipate tomorrow's needs; and
- Adapt and remain relevant into the future.

The sustainability measures incorporated within the development for energy and carbon emission reductions are categorised within the GLA's energy hierarchy:

- 'Be Lean' - energy-efficient design and construction;
- 'Be Clean' - supply energy efficiently (low-carbon technology); and
- 'Be Green' - use of renewable energy systems (zero-carbon technology).

The proposed development has also targeted a BREEAM 'Very Good' rating, with ambitions to potentially achieve 'Excellent'. For the full BREEAM Office Pre-Assessment, please see Appendix A.

## 2.1 Site and Proposed Development

The application site comprises a funnel shaped parcel of land situated between two large railway viaducts. The site is bound by Pope's Road to the West, at its widest point, and Valentia Place to the East, at its narrowest point. The Site comprises a single storey building currently in use as a retail store.

The proposed development consists of the demolition of the existing building and erection of a part G + 19, part G + 8 storey building comprising flexible A1/A3/B1/D1/D2 uses at basement, ground and first floor, with restaurant (A3) use on floor 8 and B1 accommodation on floors 2 to 19, with plant enclosures at roof level, and associated cycle parking, servicing and all necessary enabling works

The proposed site consists of:

- Permeable two storey market/retail facility, with commercial office above and massing that reflects RIBA Stage 1 for an 18-storey building.
- Marketplace to be made up of 50:50 mix of A1 and A3 units that allows the provision for pop-ups/ kiosks at the perimeter, as well as a flexible central and unconditioned covered space.
- Commercial offices with an integrated entrance through the marketplace with exposed services to the underside. This should allow and accommodate the potential for 2 tenants split per floor and the provision for proportionate external roof terracing.

The Pope's Road site is bounded by:
- The adjacent Brixton Network Railway that comprises two overground lines and viaducts beneath the railway.
- Railway arches that stretch Brixton Station Road to the North
- The Grade II Listed Brixton Market Village to the South
- A single storey wood siding building housing public toilets.


**Figure 1: Application site location**

Table 1: Detailed Application Schedule of accommodation based on GIA

| Zone | Gross Internal Area (GIA) sqm |
|---|---|
| A1/A3 | 2373 |
| D1/D2 | 647 |
| B1 | 25,980 |
| **Total** | **29,300** |

## 2.2 Approach

The planning policies outlined by the Greater London Authority (GLA) Draft New London Plan have been used as a basis for assessing the sustainability strategy for the proposed development in this document. Polices outlined by the London Borough of Lambeth have also been reviewed and considered as part of the overall Sustainability Strategy. It is essential that the proposed development meets planning policy guidelines and aims to adopt the latest sustainable design and construction methods to ensure it becomes one of London's most exemplary buildings.

# 3.0 POLICY BACKGROUND

This section outlines the policies which have been used to inform design decisions for the Proposed Development.

- The UK Government Sustainable Development Strategy;
- National Planning Policy Framework (2019) and Relevant Planning Policy Guidance documents (PPS 10);
- The London Plan (March 2016, consolidation of alterations since 2011);
- London Plan 2019 Intend to Publish Version;
- The London Plan Sustainable Design and Construction SPG, April 2014;
- London Borough of Lambeth Local Plan (2015);
- London Borough of Lambeth Draft Revised Local Plan (2020)
- Lambeth Local Plan Review Sustainability Appraisal


## 3.1 Government policy

### UK Government Strategy for Sustainable Development

In 1999, the UK Government published its initial strategy for sustainable development, '*A Better Quality of Life: A Strategy for Sustainable Development in the UK*.' This has four main objectives:

- Social progress which recognises the needs of everyone;
- Effective protection of the environment;
- Prudent use of natural resources; and
- Maintenance of high and stable levels of economic growth and employment.

The Sustainable Development Task Force reviewed this Strategy and a revised UK Government Sustainable Development Strategy "*Securing the Future*" was put into place on 7 March 2005.

A range of environmental and planning legislation and fiscal instruments for specific issues, support the UK Government Sustainable Development Strategy. For example, the Climate Change Levy, the Landfill Tax, and the Environmental Protection Act. The UK Government's Sustainable Development Strategy is disseminated throughout its own estates through a variety of strategies.

This is also being delivered at a local level through Local Authorities' Unitary Development Plans and Local Development Plans.

### 3.2 National Planning Policy Framework and Planning Policy Statements (February 2019)

The National Planning Policy Framework (2019) sets out the Government's planning policies on the delivery of sustainable development through the planning system. It replaces the following documents: *Planning Policy Statement 1: Delivering Sustainable Development (January 2005), Planning Policy Statement 9: Biodiversity and Geological Conservation (August 2005), Planning Policy Guidance 13: Transport (January 2011), Planning Policy Statement 22: Renewable Energy (August 2004), Planning Policy Statement 23: Planning and Pollution Control (November 2004), Planning Policy Guidance 24: Planning and Noise (October 1994), Planning Policy Statement 25: Development and Flood Risk (March 2010)*.

Department for Communities and Local Government (DCLG) published the revised version of the National Planning Policy Framework (NPPF) for consultation in March 2018. The revised version was updated on 19 February 2019 and sets out the governments' planning policies for England and how these are expected to be applied. The NPPF outlines the strategic priorities to be applied in planning policies at regional and local level. The NPPF 2019 covers the following sections: Section 2; Achieving sustainable development, Section 9; Promoting sustainable transport, Section 12; Achieving well-designed places, Section 14; Meeting the challenge of climate change, flooding and coastal change, Section 15; Conserving and enhancing the natural environment.

The revised update provided a number of additional actions, more specifically in relation to sustainable development, the NPPF 2019 states that, *'The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.'*

### 3.3 Building Regulation Part L Summary

Building Regulation Part L 2013 (Conservation of fuel and power in buildings) is a legal requirement for new and refurbished buildings to meet minimum energy efficiency standards.

### 3.4 Greater London Authority (GLA) London Plan (2016)

The Greater London Authority (GLA) has set out guidance relating to sustainable design within the London Plan (Spatial Development Strategy for Greater London). The current adopted plan is dated March 2016, with alterations since 2011, and includes the following policies:

- 'Policy 5.2 Minimising Carbon Dioxide Emissions'
    - Make the fullest contribution to minimising $CO_2$ emissions in accordance with the following energy hierarchy; 'Be lean', 'Be clean', 'Be green'.
- 'Policy 5.3 Sustainable Design and Construction'

- Demonstrate that sustainable design standards are integral to the proposal and ensure that they are considered at the beginning of the design process.

- 'Policy 5.6 Decentralised Energy in Development Proposals'
  - Evaluate the feasibility of Combined Heat and Power (CHP) systems, and where a new CHP system is appropriate.
- 'Policy 5.7 Renewable Energy'
  - Provide a reduction in expected carbon dioxide emissions using on-site renewable energy generation, where feasible.
- 'Policy 5.9 Overheating and Cooling'
  - Demonstrate how the design, materials, construction and operation of the development would minimise overheating and meet its cooling needs.

### 3.5 Greater London Authority (GLA) London Plan (2016) Policy 5.3 Sustainable design and construction

The Mayor would, and boroughs should, ensure future developments meet the highest standards of sustainable design and construction and reflect this principle in UDP or LDF policies.

These would include measures to:

- Minimise 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 natural systems both within and around buildings
- Minimising pollution (including noise, air and urban run-off)
- 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
- Promoting and protecting biodiversity and green infrastructure

### 3.6 GLA Draft London Plan Policy 5.2 Update 2019- Energy Statement

The Greater London Authority (GLA) has set out guidance relating to sustainable design within the London Plan (Spatial Development Strategy for Greater London). The current adopted London Plan is dated March 2016, however in January 2019 policy 5.2 has been updated and will adhere to the following guidance;

*"From January 2019, planning applicants are encouraged to use updated (SAP 10) carbon emission factors to assess the expected carbon performance of a new development. Applicants should continue to use the current Building Regulations methodology for estimating energy performance against Part L 2013 requirements (as outlined in Section 6) but with the outputs manually converted for the SAP 10 emission factors. A spreadsheet (version 1.1) has been developed for this purpose which should be submitted alongside an energy assessment. It should be noted that the use of the SAP 10 emission factors in this context is for demonstrating performance against planning policy targets and, as such, is separate to Building Regulation compliance. Applications should therefore ensure that compliance with Building Regulations is*

*maintained.*

- *Updated information requirements for applicants proposing to install heat pumps and CHP, including clarification on when CHP is appropriate.*
- *An appendix containing the existing emission limits for heating and energy plant has been added."*

Note: some elements of the new guidance for writing energy statements only applies to buildings that are referable to the GLA.

### 3.7 London Plan 2019 Intend to Publish Version

The 'consolidated' version of the London Plan shows all of the Mayor's suggested changes following the Examination in Public (EiP) of the draft Plan. A Draft London plan with consolidated changes was issued in July 2019 with updated policies such as the following:

- Policy GG2 Making the best use of land
- Policy GG3 Creating a healthy city
- Policy GG6 Increasing efficiency and resilience
- Policy D1A Infrastructure requirements for sustainable densities
- Policy D1B Optimising site capacity through the design-led approach
- Policy D13 Noise
- Policy G5 Urban Greening
- Policy G6 Biodiversity and access to nature

- Policy G7 Trees and woodlands
- Policy G8 Food growing
- Policy SI1 Improving air quality
- Policy SI2 Minimising greenhouse gas emissions
- Policy SI3 Energy infrastructure
- Policy SI4 Managing heat risk
- Policy SI5 Water infrastructure
- Policy SI7 Reducing waste and supporting the circular economy
- Policy SI12 Flood risk management
- Policy SI13 Sustainable drainage
- Policy T1 Strategic approach to transport
- Policy T5 Cycling
- Policy T6 Car parking

These policies have been considered within this Sustainability Statement.

### 3.8 Sustainable Design and Construction Supplementary Planning Guidance (SPG) (April 2014):

The guidance establishes that major developments should meet the Mayor's Priorities outlined in the Supplementary Planning Guidance. The document also set out best practice ambitions for several topic areas.

Sections 4.1 to 4.15 of this report address each of these topic areas, identifying how the development meets the Mayor's Priorities and where feasible the Mayor's Best Practice. Where any Mayor's Priorities have not been achievable, these reasons have been identified.

The Supplementary Planning Guidance provides detail on the policies in the London Plan, which promote sustainable design and construction. It provides details and guidance to support developers to achieve sustainable development in line with London Plan Policy 5.3.

### 3.9 London Borough of Lambeth Local Plan (2015)

The London Borough of Lambeth Local plan sets out policies for all new developments sustainable design and construction. The policies as set by Lambeth, listed below, have covered within the Sustainability Statement for the Pope's Road development.

**Policy EN4 Sustainable design and construction**

a. All development, including construction of the public realm, highways and other physical infrastructure, will be required to meet high standards of sustainable design and construction feasible, relating to the scale, nature and form of the proposal.

b. Proposals should demonstrate in a supporting statement that sustainable design standards are integral to the design, construction and operation of the development. Non-residential developments should also be accompanied by a pre-assessment, demonstrating how the following BREEAM standards, or any future replacement standards, will be met:

    i. All new non-residential development and non-self-contained residential accommodation, should meet at least BREEAM 'Excellent' unless it is demonstrated that it is not technically feasible or viable to do so, in which case proposals should demonstrate a 'Very Good' rating with a minimum score of 63 per cent.

    ii. All major non-residential refurbishment of existing buildings and conversions over 500m2 floorspace (gross) should meet at least BREEAM Non-Domestic Refurbishment 'Excellent' unless it is demonstrated that it is not technically feasible or viable to do so, in which case proposals should demonstrate a 'Very Good' rating with a minimum score of 63 per cent.

c. (c) All non-residential development proposals should incorporate living roofs and walls where feasible and appropriate to the character and context of the development. Proposals should include a maintenance plan for the lifetime of the development.

d. Non-residential development will be required to be resilient to climate change by including appropriate climate change adaptation measures.

e. e) Adequate remedial treatment of any contaminated land will be required before development can commence.

Other relevant policies include:

- **Policy D2 Presumption in favour of sustainable development**
- **Policy D4 Planning obligations**; low carbon and renewable energy, other sustainability measures, including mitigation of impacts on and/or enhancement of biodiversity and wildlife habitats.
- **Policy T1 Sustainable travel**

- **Policy T3 Cycling**
- **Policy EN1 Open space and biodiversity**
- **Policy EN3 Decentralised energy**
- **Policy EN5 Flood Risk**
- **Policy EN6 Sustainable drainage systems and water management**
- **Policy EN7 Sustainable waste management**
- **Policy Q9 Landscaping**
- **Policy Q10 Trees**
- **Policy Q12 Refuse/recycling storage**

### 3.10 London Borough of Lambeth Draft Revised Local Plan (2020)

All local councils are required to produce an up-to-date local plan for their area, to guide the spatial development of the borough over the next 15 years, and to review their local plan every five years. Lambeth adopted its Local Plan in September 2015 and started work on a partial review of this Plan in 2016.

The policies in the revised Local Plan are designed to be read and applied as a whole, alongside the policies in the new London Plan. Proposals for development should address all relevant policies in both plans, including site allocations where relevant.

The additional policies and main changes in relation to sustainability which have not been covered by the 2015 Local Plan have been listed below.

- **Policy D4 Planning obligations;** sustainable drainage systems
- **Policy EN1 Open Space, green infrastructure and biodiversity**
- **Policy EN3 Decentralised energy**; Major development proposals that cannot immediately connect to an existing heating network should follow the heating and cooling hierarchies set out in London Plan policies SI3(D) and SI4(B). Major development proposals should select energy systems in accordance with London Plan heating hierarchy set out in London Plan policy S13.
- **Policy EN 4 Sustainable design and construction;**

- Lambeth will follow the approach set out in London Plan policies SI1 Improving air quality, SI2 Minimising greenhouse gas emissions, SI4 Managing heat risk, SI5 C and E Water infrastructure.
- All new non-residential development and non-self-contained residential accommodation should meet at least BREEAM 'Excellent'.
- All major non-residential refurbishment of existing buildings and conversions over 500m2 floorspace (gross) should meet at least BREEAM Non-Domestic Refurbishment 'Excellent'.

### 3.11 Lambeth Local Plan Review Sustainability Appraisal

The Sustainability Appraisal will consider the ways in which the Local Plan Review can contribute to improvements in environmental, social and economic conditions, and is also a way of identifying and mitigating any potential adverse impacts. The Sustainability Appraisal also makes sure that the proposals in the Local Plan Review are the most appropriate, given the reasonable alternatives.
At present there are multiple versions of the Sustainability Appraisal for Lambeth. These have been listed below and have all been considered within the Sustainability Statement.

- Sustainability appraisal scoping report August 2016
- Sustainability appraisal of Local Plan Review issues and reasonable alternatives October 2017
- Sustainability appraisal of Draft Revised Lambeth Local Plan October 2018

# 4.0 SUSTAINABLE DESIGN

**The section formally outlines how the development would meet the objectives of the London Policy Plan 5.3 Sustainable Design and Construction, outlines in the Mayor of London's Supplementary Planning Guidance (SPG) and the London Plan 2019 Intend to Publish Version.**

## 4.1 Land

SPG section 2.2 3 and London Plan 2019 Intend to Publish Version

### 4.1.1 Optimising the use of land

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

1. 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.

2. Through both their Local Plans and planning decisions, boroughs should aim for 100% of development to be delivered on previously developed land.

3. Developers should optimise the scale and density of their development, considering the local context, to make efficient use of London's limited land.

**London Plan 2019 Intend to Publish Version**

- Policy GG2 Making the best use of land
- Policy D1B Optimising site capacity through the design-led approach
- Policy T1 Strategic approach to transport
- Policy T5 Cycling

# Development Response

The proposed development consists of the demolition of the existing building and erection of a part G + 19, part G + 8 storey building comprising flexible A1/A3/B1/D1/D2 uses at basement, ground and first floor, with restaurant (A3) use on floor 8 and B1 accommodation on floors 2 to 19, with plant enclosures at roof level, and associated cycle parking, servicing and all necessary enabling works

The demolition of the existing building creates an opportunity to create a holistic new development of optimal floor plan depths as well as public realm offer and improvements. The proposal will seek to:

- Create a distinctive development of high architectural quality that delivers flexible retail and office space.
- Provide a new design that draws inspiration from the historic context of the site and its surrounding buildings.
- Provide 19 floors of highly efficient office space that help meets current local demands.
- Provide 2 floors of publicly accessible retail space in line with the character of the existing Brixton market that will increase permeability and will benefit local traders.
- Improve public realm areas with greater permeability and potential connections to local transport links

The site does not form part of any statutory or non-statutory nature conservation site. The site is comprised of a single building and associated hardstanding, with a small area of introduced shrub immediately adjacent the site. All habitats are of value at the site scale only.

