

Kensington Forum

QUEENSGATE
INVESTMENTS

Rockwell



Kensington Forum Hotel – London

SUSTAINABILITY STATEMENT | JUNE 2018

SUSTAINABILITY STATEMENT

Kensington Forum

Produced by XCO2 for Rockwell Property

June 2018



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SUSTAINABILITY STATEMENT

	01	02				
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Date	04/05/2018	15/06/2018				
Project reference	9.019	9.019				

EXECUTIVE SUMMARY

The sustainability strategy for Kensington Forum has been developed with the design team to comply with the relevant environmental policies from the London Royal Borough of Kensington and Chelsea and the London Plan. Relevant energy policies have been addressed in the Energy Statement provided by PSH. The proposed development is targeting the achievement of BREEAM 'Excellent' and is expected to reduce on-site regulated carbon emissions by 38.5%.

This report outlines the sustainability strategy for the proposed Kensington Forum development, in line with the requirements set out by the London Plan and the London Borough of Kensington and Chelsea.

This sustainability statement is divided into three parts:

- Planning Policies;
- Sustainability Measures;
- Sustainability Standards.

The first part provides an overview of the site and planning policies applicable to this development in accordance with the London Plan and London Borough of Kensington and Chelsea policies.

The second part outlines the sustainability strategy that has been employed to address the relevant planning policies.

The third part of this report outlines the sustainability measures that have been adopted to achieve a BREEAM New Construction 'Excellent' rating for the hotel.

A summary of the pre-assessment credits for the BREEAM assessment are provided at the end of the BREEAM section.

In summary, the proposed development at Kensington Forum Hotel meets the targets set out by the London Borough of Kensington and Chelsea and the Greater London Authority (GLA). The commercial areas of the scheme could achieve a BREEAM score of 75.7%, exceeding the BREEAM 'Excellent' target of 70%.

The number of credits obtained in the BREEAM pre-assessment reflect the client and design team's aspirations in integrating sustainability measures and demonstrates that the project is designed to exceed the planning policy sustainability requirements.

SITE

The proposed development site is located on Cromwell Road in South Kensington, a very dense urban area in the Royal Borough of Kensington and Chelsea.

The proposed development is a mixed-use building, located in the South Kensington area of the Royal Borough of Kensington and Chelsea, bounded by Cromwell Road to the north, Ashburn Place to the east, Courtfield Road to the south and Ashburn Gardens to the west.

The site currently comprises an existing hotel structure (Holiday Inn Hotel) that will be demolished prior to construction of a new 749 bed hotel, 350 serviced apartments and 48 residential units.

The new development will comprise a double depth basement, ground and first floors dedicated to leisure activities, restauration, equipment and parking, and has a total GIA of 76,708 m².

The approximate location and boundary of the application site are shown in the Figure 1 below.

 Site Location



Figure 1: Approximate location of application site

PLANNING POLICY

Kensington Forum has been designed in line with the requirements set out by the Royal Borough of Kensington and Chelsea as well as the London Plan¹.

The relevant planning policy documents for sustainability are:

- The London Plan (2016)
- Kensington and Chelsea Council Consolidated Local Plan (2015)
- Sustainable Design and Construction SPG (2014)
- Housing Supplementary Planning Guidance (2016)

THE LONDON PLAN

The London Plan is the overall strategic plan for London, setting out an integrated economic, environmental, transport and social framework for the development of London over the next 20–25 years.

The overarching policy setting out the principles of sustainable design and construction to be incorporated in major proposals is Policy 5.3:

POLICY 5.3 SUSTAINABLE DESIGN AND CONSTRUCTION

“Planning decisions:

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

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

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

Complementary to, and expanding upon Policy 5.3 are the following London Plan policies:

- Policy 5.2 Minimising Carbon Dioxide Emissions
- Policy 5.5 Decentralised Energy Networks
- Policy 5.6 Decentralised Energy in Development proposals
- Policy 5.7 Renewable Energy
- Policy 5.9 Overheating and Cooling
- Policy 5.11 Green Roofs and Development Site Environs
- Policy 5.12 Flood Risk Management
- Policy 5.13 Sustainable Drainage
- Policy 5.15 Water use and Supplies
- Policy 5.18 Construction, Excavation and Demolition Waste.

¹ The London Plan, Further Alterations to the London Plan (March 2015) and Housing Standards Minor Alterations to the London Plan (March 2016), herein referred to as The London Plan

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Specific requirements on the use of energy and water resources, applicable to all major proposals, are as follows.

POLICY 5.2 MINIMISING CARBON DIOXIDE EMISSIONS

“...Major developments [must] meet the following targets for carbon dioxide emissions reduction in buildings. These targets are expressed as minimum improvements over the Target Emission Rate (TER) outlined in the national Building Regulations leading to zero carbon residential buildings from 2016 and zero carbon non-domestic buildings from 2019.”

POLICY 5.15 WATER USE AND SUPPLIES

“...setting an upper limit of daily domestic water consumption to 105 litres/head for residential developments (excluding a maximum allowance of 5 litres/head/day for external water consumption).”



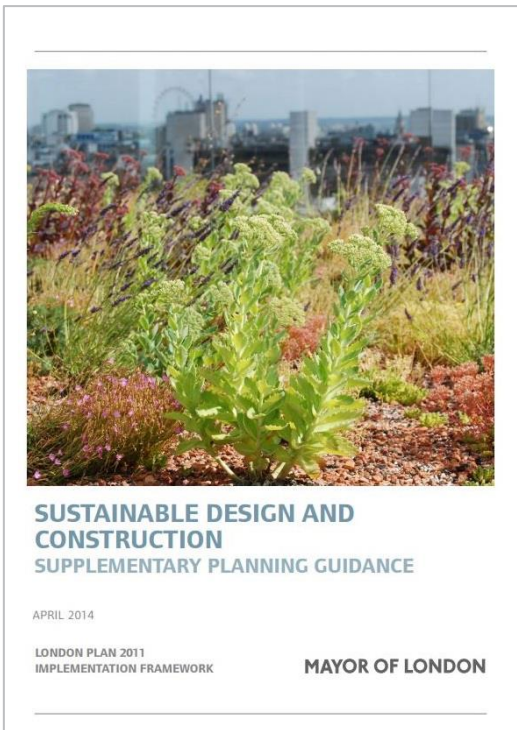
SUSTAINABLE DESIGN AND CONSTRUCTION SPG

The Sustainable Design and Construction SPG, adopted in April 2014, provides additional information and guidance to support the implementation of the Mayor's London Plan. The SPG does not set new policy, but explains how policies in the London Plan should be carried through into action.

