

Building R8: Environmental Sustainability Plan

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Appendix E: Extension to RMA

Environmental Sustainability Plan: Building R8, Kings Cross Central

This Environmental Sustainability Plan is submitted in respect of a revised Reserved Matters submission for Building R8. It describes the strategies that have been included within the design of Building R8 to satisfy the planning conditions of the King's Cross Central ('KXC') outline planning permission (ref. 2004/2307/P) dated 22 December 2006 (the 'Outline Planning Permission') and obligations in the associated Section 106 Agreement related to sustainability. In particular, it seeks to address Planning Condition 17 and each of the six sub-sections listed in the same condition, giving details of the strategies adopted and demonstrating that the building achieves a very high standard of sustainability for a building of this scale in an urban environment.

The proposed Building R8 occupies a prominent location at the centre of Development Zone R, in the northern part of the KXC development. Building R4 surrounds it to the north, Plot R7 to the south, whilst Plots Q2 and R3 are located to the east and west, respectively. The proposed building will comprise two towers with 12 storeys of office and residential accommodation. Some retail and further office uses (small business and voluntary sector) at ground floor and first floors, within the podium.

This document is an addition to the appendix of the Reserved Matters submission for Building R8. And outlines the sustainability statement demonstrating measures against the cause of climate change for the residential part of building R8.

1 Executive Summary

Condition 17(E) Code of Sustainable Homes & Eco Homes:

The BRE's Eco Homes assessment system, referred to in Condition 17(E) was revoked and superseded in April 2007 for all new residential projects by the government's Code for Sustainable homes (The Code) scheme. Furthermore, the Code has also since been revoked in April 2015 without further revisions. As per Government latest guidelines; planning conditions to impose Code Level requirement has been removed for all new development.

Despite the removal of Eco homes, and in keeping with the Outline Planning permission, the design team has upheld the Eco homes assessment throughout the design process via a bespoke sustainability plan aimed at the residential part of the Building R8. The bespoke sustainability plan was informed via the Eco Home standards and is broadly equivalent to the Very Good Rating. The various measures identified within the bespoke sustainability plan are embedded in the building's design and are part of the contractor's tender design and deliverables.

The bespoke sustainability plan for Building R8 will provide certainty on achieving Eco homes' level Very Good Rating via design tracking measures identified within Section 2 of this document. Points below are salient points upholding the Eco Home – Very Good Rating:

- The Residential Building achieves an improvement of 43.4% over Building Regulation Part L1A.
The proposed development exceeds the targets set out in the London Plan, a minimum of 35% CO₂ reduction beyond the Building Regulations Part L (2013);
(The Code of Sustainable Homes requires new-build residential development to reach a minimum of 19% CO₂ reduction beyond the Building Regulations Part L (2013))
- The residential development follows the energy hierarchy as stated in the London Plan to meet CO₂ reductions standards;
- The residential development meets the minimum water efficiency standard of 105 litres/person/day as set out in Building Regulations Part G;
- The residential building design aims to reduce and mitigate the affected by pollution through air, noise, dust or vibration, will not be detrimental to the health, safety and amenity of users of the site or surrounding land;
- Ensure that developments are air quality neutral by the use of the local district heating network.
- The development aims to reduce the adverse impacts on adjacent land use ambient noise levels and the locality's character to acceptable levels according to the Camden Council's sustainable development policies.
- Encourage the use of sustainable and innovative construction materials in buildings.
- Passive design to limit the requirement of space heating during peak winter months and summer cooling via natural ventilation.

2 Sustainability Statement & Plan

The Sustainability statement aims to outline the proposed energy efficiency and sustainability features in line with the London Plan for the residential units. Although a formal BREEAM 2018 assessment is being carried out on the office space, the residential development benefits by the site-wide measures directly benefit the users.

The primary aim set out by the design team is to promote the delivery of sustainable new build, to mitigate the life cycle impacts of existing buildings on the environment robustly and cost-effectively. This is achieved by integrating and using the scheme by clients and their project teams at crucial stages in the design and construction works process.

The BREEAM issues below, which are of greater benefit to the proposed residential development in terms of energy-efficient, environmental impact, occupant wellbeing and operational performance, have been prioritised:

- Responsible construction practices by the main contractor responsible for the works on site to reduce nuisance and environmental impacts from the construction;
- Appropriate metering throughout the development;
- Improve occupant experience by focusing on wellbeing, such as acoustics, daylighting, air quality and outdoor space;
- Energy efficiency upgrades of building elements, such as the windows thermal and visual performance, lifts, lighting and equipment;
- Promote sustainable modes of transport;
- Save water through water-efficient fittings and water meters;
- Reuse of existing building structure, reducing waste generated from construction.

The categories to which dwellings are assessed are as follows:

- Energy and CO₂ emissions.
- Water.
- Materials.
- Waste.
- Pollution.
- Health and Wellbeing.
- Management.
- Ecology
- Transport.

2.1 Sustainability by Design

The table below outlines the various design criteria to achieve high sustainability standards for the residential element of the building. The criteria encapsulate measures to tackle climate change and provide a comfortable environment to the end-users and various other sustainability measures outlined within the Reserved Matters submission for Building R8.