The existing site has been deemed to have a low ecological value by an Ecologist as stated in the Preliminary Ecological Appraisal produced by Trium Environmental Consulting LLP.

The site is not subject to any nature conservation designations. The site consists of buildings and hardstanding and contains no areas which are Habitats of Principal Importance or London/Lambeth BAP habitats. The site is situated within a densely

urban area surrounded by commercial properties, railways and roads. Overall, the habitats are considered to be of value at site level only.

The limited habitat on site and immediately off site was suitable to support low numbers of breeding birds. No other protected or notable species were considered likely to use the site.

The development is located in an area with good public transport accessibility and ties into a range of bus and rail services, in addition to existing pedestrian/cycle facilities which support an increase in density on the site and the mix of services proposed for the redevelopment.

In order to encourage alternative forms of transport to and from the development the following cycle facilities will be provided:

- 104 Short Stay Cycle Spaces
- 392 Long Stay Cycle Space

The proposals represent an overall improvement to the transport network by prioritising pedestrians over vehicles and integrating with the Major's strategy for improving the green credentials of London's taxi fleet. By providing 393 cycle spaces for the office tenants, 9 cycle spaces for the D1/D2 tenants/visitors,72 for the A3/A5 retail tenants/visitors and 22 for the A1 Retail tenants/visitors. The proposed site will be a car free development in a highly accessible location.

Studies were carried out on glazing performance. These studies looked at the impact of the energy usage of the building as well as the heating and domestic hot water loads. The glazing has been optimised to reduce the heating load.

The building fabric will be designed to be highly thermally efficient, whilst balancing overheating risks with facade design and adaptation addressing other conflicting considerations such as daylight and views. Please refer to the Energy Statement accompanying this Planning Application for further details of energy efficiency, and low carbon design measures incorporate within the Proposed Development.

The Proposed Development recognises that for buildings to be considered useable for at least the next 60 years, a considerable level of future flexibility will need to be incorporated into the design. The building services strategy has been based on the need to accommodate possible future scenarios including:

- Climate change, including the predicted increases in both external temperature and intensity of rainfall over the coming decades
- Increase in transient nature of business practise; and
- Market sector demand.

The application site is situated in easy reach of all necessary amenities to support a development of this nature, including areas of open space and connections to the wider transport network. This enables the development to knit well within the existing area and support the enhancement of the existing neighbourhood in place.

The proposed design has evolved through an iterative process with planning officers and key stakeholders and embodies the highest quality design. Further detail on the design of the development and how this is appropriate to the context of the site is provided within the accompanying Design and Access Statement (DAS) and application drawings.

100% of the proposed development is on previously developed land.

The building design will ensure that the use of floor space is optimised, balancing the need to create a building with sufficient floor area, whilst ensuring that the building design/massing is in-keeping with the surrounding buildings.

The scale of the proposal has been carefully considered in relation to the buildings in the surrounding area, and with consideration of the conversation established during the pre-application process with Lambeth Council.

### 4.1.2 Basements and lightwells

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

1. 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.

2. When planning and constructing a basement development, developers should consider the amenity of neighbours.

**Mayor's Best Practice**

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.

# Development Response

A detailed Basement Impact Assessment (BIA) has been undertaken to ensure the structural design is robust, highlighting risk and local geological and hydrological context. Long-term considerations or risks to the building have been considered in the selection of the chosen structural design.

### 4.1.3 Local food growing

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

1. To protect existing established food growing spaces.

**Mayor's Best Practice**

1. To provide space for individual or communal food growing, where possible and appropriate.

2. To take advantage of existing spaces to grow food, including adapting temporary spaces for food growing.

**London Plan 2019 Intend to Publish Version**

- Policy G8 Food growing

# Development Response

Development of the site will not impact on any current food growing spaces.

The site is not considered suitable for food production due it is constraints.

There will be no food production on site.

## 4.2 Site layout and building design

SPG section 2.3 3 and London Plan 2019 Intend to Publish Version

### 4.2.1 Site layout and design

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

1. The design of the site and building layout, footprint, scale and height of buildings as well as the location of land uses should consider:

Existing features

- 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;
- access routes to public transport and other facilities that minimise the use of public transport;

New design of development

- the existing landform;
- the potential to take advantage of natural systems such as wind, sun and shading;
- the principles set out London Plan policies 7.1 and 7.6;
- the potential for adaption and reuse in the future;
- potential for incorporating green infrastructure;
- potential for incorporating open space, recreation space, child play space;
- energy demands and the ability to take advantage of natural systems and low and zero carbon energy sources;
- site wide infrastructure;
- access to low carbon transport modes;
- potential to address any local air quality, noise disturbance, flooding and land contamination issues; and
- The potential effect on the micro-climate.

# Development Response

A demolition contractor will be appointed at RIBA Stage 2 (Concept Design) and will complete a pre-demolition audit. The Institute of Civil Engineers Demolition Protocol is recommended to be followed where applicable to ensure that the potential for reusing and recycling the materials currently on site will be maximised where practical. A full survey will be undertaken to review where materials can be reused on site e.g. aggregates and where they can be recycled as locally as possible.

Daylight has been carefully considered in the massing of the development.

The site is well connected to public transport links, and as a mixed-use scheme, this development complies with the Mayor's Best Practice guidance.

Low carbon technologies have been utilised in the scheme, in the form of heat pumps.

**BREEAM Office Space Strategy**

Pope's Road Office space potentially targeting Mat 06 material efficiency which entails to avoid unnecessary materials use arising from over specification without compromising structural stability, durability or the service life of the building.

Pope's Road Office space is potentially targeting the Wst 05 Adaptation to climate change credit which entails a systematic risk assessment to identify the impact of expected extreme weather conditions arising from climate change on the building over its projected life cycle. The assessment covers the installation of building services and renewable systems, as well as structural and fabric resilience aspects.

Wst 06 Design for disassembly and adaptability is also potentially targeted to avoid unnecessary materials use, cost and disruption arising from the need for future adaptation works as a result of changing functional demands and to maximise the ability to reclaim and reuse materials at final demolition in line with the principles of a circular economy.

**Mayor's Best Practice**

1. Any existing buildings that can be practically refurbished, retrofitted, altered, or extended should be retained and reused.
2. A mix of uses, where suitable should be included to provide a range of services commensurate to the public transport accessibility

**London Plan 2019 Intend to Publish Version**

- Policy GG2 Making the best use of land
- Policy GG3 Creating a healthy city
- Policy D1A Infrastructure requirements for sustainable densities
- Policy SI1 Improving air quality
- Policy SI2 Minimising greenhouse gas emissions
- Policy SI3 Energy Infrastructure
- Policy SI4 Managing heat risk
- Policy T1 Strategic approach to transport
- Policy T5 Cycling
- Policy T6 Car parking

4.3 **Energy and carbon dioxide emissions**

SPG section 2.4 3 and London Plan 2019 Intend to Publish Version

### 4.3.1 Energy and carbon dioxide emissions

Relevant Policies

**Supplementary Planning Guidance**
**Mayor's Priorities**

- 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.
- Developments should be designed to meet the following Regulated carbon dioxide standards, in line with London Plan policy 5.2.

**Residential buildings**

Residential buildings savings over Part L 2013

- 10% savings over 'be lean'
- 35% onsite savings
- Net zero – can offset using carbon offset payments

**Non-domestic buildings**

Commercial buildings savings over Part L 2013

- 15% savings on 'be lean'
- 35% savings – can be offset using carbon offset payments

# Development Response

**Minimising Carbon dioxide emissions**

An Energy Statement detailing the energy strategy for the proposed development accompanies this Planning Application.

**The proposed development will aspire to meet the intent of policy by delivering a minimum on-site carbon dioxide emissions reduction of 35% over a baseline building (NCM), based on the approach, information, analysis and contents reported in this document.**

The proposed development is currently predicting a 31.5% carbon dioxide emissions reduction on the regulated load.

The London Plan also requires that developments follow an energy hierarchy when considering reducing $CO_2$ emissions. The energy hierarchy must consider incorporation of energy efficiency measures including passive design, supplying energy efficiently (with particular emphasis on decentralised energy generation including CHP) and using renewable energy technologies. The responses to the subsequent topic areas include specific measures incorporated in the design.

London Borough of Lambeth requires all developments to demonstrate energy efficiency through design by following the GLA Hierarchy – 'Be Lean', 'Be Clean', and 'Be Green'. The proposed development will aspire to meet the intent of policy by delivering a minimum on-site carbon dioxide emissions reduction of 35% over Part L2A 2013 (and a 15% reduction at the 'Be Lean' stage), based on the approach, information, analysis and contents reported in this document.

In line with the new guidance from GLA, the energy statement for the development will assess carbon savings using the new carbon emission factors (SAP10). Cooling mitigation strategies will be evaluated to avoid overheating risk within building spaces.

**Mayor's Best Practice**

- Developments should contribute to ensuring resilient energy infrastructure and a reliable energy supply, including from local low and zero carbon sources.
- 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.

**London Plan 2019 Intend to Publish Version**

- Policy GG6 Increasing efficiency and resilience
- Policy SI2 Minimising greenhouse gas emissions
- Policy SI3 Energy Infrastructure
- Policy SI4 Managing heat risk

Figure 1 below shows the carbon savings for each step in the GLAs suggested hierarchy for carbon savings. The site total regulated energy savings have been modelled.

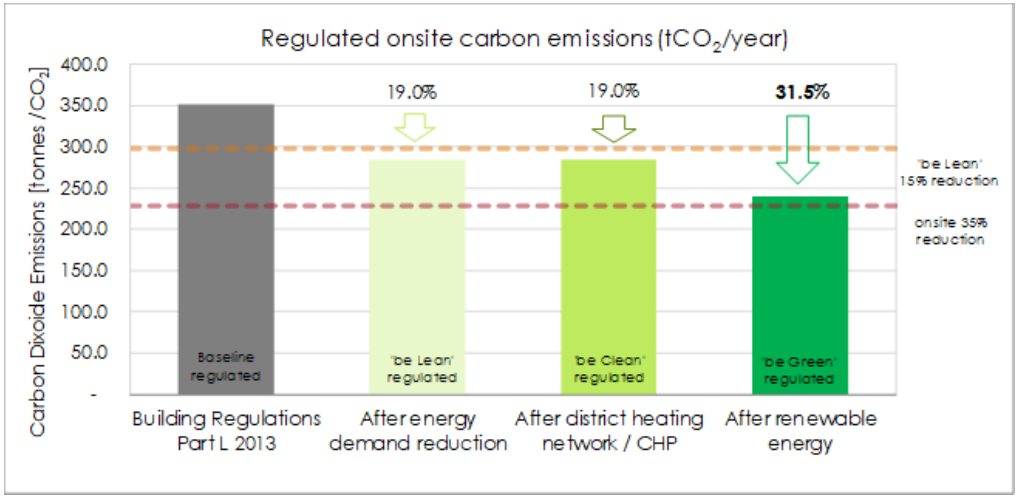


Figure 1: Carbon emission reduction following GLA energy hierarchy (Regulated energy).

Table 1: Summary of total carbon dioxide emissions for each stage of the hierarchy

| | Carbon Dioxide Emissions ($tCO_2$/yr) | | |
|---|---|---|---|
| | Regulated | Unregulated | Total |
| Building Regulations Part L 2013 (TER) | 350.7 | 286.6 | 637.3 |
| Be Lean - Local Gas Boilers | 284.0 | 286.6 | 570.6 |
| Be Clean | 284.0 | 286.6 | 570.6 |
| Be Green – Heat Pumps | 240.2 | 286.6 | 526.8 |

Table 2: Summary of carbon dioxide emissions savings for each stage of the hierarchy

| Savings from: | Regulated carbon dioxide savings | |
|---|---|---|
| | Tonnes $CO_2$ per annum | (%) |
| Be Lean - Local Gas Boilers | 66.7 | 19.0% |
| Be Clean | 0.0 | 0.0% |
| Be Green – Heat Pumps | 43.8 | 12.5% |
| Total cumulative savings | **110.5** | **31.5%** |

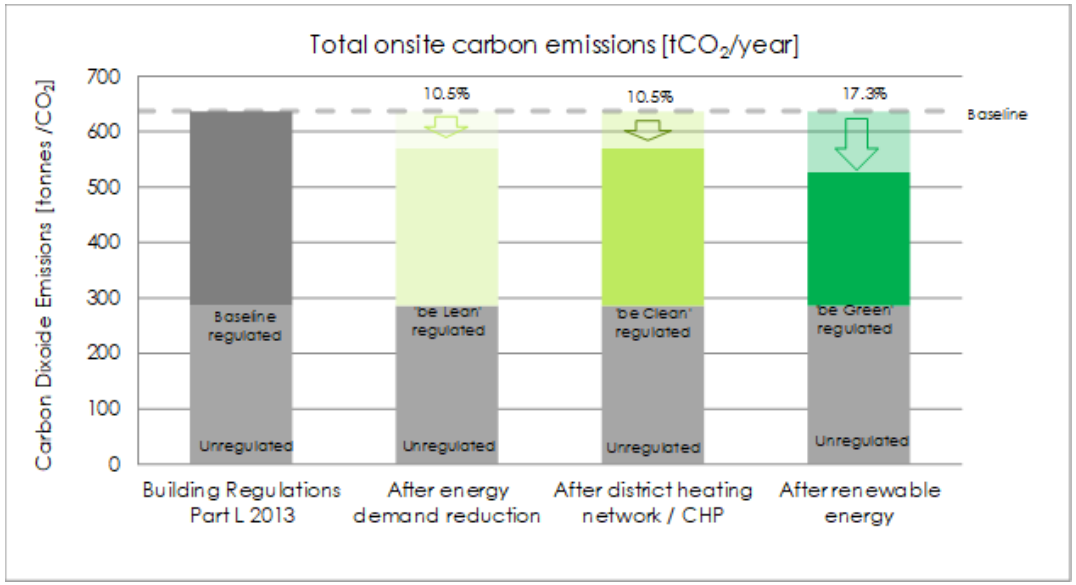


Figure 2: Overall site carbon emission reduction following GLA energy hierarchy (Regulated and unregulated energy).

In line with the energy hierarchy set in the London Plan, the demand reducing measures below were incorporated in the design, with priority given to passive measures.

**Energy Reducing/Efficiency Measures (Be Lean):**
Detailed analysis has been undertaken to assess the impact of various building fabric and passive design solutions. The resulting design includes the following key features:

- The glazing g-value specification has been optimized to control solar gain.
- Glazed areas have been optimized in order to increase the benefits from natural daylighting and reducing the need for electric lighting, whilst minimizing heat loss from the building.
- The building fabric (glazing, walls, roof etc.) has been optimized for the construction element type.

The development will be designed with an air permeability target of 3 $m^3/m^2$/hr at 50 Pa.

**Decentralised energy in development proposal planning decisions**

The district heating network in Lambeth does not currently reach this building and so connection to a district heat network was not included in the design.