It is applicable to all major developments and building uses so it is not technically applicable to this development, however in line with the developer's intention to implement the requirements of the London Plan it has been used to guide the design. It covers the following areas:

- Resource Management
- Adapting to Climate Change and Greening the City
- Pollution Management

This SPG provides a basis for sustainable design in London and is used as the overarching structure of this report. Where additional local policies are addressed by these areas this has also been indicated.



HOUSING SPG

This document provides guidance on the implementation of housing policies in the London Plan and it replaces the 2012 Housing SPG.

Part 2 covers housing quality and updates London housing standards to reflect the implementation of the government's new national technical standards through the Minor Alterations to the London Plan (2015-2016).

As design affects the quality of life, health and wellbeing, safety and security of users and neighbours, this guidance is integral to sustainable development and will be cross-referenced as relevant in the subsequent sections.



LOCAL BOROUGH POLICY

LONDON BOROUGH OF KENSINGTON AND CHELSEA CONSOLIDATED LOCAL PLAN

The Royal Borough of Kensington and Chelsea Local Plan requires the following sustainability policies to be achieved, all presented in Chapter 36: Respecting Environmental Limits.

POLICY CE 1 – CLIMATE CHANGE

“The Council recognises the Government’s targets to reduce national carbon dioxide emissions by 26 per cent against 1990 levels by 2020 in order to meet a 60 per cent reduction by 2050 and will require development to make a significant contribution towards this target.

To deliver this the Council will:

a) Require an assessment to demonstrate that all new buildings and extensions of 800sq.m or more residential development or 1,000sq.m or more non-residential achieve the following Code for Sustainable Homes/BREEAM standards:

- i. Residential development should meet Code for Sustainable Homes Level 4.*
- ii. Non-residential development should meet BREEAM very good with 60 per cent of the unweighted credits available in the energy, water and materials sections.*

g) Require development to incorporate measures that will contribute to on-site sustainable food production commensurate with the scale of development;

h) Require, in due course, development to further reduce carbon dioxide emissions and mitigate or adapt to climate change, especially from the existing building stock, through financial contributions, planning conditions and extending or raising the Code for Sustainable Homes and BREEAM standards for other types of development.”

In accordance with the findings of the Housing Standards Review the development is not required to

comply with first requirement of point (a) – Code for Sustainable Homes Level 4.

POLICY CE 2 – FLOODING

“The Council will require development to adapt to fluvial flooding and mitigate the effects of, and adapt to, surface water and sewer flooding.

To deliver this the Council will:

a) Resist vulnerable development, including self-contained basement dwellings, in Flood Risk Zone 3 as defined in the Strategic Flood Risk Assessment;

b) Require a site-specific Flood Risk Assessment, including an ‘Exception Test’ for all development in Flood Risk Zone 2 and 3 as defined in the Strategic Flood Risk Assessment, for sites in areas with critical drainage problems and for all sites greater than one hectare;

c) Where required undertake the ‘Sequential Test’ for planning applications within Flood Risk Zones 2 and 3, and for sites in areas with critical drainage problems;

d) Require development at risk from flooding in Flood Risk Zones 2 and 3, in areas with critical drainage problems, or sites greater than 1ha to incorporate suitable flood defence or flood mitigation measures in accordance with the recommendations of the site-specific Flood Risk Assessment;

e) Require sustainable urban drainage (SUDs), or other measures, to reduce both the volume and the speed of water run-off to the drainage system ensuring that surface water run-off is managed as close to its source as possible in line with the hierarchy in the London Plan. In particular, major development must make a significant reduction in the current volume and speed of water run-off to the drainage system;

f) Resist impermeable surfaces in front gardens;

g) Require development adjacent to the Thames to be set back from the Thames flood defence to enable the sustainable and cost-effective upgrade of flood defences over the next 50 to 100 years;

POLICY CE 3 - WASTE

“The Council will meet the waste apportionment figure as set out in the London Plan and will ensure that waste is managed in accordance with the waste hierarchy, which is to reduce, reuse or recycle waste as close as possible to where it is produced.

To deliver this the Council will:

c) Require provision of adequate refuse and recycling storage space which allows for ease of collection in all developments;

d) Require that development proposals make use of the rail and the waterway network for the transportation of construction waste and other waste;

e) Require applicants for major developments to prepare and implement Site Waste Management Plans for demolition and construction waste.”

POLICY CE 4 - BIODIVERSITY

“The Council will protect the biodiversity in, and adjacent to, the borough’s Sites of Nature Conservation Importance and require opportunities to be taken to enhance and attract biodiversity.

To deliver this the Council will:

a) Protect Sites of Nature Conservation Importance and/or require the provision of significantly improved habitats to attract biodiversity in accordance with the national, regional and local policy and biodiversity targets and ecosystem targets Plans;

b) Protect the biodiversity value of Green Corridors and the Blue Ribbon Network and require that development proposals create opportunities to extend or link Green Corridors and the Blue Ribbon Network;

c) Require a site specific Ecological Impact Assessment for all major developments in or adjacent to Sites of Nature Conservation Importance, Green Corridors, open space, and the Blue Ribbon Network and their features important for biodiversity;

d) Require development proposals to create opportunities, where possible, for attracting

biodiversity and habitat creation, having regard to the national, regional and local biodiversity and ecosystem targets.”

POLICY CE 5 - AIR QUALITY

“The Council will carefully control the impact of development on air quality, including the consideration of pollution from vehicles, construction the heating and cooling of buildings. The Council will require development to be carried out in a way that minimises the impact on air quality and mitigates exceedences of air pollutants.

