

Planning Report

Sustainability Statement

Chalcot House



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Contents:

Executive Summary	1
Introduction.....	2
Policy Context	4
Energy and CO ₂	8
Adaptation to Climate Change.....	12
Waste.....	13
Construction Management.....	14
Water Efficiency	15
Transport and Connectivity	16
Materials	17
Health and Wellbeing	18
Land Use and Ecology	19
Conclusions	20

Executive Summary

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Overview

The existing site comprises a two-storey building of early 20th Century construction set well back from the street along a private driveway. It is surrounded to the front, rear and side by a private garden area with a number of trees. The proposed project consists of the demolition of the existing 2-storey house and the erection of new detached single dwelling house. The scheme is located in the London Borough of Camden and has a total gross internal area of approximately 535 m². Associated refuse and bicycle stores, amenity spaces and landscaping are also included within the proposed development. Moreover, the development will enhance the ecological value of the site through integrating measures such as flower rich perennial planting. The incorporation of bird and bat boxes are also being considered by the design team where feasible.

This Sustainability Statement will be provided as evidence to the London Borough of Camden to demonstrate the development's holistic approach to sustainable design and construction. It summarises the contribution that the design will make to create a more sustainable development, drawing on information provided by specialist consultants and design reports, and identifying key features intrinsic to achieving low carbon developments.

Key sustainability features within the development will include:

- The development will reduce total carbon emissions by 57.2% and 56.5% over Building Regulations using SAP 2012 and draft SAP 10.0 carbon dioxide emission factors, respectively;
- A water consumption target of 110 litres/person/day (including 5 litres for external water use) through the implementation of water efficiency measures;
- The inclusion of sustainable transport options such as secure cycle storage;
- A sustainable materials procurement policy and an efficient waste strategy on site;
- The implementation of health and wellbeing measures through design and operational procedures, including daylight, optimum indoor air quality and thermal comfort; and,
- Protection of ecology on site during construction and biodiversity enhancement measures, such as flower rich perennial planting. The incorporation of bird and bat boxes are also being considered by the design team where feasible.

Key Sustainability Measures

In summary, the key measures incorporated to meet planning requirements and to achieve a low carbon development address the following key areas of sustainable design and construction:

- Energy and CO₂
- Adaptation to climate change
- Flood risk mitigation and SuDS
- Waste
- Water efficiency
- Transport and connectivity
- Materials
- Health and wellbeing
- Land use and ecology

Introduction

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Sustainability Introduction

The design team has significant experience in delivering schemes that are considered highly sustainable, either through application of formal green building rating systems, such as BREEAM and Home Quality Mark, as well as applying benchmarks from standards such as Passivhaus Design and adopting precedents from industry exemplary sustainable developments.

The scheme will reflect the holistic nature of sustainable development in the London Borough of Camden. The development will use local labour to boost employment and health and wellbeing will be incorporated in the design by maximising daylighting, utilising healthy materials and contributing to the alleviation of fuel poverty in the region. The ecological value of the site will be maintained and protected. The development will enhance the ecological value of the site through integrating measures such as flower rich perennial planting. The incorporation of bird and bat boxes are also being considered by the design team where feasible.

Description of Development

The proposed development is to be located at Chalcot House, London, NW3, in the London Borough of Camden. The site has an area of approximately 535 m² and currently comprises a two-storey building of early 20th Century construction set well back from the street along a private driveway. Figure 1 illustrates the proposed site plan for the development.

The proposed project consists of the demolition of the existing 2-storey house and the erection of new detached single dwelling house. Associated refuse and bicycle stores, amenity spaces and landscaping are also included within the proposed development. Figure 2 and Figure 3 illustrate the proposed front elevation and the ground floor plan, respectively.

The aspiration for the scheme is to significantly improve the existing site and its immediate environment by providing an efficient and inclusive development, which meets the policy recommendations of the London Borough of Camden.



Figure 1: Proposed Site Plan for Chalcot House.

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Figure 2: Proposed front elevation of Chalcot House.