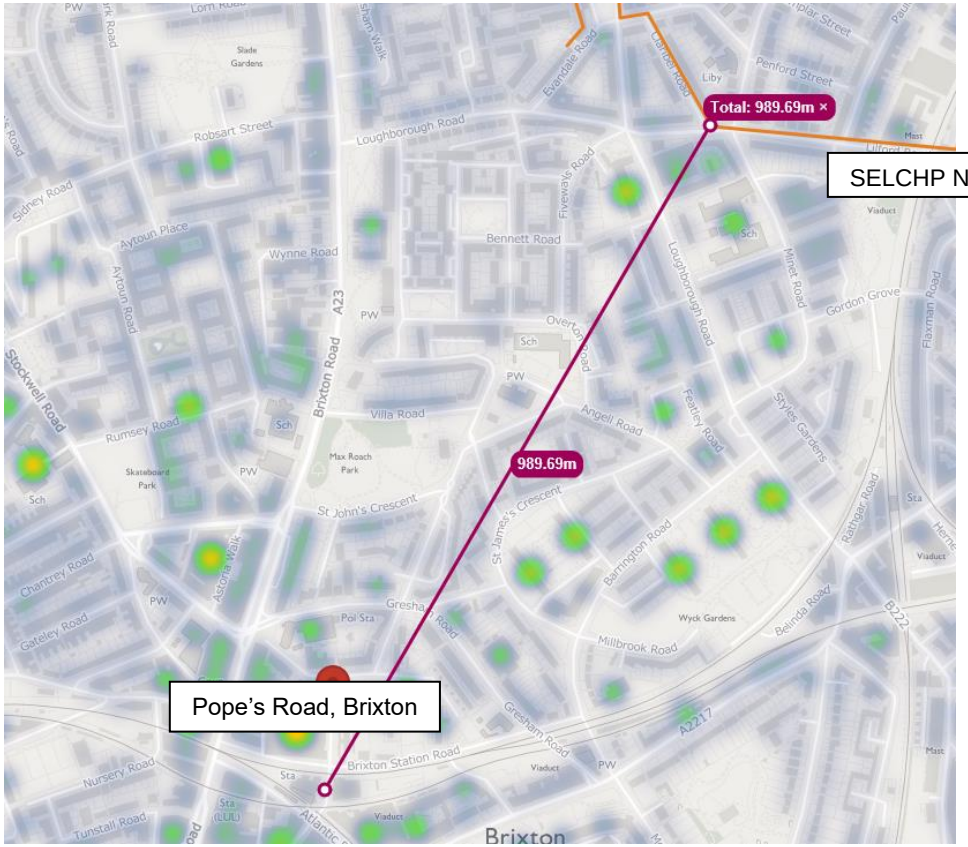


Figure 1: District Heat Network (DHN) Map showing potential network (SELCHP) within an approximate 990m to the proposed site

**Table 2: District Heat Network Hierarchy**

| District Heat network Hierarchy | |
|---|---|
| Connect to local existing or planned heat networks | Unable to as closest existing network is approximately 1km away |

| | |
|---|---|
| Use available local secondary heat sources (in conjunction with heat pump, if required, and a lower temperature heating system) | There are no local secondary heat sources within the vicinity of the development to utilise |
| Generate clean heat and/or power from zero-emission sources | Most of the heat generated on site will be from electric heat pumps, the rest instantaneous hot water |
| Use fuel cells (if using natural gas in areas where legal air quality limits are exceeded all development proposals must provide evidence to show that any emissions related to energy generation will be equivalent or lower than those of an ultra-low NOx gas boiler) | Fuel cells are not included in this design. |
| Use low emission combined heat and power (CHP) (in areas where legal air quality limits are exceeded all development proposals must provide evidence to show that any emissions related to energy generation will be equivalent or lower than those of an ultra-low NOx gas boiler) | Combined heat and power is not currently proposed to be used in this development |
| Use ultra-low NOx gas boilers. | No boilers are included in the design |

**BREEAM Office Spaces Strategy**

Pope's Road Office unit is currently targeting 4 credits under Ene 01 Reduction of energy use and carbon emissions and are potentially targeting 4 credits under prediction of operational energy consumption following TM54 methodology. Post occupancy evaluation of the energy consumption against the targets set at design stage has also been potentially targeted.

Ene 04 Passive Design Analysis has been potentially targeted which entails an analysis of the building design/development to influence decisions during RIBA Stage 2 and identify opportunities for the implementation of passive design solutions to reduce demands for energy consuming building services. Low and Zero Carbon Technology has also been potentially targeted which entails a feasibility study is carried out by RIBA Stage 2 to establish the most appropriate low or zero carbon energy source(s) for the building/development.

### 4.3.2 Energy demand assessment

**Relevant Policies**

**Supplementary Planning Guidance**

**Mayor's Priorities**

- Development applications are to be accompanied by an energy demand assessment.

**London Plan 2019 Intend to Publish Version**

- Policy GG6 Increasing efficiency and resilience
- Policy SI2 Minimising greenhouse gas emissions
- Policy SI3 Energy Infrastructure

# Development Response

An energy statement detailing the energy strategy for the Proposed Development accompanies this Planning Application. It includes an energy demand assessment following the approach to energy statements as detailed in the 'Energy Assessment Guidance' (October 2019) document.

### 4.3.3 Use less energy

**Relevant Policies**

**Supplementary Planning Guidance**

**Mayor's Priorities**

- The design of developments should prioritise passive measures.

**Mayor's Best Practice**

- Developers should aim to achieve Part L 2013 Building Regulations requirements through design and energy efficiency alone, as far as is practical.

**London Plan 2019 Intend to Publish Version**

- Policy GG6 Increasing efficiency and resilience
- Policy SI2 Minimising greenhouse gas emissions
- Policy SI3 Energy Infrastructure
- Policy SI4 Managing heat risk

# Development Response

In line with the energy hierarchy set in the London Plan, the demand reducing measures below were incorporated in the design, with priority given to passive measures.

The preliminary calculations included in the Energy Statement indicate that the development is in line to surpass Lambeth Council's policy on carbon emission reduction requirements through design and energy efficiency alone.

**Energy Reducing/Efficiency Measures (Be Lean):**
Detailed analysis has been undertaken to assess the impact of various building fabric and passive design solutions. The resulting design includes the following key features:

- The glazing g-value specification has been optimized to control solar gain.
- Glazed areas have been optimized in order to increase the benefits from natural daylighting and reducing the need for electric lighting, whilst minimizing heat loss from the building.
- The building fabric (glazing, walls, roof etc.) has been optimized for the construction element type.
- Highly efficiency LED lighting has been specified throughout.
- The development will be designed with an air permeability target of 3 $m^3/m^2$/hr. at 50 Pa.

**BREEAM Office Spaces Strategy**

Pope's Road Office unit is currently targeting 4 credits under Ene 01 Reduction of energy use and carbon emissions and are potentially targeting 4 credits under prediction of operational energy consumption following TM54 methodology. Post occupancy evaluation of the energy consumption against the targets set at design stage has also been potentially targeted.

Passive Design Analysis has been potentially targeted which entails an analysis of the building design/development to influence decisions during RIBA Stage 2 and identify opportunities for the implementation of passive design solutions to reduce demands for energy consuming building services. Low and Zero Carbon Technology has also been potentially targeted which entails a feasibility study is carried out by RIBA Stage 2 to establish the most appropriate low or zero carbon energy source(s) for the building/development.

### 4.3.4 Energy efficient supply

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

- 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.
  - Developers should assess the potential for their development to:
  - connect to an existing district heating or cooling network;
  - expand an existing district heating or cooling network, and connect to it; or
  - Establish a site wide network and enable the connection of existing buildings in the vicinity of the development.
- 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 water, and where required, cold water.

**London Plan 2019 Intend to Publish Version**

- Policy GG6 Increasing efficiency and resilience
- Policy S12 Minimising greenhouse gas emissions
- Policy SI3 Energy Infrastructure
- Policy SI4 Managing heat risk

# Development Response

The district heating network in Lambeth does not currently reach this building and so connection to a district heat network was not included in the design.

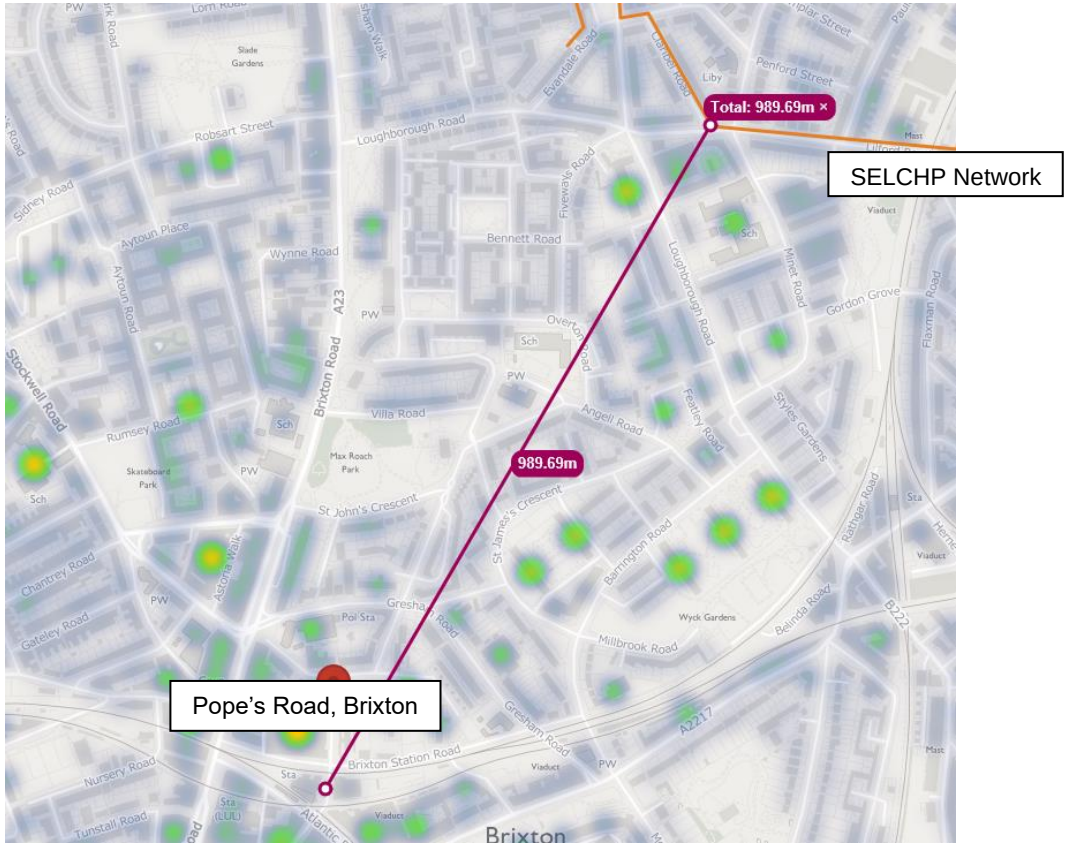


Figure 2: District Heat Network (DHN) Map showing potential network (SELCHP) within an approximate 990m to the proposed site

**Table 3: District Heat Network Hierarchy**

| District Heat network Hierarchy | |
|---|---|
| Connect to local existing or planned heat networks | Unable to as closest existing network is approximately 1km away |
| Use available local secondary heat sources (in conjunction with heat pump, if required, and a lower temperature heating system) | There are no local secondary heat sources within the vicinity of the development to utilise |
| Generate clean heat and/or power from zero-emission sources | Most of the heat generated on site will be from electric heat pumps, the rest instantaneous hot water |
| Use fuel cells (if using natural gas in areas where legal air quality limits are exceeded all development proposals must provide evidence to show that any emissions related to energy generation will be equivalent or lower than those of an ultra-low NOx gas boiler) | Fuel cells are not included in this design. |
| Use low emission combined heat and power (CHP) (in areas where legal air quality limits are exceeded all development proposals must provide evidence to show that any emissions related to energy generation will be equivalent or lower than those of an ultra-low NOx gas boiler) | Combined heat and power is not currently proposed to be used in this development |
| Use ultra-low NOx gas boilers. | No boilers are included in the design |

## BREEAM Office Spaces Strategy

Pope's Road Office unit is currently targeting 4 credits under Ene 01 Reduction of energy use and carbon emissions and are potentially targeting 4 credits under prediction of operational energy consumption following TM54 methodology. Post occupancy evaluation of the energy consumption against the targets set at design stage has also been potentially targeted.

Ene 04 Passive Design Analysis has been potentially targeted which entails an analysis of the building design/development to influence decisions during RIBA Stage 2 and identify opportunities for the implementation of passive design solutions to reduce demands for energy consuming building services. Low and Zero Carbon Technology has also been potentially targeted which entails a feasibility study is carried out by RIBA Stage 2 to establish the most appropriate low or zero carbon energy source(s) for the building/development.

4.4 **Renewable energy**

SPG section 2.5 3 and London Plan 2019 Intend to Publish Version

### 4.4.1 Renewable energy

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

- Boroughs and neighbourhoods should identify opportunities for the installation of renewable energy technologies in their boroughs and neighbourhoods.
- Major developments should incorporate renewable energy technologies to minimise overall carbon dioxide emissions, where feasible.

**London Plan 2019 Intend to Publish Version**

- Policy GG6 Increasing efficiency and resilience
- Policy S12 Minimising greenhouse gas emissions
- Policy SI3 Energy Infrastructure
- Policy SI4 Managing heat risk

# Development Response

A feasibility study has been undertaken to determine the most appropriate renewable energy source for the development (for more details please refer to the Energy Statement included with the Planning Application submission).

Heat pumps are specified for the proposed development meeting a large majority of the DHW and space heating requirements.

**BREEAM Office Spaces Strategy**

Pope's Road Office unit is currently targeting 4 credits under Ene 01 Reduction of energy use and carbon emissions and are potentially targeting 4 credits under prediction of operational energy consumption following TM54 methodology. Post occupancy evaluation of the energy consumption against the targets set at design stage has also been potentially targeted.

Ene 04 Passive Design Analysis has been potentially targeted which entails an analysis of the building design/development to influence decisions during RIBA Stage 2 and identify opportunities for the implementation of passive design solutions to reduce demands for energy consuming building services. Low and Zero Carbon Technology has also been potentially targeted which entails a feasibility study is carried out by RIBA Stage 2 to establish the most appropriate low or zero carbon energy source(s) for the building/development.

### 4.4.2 Carbon dioxide off-setting

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

- Boroughs should establish a carbon dioxide off-set fund and identify suitable projects to be funded.
- 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

**London Plan 2019 Intend to Publish Version**

- Policy GG6 Increasing efficiency and resilience
- Policy S12 Minimising greenhouse gas emissions
- Policy SI3 Energy Infrastructure
- Policy SI4 Managing heat risk

# Development Response

The combined savings equate to up to a predicted **31.5%** reduction in regulated CO2 emissions over the baseline Part L 2013 compliant scheme.

### 4.4.3 Monitoring energy use

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

- Developers are encouraged to incorporate monitoring equipment and systems where appropriate to enable occupiers to monitor and reduce their energy use.

**London Plan 2019 Intend to Publish Version**

- Policy GG6 Increasing efficiency and resilience
- Policy SI2 Minimising greenhouse gas emissions

# Development Response

Extensive sub-metering will be present to allow monitoring as well as separate billing of individual tenants.

**BREEAM Office Spaces Strategy**

The office is targeting Ene 02 Energy Monitoring to recognise and encourage the installation of energy sub-metering that facilitates the monitoring of operational energy consumption

### 4.4.4 Retrofitting

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

- Boroughs should set out policies to encourage the retrofitting of carbon dioxide and water saving measures in their borough.
- Where works to existing, developments are proposed developers should retrofit carbon dioxide and water saving measures.

**London Plan 2019 Intend to Publish Version**

- Policy GG6 Increasing efficiency and resilience
- Policy S12 Minimising greenhouse gas emissions
- Policy SI3 Energy Infrastructure
- Policy SI4 Managing heat risk

# Development Response

The design does incorporate $CO_2$ saving measures in line with the energy hierarchy of the London Plan as detailed in section 4.3 above.

The Proposed Development is recommended to ensure the specification of sanitaryware demonstrates water efficiency by limiting water consumption to 105 litres per person per day, please refer to section 4.5 for further details.

**BREEAM Office Spaces Strategy**

Pope's Road Office unit is currently targeting 4 credits under Ene 01 Reduction of energy use and carbon emissions and are potentially targeting 4 credits under prediction of operational energy consumption following TM54 methodology. Post occupancy evaluation of the energy consumption against the targets set at design stage has also been potentially targeted.

Ene 04 Passive Design Analysis has been potentially targeted which entails an analysis of the building design/development to influence decisions during RIBA Stage 2 and identify opportunities for the implementation of passive design solutions to reduce demands for energy consuming building services. Low and Zero Carbon Technology has also been potentially targeted which entails a feasibility study is carried out by RIBA Stage 2 to establish the most appropriate low or zero carbon energy source(s) for the building/development.

Pope's Road Office units is potentially targeting the Wst 05 Adaptation to climate change credit which entails a systematic risk assessment to identify the impact of expected extreme weather conditions arising from climate change on the building over its projected life cycle. The assessment covers the installation of building services and renewable systems, as well as structural and fabric resilience aspects.

### 4.4.5 Supporting a resilient energy supply

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

1. Developers are encouraged to incorporate equipment that would enable their schemes to participate in demand side response opportunities.

**London Plan 2019 Intend to Publish Version**

- Policy GG6 Increasing efficiency and resilience
- Policy SI2 Minimising greenhouse gas emissions
- Policy SI3 Energy Infrastructure

# Development Response

The Proposed Development's overall energy demand has been minimised through the implementation of the sustainable design measures outlined in this statement; this will reduce overall impact on the wider energy network.