To deliver this the Council will:

a) Require an air quality assessment for all major development;

b) Require developments to be ‘air quality neutral’ and resist development proposals which would materially increase exceedences levels of local air pollutants and have an unacceptable impact on amenity or health unless the development mitigates this impact through physical measures or and financial contributions to implement proposals in the Council’s Local Air Quality Management Plan;

c) Require that the Code for Sustainable Homes and BREEAM assessments obtains all credits available for reducing pollution and emissions, and improving air quality;

d) Resist biomass combustion and combined heat and power technologies/CCHP which may lead to an increase of emissions and seek to use greater energy efficiency and non-combustion renewable technologies to make carbon savings unless its use will not have a detrimental impact on air quality.

e) Control emissions of particles and NOx during demolition and construction and carry out a risk assessment to identify potential impacts and corresponding mitigation measures, including on site monitoring, if required by the Council.”

POLICY CE 6 - NOISE AND VIBRATION

“The Council will carefully control the impact of noise and vibration generating sources which affect amenity both during the construction and operational phases of development. The Council will require new noise and vibration sensitive

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developments to mitigate and protect occupiers against existing sources of noise and vibration.

To deliver this the Council will:

a) Require that noise and vibration sensitive development is located in the most appropriate Respecting Environmental Limits Chapter 36 224 The RBKC Consolidated Local Plan 2015 location and, wherever located, is protected against existing sources of noise and vibration, through careful design, layout and use of materials to ensure adequate insulation from sound and vibration;

b) Resist developments which fail to meet adopted local noise and vibration standards;

c) Resist all applications for noise and vibration generating development and plant that would have an unacceptable noise and vibration impact on surrounding amenity;

d) Require that development protects, respects and enhances the special significance of the borough's tranquil areas."

POLICY CE 7 - CONTAMINATED LAND

"The Council will consider the potential risks of contaminated land and will ensure that it is adequately mitigated before development proceeds.

To deliver this the Council will:

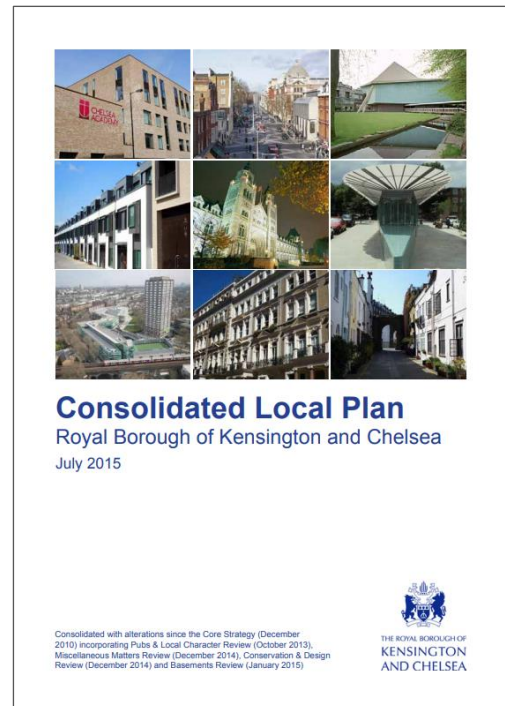
a) Require the reports and investigations shown in criteria (b) to (e) to be carried out by a competent person;

b) Require a desk top study and preliminary risk assessment;

c) Require a site investigation and detailed risk assessment in line with current best practice guidance;

d) Require a remediation strategy that sets out how any identified risks from the reports above are going to be addressed;

e) Require a validation report once remediation has taken place."



RESPONSE TO PLANNING POLICIES

This part of the report presents how the development will comply with the relevant local, regional and national planning policies. The following sections are structured around the London Plan's Sustainable Design and Construction SPG and present the key elements of the proposal that underpin environmental sustainability.

RESOURCE MANAGEMENT

1. LAND

Land Use

The land for this proposal is efficiently used as the scheme will be constructed on previously developed land. The site currently comprises the existing Holiday Inn Hotel, which will be demolished. In accordance with the requirements of the BREEAM assessment the development will be required to utilise a pre-demolition waste audit to facilitate recycling of demolition waste.

Impacts on Neighbours from Demolition and Construction

The Considerate Constructors Scheme will be used to ensure that contractors carry out their operations in a safe and considerate manner.

Construction impacts (e.g. dust generation) shall be minimised through adoption of best practice construction measures, formalised through the production of a Construction and Environmental Management Plan.

Surface Water Flooding

The development is designed with a view to minimising adverse impacts on surrounding water courses and to reduce the risks associated with surface water flooding. A comprehensive Sustainable Urban Drainage Strategy has been prepared for the development and further details can be found in the accompanying Flood Risk and Drainage Assessment.

Biodiversity

The proposed development incorporates a broad array of features to enhance the biodiversity on the site through planting and provision of dedicated environments for local wildlife, including a large garden square community space at the west of the hotel within the site boundaries.

2. SITE LAYOUT & BUILDING DESIGN

Reuse of Existing Buildings

It will not be possible to reuse existing buildings on site. However, as previously noted, the project will utilise a pre-demolition waste audit to facilitate recycling and reuse of demolition waste. Furthermore, a Site Waste Management Plan will be prepared in compliance with BREEAM requirements and RBKC Code of Construction Practice (April 2016). This document will facilitate the minimisation of waste generation and highlight the importance of re-using of materials where feasible.

Land Form

The landform of the immediate area is dominated by a flat topography, facilitating urban development.

Mix of Land Uses

The proposal will deliver a mixed-use development, comprising a hotel, serviced apartments and residential units.

Site Layout

Consideration has been given to the layout and scale of the surrounding buildings. The height of the surrounding context is generally low rise, rarely exceeding five storeys height.

The scale of the development follows a principle of densification but, at the same time, it takes into account the neighbouring buildings with regard to height and overall volume.

Daylight & Sunlight

The majority of habitable spaces will have windows facing either east or west therefore sufficient levels of daylight and sunlight are expected to be achieved for all flats.

Consideration has been given to amenity and open spaces which by virtue of appropriate massing of the buildings and the proposed site layout shall experience minimal overshadowing effects. Amenity areas for the residents will be provided on roof terraces, where light and sunlight will be abundant, and a large amenity space (Garden Square) at ground level will be available at the west of the hotel.