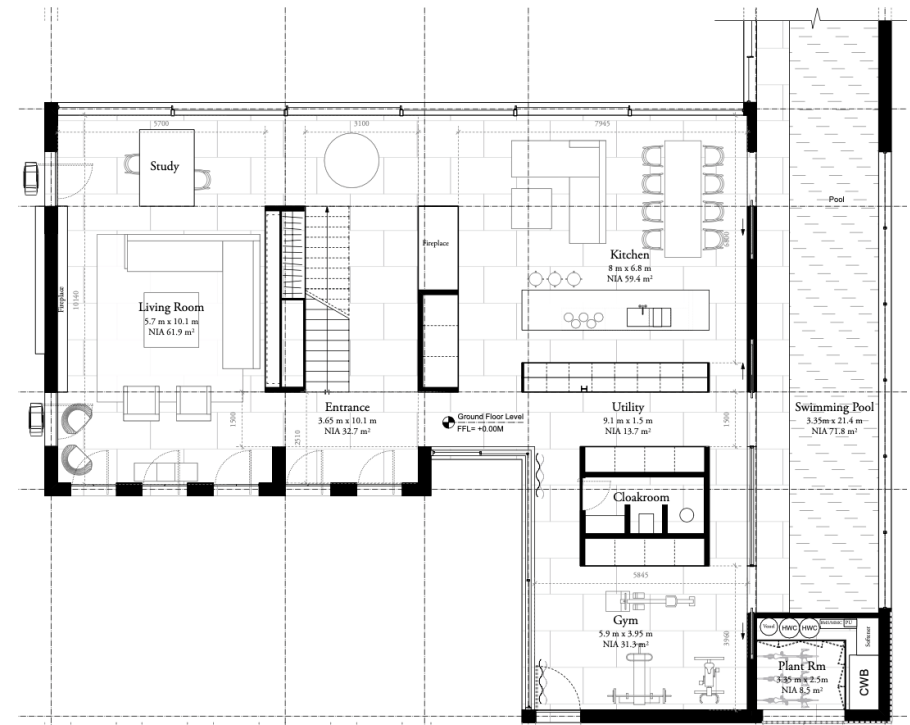


Figure 3: Proposed ground floor plan of Chalcot House.

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National Context: The 2008 Climate Change Act

The UK Government is committed to reducing the UK's carbon emissions by 100% over 1990 levels through the Climate Change Act 2008. Achieving truly sustainable design and construction and forwarding the green agenda within the construction industry across the UK is inherent to meeting these emission targets. This development aims to do both of these.

To help monitor carbon reductions and to plot progress being made for future plans and investments in the UK's low-carbon economy, intermediary targets have been established to ensure that the UK remains on course for meeting the 100% reduction by 2050.

Concurrent with reducing CO₂ emissions by 100% by 2050 is the European Climate Change Policy targets. It sets the objective of ensuring 20% of energy consumption is generated from renewable sources by 2020 whilst also reducing Europe's carbon footprint by 20%. Ensuring a fabric first approach with consideration to renewable energy production fits both the climate change act and the European Commission's 2020 targets for reducing greenhouse gas (GHG) emissions.

National Context: National Planning Policy Framework 2019

The National Planning Policy Framework (NPPF) published in 2019 sets out the UK Government's planning policies for England. Planning law requires that applications for planning permission must be determined in accordance with the local development plan unless material considerations indicate otherwise. The National Planning Policy Framework must be taken into account in preparing the development plan and is a material consideration in planning decisions. Planning policies and decisions must also reflect relevant international obligations and statutory requirements.

The NPPF is supported by a series of Planning Practice Guidance (PPG) documents. The guidance in relation to air quality provides guiding principles on how planning can take account of the impact of new development on air quality. The following policies are relevant to the Sustainability Statement:

- Achieving sustainable development
- Promoting healthy and safe communities
- Promoting sustainable transport

- Achieving well-designed places
- Meeting the challenge of climate change, flooding and coastal change
- Conserving and enhancing the natural environment

Regional Context: The London Plan 2021

The London Plan (March 2021) is the overall strategic plan (Spatial development Strategy) for London and replaces the previous (2016) iteration. This document, therefore, plays a key role in the planning process in all the 32 London Boroughs and the City of London.

The London Plan aims to shape the planning process and sets out an integrated economic, environmental, transport and social framework for the 32 London Boroughs, the City of London and the Mayoral Development Corporations (MDCs) over the next 20–25 years (2019–2041), including the following key aspects of the Mayor of London's other strategies:

- Transport;
- Economic Development;
- Housing;
- Culture;
- Social issues (such as children and young people, health inequalities and food); and
- A range of environmental issues (such as climate change, air quality, noise and waste).

Within the London Plan there are a number of key targets for 'major developments', not applicable to this scheme:

- Policy SI 2: Development should be net zero-carbon and should include a detailed energy strategy to demonstrate how the zero-carbon target will be met within the framework of the energy hierarchy; and,
- A minimum on-site reduction of at least 35% over Target Emission Rate identified in Building Regulations 2013 is required.