Furthermore, heat pumps have been proposed and will be used to meet a large majority of the DHW and space heating requirements.

**BREEAM Office Spaces Strategy**

Pope's Road Office unit is currently targeting 4 credits under Ene 01 Reduction of energy use and carbon emissions and are potentially targeting 4 credits under prediction of operational energy consumption following TM54 methodology. Post occupancy evaluation of the energy consumption against the targets set at design stage has also been potentially targeted.

Ene 04 Passive Design Analysis has been potentially targeted which entails an analysis of the building design/development to influence decisions during RIBA Stage 2 and identify opportunities for the implementation of passive design solutions to reduce demands for energy consuming building services. Low and Zero Carbon Technology has also been potentially targeted which entails a feasibility study is carried out by RIBA Stage 2 to establish the most appropriate low or zero carbon energy source(s) for the building/development.

4.5 **Water efficiency**

SPG section 2.6 3 and London Plan 2019 Intend to Publish Version

### 4.5.1 Water efficiency

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

1. Developers should maximise the opportunities for water saving measures and appliances in all developments, including the reuse and using alternative sources of water.
2. Developers should design residential schemes to meet a water consumption rate of 105 litres or less per person per day.
3. Where a building is to be retained, water efficiency measures should be retrofitted.
4. 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.
5. All developments should be designed to incorporate rainwater harvesting.

**Mayor's Best Practice**

6. All residential units, including individual flats / apartments and commercial units, and where practical, individual leases in large commercial properties should be metered.

**London Plan 2019 Intend to Publish Version**

- Policy SI5 Water Infrastructure

# Development Response

The design recognises that the threat of future water shortage is a serious issue for London; whilst demand is growing due to increasing population and higher temperatures, climate change will increase the seasonality of water supply. Sustainable water sourcing and usage will be of utmost importance for adapting to the changing climatic conditions, and water efficiency and recycling has been made a key priority in the design.

The approach to water efficiency for the development has three stages:

- Reduce mains water consumption on site
- Reuse water on site where possible thus reducing water to sewerage
- Specify water efficient internal sanitary ware and appliances

The development will endeavour to achieve 3 credits under BREEAM Wat 01 and install water saving devices as detailed below.

Methods to Reduce Consumption and Wastage – incorporate water-sensitive design and conserve water resources.

Pulsed output water meters will be installed at the site boundary and the building entry points to provide leak detection between the building and site boundary, as well as for monitoring large water uses in the building. Water sub meters will be installed to allow metering of high-water consuming plant and areas within the building.

Water Saving Devices – The following range of water efficient measures have been incorporated into the design to reduce water consumption demand:

- Dual flush WCs
- Reduced-flow taps and showers

**BREEAM Office Spaces Strategy**

Pope's Road has targeted Wat 04 water efficient equipment which entails unregulated water demands to be identified and reduced, which includes any landscaping irrigation. Wat 03 Water leak detection has been targeted which entails installing a leak detection system and flow control devices regulating the supply of water to each WC area/facility according to demand to be specified, for example a time controller, volume controllers and PIR/Solenoid Valves.

## 4.6 Materials and waste

SPG section 2.7 3 and London Plan 2019 Intend to Publish Version

### 4.6.1 Design phase

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

1. The design of development should prioritise materials that:
   - have a low embodied energy, including those that can be reused intact or recycled - 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;
   - can be sustainably sourced - 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;
   - are durable to cater for their level of use and exposure; and
   - Would not release toxins into the internal and external environment, including those that deplete stratospheric ozone.

**Mayor's Best Practice**

2. The design of developments should maximise the potential to use pre-fabrication elements.

**London Plan 2019 Intend to Publish Version**

Policy SI7 Reducing waste and supporting the circular economy

# Development Response

Materials will be chosen that have a minimal environmental impact, are from sustainable or recycled sources and, where feasible, are locally sourced to reduce transportation impacts, prioritising the following factors:

- Life cycle costing (£ and CO2)
- Use renewable materials
- Source materials locally
- Recycled content
- Minimise waste to landfill
- Specification of materials with zero exotoxins
- Synthetic or non-sustainably sourced materials to be minimised
- Off-site manufacturing
- Ethical sourcing
- Minimise embodied energy; see below for Life Cycle Assessment
- Design for deconstruction
- Recyclability of materials
- Design mechanical fixings to facilitate deconstruction
- Specify materials and plant that can be re-used
- Lowest available embodied carbon option MEP Materials Specification
- Minimise gluing and composite materials

**Life Cycle Assessment**

A Life Cycle Assessment will be produced for the Proposed Development at RIBA stage 1 to reduce the burden on the environment from construction products by recognising and encouraging measures to optimise construction product consumption efficiency and the selection of products with a low environmental impact (including embodied carbon), over the life cycle of the building. For the purpose of BREEAM 6 credits have currently been targeted. The Life Cycle Assessment will measure the environmental impact of the superstructure, substructure, hard landscaping and core building services pre-planning and Technical Design stages.

The project team will recognise and encourage measures to optimise construction product consumption efficiency and the selection of products with a low environmental impact, including embodied carbon, over the life cycle of the building.

A Sustainable Procurement Plan will be produced for the Proposed Development, which will be in place before RIBA stage 2. This plan will include sustainability aims, objectives and strategic targets to guide procurement activities. The Plan will also include a requirement for assessing the potential to procure construction products locally. There will be a policy to procure construction products locally where possible. The plan will detail the procedures in place to check and verify the effective implementation of the sustainable procurement plan.

The team will procure all timber and wood-based products covered by at least one of the following (but the webpage below should be checked for changes):

a. Third party, independent forest certification schemes–Category A (e.g. FSC or PEFC)

b. Evidence on a case-by-case basis in line with the Framework for Evaluating Category B evidence–Category B.

For the avoidance of doubt, 100% of the timber and timber-based products must be compliant. Further information on the UK Government's TPP and compliant responsible sourcing certification schemes is available from the CPET website www.gov.uk/guidance/.

Insulation materials for building elements and building services will be specified with low embodied environmental impact (minimal global warming potential and zero ozone depleting properties).

The opportunity to source construction materials from a factory/plant, quarry, railhead or recycling centre close of the site will be investigated, with priority given to use of prefabricated elements, where feasible.

Appropriately sourced aggregates and durable materials will be emphasised in the hard landscaping.

The specification of recycled and reused materials will be a main design consideration, wherever feasible.

The development will aim to maximise the proportion of materials and components that can be re-used at the end of the building's life. 'Designing for robustness' will ensure that damage to the building due to wear and tear, for example in areas of heavy usage, is minimised and can be repaired with minimal environmental or cost impact.

**BREEAM Office Space Strategy**

Pope's Road Office space potentially targeting Mat 06 material efficiency which entails to avoid unnecessary materials use arising from over specification without compromising structural stability, durability or the service life of the building.

Pope's Road Office space is potentially targeting the Wst 05 Adaptation to climate change credit which entails a systematic risk assessment to identify the impact of expected extreme weather conditions arising from climate change on the building over its projected life cycle. The assessment covers the installation of building services and renewable systems, as well as structural and fabric resilience aspects.

Wst 06 Design for disassembly and adaptability is also potentially targeted to avoid unnecessary materials use, cost and disruption arising from the need for future adaptation works as a result of changing functional demands and to maximise the ability to reclaim and reuse materials at final demolition in line with the principles of a circular economy.

### 4.6.2 Construction phase

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

1. Developers should maximise the use of existing resources and materials and minimise waste generated during the demolition and construction process through the implementation the waste hierarchy.

**London Plan 2019 Intend to Publish Version**

- Policy SI7 Reducing waste and supporting the circular economy

# Development Response

The Proposed Development will adhere to sustainable design principles with high standards of environmental performance. Consideration has been given to the waste generated by the building during all phases of the development; demolition, construction, operation and through to its eventual decommissioning. As a result, the waste strategy has the following aims:

- To contribute towards achieving current and long-term government GLA and the London Borough of Lambeth targets for waste minimisation, recycling and reuse.
- To ensure that all legal requirements for the handling and management of operational waste are complied with.
- To provide tenants with a convenient, clean and efficient waste management systems that enhance the operation of the building and promote high levels of recycling.

The following points are key to the design and construction of the project and will be considered within the CMP as it is developed during the progression of the project:

During Construction:

- Site wide waste management plan
- Opportunities for prefabrication
- at least 70% (volume) or 80% (tonnage) of non-demolition waste is to be diverted from landfill. At least 80% (volume) or 90% (tonnage) of demolition waste is to be diverted from landfill.
- Non-hazardous waste relating to on-site construction, and dedicated off-site manufacture or fabrication processes, is to be maximum of **7.5m3 per 100m2 GIA or 6.5 tonnes per 100m2 GIA.**
- Site travel efficiency

During Operation:

- Sufficiently sized and centralised space for recycling collection
- Minimise volume of waste to landfill

The Principal Contractor will have responsibility for writing, implementing and updating the Site Waste Management Plan (SWMP) throughout the development process. The SWMP will identify all waste streams and will discuss the potential to reduce, re-use, and recycle all materials wherever possible. This commitment to minimisation will be achieved in several ways, including but not limited to, the following:

- Agreements with material suppliers to reduce the amount of packaging or to participate in a packaging take back scheme
- Implementation of a 'Just in Time' material delivery system to avoid materials being stockpiled on site for long periods of time, which increases risk of damage and disposal as waste
- Attention to material quantity requirements to avoid over ordering and generation of waste materials
- Re-use of materials wherever feasible
- Segregation of waste at source where practical
- Re-use and re-cycling of materials off-site where re-use on-site is not practical

Modular construction/off site prefabrication will be considered (where feasible), which will result in less time on site and reduced impact on the site's neighbours.

**BREEAM Office Space Strategy**

Pope's Road Office space potentially targeting Mat 06 material efficiency which entails to avoid unnecessary materials use arising from over specification without compromising structural stability, durability or the service life of the building.

Wst 06 Design for disassembly and adaptability is also potentially targeted to avoid unnecessary materials use, cost and disruption arising from the need for future adaptation works as a result of changing functional demands and to maximise the ability to reclaim and reuse materials at final demolition in line with the principles of a circular economy.

### 4.6.3 Occupation phase

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

1. Developers should provide sufficient internal space for the storage of recyclable and compostable materials and waste in their schemes.
2. The design of development should meet borough requirements for the size and location of recycling, composting and refuse storage and its removal.

**London Plan 2019 Intend to Publish Version**

- Policy SI7 Reducing waste and supporting the circular economy

# Development Response

The development will target BREEAM credit Wst 03 Operational Waste which relates to provision of sufficient space for storage and access routes for collection of waste.

This ensures a suitable area is allocated for both recycled and non-recyclable waste streams.

In addition, borough requirements for size and location of recycling, composting and refuse storage and removal will be met by the development.

A consolidated waste store will be provided for the market and office uses within the Development at ground floor level. Access to the store will be provided via the service yard to the rear of the site accessed from Valentia Place, which will be designated for waste collection.

Waste storage for the office will be provided within the consolidated waste store where a total of 6 x 1,100L bins for recycling and 4 x 1,100L bins for general waste will be provided. Waste for the office units will be managed by the Site Management Team, who will ensure waste is transported correctly from the office to the waste store. Waste will be collected Monday – Friday, with two vehicle attendances to collect recyclables and general waste separately.

Servicing for the office use of the Development will take place within a service yard to the rear of the Development, which takes access from Valentia Place as in the existing situation. The service yard is currently used by the Applicant for deliveries and refuse collection for the existing use on the site, with an established right of way in place to facilitate servicing and refuse collection for the new office use.

The service yard provides sufficient space for up to three 7.5t / 8m box vans to park simultaneously, as well as a refuse vehicle to enter the yard in forward gear, turn and exit in forward gear.

Access to the service yard will be provided throughout the day. It is anticipated that the office use will generate approximately 62 deliveries per day.

4.7 **Nature conservation and biodiversity**

SPG section 2.8 3 and London Plan 2019 Intend to Publish Version

### 4.7.1 Nature conservation and biodiversity

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

1. There is no net loss in the quality and quantity of biodiversity.
2. Developers make a contribution to biodiversity on their development site.

**London Plan 2019 Intend to Publish Version**

- Policy GG2 Making the best use of land
- Policy GG3 Creating a healthy city
- Policy G5 Urban Greening
- Policy G6 Biodiversity and access to nature
- Policy G7 Trees and Woodland

# Development Response

The public realm of the site will be increased due to the development, with connectivity increased within the local area.

The landscaping scheme has been recommended by a Suitably Qualified Ecologist to optimise ecological improvement and provide environmental benefit; particular focus should be given to the following areas:

- Preserving / enhancing species
- Indigenous planting
- Encouraging local birds

As a result, there could be a net increase in species on site with potential connectivity to the local sites of interest as listed in Table 3.1 below.

The site is not subject to any nature conservation designations. The site consists of buildings and hardstanding and contains no areas which are Habitats of Principal Importance or London/Lambeth BAP habitats. The site is situated within a densely urban area surrounded by commercial properties, railways and roads. Overall, the habitats are considered to be of value at site level only.

The limited habitat on site and immediately off site was suitable to support low numbers of breeding birds. No other protected or notable species were considered likely to use the site.

The site is not subject to any non-statutory nature conservation designations. Seven non- statutory sites designated as Sites of Importance for Nature Conservation (SINC) are present within a 1km radius of the site, see the below Table 3.1 as referred to in the Preliminary Ecological Appraisal produced by Trium Environmental Consulting LLP.

**Table 3.1**: Non-Statutory Designated Sites

| Site Name | Distance from site and orientation | Reason for Designation |
|---|---|---|
| Site of Borough Importance for Nature Conservation | | |
| Brockwell Park | 950m south | Large open space combining a variety of recreational facilities with large areas of open parkland, woodland, and ponds. Wetland features include a series of small ponds linked by the River Effra on the western boundary of the park. A large area of rough meadow grassland is present, as well as several mature, native trees. |
| Ruskin Park | 1000m east | Rolling park, with a pond as the central feature. Mature trees and dense introduced shrubberies are present circling the pond which provide nesting habitat for common birds. |
| Site of Local Importance for Nature Conservation | | |
| Loughborough Park | 400m east | Parkland with a large number of scattered trees and several planted shrubberies. The trees and shrubs provide good habitat for birds, including great spotted woodpecker. |
| Rush Common and Raleigh Gardens | 550m south | A near continuous linear park along the eastern side of Brixton Hill Road. Mainly consists of amenity grassland with scattered mature trees, including, London plane, lime, ash, false acacia, and horse chestnut. |
| Hill Mead Schools Nature Garden | 600m south-east | A small nature garden within the Moorlands Estate in central Brixton. Contains a pond supporting frogs and aquatic vegetation, and some planted hedgerows of oak, hazel, hawthorn, and Norway maple. |
| Stockwell Park Estate Fish Pond | 620m north-west | A small landscaped pond within the Stockwell Park Estate. The pond has shallow, shelving edges with introduced marginal vegetation including, yellow iris, booklime, and water mint. The grassy edges of the pond have been planted with crack willow and one mature crack willow tree is present. |
| Elam Street Open Space | 930m north-east | A small open space with extensive areas of semi-improved neutral grasslands. The grassland combined with large patches of climbers such as honeysuckle, bindweeds, and ruderals support a variety of invertebrates. Mature trees around the edge support common breeding birds. |

*Source: Preliminary Ecological Appraisal produced by Trium Environmental Consulting LLP*

Trium Environmental Consulting LLP have recommended the following opportunities for ecological enhancement for the proposed site:

- Biodiverse roof
- Wildlife planting

**BREEAM Office Space Strategy**

Pope's Road Office space is currently targeting LE 02 Identifying and understanding the risks and opportunities for the site, Le 03 Managing negative impacts on ecology and Le 04 changes and enhancement of ecological value. The Proposed Development is potentially targeting LE 05 Long Term management and maintenance.

## 4.8 Tackling increase temperature and drought

SPG section 3.2 3 and London Plan 2019 Intend to Publish Version

### 4.8.1 Overheating

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

1. Developers should include measures, in the design of their schemes, in line with the cooling hierarchy set out in London Plan policy 5.9 to prevent overheating over the scheme's lifetime.

**London Plan 2019 Intend to Publish Version**

- Policy SI4 Managing heat risk

# Development Response

Knowledge and experience of the design team helped develop the scheme from inception with advanced dynamic thermal simulation being deployed on the project to assess the evolving design's risk of overheating with the aim of ensuring occupant thermal comfort is predicted to an acceptable level of risk for the Client and in keeping with the intention of policy.