The scheme will not exceed the height of the existing Holiday Inn hotel; therefore will have no supplemental adverse effects on access to daylight and sunlight of neighbouring properties.

Micro-climate

A microclimate is the distinctive climate of a small-scale area and the variables within it, such as temperature, rainfall, wind or humidity may be subtly different to the conditions prevailing over the area as a whole. The main characteristics of microclimates within London are temperatures and wind.

The impact on local wind conditions in London is generally limited to the City where large developments can influence (and in some cases, exacerbate) wind speeds and direction without careful consideration. However, it is important to consider pedestrian comfort within developments of this scale and as such computational wind modelling has been undertaken to both measure the potential impacts of the development and provide recommendations for any mitigation that may be required. Please refer to the accompanying draft ES Volume 1 Technical Chapters

appendix – Chapter 11: Wind Microclimate (produced by Trium) for further information.

3. ENERGY & CARBON DIOXIDE EMISSIONS

The Energy Strategy for the development has been designed in line with the London Plan's Policy 5.2, which states that every effort should be made to minimise carbon dioxide emissions in accordance with the following energy hierarchy:

1. Be lean: use less energy
2. Be clean: supply energy efficiently
3. Be green: use renewable energy

Be Lean

The buildings have been thoughtfully designed to reduce energy demand through an enhanced building fabric, minimising heat loss through air infiltration, reducing reliance on artificial lighting, utilising low energy lighting, and reducing solar gains through very little south facing glazing, balconies shading and inclusion of blinds.

Be Clean

A community heating system is proposed for the development. Provision has been made for the inclusion of a decentralised communal heat and power (CHP) system, combined with high efficiency gas boilers, a community system which may connect to a district heat network in the future.

Energy demand will also be reduced ensuring adequate levels of ventilation are maintained whilst reducing heat loss through the specification of MVHR and summer time bypass to the residential units, and decentralized ventilation for all hotel and residential habitable spaces. Please refer to the supplementary Energy Statement (provided by PSH) for further details on these sections.

4. RENEWABLE ENERGY (BE GREEN)

A range of renewable technologies were considered for generating on-site renewable energy. Photovoltaic panels were considered a suitable technology for this development due to adequate flat roof space, easy installation process, and substantial CO₂ savings. The incorporation of photovoltaics into this development would contribute to a reduction of 13.5% for the residential part, resulting in a total offset of 1% of regulated CO₂ emissions over the total baseline emissions.

Further details about the photovoltaic strategy, alternative renewable technology options and site-wide CO₂ emission reductions can be found in the Energy Statement (provided by PSH).



5. WATER EFFICIENCY

The development at Kensington Forum Hotel aims to reduce water consumption to less than 105 litres per person per day, in line with the recommended target set out in the GLA’s Housing SPG, through the use of water efficient fittings, and these are listed below.

Table 1: Recommended specification for sanitary fittings

Fitting	Fitting specification
WC	6/3 litres dual flush
Kitchen sink tap	6 litres per min
Wash basin tap	4 litres per min
Shower	8 litres per min
Bath	180 litres
Washing machine	8.17 litres/kg
Dishwasher	1.25 litres/place setting



6. MATERIALS AND WASTE

More than three of the key elements of the buildings' envelope will achieve a rating of A+ to C in the BRE's The Green Guide.

In addition, 100% of the timber used will be sourced from accredited Forest Stewardship Council (FSC) or Programme for the Endorsement of forestry Certification (PEFC) source.

Products holding responsible sourcing certification (EMS/ISO14001 for the key process as per minimum) will be specified for the main building elements (walls, floors, roof).

7. NATURE CONSERVATION & BIODIVERSITY

The ecology on site will be improved via the introduction of landscaped areas within the proposed communal Garden Square at ground level. The intended planting strategy for these areas is simple low level flora, with hedge planting and small ornamental trees. Native plant species will be introduced to these areas where possible. This will help to attract invertebrates, birds and other fauna to the area. Existing trees will be retained, and should any require removal, the bird breeding season will be avoided.

A Phase I Site Habitat Survey and Ecological Preliminary Appraisal was undertaken for the proposed development site in August 2017. The recommendations within this report will be implemented to ensure the protection of ecological features and enhancement of biodiversity on the development site.



ADAPTING TO CLIMATE CHANGE AND GREENING THE CITY

1. TACKLING INCREASED TEMPERATURE AND DROUGHT

The potential risk of overheating will be mitigated by incorporating passive and active design measures.

Minimising internal heat generation through energy efficient design

The space heating and hot water to both the domestic and non-domestic elements of the development will be provided by a CHP system and high efficiency back-up gas boilers. All heat sources and pipe work will be sufficiently insulated to avoid excess heat loss into internal space.

Efficient lighting will be used to further minimise internal heat gains and reduce energy expenditure.

Reducing the amount of heat entering the buildings in summer

Appropriately sized windows, including very little south facing glazing, in addition to north-west oriented windows for west facing flats will reduce solar heat gains. Internal blinds will be included in the domestic units to reduce the solar gains into occupied rooms where required. Shading from balconies and other external façade treatments will also be exploited in order to minimise solar gains.

Use of thermal mass and high ceilings to manage the heat within the buildings

During peak summer periods the thermal mass of the buildings will absorb and store excess heat. The buildings will release heat in the cooler evenings to allow for cooler internal spaces, dampening the peak diurnal weather conditions.

Passive ventilation

The dwellings have allowed for passive ventilation as the secondary strategy for providing fresh air and dissipating heat.

Mechanical ventilation

The dwellings have allowed for mechanical ventilation with heat recovery (MVHR) as the main strategy for providing fresh air and dissipating heat across the whole development.

2. INCREASING GREEN COVER AND TREES

The proposed development aims to improve the green cover of the site by introducing communal amenity space and landscaped areas. Provision has also been made for private amenity space (balconies/terraces).

Planting will include heat and drought resistant species (to reduce potable water consumption associated with irrigation) and supplemental trees in addition to the existing ones, where feasible.