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Regional Context: The London Plan 2021 (continued)

The London Plan (2021) also sets out the following targets for major developments. This has been followed as guidance for 'best practice':

- Efficient use of natural resources (including water);
- Minimising pollution (including noise, air and urban runoff);
- Minimising the generation of waste and maximising reuse or recycling;
- Avoiding impacts from natural hazards (including flooding);
- Ensuring developments are comfortable and secure for users;
- Securing sustainable procurement of materials, using local supplies where feasible; and
- Promoting and protecting biodiversity and green infrastructure.

Of particular relevance to this report are the following policies required by the Plan:

- Policy D6 – Housing Quality and Standards
- Policy G4 – Open Space
- Policy G5 – Urban Greening
- Policy G6 – Biodiversity and Access to Nature
- 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 SI12 – Flood Risk Management
- Policy SI13 – Sustainable Drainage
- Policy T1 – Strategic Approach to Transport
- Policy T3 – Transport Capacity, Connectivity and Safeguarding
- Policy T5 – Cycling
- Policy T6 – Car Parking

Local Context: Camden Local Plan 2017

The Camden Local Plan, published in July 2017, sets out the Council's planning policies. It responds to the Borough's unique characteristics and provides a comprehensive local policy framework to deliver Camden's future sustainable development. The Plan is supported by the supplementary planning documents 'Camden Planning Guidance' adopted in January 2021.

The Camden Local Plan states a key strategic objective as 'investing in our communities to ensure sustainable neighbourhoods'. This is complimented by further objectives embedded in the Local Plan that define the sustainability vision of the council.

Chapter 8 'Sustainability and climate change' within the Camden Local Plan lists key sustainability objectives for the Borough. The following strategic objectives are relevant to the proposed development and compliance with these will be demonstrated in this Sustainability Statement:

4.84 – Policy C5 Safety and Security– Developments should incorporate design principles that contribute to community safety and security.

4.96 – Policy C6 Access for all

The Council will:

- Expect all buildings and places to meet the highest practicable standards of accessible and inclusive design so they can be used safely, easily and with dignity by all;
- Encourage accessible public transport; and
- Encourage secure car parking for disabled people.

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Policy Context

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Local Context: Camden Local Plan 2017 (continued)

6.2 – Policy A1 Managing the impact of development

The Council will seek to protect the quality of life of occupiers and neighbours and will:

- Seek to ensure that the amenity of communities, occupiers and neighbours is protected.
- Resist development that fails to adequately assess and address transport impacts affecting communities, occupiers, neighbours and the existing transport network.

6.59 – Policy A3 Biodiversity – Developments should not directly or indirectly result in the loss or harm to a designated nature conservation site or adversely affect the status or population of priority habitats and species. The demolition and construction phase of a development, including the movement of works vehicles, should be planned to avoid disturbance to habitats and species and ecologically sensitive areas, and the spread of invasive species.

6.85 – Policy A4 Noise and Vibration – Developments should not generate unacceptable noise and vibration impacts.

7.1 – Policy D1 Design – The Council will require that development:

- Is sustainable in design and construction, incorporating best practice in resource management and climate change mitigation and adaptation;
- Is of sustainable and durable construction and adaptable to different activities and land uses;
- Is inclusive and accessible for all;
- Promotes health;
- Is secure and designed to minimise crime and antisocial behaviour;
- Responds to natural features and preserves gardens and other open space; and,
- Incorporates high quality landscape design and maximises opportunities for greening.

8.3 – Policy CC1 Climate Change mitigation – Developments should reduce carbon dioxide emissions in line with the steps in the energy hierarchy. Developments should support this by ensuring the availability of sustainable transport options, optimising resource efficiency and encouraging sensitive energy use. The Council will protect, and seek to secure additional, trees and vegetation.

8.18 – All developments should optimise resource efficiency through waste and energy reduction, minimising materials required, opting for materials with low embodied carbon content and enabling low energy and water demands.

8.33 – Policy CC2 Adapting to Climate Change – All developments should adopt appropriate climate change adaptation measures such as green infrastructure and SuDS where feasible.

8.53 – Policy CC3 Water and flooding – Developments should incorporate water efficiency measures, consider the impact of development in areas prone to flooding and avoid harm to the water environment. Refurbishments will be expected to meet BREEAM water efficiency credits.

8.55 – Developments must be designed to be water efficient. Residential developments will be expected to meet the requirement of 110 litres per person per day (including 5 litres for external water use).

8.75 – Policy CC4 Air Quality – Developments should mitigate the impact of construction and the completed development on air quality in the borough. Construction should adopt sustainable design and construction methods including measures that minimise negative impacts on air quality.

8.90 – Policy CC5 Waste – Developments should include facilities for the storage and collection of waste and recycling.