The overheating assessment complies with Building Regulations Approved Document Part L compliance requirements (Criterion 3 Summertime Overheating). Further overheating studies (CIBSE TM52 and CIBSE TM49) have been completed and show compliance which demonstrates a minimal risk of overheating.

The following findings of the thermal studies have been incorporated into the design enabling predicted compliance with Criterion 3 of the Building Regulations:

- The solar performance of the glazing units has been optimised to a g-value of 0.4.

This analysis influenced the facade treatment and specification, implementing a couple of 'fine tuning' elements to the passive design principles and further reducing the need for mechanical ventilation and cooling systems whilst balancing the aspiration for passive heat, daylight and views out, where possible.

**BREEAM Office Space Strategy**

Pope's Road Office space is potentially targeting the Wst 05 Adaptation to climate change credit which entails a systematic risk assessment to identify the impact of expected extreme weather conditions arising from climate change on the building over its projected life cycle. The assessment covers the installation of building services and renewable systems, as well as structural and fabric resilience aspects.

### 4.8.2 Heat and drought resistant planting

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Best Practice**

1. The design of developments should prioritise landscape planting that is drought resistant and has a low water demand for supplementary watering.

# Development Response

The landscaping design will incorporate native water-resistant species where feasible.

Trium Environmental Consulting LLP have recommended the following opportunities for ecological enhancement for the proposed site:

- Biodiverse roof
- Wildlife planting

**BREEAM Office Space Strategy**

Pope's Road Office space is currently targeting LE 02 Identifying and understanding the risks and opportunities for the site, Le 03 Managing negative impacts on ecology and Le 04 changes and enhancement of ecological value. The Proposed Development is potentially targeting LE 05 Long Term management and maintenance.

Pope's Road has targeted Wat 04 water efficient equipment which entails unregulated water demands to be identified and reduced, which includes any landscaping irrigation. This is to reduce water consumption for uses not assessed under Wat 01 by encouraging specification of water efficient equipment.

Pope's Road Office space is potentially targeting the Wst 05 Adaptation to climate change credit which entails a systematic risk assessment to identify the impact of expected extreme weather conditions arising from climate change on the building over its projected life cycle. The assessment covers the installation of building services and renewable systems, as well as structural and fabric resilience aspects.

### 4.8.3 Resilient foundations

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Best Practice**

1. Developers should consider any long-term potential for extreme weather events to affect a building's foundations and to ensure they are robust.

# Development Response

A detailed Basement Impact Assessment (BIA) has been undertaken to ensure the structural design is robust, highlighting risk and local geological and hydrological context. Long-term considerations or risks to the building have been considered in the selection of the chosen structural design.

**BREEAM Office Space Strategy**

Pope's Road Office space is potentially targeting the Wst 05 Adaptation to climate change credit which entails a systematic risk assessment to identify the impact of expected extreme weather conditions arising from climate change on the building over its projected life cycle. The assessment covers the installation of building services and renewable systems, as well as structural and fabric resilience aspects.

4.9 **Increasing green cover and trees**

**SPG section 3.3 and London Plan 2019 Intend to Publish Version**

### 4.9.1 Urban greening

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

1. Developers should integrate green infrastructure into development schemes, including by creating links with wider green infrastructure network.
2. 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.

**London Plan 2019 Intend to Publish Version**

- Policy GG2 Making the best use of land
- Policy GG3 Creating a healthy city
- Policy G5 Urban greening
- Policy G6 Biodiversity and access to nature
- Policy G7 Trees and woodlands

# Development Response

The public realm of the site will be increased due to the development, with connectivity increased within the local area.

Opportunities for incorporation of green areas have been optimised despite the development being in a dense urban location. Additional green coverage will be provided with the incorporation of strategically located planters and soft landscaping.

Trium Environmental Consulting LLP have recommended the following opportunities for ecological enhancement for the proposed site:

- Biodiverse roof
- Wildlife planting

As well as external terrace areas for the office users, there is a publicly accessible rooftop as part of the development.

**BREEAM Office Space Strategy**

Pope's Road Office space is currently targeting LE 02 Identifying and understanding the risks and opportunities for the site, Le 03 Managing negative impacts on ecology and Le 04 changes and enhancement of ecological value. The Proposed Development is potentially targeting LE 05 Long Term management and maintenance.

### 4.9.2 Trees

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

1. Developments should contribute to the Mayor's target to increase tree cover across London by 5% by 2025.
2. 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.

**London Plan 2019 Intend to Publish Version**

- Policy G5 Urban greening
- Policy G6 Biodiversity and access to nature
- Policy G7 Trees and woodlands

# Development Response

The public realm of the site will be increased due to the development, with connectivity increased within the local area.

Trium Environmental Consulting LLP have recommended the following opportunities for ecological enhancement for the proposed site:

- Biodiverse roof
- Wildlife planting

As well as external terrace areas for the office users, there is a publicly accessible rooftop as part of the development.

**BREEAM Office Space Strategy**

Pope's Road Office space is currently targeting LE 02 Identifying and understanding the risks and opportunities for the site, Le 03 Managing negative impacts on ecology and Le 04 changes and enhancement of ecological value. The Proposed Development is potentially targeting LE 05 Long Term management and maintenance.

4.10 **Flooding**

SPG section 3.4 and London Plan 2019 Intend to Publish Version

### 4.10.1 Surface water flooding and sustainable drainage

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

1. 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.
2. Developers should maximise all opportunities to achieve greenfield runoff rates in their developments.
3. When designing their schemes developers should follow the drainage hierarchy set out in London Plan policy 5.13
4. 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.

**London Plan 2019 Intend to Publish Version**

- Policy SI12 Flood risk management
- Policy SI13 Sustainable drainage

# Development Response

A full Flood Risk Assessment has been carried out for the site, with the flood risk deemed to be very low. The site is in Flood Zone 1 and SuDS have been proposed to ensure the risk to adjacent properties is limited.

The Proposed Development has been designed to reduce flooding events, and improve water quality locally and beyond the site through consideration of the following factors and following the drainage hierarchy:

1. Water Reuse
2. Living Roofs
3. Basins and Ponds
4. Infiltration Devices
5. Permeable Surfaces
6. Tank Systems

As per the Flood Risk Assessment and Drainage Strategy for the project produced by Akt II:

- In accordance with the National Planning Policy Framework, the site would be categorised as lying within Flood Zone 1 - an area assessed as having 1 in 1000 or less annual probability of river or sea flooding (<0.1%).
- It is proposed that surface water runoff from the proposed site be restricted to 2.46l/s for all events up to and including the 1 in 100 year + 40% climate change. However, Clause 17 of the DEFRA / EA publication 'Rainfall runoff management for developments' states that "A practicable minimum limit on the discharge rate from a fl ow attenuation device is often a compromise between attenuating to a satisfactorily low fl ow rate while keeping the risk of blockage to an acceptable level. This limit is set at **5 litres** per second, using an appropriate vortex or other flow control device

The Proposed Development will aspire to achieve a minimum **5 litres** per second in on-site run-off rate through deploying an appropriate SuDS solution. The detail of the system(s) solution will be developed during the design stage of the project for implementation during construction

Current considerations are one or a mixture of the following technologies:

- It is proposed to incorporate a rainwater harvesting system into the scheme with the approval of MEP.
- It is proposed to provide a portion of green/brown/blue roof on the development.
- An attenuation tank of 3,050 m3 is proposed which will reduce the peak discharge rate from the site to the Greenfield rate.

**BREEAM Office Space Strategy**

Pope's Road Office space is currently targeting 3 credits under Pol 03 Flood and surface water management. A site-specific flood risk assessment confirms the development is situated in a flood zone that is defined as having a low annual probability of flooding considering all current and future sources of flooding. Surface water management will be in place, design solutions will be bespoke and will take account of the specific site requirements and natural or man-made environment of and surrounding the site.

### 4.10.2 Flood resilience and resistance of buildings in flood risk areas

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

1. Development in areas at risk from any form of flooding should include flood resistance and resilience measures in line with industry best practice.

**London Plan 2019 Intend to Publish Version**

- Policy SI12 Flood risk management
- Policy SI13 Sustainable drainage

# Development Response

A full Flood Risk Assessment has been carried out for the site, with the flood risk deemed to be very low. The site is in Flood Zone 1 and SuDS have been proposed to ensure the risk to adjacent properties is limited.

In accordance with NPPF, the proposed development is classified as "less vulnerable" land use.

The Site does not lie within any of the Environment Agency's classified Source Protection Zones.

In accordance with the National Planning Policy Framework, the site would be categorised as lying within Flood Zone 1 - an area assessed as having 1 in 1000 or less annual probability of river or sea flooding (<0.1%).

The Proposed Development is considered to be at a low risk of flooding and would not increase surface water runoff through an increase in impermeable area in part due to the application of SuDS.

**BREEAM Office Space Strategy**

Pope's Road Office space is currently targeting 3 credits under Pol 03 Flood and surface water management. A site-specific flood risk assessment confirms the development is situated in a flood zone that is defined as having a low annual probability of flooding considering all current and future sources of flooding. Surface water management will be in place, design solutions will be bespoke and will take account of the specific site requirements and natural or man-made environment of and surrounding the site.

### 4.10.3 Flood risk management

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

1. 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.
2. Developments incorporate the recommendation of the TE2100 plan for the future tidal flood risk management in the Thames estuary
3. 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.

**London Plan 2019 Intend to Publish Version**

- Policy SI12 Flood risk management
- Policy SI13 Sustainable drainage

# Development Response

A full Flood Risk Assessment has been carried out for the site, with the flood risk deemed to be very low. The site is in Flood Zone 1 and SuDS have been proposed to ensure the risk to adjacent properties is limited.

In accordance with NPPF, the proposed development is classified as "less vulnerable" land use.

The Site does not lie within any of the Environment Agency's classified Source Protection Zones.

In accordance with the National Planning Policy Framework, the site would be categorised as lying within Flood Zone 1 - an area assessed as having 1 in 1000 or less annual probability of river or sea flooding (<0.1%).

The Proposed Development is considered to be at a low risk of flooding and would not increase surface water runoff through an increase in impermeable area in part due to the application of SuDS.

The Proposed Development will aspire to achieve a minimum **5 litres** per second in on-site run-off rate through deploying an appropriate SuDS solution. The detail of the system(s) solution will be developed during the design stage of the project for implementation during construction

Current considerations are one or a mixture of the following technologies:

- It is proposed to incorporate a rainwater harvesting system into the scheme with the approval of MEP.
- It is proposed to provide a portion of green/brown/blue roof on the development.
- An attenuation tank of 3,050 m3 is proposed which will reduce the peak discharge rate from the site to the Greenfield rate.

**BREEAM Office Space Strategy**

Pope's Road Office space is currently targeting 3 credits under Pol 03 Flood and surface water management. A site-specific flood risk assessment confirms the development is situated in a flood zone that is defined as having a low annual probability of flooding considering all current and future sources of flooding. Surface water management will be in place, design solutions will be bespoke and will take account of the specific site requirements and natural or man-made environment of and surrounding the site.

### 4.10.4 Flood defences

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

1. Development should maximise all opportunities to achieve an 8m setback on fluvial watercourses between built development and watercourses, flood defences and culverts.
2. Development should maximise all opportunities to achieve a 16m setback on tidal watercourses between built development and watercourses and flood defences.

**London Plan 2019 Intend to Publish Version**

- Policy SI12 Flood risk management
- Policy SI13 Sustainable drainage

# Development Response

A full Flood Risk Assessment has been carried out for the site, with the flood risk deemed to be very low. In accordance with the National Planning Policy Framework, the site would be categorised as lying within Flood Zone 1 - an area assessed as having 1 in 1000 or less annual probability of river or sea flooding (<0.1%).

In accordance with NPPF, the proposed development is classified as "less vulnerable" land use.

Fluvial flooding is caused by rivers, watercourses or ditches overflowing. Tidal flooding is caused by elevated sea levels or overtopping by wave action.
Based on the Environment Agency's "Flood Map for Planning (River and Sea)" the site is located entirely within Flood Zone 1 - an area assessed as having a 1 in 1000 or less annual probability of river or sea flooding (<0.1%). The Environment Agency's "Risk of Flooding from River and Sea" indicates that the site is outside the low risk area of flooding with the same annual probability.

Using all the available evidence it is therefore considered that the site has a very low probability of flooding from fluvial and tidal sources.

For further details please refer to the Flood Risk Assessment produced by Akt II included within the Planning Submission of Pope's Road.

**BREEAM Office Space Strategy**

Pope's Road Office space is currently targeting 3 credits under Pol 03 Flood and surface water management. A site-specific flood risk assessment confirms the development is situated in a flood zone that is defined as having a low annual probability of flooding considering all current and future sources of flooding. Surface water management will be in place, design solutions will be bespoke and will take account of the specific site requirements and natural or man-made environment of and surrounding the site.

### 4.10.5 Other sources of flooding

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

1. All sources of flooding need to be considered when designing and constructing developments.

**London Plan 2019 Intend to Publish Version**

- Policy SI12 Flood risk management
- Policy SI13 Sustainable drainage

# Development Response

A full Flood Risk Assessment has been carried out for the site, with the flood risk deemed to be very low. In accordance with the National Planning Policy Framework, the site would be categorised as lying within Flood Zone 1 - an area assessed as having 1 in 1000 or less annual probability of river or sea flooding (<0.1%).

Fluvial, tidal, groundwater, surface water, and artificial flooding sources have been considered as well as flooding from sewers and other drainage networks.

The design has considered all sources of flooding and further SuDS drainage detailing will be undertaken during design. Refer to other responses in Section 4.10 above.

**BREEAM Office Space Strategy**

Pope's Road Office space is currently targeting 3 credits under Pol 03 Flood and surface water management. A site-specific flood risk assessment confirms the development is situated in a flood zone that is defined as having a low annual probability of flooding considering all current and future sources of flooding. Surface water management will be in place, design solutions will be bespoke and will take account of the specific site requirements and natural or man-made environment of and surrounding the site.

4.11 **Air pollution**

SPG section 4.3 and London Plan 2019 Intend to Publish Version

### 4.11.1 Air pollution

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

- Developers are to design their schemes so that they are at least 'air quality neutral'.
- Developments should be designed to minimise the generation of air pollution.
- Developments should be designed to minimise and mitigate against increased exposure to poor air quality.
- Developers should select plant that meets the standards for emissions from combined heat and power and biomass plants set out in Appendix 7.
- Developers and contractors should follow the guidance set out in the emerging minimising dust and emissions from construction and demolition SPG when constructing their development.

**London Plan 2019 Intend to Publish Version**

- Policy GG3 Creating a healthy city
- Policy T1 Strategic approach to transport
- Policy T5 Cycling

# Development Response

The Proposed Development would include the use of heat pumps which has improved efficiencies and low emissions. The detailed specification and installation of this plant would be in line with best practice guidance.

The site is within an Air Quality Management Area. The main likely effects on local air quality during construction relate to dust. A range of measures to minimise or prevent dust would be implemented and it is considered that following mitigation, the effects from nuisance dust emissions would be negligible.

The GLA guidance suggests a number of mitigation measures that should be adopted in order to minimise impacts from dusts and fine particles. Appropriate measures that could be included during construction of the proposed development include:

- ideally cutting, grinding and sawing should not be conducted on-site and pre-fabricated material and modules should be brought in where possible
- where such work must take place, water suppression should be used to reduce the amount of dust generated
- skips, chutes and conveyors should be completely covered and, if necessary, enclosed to ensure that dust does not escape
- no burning of any materials should be permitted on site
- any excess material should be reused or recycled on-site in accordance with appropriate legislation
- developers should produce a waste or recycling plan
- following earthworks, exposed areas and soil stockpiles should be re-vegetated to stabilise surfaces, or otherwise covered with hessian or mulches
- stockpiles should be stored in enclosed or bunded containers or silos and kept damp where necessary
- hard surfaces should be used for haul routes where possible
- haul routes should be swept/washed regularly

For more information please refer to the Air Quality Assessment by Air Quality Consultants submitted within the Planning Submission Package.

4.12 **Noise**

SPG section 4.4 and London Plan 2019 Intend to Publish Version

### 4.12.1 Noise

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

- Areas identified as having positive sound features or as being 'quiet areas' should be protected from noise enhanced, where possible.
- Noise should be reduced at source and then designed out of a scheme to reduce the need for mitigation measures.

**London Plan 2019 Intend to Publish Version**

- Policy D13 Noise
- Policy D1B Optimising site capacity through the design-led approach

# Development Response

The following factors have been prioritised within the design in order to reduce the impact of noise produced within the development, and minimise the negative effect of noise sources arising outside the building:

- Optimise deliveries and timings.
- Attenuation of noise to and from the site.
- Location in relation to noise sensitive environments; and
- Reduction of traffic to site by providing cycling facilities.