3. FLOODING

Landscaped areas will be incorporated on site and the buildings' fabric and structure will be designed to minimise risk of infiltration and damage via flooding where possible.

The Environment Agency flood map (Figure 2) shows the Kensington Forum Hotel site to be located within an area at a very low risk of flooding, within Flood Zone 1.

The development will be erected on a previously developed land and the existing site is fully impermeable, so the new scheme will not increase the surface water run-off. In accordance with the London Plan, the peak surface water run-off rates will be reduced as close to greenfield run-off rates prior to discharge to the public sewer.



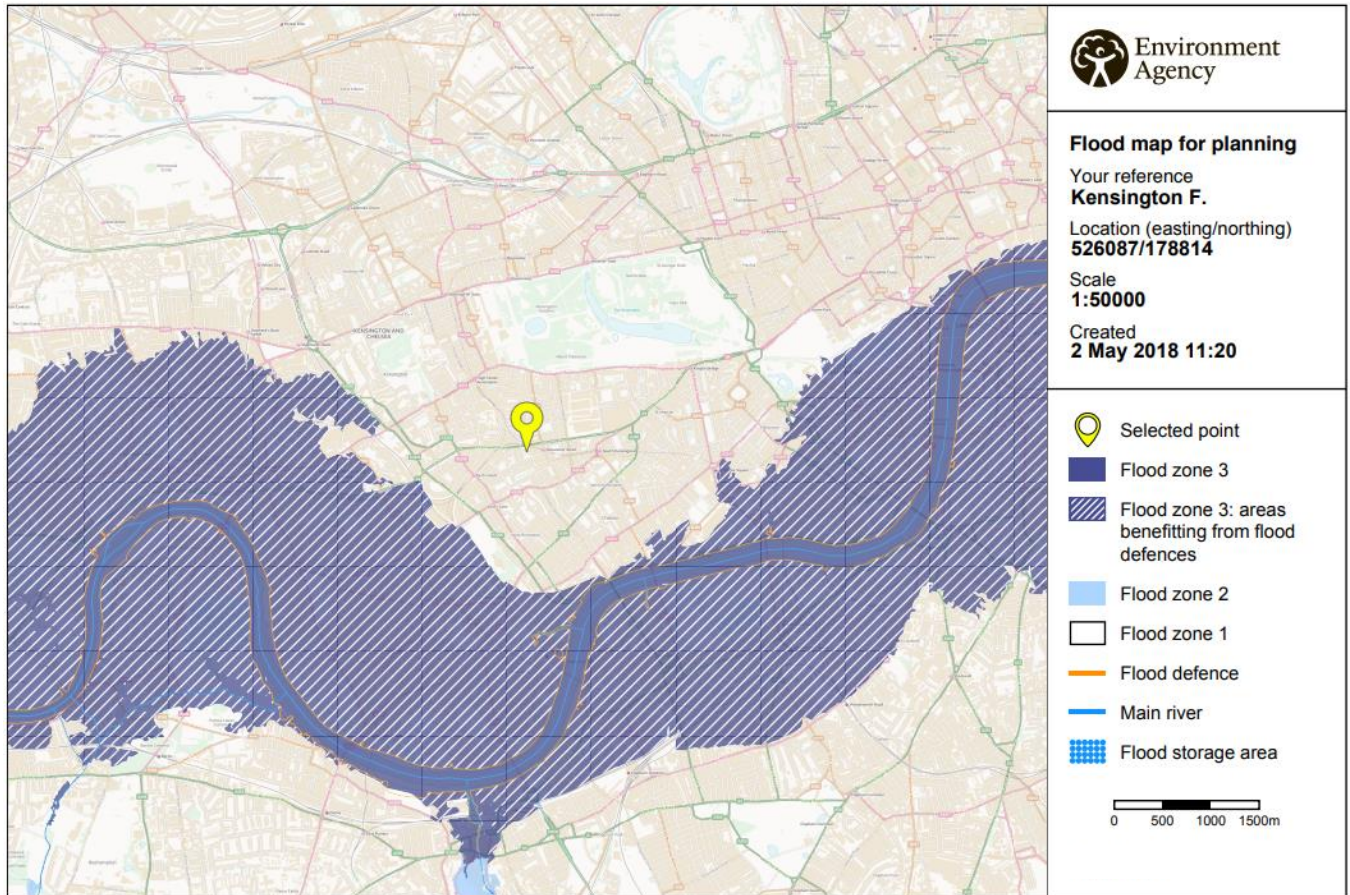


Figure 2: Flood map for Kensington Forum Hotel (source: Environment Agency)

POLLUTION MANAGEMENT – LAND, AIR, NOISE, LIGHT AND WATER

1. LAND CONTAMINATION

In the event of any discovery of potentially contaminated soils or materials, this discovery will be quarantined and reported to the most senior member of site staff or the designated responsible person at the site for action. The location, type and quantity will be recorded and the Local Authority, a competent and appropriate third party Engineer/Environmental consultant notified immediately. An approval from the Local authority will be sought prior to implementing any proposed mitigation action.

2. AIR POLLUTION

Air pollution risks from construction and demolition activities on site will be minimal in line with the SPG 'The control of dust and emissions from construction and demolition' under the following categories:

- Demolition;
- Earthworks;
- Construction;
- Trackout; and,
- non-road mobile machinery (NRMM).

An air quality assessment has been carried out to determine the impacts from dust and stationary plant emissions during the construction period and the potential impact from traffic flows on the local road network on both on-site and off-site receptors, during and after construction. Where necessary, mitigation measures are recommended to reduce any air quality impact.

During the operational phase of the development, combustion of fossil fuels and associated combustion emissions for heating will be reduced via improved levels of insulation and air tightness for the buildings' fabric, and the specification of highly efficient gas boilers.

Ultra-low NO_x boilers (maximum NO_x emissions of under 40mg/kWh dry NO_x at 0% excess O₂) will be specified to further reduce impacts on air quality from the combustion of fuels on site.

To protect internal air quality, 'healthy' materials will be specified for the buildings' fabric and internal finishes, where feasible; these will be non-toxic, and low emitters of VOCs and formaldehyde.