10.9 – Policy T1 Prioritising walking, cycling and public transport – The Council will promote sustainable transport by prioritising walking, cycling and public transport in the borough. In order to promote cycling in the borough and ensure a safe and accessible environment for cyclists, the Council will seek to ensure that development provides for accessible, secure cycle parking facilities exceeding minimum standards outlined within the London Plan.

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Policy Context

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10.16 – Policy T2 Parking and car-free development – Non-residential developments should limit on-site parking to spaces essential for the operation of the development (e.g., designated for disabled people where necessary, and/or essential operational or servicing needs).

10.27 – Policy T4 Sustainable movement of goods and materials – Developments should consider utilising more sustainable means of freight transport and seek to minimise the movement of goods and materials by road. Alternative modes of transportation can include via canal, rail and bicycle where possible.

A number of Camden Planning Guidance (CPG) documents were adopted in January 2021 to support the policies in the Camden Local Plan and form supplementary planning documents (SPDs) for planning decisions. The full list of adopted documents relevant to sustainability include:

- Access for All CPG – March 2019 – All developments should be inclusively designed and useable by all to promote equality of opportunity.
- Air Quality – January 2021 – All developments should protect future occupants from exposure to poor air quality and should limit their impact on local air quality and be at least air quality neutral.
- Biodiversity CPG – March 2018 – Development proposals must demonstrate how biodiversity considerations have been incorporated into the development, how the five-point Mitigation Hierarchy has been addressed and what positive measures for enhancing biodiversity are planned.
- Energy efficiency and adaptation – January 2021 – Developments should achieve at least 20% reduction in CO2 from onsite renewables (after all other energy efficiency measures have been incorporated)
- Transport – January 2021 – Developments should demonstrate what measures will be required and implemented in order to mitigate the transport impact of the development.
- Trees CPG – March 2019 – All developments should assist in achieving the aim to preserve existing tree and canopy coverage where possible as well as increase and improve tree coverage in the design of new developments.
- Water and flooding CPG – March 2019 – Refurbishments and other non-domestic development will be expected to meet BREEAM water efficiency credits.

Energy and CO₂

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Energy Strategy

The energy strategy for the scheme was produced by Eight Associates in July 2021. An additional 'RFO vs NC statement' report has also been issued by Eight Associates in July 2021 outlining the anticipated life cycle embodied and operational carbon impact of each building scenario – refurbishment, and new build. As shown in Table 1, the whole development will reduce carbon emissions by 18.0% and 26.2% from the fabric energy efficiency measures described in the 'Be Lean' section using SAP 2012 and draft SAP 10.0 carbon dioxide emission factors, respectively. Total carbon emissions will be reduced by 57.2% and 56.5% over Building Regulations using SAP 2012 and draft SAP 10.0 carbon dioxide emission factors, respectively, with the further inclusion of an air source heat pump and photovoltaic panels. Therefore, the scheme meets and exceeds the target of overall 35% carbon reduction over Part L building Regulations as set out in the London Plan Policy SI2 and Camden's Policy CC1.

The Energy Hierarchy

The proposed scheme has followed the energy hierarchy, illustrated in Figure 4 below.

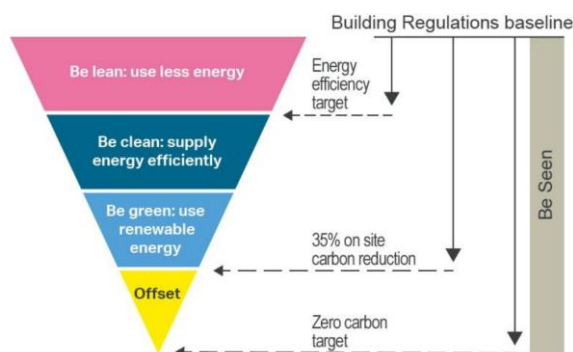


Figure 4: This methodology, widely used in accordance with the Sustainable Design and Construction Supplementary Planning Guidance (SPG) 2014, has been adopted for the scheme using a 'Lean', 'Clean', and 'Green' approach.

Table 1: GLA Energy Hierarchy for the whole development.