The local acceleration and breaking of traffic on surrounding roads create noise and airborne pollution.

An acoustic assessment has been completed for the site to conclude that suitable noise levels can be achieved using appropriate construction methods such as temporary screening, and the plant specification has been designed to meet the Lambeth's requirements. Therefore, there should be no significant effects from fixed plant noise on noise sensitive locations surrounding the proposed site.

**BREEAM Office Space Strategy**

Pope's Road Office space is currently targeting Hea 05 Acoustic Performance which entails the building to meet the BREEAM acoustic Standards for indoor ambient noise levels. The Proposed Development is also targeting Pol 05 which entails a noise impact assessment, in accordance with BS 4142:2014, to be carried out.

4.13 **Light pollution**

SPG section 4.5 and London Plan 2019 Intend to Publish Version

### 4.13.1 Light pollution

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

1. Developments and lighting schemes should be designed to minimise light pollution.

# Development Response

Light pollution will be minimised by considerate selection of external light fittings to avoid light spillage as well as time clock and dusk-to-dawn controls.

4.14 **Water pollution**

SPG section 4.6 and London Plan 2019 Intend to Publish Version

### 4.14.1 Surface water runoff

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Priorities**

1. In their aim to achieve a greenfield runoff rate developer should incorporate sustainable urban drainage systems (SuDS) into their schemes which also provide benefits for water quality.

**Mayor's Best Practice**

2. Encourage good environmental practice to help reduce the risk from business activities on the London water environment.
3. Encourage those working on demolition and construction sites to prevent pollution by incorporating prevention measures and following best practice.

**London Plan 2019 Intend to Publish Version**

- Policy SI5 Water infrastructure
- Policy SI12 Flood risk management
- Policy SI13 Sustainable drainage

# Development Response

A full Flood Risk Assessment has been carried out for the site, with the flood risk deemed to be very low. In accordance with the National Planning Policy Framework, the site would be categorised as lying within Flood Zone 1 - an area assessed as having 1 in 1000 or less annual probability of river or sea flooding (<0.1%).

The Proposed Development is considered to be at a low risk of flooding and would not increase surface water runoff through an increase in impermeable area in part due to the application of SuDS.

The Proposed Development will aspire to achieve a minimum **5 litres** per second in on-site run-off rate through deploying an appropriate SuDS solution. The detail of the system(s) solution will be developed during the design stage of the project for implementation during construction

Current considerations are one or a mixture of the following technologies:

- It is proposed to incorporate a rainwater harvesting system into the scheme with the approval of MEP.
- It is proposed to provide a portion of green/brown/blue roof on the development.
- An attenuation tank of 3,050 m3 is proposed which will reduce the peak discharge rate from the site to the Greenfield rate.

**BREEAM Office Space Strategy**

Pope's Road Office space is currently targeting 3 credits under Pol 03 Flood and surface water management. A site-specific flood risk assessment confirms the development is situated in a flood zone that is defined as having a low annual probability of flooding considering all current and future sources of flooding. Surface water management will be in place, design solutions will be bespoke and will take account of the specific site requirements and natural or man-made environment of and surrounding the site.

### 4.14.2 Water treatment

Relevant Policies

**Supplementary Planning Guidance**

**Mayor's Best Practice**

1. Residential developments discharging domestic sewage should connect to the public foul sewer or combined sewer network where it is reasonable to do so.
2. 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.
3. Developments should be properly connected, and post-construction checks should be made by developers to ensure that misconnections do not occur.

**London Plan 2019 Intend to Publish Version**

- Policy SI5 Water infrastructure

# Development Response

The development would be connected to the public foul sewer.

# 5.0 CONCLUSION

The proposed Pope's Road scheme has been developed with sustainable design principles at its core. An integrated and holistic approach has been adopted and this document contextualises the process by which sustainability has been addressed as part of the project's evolution, incorporating policy and legislation requirements as a part of a wider sustainability agenda.

The Sustainability Strategy has demonstrated the project's ability to:

- Match or exceed today's requirements;
- Anticipate tomorrow's needs; and
- Adapt and remain relevant into the future.

This Sustainability Strategy has demonstrated how each legislative policy has been used to influence and inform the design decisions of the Proposed Development. The Sustainability policies and measures have been fulfilled in the Proposed Design in order to demonstrate compliance with Lambeth Councils planning requirement.

# BREEAM PRE-ASSESSMENT

# Pope's Road: Offices

# BREEAM Pre-Assessment Summary Report

13th December 2019


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# Pope’s Road – BREEAM Pre-Assessment: Offices

This report is intended as a summary of the BREEAM pre-assessment review for the following project:

| | |
|---|---|
| **Project Name** | Pope's Road |
| **BREEAM Version** | BREEAM 2018 NC |
| **Assessment Stage** | Pre-Assessment Stage |
| **Lead Assessor** | Lucy Rees |
| **Target Rating** | Very Good (55%) |

13th December 2019

## 1.0 Scoring scenarios

Based on the pre-assessment workshop undertaken 4th October 2019, the following strategies were identified:

- Targeted – Credits confirmed achievable based on the project design and scope
- Potential - Potential credits to review further, requiring additional works/ appointments outside the current design and scope

On this basis, the following scores are considered achievable under each scenario;

| Scenario | Score | BREEAM Rating |
|---|---|---|
| Targeted | 66.57 | Very Good |
| Potential | 75.01 | Excellent |

Based on information received to date, the projected BREEAM score for Pope's Road Offices indicates that a 'Very Good' rating is likely to be achievable based on the current scope of works. An expansion of current scope, with associated additional cost/ work, could permit a potential rating of 'Excellent'.

## 2.0 Minimum Standards

Performance against the minimum standards (required for the specified target rating) under each scenario is summarised below;

| Issue | Targeted | Potential |
|---|---|---|
| Man 03 - Responsible construction practices | Yes | Yes |
| Man 04 - Commissioning and handover | Yes | Yes |
| Man 04 - Commissioning and handover | Yes | Yes |
| Ene 01 - Reduction of energy use and carbon emissions | Yes | Yes |
| Ene 02 - Energy monitoring | Yes | Yes |
| Wat 01 - Water consumption | Yes | Yes |
| Wat 02 - Water monitoring | Yes | Yes |
| Mat 03 - Responsible sourcing of construction products | Yes | Yes |
| Wst 01 - Construction waste management | Yes | Yes |
| Wst 03 - Operational waste | Yes | Yes |

If the required minimum standards are not met then the target rating will not be achieved regardless of overall score.

## 3.0 - Credits and Comments Table

| | | Available | Potential | Targeted | Comments |
|---|---|---|---|---|---|
| **Man 01** | Project brief and design | 4 | 4 | 2 | **Credit 1 - Project delivery planning**<br>**Hondo**<br>Targeted, 1 credit, project delivery stakeholders meet **prior to RIBA stage 2** to identify and define roles, responsibilities and contributions at **RIBA Stages 2-7**. Demonstrate how the outcomes of the consultation process have influenced or changed the Initial Project Brief.<br>*Evidence at Design Stage - HPF template proforma to be completed and supporting documentation provided.*<br>**Credit 2 - Stakeholder consultation (interested parties)**<br>**Hondo**<br>Targeted, 1 credit, interested party stakeholder consultation from **RIBA stage 2** to cover the BREEAM minimum consultation content. Demonstrate how the stakeholder contributions and outcomes of the consultation exercise have influenced or changed the Initial Project Brief and Concept Design. Demonstrate that, prior to the completion of **RIBA Stage 4**, consultation feedback has been given to and received by, all parties.<br>*Evidence required at Design Stage - HPF template proforma to be completed and supporting documentation provided.*<br>**Pre-requisite to credits Three and Four**<br>**Project Team, Hondo**<br>Targeted, project team including the Client, formally agree strategic performance targets **early in the design process** (with the support of the BREEAM AP where appointed)<br>**Credit 3 - BREEAM AP Concept Design**<br>**Additional appointment**<br>Potential Target, 1 credit, involve a BREEAM AP in the project **at an appropriate time and level** to:<br>- Work with the project team and client to consider the links between BREEAM issues and assist them in maximising the project's overall performance, from their appointment and **throughout Concept Design.**<br>- Monitor progress against the performance targets throughout all stages after their appointment where decisions critically impact BREEAM performance.<br>- Proactively identify risks and opportunities related to the achievement of the targets<br>- Provide feedback to the project team to support them in taking corrective actions and achieving their agreed performance targets.<br>- Monitor and coordinate the generation of appropriate evidence by the project team.<br>*Evidence at Design Stage – BREEAM AP appointment confirmation. AP reporting.*<br>**Credit 4 – BREEAM AP Developed Design**<br>**Additional appointment**<br>Potential Target, 1 credit, Involve the BREEAM AP **at an appropriate time and level** to:<br>- Work with the project team and client to consider links between BREEAM issues and to assist in maximising the project's overall performance throughout Developed Design.<br>- Monitor progress against performance targets throughout all stages where decisions critically impact the specification and tendering process and the BREEAM performance.<br>- Proactively identify risks and opportunities related to the achievement of the targets - Provide feedback as appropriate to support corrective actions and achieving of agreed performance targets.<br>- Monitor and coordinate the generation of appropriate evidence by the project team<br>*Evidence at Design Stage – BREEAM AP appointment confirmation. AP reporting.* |
| **Man 02** | Life cycle cost and service planning | 4 | 1 | 1 | **Credits 1-2 – Elemental LCC**<br>Not Targeted, 2 credits, Elemental level LCC Plan, to be developed **by the end of RIBA Stage 2**, in accordance with BREEAM requirements and PD 156865:2008. |

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| | | | | | **Credit 3– Component level LCC**<br>Not Targeted, 1 credit, Component level LCC Plan, to be developed by the end of **RIBA Stage 4**, in accordance with BREEAM requirements and PD 156865:2008.<br>**Credit 4 - Capital cost reporting**<br>**Core Five**<br>Targeted, 1 credit, Capital cost of the development in pounds per square meter (£k/m2) (calculated in line with BREEAM methodology) to be reported.<br>*Evidence at Design Stage: HPF template commitment letter to be completed* |
| **Man 03** | Responsible construction practices | 6 | 6 | 6 | **Pre-requisite- legally harvested and traded timber**<br>**Main Contractor/ Hondo Commitment**<br>Targeted, pre-requisite, all timber/timber-based products used during the construction process to have appropriate certifications showing they have been legally sourced and traded.<br>**Credit 1 – Environmental Management**<br>**Main Contractor/ Hondo Commitment**<br>Targeted, 1 credit, all parties who manage the construction site to hold a third-party verified environmental management system certification (ISO 4001/EMAS) and implement Pollution Prevention Guidelines in accordance with PPG6.<br>**Credit 2 – BREEAM AP (site)**<br>**Main Contractor/ Hondo Commitment**<br>Targeted, 1 credit, Involve a BREEAM AP **at an appropriate time and level** to:<br>- Work with the project team and client to consider the links between BREEAM issues and assist them in achieving and going beyond the design intent, to maximise the project's performance against agreed targets **throughout the Construction, Handover and Close Out**<br>- Monitor construction progress against the performance targets throughout all stages where decisions critically impact BREEAM performance.<br>- Proactively identify risks and opportunities related to the procurement and construction process and the achievement of the targets<br>- Provide feedback to the constructors and the project team to support corrective actions and achieving agreed performance targets.<br>- Monitor and coordinate the generation of appropriate evidence by the project team and the provision to the assessor.<br>**Credit 3 – Responsible Construction Management**<br>**Main Contractor/ Hondo Commitment**<br>Targeted, 2 credits (+1 innovation), Principal Contractor to comply with all responsible practice actions in line with the BREEAM requirements.<br>**Credits 4 - 5 – Monitoring of Construction Site Impacts**<br>**Main Contractor/ Hondo Commitment**<br>Targeted, 2 credits, assign responsibility to an individual for monitoring, recording and reporting energy use, water consumption and transportation data, in line with BREEAM methodology and KPIs, resulting from all on-site construction processes (and dedicated off-site manufacturing) throughout the build programme<br>*Evidence for all Man 03 credits at Design Stage - HPF template commitment proforma to be completed. Requirements also to be included in Contractor prelims/tender documentation as committed to by the Developer at Design Stage.* |
| **Man 04** | Commissioning and handover | 4 | 3 | 3 | **Credit 1 – Commissioning – Testing Schedule and Responsibilities**<br>**Main Contractor/ Hondo Commitment**<br>Targeted, 1 credit, prepare a schedule of commissioning and testing.identifying a suitable timescale for commissioning and re-commissioning of all complex and non-complex building services and control systems |

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| | | | | | (including BMS) and for testing and inspecting building fabric in line with appropriate standards. Appoint an appropriate project team member to monitor and programme pre-commissioning, commissioning, re-commissioning and testing. The principal contractor accounts for the commissioning and testing programme, responsibilities and criteria within their budget and the main programme of works.<br>**Credit 2 – Commissioning- Design and Preparation**<br>**Main Contractor/ Hondo Commitment**<br>Targeted, 1 credit, a specialist commissioning manager (not involved in the general installation works for the building services) is appointed **during the design stage** with responsibility for:<br>- Undertaking design reviews and giving advice on suitability for ease of commissioning<br>- Providing commissioning management input to construction programming and during installation stages<br>- Management of commissioning, performance testing and handover/post-handover stages<br>**Credit 3 – Testing and Inspecting Building Fabric**<br>Not targeted, 1 credit, a thermographic survey and airtightness testing and visual inspection will take place at appropriate times during the refurbishment. Any defects identified must be rectified prior to building handover and close out.<br>**Credit 4– Handover**<br>**Main Contractor/ Hondo Commitment**<br>Targeted, 1 credit, *two* compliant Building User Guides (technical and non-technical) developed prior to handover, for distribution to the building occupiers and premises facilities managers. Two training schedules are prepared for building occupiers/premises facilities managers, timed appropriately around handover and proposed occupation plans in line with BREEAM content requirements.<br>*Evidence for all Man 04 credits at Design Stage - HPF template commitment letter to be completed. Requirements also to be included in Contractor prelims/tender documentation as committed to by the Developer at Design Stage.* |
| **Management Totals: (+exemplary)** | | **18 (+1)** | **14 (+1)** | **12 (+1)** | |
| **Management score totals:** | | **11** | **9.556** | **8.333** | |
| **Hea 01** | Visual comfort | 4 | 1 | 1 | **Credit 1 - Glare Control**<br>Not applicable<br>**Credit 2 – Daylighting**<br>**Additional Appointment. Daylight Modeller**<br>Not Targeted, 2 credits, modelling to demonstrate relevant building areas meet good practice daylight criteria as defined by BREEAM.<br>**Credit 3 – View out**<br>**Adjaye**<br>Not Targeted, 1 credit, 95% of the floor area in 95% of spaces is within 8m of an external wall with a window or permanent opening that provides an adequate view out. The window/opening must be ≥ 20% of the surrounding wall area. Where the room depth is greater than 8m, compliance is only possible where the percentage of window/opening is compliant with table 1.0 of BS 82061: part 2.<br>*Evidence at Design Stage – plans marked up with calculations to demonstrate the above.*<br>**Credit 4 – Internal and external lighting levels, zoning and control**<br>**HPF MEP**<br>Targeted, 1 credit, *External lighting* - specified in accordance with BS 5489-1:2013 Lighting of roads and public amenity areas and BS EN 12464-2:2014 Light and lighting - Lighting of work places - Part 2: Outdoor work places.<br>*Evidence at Design Stage - MEP specification, lighting schedule, lighting layouts.* |