In order to underpin the reduction of emissions from transport, the development has been designed to encourage cycling; cycle parking will be provided to all apartments in dedicated basement stores.

Overall, the development will meet 'air quality neutral' benchmarks set out in the London Plan. For further details please refer to the Chapter 9: Air Quality from the draft ES Volume 1 Technical Chapters, submitted in support of the application.

3. NOISE AND VIBRATION

The development will incorporate design and building fabric measures to mitigate potential noise and vibration levels from the proposed development, and ensure the impact of any external sources on internal ambient noise levels are within acceptable limits.

Mitigations include limitations on construction activities for noise mitigation, or compliance with RBKC COCP for vibration limits. Consequently, there are no likely significant effects relating to noise and vibration expected as a result of the proposed development. For more information, please consult the draft ES Volume 1 Technical Chapters – Chapter 8: Noise and Vibration.

4. LIGHT POLLUTION

The lighting design of the proposed development will follow the recommendations of the Institution of Lighting Engineers' Guidance Notes for the Reduction of Obtrusive Light (2005), to minimise light pollution.

Further mitigation measures will be implemented to ensure disturbance to wildlife is minimal, in line with the ecologist's recommendations.

5. WATER POLLUTION

Water pollution to surrounding watercourses has been minimised by the increase in permeable ground, thereby reducing surface water runoff.

In addition, contractors will adopt best practice policies to mitigate water pollution from construction activities

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on site. The development will discharge domestic sewage via a connection to the public foul sewer or combined sewer network where it is reasonable to do so. Discharge arrangements into the foul water sewer will have to be agreed with Thames Water Utilities Limited beforehand.

SUSTAINABILITY STANDARDS

Within the London Royal Borough of Kensington and Chelsea, a BREEAM rating of ‘Excellent’ is required for all non-residential developments. The following Pre-Assessment demonstrates compliance with the Local Authority’s policies in relation to BREEAM assessments.

BREEAM NEW CONSTRUCTION 2014

BREEAM New Construction 2014 is a performance based environmental assessment method and certification scheme for new buildings. The primary aim of BREEAM New Construction is to mitigate the impacts of new developments on the environment over the entire life-cycle of the building in a comprehensive and cost-effective manner. This is achieved through the integration of the BREEAM scheme at key stages of the design and procurement process.

A BREEAM New Construction 2014 Shell and Core Pre-Assessment was carried out for the non-domestic portion of the development. The proposed commercial units have been assessed under the BREEAM Office building type.

The pre-assessment tool uses established benchmarks to evaluate a building’s specification, design, construction and operation, over a broad range of categories and criteria:

- Management processes
- Health and wellbeing
- Energy use
- Transport
- Water use
- Materials
- Waste
- Land use and ecology
- Pollution
- Innovation

The outcome of the pre-assessment is expressed as a single certified BREEAM rating, ranging from Pass (30%) to Outstanding (85%).

Table 2: BREEAM Certification Thresholds

BREEAM 2014 Rating	Percentage of Credits Required
Outstanding	85%
Excellent	70%
Very Good	55%
Good	45%
Pass	30%

The following section discusses how the development addresses the BREEAM sustainability criteria required to meet BREEAM ‘Excellent’ as targeted by the client and in line with the Council requirements.

Each of the sustainability categories as set out in BREEAM are addressed; each sub-section highlights the sustainability measures that have been adopted to meet BREEAM ‘Excellent’.

MANAGEMENT

Man 01: Project brief and design

Prior to completion of the Concept Design (RIBA Stage 2 or equivalent), a project delivery consultation meeting was held to identify and define their roles and responsibilities at each key stage of the project delivery.

In addition, relevant third party stakeholders were consulted by the project team regarding various aspects of the design before the end of RIBA Stage 2 (Concept Design). The project team will demonstrate how these consultations have influenced the design and feedback will be given to the consultation groups before the end of RIBA Stage 4 (Technical Design).

Finally, a sustainability champion (BREEAM AP) will be appointed during RIBA 1 and later in the process to monitor progress against the agreed BREEAM performance targets.

Man 02: Life cycle cost and service life planning

The capital cost for the building will be reported via the BREEAM Assessment Scoring and Reporting Tool in pounds per square metre (£k/m²).

Man 03: Responsible construction practices

All timber used in the project will be 'legally harvested and traded' timber. This is a prerequisite for the following issues which will also be included for this project:

- The principal contractor will hold ISO14001 certification.
- The principal contractor will achieve compliance with the Considerate Constructors Scheme and go beyond best practice with a total CCS score of between 35-39 points, and a minimum score of 7 in each of the 5 sections.
- The principal contractor will appoint a Sustainability Champion to ensure compliance with the relevance sustainability criteria.
- Energy use and water consumption from on-site construction processes will be monitored and recorded.
- Transport data will be monitored and recorded for delivery of all materials to site and removal of waste.

Man 04: Commissioning and handover

Inspection of the building fabric via a thermographic survey and an airtightness test in accordance with the Building Regulations, BSRIA and CIBSE guidelines shall be undertaken.

A commissioning manager will be appointed to undertake design reviews, give advice and manage performance testing and handover/post-handover stages.

A schedule including a timescale for commissioning and testing of all building services and control systems in accordance the Building Regulations, BSRIA and CIBSE guidelines will be provided.

A Building User Guide and a training schedule will be prepared for the building occupier and user, to ensure the efficient operation and maintenance of the building.

Man 05: Aftercare support

There will be operational infrastructure and resources in place to provide aftercare support to the building occupier(s), which will include among others, an initial occupation meeting, on-site facilities management training, initial and long-term aftercare support services.

Seasonal commissioning of all building systems will be carried out over the first year of occupation during full and partial load conditions and periods of high and low occupancy.

A post occupancy evaluation (POE) exercise will be carried out by an independent third party after the first 12 months of building occupation to gain in-use performance feedback from building users and inform operational processes and maintain or improve productivity, health, safety and comfort.

HEALTH & WELLBEING

Hea 01: Visual comfort

Glare control (occupant controlled internal blinds) will be installed in any areas where glare on screens may be a problem (e.g. offices).