Issue Ref.	Description
Security of the site and building:	The production of an evidence-based Security Needs Assessment (SNA) at RIBA Stage 2. The recommendation of the security consultants is incorporated in the building design.
Transport Assessment	A site-specific transport assessment and travel plan to include a long-term management strategy for sustainable travel.
Passive Design	An analysis to identify opportunities for the implementation of passive design measures and a feasibility study to establish the most appropriate energy source for the development.
Detailed Embodied Carbon Analysis	A Life Cycle Assessment is undertaken on the superstructure of the development with the aim to reduce the embodied carbon of the building.
Project Brief and Design	Roles and responsibilities are defined early in the project for each key phase—stakeholder consultation to influence the initial project brief.
Enabling Sustainable Procurement	The Client must produce a sustainable procurement plan to inform procurement activities throughout the project.
Material efficiency	The material efficiency of the building is reviewed at each workstage to set targets and report on opportunities and method to optimise the use of materials.
Impact of Climate Change	The resilience of Structure, Fabric, Building Services and Renewable Installation: A climate change risk assessment for the specific building to inform the design and increase the buildings' resilience to any future impacts of climate change.
Commissioning & Handover	Produce a commissioning testing schedule and confirm this is completed in line with all appropriate standards. The person responsible must be confirmed. And Implement the commissioning activities over a minimum 12-month period
Responsible Sourcing	100% of timber-based products used on the project are legal and sustainable as per the UK Government's Timber Procurement Policy
Land Use and Ecology	All relevant UK and EU legislation. Survey & Evaluation. Managing negative impacts. Change and enhancement of ecology. Management and maintenance throughout the project. Landscape and ecology management plan. Determining the ecological outcome of the site
Considerate Constructors Scheme (CCS).	The development will be designed according to Secure by Design principles and will comply with Section 2 Physical Security. It is expected that the main contractor complies with and go significantly beyond best practice principles under the Considerate Constructors Scheme (CCS). The construction site will be managed in an environmentally sound manner in terms of resource use (including construction materials), energy and water consumption, and air and water pollution.

2.2 Reduction in Water consumption

The maximum indoor water consumption will be 105 litres per person per day in the new dwellings. The table below gives indicative water fittings flow rates and capacities for an apartment with a single bathroom, which would comply with Approved Document Part G "optional" requirements from Table 2.2 of Part G.

Water fitting - Dwellings	Maximum consumption (Part G table 2.2)	Target Water Fitting Consumption	Units
WC, dual flush	4 / 2.6	4 / 2.6	litres dual flush
Wash hand basin taps	5	≤ 5	litres/minute
Bath	170	≤ 170	litres
Shower	8	≤ 8	litres/minute
Kitchen sink taps	6	≤ 6	litres/minute
Washing machine	8.17	≤ 6	litres/kg
Dishwasher	1.25	≤ 0.7	litres/place setting
Water fitting - Dwellings	Maximum consumption (Part G table 2.2)	Target Water Fitting Consumption	Units
WC, dual flush	4 / 2.6	4 / 2.6	litres dual flush
Wash hand basin taps	5	≤ 5	litres/minute
Bath	170	≤ 170	litres
Shower	8	≤ 8	litres/minute

2.3 Materials

Wherever possible, the design will incorporate the reuse of secondary aggregates from the demolition of the existing buildings on-site, where feasible.

The majority of key building materials, including finishing element, will be legally sourced (e.g. EMS certified). All concrete and steel used in building elements will be BES 6001 or Cares certified.

All timber and timber-based products used on the project will be legally harvested, and traded timber as outlined in the Central Point of Timber (CPET) 5th Edition of the UK Government's Timber Procurement Policy (TPP), e.g. third party, independent forest certification schemes – Category A, e.g. Forest Stewardship Council (FSC) or Programme for the Endorsement of Forest Certification (PEFC) certified.

2.4 Waste

The recycled waste will be sorted post collection. All apartments will have a fixed 30 or 40-litre recycling bin and a household waste bin. Adequate internal and external dedicated storage space for non-recyclable and recyclable household waste will be provided.

Construction waste materials will be sorted into separate key waste groups, either on-site or off-site and diverted from landfill. Wherever feasible, non-hazardous construction waste

generated by Building R8 development will be reused, salvaged/ reclaimed, recovered, recycled, composted on or off-site and returned to the supplier.

2.5 Pollution

Night-time light pollution will be minimised through the appropriate location and selection of external luminaires and light controls, including time clocks.

Manage flood risk and surface water runoff by providing a drainage strategy to minimise pollution to watercourses.

2.6 Health and Wellbeing

Building R8 will achieve adequate indoor ambient noise levels and appropriate sound insulation levels in order to reduce the likelihood of noise complaints from neighbours or other buildings. The external envelope will be designed to reduce noise levels from external sources to acceptable levels.

The acoustic performance of each dwelling shall improve the acoustic requirements of Part E of the Building Regulations.

Daylighting is optimised through the incorporation of full height glazing. Views out are maximised in all blocks due to the layout arrangement.

Private residential balconies, terraces, communal courtyard and communal gardens are located at various levels across the development.

The ventilation strategy will be designed to supply sufficient outside air to the occupied spaces in order to remove any pollutants and reduce the risk to health associated with poor indoor air quality in line with Part F. Air Quality Consultants have produced an Indoor Air Quality Plan to demonstrate how the building has been designed to minimise sources or internal air pollution and to prevent air pollutants from collecting in building systems and on building materials. The IAQP also outlines the low-emission interior products to be used in the building.

The heating strategy will be designed to achieve appropriate thermal comfort levels and allow independent adjustment of heating systems within each dwelling.

All water systems will be designed in order to reduce the risk of Legionnaires' disease in operation. The flow temperature of the domestic hot water systems will be set to 60°C, to help prevent legionella on stored systems. A maintenance regime will be in operation to flush any systems in apartments that have been unoccupied before they are used.

All apartments will be designed to comply with the principles of the Technical Housing Standards - Nationally Described Space Standard.