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| **Hea 02** | Indoor air quality | 1 | 0 | 0 | **Pre-requisite – Indoor Air Quality Plan**<br>**Additional Appointment. Specialist Consultant**<br>Not Targeted, indoor air quality plan to be developed **during the early design stages** to facilitate a process that leads to design, specification and<br>installation decisions and actions that minimise indoor air pollution during occupation of the building.<br>**Credit 1 - Ventilation**<br>**HPF MEP**<br>Not Targeted, 1 credit, fresh air provided at 12 litres per second per person. Position air intakes and exhausts at least 10m horizontal distance apart. Position intakes at least 10m horizontal distance from sources of external pollution. HVAC systems incorporate suitable filtration as defined in BS EN 16798-3:2017. Areas subject to large and unpredictable or variable occupancy have $CO_2$ or air quality sensors specified linked to the mechanical ventilation to demand-controlled ventilation.<br>*Evidence at Design Stage - IAQ plan, plant layouts marked up to show distances, MEP spec, HVAC spec, CO2 sensor spec and layout drawings.* |
| **Hea 04** | Thermal comfort | 2 | 2 | 0 | **Credit 1 – Thermal modelling**<br>**Additional Appointment. Energy Modeller**<br>Potential Target, 1 credit, full dynamic thermal analysis carried out using software in accordance with CIBSE AM11. Modelling to demonstrate that operative temperatures are in accordance with CIBSE Guide A Table 1.5.<br>**Credit 2 – Design for future thermal comfort**<br>**Additional Appointment. Energy Modeller**<br>Potential Target, 1 credit, thermal modelling undertaken above demonstrates requirements can be achieved for a projected climate change scenario. |
| **Hea 05** | Acoustic performance | 1 | 1 | 1 | **Credit 1 – Acoustic performance**<br>**Acoustic Consultant**<br>Targeted, 1 credit, the building is required to meet BREEAM acoustic standards for- indoor ambient noise levels<br>*Evidence at Design Stage - acoustic reports confirming anticipated BREEAM compliance.*<br>**Hondo**<br>Pre-completion acoustic testing to be committed to, to demonstrate the acoustic standards above have been achieved.<br>*Evidence at Design Stage - template commitment letter provided by HPF to be completed.* |
| **Hea 06** | Security | 1 | 1 | 0 | **Credit 1 + 1 Exemplary Level– Security of Site and Building**<br>**Additional Appointment. Suitably Qualified Security Specialist**<br>Potential Target, 1 credit, SQSS to conduct an evidence-based Security Needs Assessment (SNA) **during or prior to RIBA Stage 2** (or confirm their late involvement has not impacted their ability to make recommendations that are implemented). The recommendations or solutions proposed by the SQSS must all be implemented.<br>Not Targeted, 1 Exemplary Level credit, compliant risk based security rating scheme has been used (e.g. SABRE). The performance against the scheme has been confirmed by independent assessment and verification.<br>*Evidence at Design Stage – SQSS report, plans and specifications confirming implementation of recommendations.* |
| **Hea 07** | Safe and healthy surroundings | 2 | 2 | 1 | **Credit 1 – Safe Access**<br>**Adjaye**<br>Potential Target, 1 credit, external site areas meet BREEAM compliance for safe access e.g. in relation to dedicated cycle paths, pedestrian paths and separation of vehicular/ delivery/ maneuvering spaces. Automatically awarded when site entrance is off public highway.<br>*Evidence at Design Stage – marked up site plans, written confirmation.*<br>**Credit 2 – Outside space** |

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| | | | | | **Adjaye**<br>Targeted, 1 credit, there is an outside space providing building users with an external amenity area. The majority of the space must be open to the sky, seating must be provided and noisy areas avoided.<br>*Evidence at Design Stage – marked up site plans.* |
| **Health & Wellbeing Totals: (+exemplary)** | | **11 (+2)** | **7** | **3** | |
| **Health & Wellbeing score totals:** | | **8** | **5.091** | **2.182** | |
| **Ene 01** | Reduction of energy use and carbon emissions | 13 | 4 | 4 | **Credit 1 – Energy Performance**<br>**HPF Energy**<br>Targeted, 4 credits, calculate an Energy Performance Ratio for New Construction. 4 credits minimum requirement for Excellent.<br>*Evidence at Design Stage - Building Regulations Output Document (BRUKL).*<br>**Credit 2 – Prediction of operational energy consumption**<br>**Additional Appointment. Energy Consultant**<br>Not Targeted, 4 credits, detailed energy modelling following the TM54 methodology to generate predicted operational energy consumption figures. Report energy consumption targets by end use, conduct a risk assessment to highlight design, technical and process risks.<br>**Exemplary Level Credits 1-2 - Post Occupancy Stage**<br>**Additional Appointment. Energy Consultant**<br>Not Targeted, 2 credits, client or building occupier commits funds to pay for the post occupancy stage. This requires an assessor to be appointed and to report on the actual energy consumption compared with the targets set above. Submit the energy model to BRE and the building owner. |
| **Ene 02** | Energy monitoring | 2 | 2 | 2 | **Credit 1– Submetering of End-Use Categories**<br>**HPF MEP**<br>Targeted, 1 credit, an appropriate energy monitoring and management system enables min. 90% of building energy consumption to be assigned to end uses listed below where relevant (i.e. in accordance with building regulations Part L2 and CIBSE TM39).<br>- Space Heating<br>- Domestic Hot Water<br>- Humidification<br>- Cooling<br>- Fans (ventilation)<br>- Pumps<br>- Lighting<br>- Small Power<br>- Renewable or Low Carbon systems<br>- Controls<br>- Other major energy consuming systems/ plant (lifts)<br>*Evidence at Design Stage - metering schematics, MEP spec, BMS specification.*<br>**Credit 2 – Sub-metering of High Energy Load and Tenancy Areas**<br>**HPF MEP**<br>Targeted, 1 credit, sub-meters provided covering the significant majority of energy supply to tenanted or relevant function areas/ departments (office areas by floor plate, catering if applicable, separately). |
| **Ene 03** | External Lighting | 1 | 1 | 1 | **Credit 1 – External lighting**<br>**HPF MEP**<br>Targeted, 1 credit, average initial luminous efficacy to be >70 luminaire lumens per circuit watt for all external |

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| | | | | | fittings within the construction zone (new and existing). All external fittings automatically controlled for prevention of operation during daylight hours and presence detection in areas of intermittent pedestrian traffic.<br>*Evidence at Design Stage - lighting schedule & datasheets for external fittings, lumens/watt calculations (if not all fittings >70), lighting layouts, MEP spec.* |
| **Ene 04** | Low carbon design | 3 | 0 | 0 | **Credit 1 – Passive design**<br>**Additional Appointment. Energy Modeller**<br>Not Targeted, 1 credit, an analysis of the building design/development to influence decisions during RIBA Stage 2 and identify opportunities for the implementation of passive design solutions to reduce demands for energy consuming building services.<br>*Evidence at Design Stage – modelling/ reporting and results.*<br>**Credit 2 – Low and Zero Carbon Technologies**<br>**Additional Appointment. Energy Modeller**<br>Not Targeted, 1 credit, a feasibility study is carried out by RIBA Stage 2 to establish the most appropriate low or zero carbon energy source(s) for the building/development. An LZC technology must be specified.<br>*Evidence at Design Stage – modelling/ reporting and results.*<br>**Credit 3 – Freecooling**<br>Not Targeted, 1 credit, would require natural ventilation strategy. |
| **Ene 06** | Energy efficient transportation systems | 2 | 2 | 2 | **Credit 1 – Energy Consumption**<br>**HPF VT Consultant, Lift Manufacturer**<br>Targeted, 1 credit, - An analysis of the transportation demand and usage patterns for the building to determine the optimum number and size of lifts<br>- The energy consumption is estimated in accordance with BS EN ISO 25745 Part 2 and 3 for at least two types of system.<br>- The use of regenerative drives should be considered, where it produces an energy saving greater than the additional standby energy used to support the drives.<br>- The lift with the lowest energy consumption is specified.<br>**Credit 2 – Energy Efficient Features**<br>**HPF VT Consultant**<br>Targeted, 1 credit, - Lifts operate in a standby during off-peak periods<br>- Lift car lighting and display lighting has an average efficacy of > 55 lamp lumens/circuit Watt<br>- The lift uses a VVVF control of the drive motor<br>- Where the use of regenerative drives is demonstrated to save energy, they are specified<br>*Evidence at Design Stage - compliant transportation demand analysis, compliant energy analysis, compliant lift specification.* |
| **Energy Totals: (+exemplary)** | | **21 (+5)** | **9** | **9** | |
| **Energy score totals:** | | **14** | **6** | **6** | |
| **Tra 01** | Transport assessment and travel plan | 2 | 2 | 2 | **Credit 1 – Transport Assessment and Travel plan**<br>**Caneparo**<br>Targeted, 2 credits, no later than **RIBA Stage 2**, undertake a site-specific transport assessment **and** draft travel plan, which can demonstrably be used to influence the site layout and built form in line with the BREEAM methodology and content requirements. If the occupier is known, involve them in the development of the travel plan. Demonstrate that the travel plan will be implemented and supported by the building's management.<br>*Evidence at Design Stage - compliant transport assessment and draft travel plan.* |
| **Tra 02** | Sustainable transport measures | 10 | 10 | 10 | **Credits 1-10 - Sustainable Transport Measures**<br>**Adjaye, Caneparo, Hondo**<br>Targeted, 10 credits, sustainable transport measures are provided as follow: |

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| | | | | | * Existing Accessibility Index of >8<br>* BREEAM compliant cycle storage (1 rack per 20 office staff)<br>* BREEAM compliance cycle facilities (1 shower per 10 cycle racks, 1 locker per 1 cycle rack)<br>* At least 3 existing compliant amenities within BREEAM compliant distances<br>* Provide at least one new accessible compliant amenity<br>* Provide a BREEAM compliant public transport information system in a publicly accessible area showing live transport information<br>*Evidence at Design Stage - marked-up plans showing facilities, specifications, route maps etc.* |
| **Transport Totals: (+exemplary)** | | **12** | **12** | **12** | |
| **Transport score totals:** | | **11.5** | **11.5** | **11.5** | |
| **Wat 01** | Water consumption | 5 | 3 | 3 | **Credit 1 – Water consumption**<br>**Adjaye**<br>Targeted, 3 credits, sanitary fittings to regulate/minimise water consumption to at least a 40% improvement over the BREEAM benchmark. Note: not related to PH systems, but to the specification of end fittings e.g. WCs, taps, showers etc<br>*Evidence at Design Stage - sanitary ware specification, drawings showing location of all fittings, product datasheets.*<br>If a greywater and/or rainwater system is specified to off-set non-potable water: must be compliant with BS 8525-1:2010 Greywater Systems - Part 1 Code of Practice and BS 8515:2009+A1:2013 Rainwater Harvesting Systems - Code of practice.<br>*Evidence at Design Stage - PH specification, grey/rainwater specification, details of systems as required by the BREEAM Wat 01 calculator.* |
| **Wat 02** | Water monitoring | 1 | 1 | 1 | **Credit 1 - Water Monitoring**<br>**HPF MEP**<br>Targeted, 1 credit, a water meter on the mains supply to each building. Any plant or building areas consuming 10% or more of the building's total water demand are also either fitted with easily accessible sub-meters or have water monitoring equipment integral to the plant or area. All meters connected to the BMS.<br>*Evidence at Design Stage - MEP spec, water metering schematics, BMS specification.* |
| **Wat 03** | Water leak detection | 2 | 2 | 2 | **Credit 1 – Leak Detection System**<br>**HPF MEP**<br>Targeted, 1 credit, a leak detection system capable of detecting a major water leak on the mains water supply within the building and between the building and the utilities water meter. The system must be:<br>- A permanent automated water leak detection system or an inbuilt automated diagnostic procedure<br>- Activated when the flow of water passing through the water meter/data logger is at a flow rate above a pre-set maximum for a pre-set period of time<br>- Able to identify different flow and therefore leakage rates<br>- Programmable to suit the owner/occupiers' water consumption criteria<br>- Designed to avoid false alarms caused by normal operation of large water-consuming plant such as chillers (if applicable)<br>*Evidence at Design Stage - PH schematics, leak detection specification, MEP specification*<br>**Credit Two – Flow Control Devices**<br>**MEP**<br>Targeted, 1 credit, flow control devices regulating the supply of water to each WC area/facility according to demand to be specified. E.g. a time controller, volume controller, PIR.<br>*Evidence at Design Stage - PH schematics, MEP specification* |

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| **Wat 04** | Water efficient equipment | 1 | 1 | 1 | **Credit 1 – Water Efficient Equipment**<br>**Adjaye/ Landscape Architect**<br>Targeted, 1 credit, unregulated water demands identified and reduced. For landscaping areas either:<br>- External landscaping and planting relies solely on precipitation, during all seasons of the year and in those conditions likely as a result of climate change<br>OR<br>- Drip-fed subsurface irrigation incorporating soil moisture sensors is provided. Irrigation control zoned to permit variable irrigation to different planting assemblages<br>*Evidence at Design Stage – written confirmation no unregulated water demands or details of water reduction measures (e.g. irrigation specification)* |
| **Water Totals: (+exemplary)** | | **9 (+1)** | **7** | **7** | |
| **Water score totals:** | | **7** | **5.444** | **5.444** | |
| **Mat 01** | Environmental impacts from construction products - Building life cycle assessment (LCA) | 7 | 5 | 5 | **Credits 1-6 - Superstructure**<br>**HPF (**based on data from **Adjaye** and **AKT)**<br>Targeted, 4 credits, a life cycle assessment (LCA) tool is used to measure the environmental impact of the superstructure at the **pre-planning** and **Technical Design (Stage 2) stages**. Including benchmarking against the BRE database and an options appraisal of 4 significantly different design options. **Note: HPF appointment is only for the pre-planning stages, to gain full credits, LCA must be updated at Technical Design Stage.**<br>**Credit 7 – Substructure and Hard Landscaping**<br>Targeted, 1 credit, LCA options appraisal of at least six significantly different substructure or hard landscaping design options.<br>**1 Exemplary Level Credit – Core Building Services Options Appraisal**<br>Targeted, 1 credit, LCA options appraisal of at least three building services design options.<br>**1 Exemplary Level Credit – LCA and LCC alignment**<br>Not Targeted, 1 credit, LCC credits under Man 02 are not targeted. Would require alignment with LCA.<br>**1 Exemplary Level Credit - Third Party Verification**<br>Not Targeted, 1 credit, verification of the building LCA, by a suitably qualified third-party.<br>*Evidence at Design Stage: Pre-Planning LCA results.* |
| **Mat 02** | Mat 02 Environmental impacts from construction products - Environmental Product Declarations (EPD) | 1 | 0 | 0 | **Credit One – Specification of Products with a Recognised Environmental Product Declaration (EPD)**<br>Not Targeted, 1 credit, specify construction products with EPD in accordance with the BREEAM requirements. |
| **Mat 03** | Responsible sourcing of construction products | 4 | 2 | 2 | **Pre-requisite – Legally Harvested and Traded Timber**<br>**Main Contractor/ Hondo Commitment**<br>Targeted, all timber to be legally harvested and traded.<br>**Credit 1 – Enabling Sustainable Procurement**<br>**Hondo to coordinate Design Team**<br>Targeted, 1 credit, the design team is to produce and work to a Sustainable Procurement Plan (in accordance with BREEAM definitions and content requirements). The plan must be in place **before RIBA Stage 2**.<br>*Evidence at Design Stage – Sustainable Procurement Plan.*<br>**Credits 2-4 – Measuring Responsible Sourcing**<br>**Adjaye, AKT**<br>Targeted, 1 credit, materials to have responsible sourcing certification (such as BES 6001 or ISO 1400) wherever feasible.<br>*Evidence at Design Stage - Mat 03 template to be completed and certification evidence provided.* |