Internal lighting will provide illuminance levels in accordance with the SLL Code for Lighting 2012. In areas where computer screens are regularly used the lighting design will comply with CIBSE Lighting Guide 7.

All external lighting will be designed to provide illuminance levels that enable the users to perform outdoor visual tasks efficiently at night. External lighting will be specified in accordance with BS 5489-1:2013 and BS EN 12464- 2:2014.

Hea 02: Indoor Air Quality

An indoor air quality (IQA) plan will be produced, with the objective of facilitating actions to minimise indoor air pollution during occupation of the building.

All finishes will comply with the requirements for VOCs (Volatile Organic Compounds) testing and emission levels.

Hea 04: Thermal comfort

A thermal model will be built in accordance with CIBSE AM11 to inform the development of a thermal zoning and control strategy, which considers the influence of the projected climate change scenarios, or demonstrates how the building can be adapted in future using passive design solutions. The thermal strategy for the building will be informed by this modelling.

Hea 05: Acoustic performance

Airborne sound insulation values between guestrooms will be at least 5dB higher and impact sound insulation values at least 5dB lower than the performance standards in Building Regulations. In communal areas indoor ambient noise levels will comply with BS 8233:2014. A programme of pre-completion testing will be carried out by a compliant test body.

Hea 06: Safety and security

For the external areas, safe access will be designed for cyclists and pedestrians.

ENERGY

Ene 01: Reduction of energy use and carbon emissions

An SBEM calculation was carried out to determine the energy demand and CO₂ emissions for the notional and actual buildings. The results were subsequently entered into the Ene01 calculator, which indicated that 9 credits could be targeted for this issue.

Ene 02: Energy monitoring

Energy sub-meters with pulsed or other open protocol communication outputs will be installed that enable at least 90% of the estimated annual energy consumption of each fuel to be assigned to the various end-use categories of energy consuming systems.

Sub-meters should be installed on the energy supply to each relevant function areas or departments within the building.

Ene 03: External lighting

All external luminaires will be energy efficient and all light fittings are to be controlled for the presence of daylight. Daylight sensors will help to ensure that artificial lights are not used when daylight levels are sufficient.

The average initial luminous efficacy of the external light fittings within the construction zone will not be less than 60 luminaire lumens per circuit Watt.

Ene 04: Low carbon design

A feasibility study will be carried out by the completion of the Concept Design stage (RIBA Stage 2) to establish the most appropriate (if any) low or zero carbon (LZC) energy source(s) for the building.

LZC technologies specified for the building should meet at least 5% of the overall building energy demand, unless considered unfeasible.

Project team to analyse building design at concept design stage (RIBA Stage 2) to identify the potential

SUSTAINABILITY STATEMENT

implementation of passive design measures, to reduce the overall building energy demand by at least 5%.

Ene 06: Energy efficient transportation

An analysis will be conducted to determine the optimum number and size of lifts, estimate the energy demand for at least two types of lift in accordance with BS EN 25745, and identify the lowest consumption system. Each lift will have the energy efficient features specified in Ene06.2.

TRANSPORT

Tra 01: Public transport accessibility

The proposed development will be accessible by public transport, being served by London buses (including night time services), and national and underground rail services.

Tra 02: Proximity to amenities

There are restaurants, cash points and food outlets located in close proximity to the building site.

Tra 03: Cycle storage and amenities

At least one adequately secure and lit cycle storage space will be provided for every 10 members of staff. Staff will have access to changing areas, lockers and shower facilities.

Tra 04: Maximum car parking capacity

On-site car parking provision will be restricted, encouraging the use of public transport.



Tra 05: Travel plan

A draft travel plan is developed as part of the design and feasibility stages, encouraging the use of sustainable modes of transport of people and goods during the buildings' operation and use. The travel plan accompanies the application submission.

WATER

Wat 01: Water consumption

Sanitary fittings within each commercial unit will be specified and installed by the prospective tenants due to the shell and core nature of the scheme.

Where sanitary fittings are to be specified by the developer/landlord, water efficient fittings will be included.

Wat 02: Water monitoring

A water meter with a pulsed or other open protocol output will be provided on the mains water supply to accurately monitor the building's water usage.

Building service systems with a significant water demand will have additional water monitoring equipment fitted to them. All water meters will be connected to the BMS if applicable.

Any water consuming plant or building areas installed by the tenant need not be assessed.

Wat 03: Water leak detection and prevention

A leak detection system will be employed on the main water supply to each of the units.

MATERIALS

Mat 01: Life cycle impacts

The materials specified for the main building elements will have a low environmental impact. For this development, the external walls, windows, upper floor slabs, internal walls, roof and floor finishes will achieve Green Guide ratings of between A+ and C.

Furthermore, in compliance with the requirements of the exemplary level criteria life cycle assessment modelling will be carried out to calculate embodied carbon.

Mat 02: Hard landscaping and boundary protection

More than 80% of all external hard landscaping will achieve a Green Guide rating of either A+ or A.

Mat 03: Responsible sourcing

Building materials used for the main construction elements will be 'responsibly sourced' with a documented Sustainable Procurement plan in place. All timber and timber based products specified will be legally harvested and traded timber. In addition, responsible sourcing of materials (RSM) points will be achieved in accordance with the BREEAM methodology to allow for 1 credit (i.e. insulation, concrete, stone and clay based materials are BES 6001 certified).

Mat 04: Insulation

All insulation specified for the development will have a low embodied environmental impact relative to its thermal properties. Insulation specified for use within external walls, ground floor, roof and building services will be assessed and the Insulation Index will be equal to or greater than 2.5.

Mat 05: Designing for durability and resilience

Suitable durability and protection measures or designed features will be incorporated into the building to prevent damage to vulnerable parts.

Mat 06: Material efficiency

At the end of each RIBA stage the project team will convene to examine opportunities to implement appropriate measures to ensure that the amount of materials used in the construction of the development

are optimised and therefore reduce the amount of construction waste arising from site.

WASTE

Wst 01: Construction waste management

A Resource Management Plan (RMP) or Site Waste Management Plan (SWMP) covering non-hazardous construction waste and dedicated off-site manufacture will be developed, to ensure that the amount of waste generated is lower than or equal to 6.5 tonnes per 100m² of gross internal floor area. In addition, 80% of non-demolition waste and 90% of demolition waste must be diverted from landfill.

A pre-demolition audit will be carried out for all existing buildings and hard surfaces, to identify key refurbishment/demolition materials and highlight the potential issues in the reuse and recycling of these materials. This audit will be referenced in the RMP.

Wst 03: Operational waste

There will be dedicated space to cater for the segregation and storage of operational recyclable waste volumes generated by the assessed building/unit, its occupant(s) and activities. A minimum of 2m² of waste storage per 1,000m² of net floor area shall be provided.



Wst 05: Adaptation to climate change

A study will be carried out to assess the resilience of the building's structure and fabric to an increase in extreme weather events resulting from climate change. All recommendations for improving the resilience of the building made within the report will be implemented.

SUSTAINABILITY STATEMENT

Wst 06: Functional adaptability

The building will be designed to be flexible and adaptable. The design will ensure that the building can be easily modified to accommodate changes in working practices, change in-use, plant replacement and refurbishment.

LAND USE AND ECOLOGY

LE 01: Site selection

The redevelopment of an existing urban plot reduces the need to develop greenfield sites. The footprint of this development is located entirely on previously developed land (100%).

LE 02: Ecological value of site and protection of ecological features

It is deemed that the existing site is of low ecological value. This will be confirmed by the Suitably Qualified Ecologist (SQE) appointed for the scheme. Any local trees will be protected during the construction works on site.

LE 03: Minimising impact on existing site ecology

As the development is replacing an existing development, no negative change in plant species richness is expected.

LE 04: Enhancing site ecology

All recommendations made by the ecologist, regarding the enhancement of site ecology will be implemented. It is expected that these will result in an increase of at least six plant species on site.

LE 05: Long term impact on biodiversity

The SQE will confirm that the protection and enhancement of the ecology will be carried out in compliance with the relevant UK and EU legislation.

An appropriate landscape and habitat management plan will be prepared, covering at least the first five years after project completion, in compliance with BS 42020:2013. This is to be handed to the building owner and occupants.

A biodiversity champion will be appointed to minimise the impact of site activities on the existing flora and

fauna and a biodiversity action plan will be produced by the SQE.

Four of the additional measures will be sought in order to achieve the maximum credits for this category. The additional requirements are:

- The main contractor appoints a biodiversity champion;
- The main contractor provides ecological awareness training to site operatives;
- The main contractor records actions taken to protect biodiversity and to monitor their effectiveness during construction;
- New ecologically valuable habitat is created in accordance with local, regional or national Biodiversity Action Plans (BAP); and
- Site works are programmed to minimise disturbance to wildlife.



POLLUTION

Pol 01: Impact of refrigerants

HVAC systems using refrigerants will be specified so that the level of greenhouse gas emissions arising from the leakage of refrigerants is limited (Direct Effect Life Cycle CO₂ emissions will be less than 1000 kgCO_{2e} per kW heating/cooling capacity).

Pol 02: NO_x emissions

In accordance with RBKC policy the development will be designed to achieve the maximum number of credits for this issue, thereby minimising any potential air pollution. Plant installed to meet the building's heating and hot water demand will, under normal operating conditions, generate no more than 40 mg of NO_x per kWh.

Pol 03: Surface water run-off

The Environmental Agency Flood Map shows that the development is located in an area with a low probability of flooding (Flood Zone 1).

The peak rate and total volume of surface water run-off from the site to watercourses will be no greater than it was pre-development.

Pol 04: Reduction of night time light pollution

External lighting will be confined to appropriate areas for security and safety purposes, and lighting will comply with the Institution of Lighting Engineers guidance notes for the reduction of obtrusive light.

All external lighting (except for safety and security lighting) will be fitted with timers to enable them to switch off automatically between the hours of 2300hrs and 0700hrs.

Pol 05: Noise attenuation

A noise impact assessment was carried out in compliance with BS7445 to determine the existing background noise levels at the nearest or most exposed noise sensitive development to the proposed development and the rating noise level resulting from the new noise source.

The noise level from the proposed site is a difference no greater than +5dB during the day and +3dB at night compared to background noise level.

In instances where the noise source from the proposed site is greater than the levels described above, measures will be installed to attenuate the noise at its source to a level where it will comply with the above.

BREEAM PRE-ASSESSMENT RESULTS

A BREEAM pre-assessment has been undertaken at pre-application stage which has shown that a score of 75.7% can be achieved, exceeding the 70% target for 'Excellent'.

The results for the pre-assessment are summarised in the table below, and include a breakdown of the currently targeted score for each issue and category.

Table 3: BREEAM Pre-Assessment Breakdown

BREEAM Category	Total Credits Available	Score Assessment		
		Sub-total	Weighting	Score (%)
Management	21	18	12.0	10.29
Health & Wellbeing	18	11	15.0	9.17
Energy	22	16	15.0	10.91
Transport	11	10	9.0	8.18
Water	8	5	7.0	4.38
Materials	14	9	13.5	8.68
Waste	8	6	8.5	6.38
Land Use & Ecology	10	8	10.0	8.00
Pollution	13	10	10.0	7.69
Innovation	10	2	10.0	2.00
BREEAM Excellent		Total Points Scored: 75.7%		

CONCLUSION

The sustainability strategy for Kensington Forum Hotel has been developed with the design team to comply with the relevant environmental policies from the London Borough of Kensington and Chelsea and the London Plan. The proposed development is targeting the achievement of BREEAM 'Excellent'. Sustainability measures will also include reductions in water use, waste and pollution as well as improvements in occupant health & wellbeing and the ecology of the site.

The proposed development at Kensington Forum Hotel meets the targets set out by the London Royal Borough of Kensington and Chelsea and the Greater London Authority (GLA). The commercial area of the scheme can achieve a BREEAM score of 75.7%, exceeding the BREEAM 'Excellent' target of 70%.

The number of credits obtained in the BREEAM pre-assessment and the proposed sustainability measures to be adopted for the residential units reflect the client and design team's aspirations in integrating sustainability measures and demonstrates that the project is designed to exceed the planning policy sustainability requirements.

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