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| **Mat 05** | Designing for durability and resilience | 1 | 1 | 1 | **Credit 1 - Designing for Durability and Resilience**<br>**Adjaye**<br>Targeted, Requirement 1: suitable durability and protection measures or designed features/solutions specified to prevent damage to vulnerable parts of the internal and external building and landscaping elements, which must include:<br>a. Protection from the effects of high pedestrian traffic in main entrances, public areas and thoroughfares (corridors, lifts, stairs, doors etc.)<br>b. Protection against any internal vehicular/trolley movement within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas<br>c. Protection against, or prevention from, any potential vehicular collision where vehicular parking and maneuvering occurs within 1m of the external building façade for all car parking areas and within 2m for all delivery areas<br>*Evidence at Design Stage - drawings marked up to highlight any areas a-c and protection measures in place. Supplementary evidence also to be provided e.g. specifications/ schedules.*<br>**Adjaye, AKT, HPF MEP**<br>Targeted, Requirement 2: identification and protection of exposed building elements against environmental factors and degradation effects in line with the BREEAM Mat 05 methodology.<br>*Evidence at Design Stage - HPF template report to be completed and supporting documentation provided.* |
| **Mat 06** | Material efficiency | 1 | 1 | 0 | **Credit 1 – Material Efficiency**<br>**Additional Appointment. Specialist Consultant**<br>Potential Target, 1 credit, undertaking and reporting on the investigation and implementation of measures to optimise the use of materials from RIBA Stage 1-5, through the buildings design, procurement, construction, maintenance and end of life.<br>*Evidence at Design Stage - Mat 01 reports and evidence of implementation of recommendations at stages 1-5.* |
| | **Materials Totals: (+exemplary)** | **14 (+4)** | **9 (+1)** | **8 (+1)** | |
| | **Materials score totals:** | **17.5** | **12.25** | **11** | |
| **Wst 01** | Construction waste management | 5 | 4 | 4 | **Credit 1 – Pre-Demolition Audit**<br>**Main Contractor/ Hondo Commitment**<br>Targeted, 1 credit, a BREEAM compliant pre-demolition audit is carried out by a competent person **at RIBA stage 2** and referenced in the project resource management plan (RMP).<br>*Evidence at Design Stage - pre-demolition audit and RMP.*<br>**Credits 2-4 – Construction Resource Efficiency**<br>**Main Contractor/ Hondo Commitment**<br>Targeted, 2 credits, a compliant resource management plan is produced containing all BREEAM content requirements. Non-hazardous waste relating to on-site construction, and dedicated off-site manufacture or fabrication processes, is to be maximum of **7.5m3 per 100m2 GIA or 6.5 tonnes per 100m2 GIA.**<br>**Credit 3– Diversion of Resources from Landfill**<br>**Main Contractor/ Hondo Commitment**<br>Targeted, 1 credit, at least 70% (volume) or 80% (tonnage) of non-demolition waste is to be diverted from landfill. At least 80% (volume) or 90% (tonnage) of demolition waste is to be diverted from landfill.<br>*Evidence at Design Stage - HPF template proforma to be completed. Requirements also to be included in Contractor prelims/tender documentation as committed to by the Developer at Design Stage.* |
| **Wst 02** | Use of recycled and sustainably sourced aggregates | 1 | 0 | 0 | **Credit 1 – Recycled and Sustainably Sourced Aggregate**<br>Not Targeted, 1 credit, specify locally sourced aggregates in accordance with the BREEAM criteria. |
| **Wst 03** | Operational waste | 1 | 1 | 1 | **Credit 1 - Operational waste**<br>**Adjaye** |

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| | | | | | Targeted, 1 credit, dedicated space is assigned for the segregation and storage of recyclable waste in line with BREEAM requirements:<br>- Each recyclable waste stream to be individually labelled (if mixed recycling is collected, alternative requirements will apply)<br>- Accessible to building occupants or facilities operators for the deposit of materials and collections by waste management contractors<br>- Of a capacity appropriate to the building type, size, number of units (if relevant) and predicted volumes<br>- Where appropriate to the forecasted waste: static waste compactors or balers, vessels for composting suitable organic waste or adequate space for storing food waste and organic material prior to collection.<br>- An area (of any size) designated for general waste<br>*Evidence at Design Stage - marked-up drawings to clearly demonstrate the areas allocated, access routes, labelling and signage etc. as outlined above.* |
| **Wst 04** | Speculative finishes (Offices only) | 1 | 1 | 1 | **Credit 1 – Speculative Finishes**<br>**Adjaye**<br>Targeted, 1 credit, where the future occupant is not known, interior finishes (including carpets, other floor finishes, ceiling finishes and any other interior finishes) have been installed at maximum in a show area only (<25% of the net lettable floor area).<br>*Evidence at Design Stage – HPF template commitment letter to be completed, drawings/ sections to confirm lack of finishes.* |
| **Wst 05** | Adaptation to climate change | 1 | 1 | 0 | **Credit 1 – Adaptation to Climate Change**<br>**Additional Appointment. Specialist Consultant**<br>Potential Target, 1 credit, a systematic risk assessment to identify the impact of expected extreme weather conditions arising from climate change on the building over its projected life cycle. The assessment covers the installation of building services and renewable systems, as well as structural and fabric resilience aspects. Develop recommendations or solutions based during **RIBA Stage 2.** Provide an update during Technical Design demonstrating how the recommendations or solutions proposed at Concept Design have been implemented where practical and cost effective.<br>*Evidence at Design Stage - Compliant reporting at Stages 2 and 4 and confirmation from the Design Team that recommendations have been implemented.* |
| **Wst 06** | Design for disassembly and adaptability | 2 | 2 | 0 | **Credit 1 - Design for Disassembly and Functional Adaptability- Recommendations**<br>**Additional Appointment. Sustainability Consultant**<br>Potential Target, 1 credit, conduct a study to explore the ease of disassembly and the functional adaptation potential of different design scenarios. Develop recommendations or solutions at **RIBA Stage 2** that aim to enable and facilitate disassembly and functional adaptation.<br>**Credit 2 - Design for Disassembly and Functional Adaptability – Implementation**<br>**Additional Appointment. Sustainability Consultant**<br>Potential Target, 1 credit, provide an update **at RIBA Stage 4**, on how the recommendations or solutions have been implemented where practical and cost effective. Produce a building adaptability and disassembly guide to communicate the characteristics allowing functional adaptability and disassembly to prospective tenants.<br>*Evidence at Design Stage - compliant reporting at Stage 2 and 4 and confirmation from the Design Team that recommendations have been implemented.* |
| **Waste Totals: (+exemplary)** | | **11 (+3)** | **9** | **6** | |
| **Waste score totals:** | | **7** | **5.727** | **3.818** | |
| **LE 01** | Site selection | 2 | 1 | 1 | **Credit 1 - Previously Occupied Land**<br>**Adjaye** |

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| | | | | | Targeted, 1 credit, 75% of the proposed development's footprint is on an area of land which has previously been occupied.<br>*Evidence at Design Stage – site plans before and proposed confirming area of occupied land.*<br>**Credit 2– Contaminated Land**<br>Not Targeted, 1 credit, would require land to be identified as contaminated by a specialist. |
| **LE 02** | Identifying and understanding the risks and opportunities for the site | 2 | 2 | 2 | **Pre-Requisite - Statutory Obligations**<br>**Contractor / Hondo commitment**<br>Targeted, pre-requisite, compliance is monitored against all relevant UK/ EU / International legislation relating to the ecology of the site.<br>**Credit 1 – Survey and Evaluation**<br>**Trium**<br>Targeted, 1 credit, Suitably Qualified Ecologist (SQE) carries out a survey and evaluation for the site early enough to influence site preparation works, layout and, where necessary, strategic planning decisions (typically **RIBA Stage 1**). The SQE determines the ecological baseline for the site in line with BREEAM Route 2 methodology. Recommendations and data collected from the survey and evaluation are shared with appropriate project team members.<br>**Credit 2 – Determining Ecological Outcomes for the Site**<br>**Adjaye, Trium, Hondo, Landscape Architect**<br>Targeted, 1 credit, during **RIBA Stage 2**, the project team liaise and collaborate with representative stakeholders to influence key planning decisions (typically **RIBA Stage 2**), to identify the optimal ecological outcomes for the site and identify, appraise and select measures to meet the optimal ecological outcomes for the site in line with the mitigation hierarchy and BREEAM methodology.<br>*Evidence at Design Stage – Ecologist's report, evidence of stakeholder consultation and design impact.* |
| **LE 03** | Managing negative impacts on ecology | 3 | 3 | 3 | **Credits 1-2 – Planning and Measures On-Site**<br>**Trium, HPF Ecologist, Adjaye, Landscape Architect, Hondo commitment**<br>Targeted, 1 credit, further planning to avoid and manage negative ecological impacts on-site is carried out early enough to influence the concept design and design brief as well as site preparation planning. On-site measures for managing negative ecological impacts during site preparation and construction are implemented in-practice. This is based on input from the project team in collaboration with representative stakeholders and data collated as part of the 'Determining Ecological Outcomes' in LE 02.<br>**Credit Two – Managing Negative Impacts**<br>**Trium, HPF Ecologist, Adjaye, Landscape Architect, Hondo commitment**<br>Targeted, 2 credits, negative impacts from site preparation and construction works are managed according to the mitigation hierarchy and no overall loss of ecological value has occurred.<br>*Evidence at Design Stage – Ecologist's report, landscaping plans/ proposals, developer commitment on behalf of the Contractor, evidence of consultation/ collaboration with ecologist.* |
| **LE 04** | Change and enhancement of ecological value | 4 | 3 | 3 | **Pre-Requisite - Managing Negative Impacts on Ecology**<br>**Contractor / Hondo commitment**<br>Targeted, pre-requisite, compliance is monitored against all relevant UK/ EU / International legislation relating to the ecology of the site.<br>**Credit 1 – Ecological Enhancement**<br>**Trium, HPF Ecologist, Adjaye, Landscape Architect**<br>Targeted, 1 credit, measures have been implemented that enhance ecological value, which are based on input from the project team and SQE in collaboration with representative stakeholders and data collated as part of the 'Determining ecological outcomes' in LE 02, on-site where feasible and off-site within the zone of influence. Data collated are analysed and where potentially valuable, provided to the local environmental records centres |

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| | | | | | nearest to, or relevant for, the site.<br>**Credits 2-4 – Change and Enhancement of Ecology**<br>Targeted, 2 credits, change in ecological value is calculated by the SQE in compliance with BREEAM methodology.<br>*Evidence at Design Stage – Ecologist's report, landscaping plans/ proposals, developer commitment on behalf of the Contractor, evidence of consultation/ collaboration with ecologist.* |
| **LE 05** | Long term management and maintenance | 2 | 2 | 1 | **Pre-Requisite - Statutory Obligations, Planning, Site Implementation**<br>**Contractor / Hondo commitment**<br>Targeted, pre-requisite, compliance is monitored against all relevant UK/ EU / International legislation relating to the ecology of the site.<br>**Credit 1 - Management and Maintenance Throughout the Project**<br>**Trium, HPF Ecologist, Adjaye, Landscape Architect, Contractor / Hondo commitment**<br>Targeted, 1 credit, measures implemented to manage and maintain ecology throughout the project. These measures are based on input from the project team in collaboration with representative stakeholders and data collated as part of the 'Determining ecological outcomes' in LE 02. These measures must monitor and review the effectiveness of the mitigation and enhancement measures in place for LE 03 & LE 04. A section on Ecology and Biodiversity has been included as part of the tenant or building owner information supplied, in compliance with BREEAM format and content requirements.<br>*Evidence at Design Stage – Ecologist's report, landscaping plans/ proposals, developer commitment on behalf of the Contractor, evidence of consultation/ collaboration with ecologist.*<br>**Credit 2 - Landscape and Ecology Management Plan**<br>**Additional Appointment, SQE appointment extension**<br>Potential Target, 1 credit, a Landscape and Ecology Management Plan has been developed in accordance with BS42020:2013 Section 11.1 covering at least the first five years after project completion and in compliance with BREEAM content requirements.<br>including:<br>*Evidence at Design Stage – Landscape and Ecology Management Plan.* |
| **Land Use & Ecology Totals: (+exemplary)** | | **13 (+2)** | **11** | **10** | |
| **Land Use & Ecology score totals:** | | **15** | **12.692** | **11.538** | |
| **Pol 01** | Impact of refrigerants | 3 | 2 | 2 | **Pre-Requisite**<br>**HPF MEP**<br>Targeted, pre-requisite, all systems with electric compressors comply with the requirements of BS EN 378:2016 (parts 2 and 3). Refrigeration systems containing ammonia comply with the Institute of Refrigeration Ammonia Refrigeration Systems code of practice.<br>**Credit 1 – Impact of Refrigerants**<br>**HPF MEP**<br>Targeted, 1 credit, systems using refrigerants have Direct Effect Life Cycle $CO_2$ equivalent emissions (DELC $CO_{2e}$) of ≤ 1000 kg$CO_{2e}$/kW cooling/heating capacity.<br>**Credit 2 - Leak Detection**<br>Targeted, 1 credit, a) all systems are hermetically sealed or only use environmentally benign refrigerants OR b) where the systems are not hermetically sealed, they have a permanent automated refrigerant leak detection system, that is robust and tested, and capable of<br>continuously monitoring for leaks or an inbuilt automated diagnostic procedure for detecting leakage is enabled.<br>*Evidence at Design Stage - Pol 01 calculator to be completed detailing the applicable systems and manufacturer* |

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| | | | | | *information sufficient to calculate DELC CO2e. Schedules, manufacturer datasheets etc. for leak detection also to be provided.* |
| **Pol 02** | Local air quality | 2 | 2 | 2 | **Credit One – Local Air Quality**<br>**HPF MEP**<br>Targeted, 2 credits, default compliance by all heating and hot water supplied by non-combustion systems e.g. only powered by electricity.<br>Or emissions from all installed combustion plant that provide space heating and domestic hot water do not exceed BREEAM defined levels.<br>*Evidence at Design Stage - based on default compliance, evidence that all systems are powered by electricity. NOTE if this proposal changes, compliance must be re-reviewed. Alternative NOx requirements are onerous.* |
| **Pol 03** | Flood and surface water management | 5 | 4 | 3 | **Credits 1-2 – Flood resilience**<br>**AKT**<br>Targeted, 2 credits, a site-specific flood risk assessment confirms the development is situated in a flood zone that is defined as having a low annual probability of flooding considering all current and future sources of flooding.<br>**Pre-Requisite - Surface Water Run Off**<br>Targeted, pre-requisite, surface water run-off design solutions must be bespoke to the site and priority levels detailed in the BREEAM Methodology must be followed, with justification given where water is allowed to leave the site.<br>**Credit 3 - Run Off Rate**<br>Potential Target, 1 credit, for brownfield sites, drainage measures specified so that the peak rate of run-off from the site to the watercourses shows a 30% improvement for the developed site compared with the predeveloped site. This should comply at the 1-year and 100-year return period events. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified Sustainable Drainage Systems are in place. Calculations include an allowance for climate change.<br>**Credit 4 - Run Off Volume**<br>Targeted, 1 credit, flooding of property will not occur in the event of local drainage system failure (extreme rainfall of lack of maintenance). Drainage design measures are specified so that the post-development run-off volume, over the development lifetime, is no greater than it would have been prior to the assessed site's development. This must be for the 100-year 6-hour event, including an allowance for climate change. Any additional predicted volume of run-off for this event is prevented from leaving the site by using infiltration or other SuDS techniques.<br>**OR (only where the above cannot be achieved)**<br>Justification of why the criteria cannot be achieved and drainage design measures are specified so that the post-development peak rate of run-off is reduced to the limiting discharge as defined by BREEAM.<br>*Evidence at Design Stage* – BREEAM Pol 03 template to be completed and supporting evidence to be provided.<br>**Credit 4 – Minimising Watercourse Pollution**<br>Not Targeted, 1 credit, there is no discharge from the developed site for rainfall up to 5mm. Install measures as appropriate to minimise watercourse pollution from contamination and spillage, in line with BREEAM requirements. A drainage plan of the site will be made available to building or site occupiers. Relevant maintenance of all specified SuDS must be in place. |
| **Pol 04** | Reduction of night time light pollution | 1 | 1 | 1 | **Credit 1 – Reduction of Night-time Light Pollution**<br>**HPF MEP**<br>Targeted, 1 credit, external lighting designed in compliance with Table 2 (and its accompanying notes) of the ILP Guidance notes for the reduction of obtrusive light, 2011. All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00. If safety or security lighting is provided and will be used between 23:00 and 07:00, this part of the lighting system complies with the lower levels of lighting recommended during these hours in Table 2 of the ILP's Guidance notes. |

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| | | | | | *Evidence at Design Stage - MEP specification, lighting layouts.* |
| **Pol 05** | Reduction of noise pollution | 1 | 1 | 1 | **Credit 1 – Reduction of Noise Pollution**<br>**Acoustic Consultant, HPF MEP**<br>Targeted, 1 credit, a noise impact assessment (in accordance with BS 4142:2014) carried out by a Suitably Qualified Acoustic Consultant. Any noise attenuation measures recommended are to be installed. The noise level from the assessed building must be at least 5dB lower than the background noise throughout the day and night. If the noise sources are greater than this, measures have been installed to attenuate the noise at its source to a level where it will comply with the criterion.<br>*Evidence at Design Stage - Acoustician's report, confirmation of installed attenuation.* |
| **Pollution Totals: (+exemplary)** | | **12** | **10** | **9** | |
| **Pollution score totals:** | | **9** | **7.5** | **6.75** | |
| **AI** | Approved Innovation | 1 | 0 | 0 | |
| **Innovation Totals: (+exemplary)** | | **1** | **0** | **0** | |
| **Innovation score totals:** | | **1** | **0** | **0** | |
| **OVERALL SCORE TOTALS:** | | **101** | **75.76** | **66.57** | |
| | | | **Potential – Excellent** | **Targeted – Very Good** | |