GLA's Energy Hierarchy: Regulated carbon emissions Calculated using SAP 2012 carbon dioxide emission factors				
	Baseline:	Be lean:	Be clean:	Be green:
CO ₂ emissions (tCO ₂ /yr)	9.08	7.44	–	3.89
CO ₂ emissions saving (tCO ₂ /yr)	–	1.63	–	3.56
Saving from each stage (%)	–	18.0	–	39.2
Total CO ₂ emissions saving (tCO ₂ /yr)	5.19			
57.2% total carbon emissions savings over 2013 Building Regulations Part L achieved.				
GLA's Energy Hierarchy: Regulated carbon emissions Calculated using draft SAP10.0 carbon dioxide emission factors				
	Baseline:	Be lean:	Be clean:	Be green:
CO ₂ emissions (tCO ₂ /yr)	8.53	6.30	–	3.71
CO ₂ emissions saving (tCO ₂ /yr)	–	2.23	–	2.59
Saving from each stage (%)	–	26.2	–	30.3
Total CO ₂ emissions saving (tCO ₂ /yr)	4.82			
56.5% total carbon emissions savings over 2013 Building Regulations Part L achieved.				

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GLA's Energy Hierarchy – Regulated Carbon Emissions

As demonstrated in Figure 5, the proposed will reduce carbon emissions by 26.2% from the fabric energy efficiency measures described in the 'Be Lean' section and will reduce total carbon emissions by 30.3% over Building Regulations, using draft SAP 10.0 carbon factors.

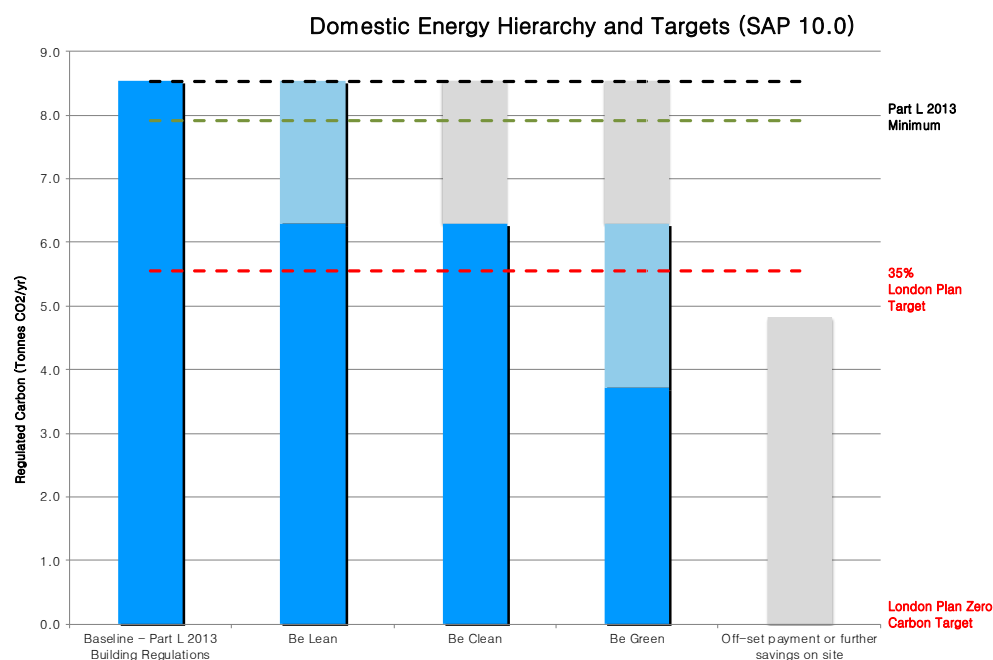


Figure 5: The performance of the scheme in relation to Building Regulations and the Energy Hierarchy. Carbon dioxide emission factors for draft **SAP 10.0** have been used for the calculations.

Energy Efficiency Strategies

Energy efficiency measures that will be applied to Chalcot House include:

- High insulation standards to reduce transfer of heat through the building fabric;
- Use of an air source heat pump system with a COP of 2.80 to provide 40% of the heating and hot water for the development;
- The remaining 60% of the space and hot water demand will be covered by a gas boiler;
- A photovoltaic panel system of 7.92 kWp (24 panels of 330W each) has been specified. PV panels will be placed with 30° tilt, oriented southeast, covering around 50m² of the roof;
- Envelope air tightness to reduce unnecessary air infiltration;
- Daylighting and well-planned floor layouts to reduce the need for artificial lighting; and,
- High efficacy lighting of 75 lumens per watt has been specified for the scheme.

Thermal Comfort and Overheating Risk

To minimise energy loss, the building fabric performance will be designed to achieve a balance between retaining heat during winter and allowing the building to dissipate heat during the summer months. Further measures to reduce overheating and the need for cooling include:

- Energy efficient lighting and appliances have been recommended to reduce internal heat gains;
- The building fabric will be insulated over and above the standards set out by Building Regulations and reduced solar gains from a glazing solar factor of 0.50 (0.55 for rooflights) will help to keep heat out of the building;
- Internal shading devices to further limit solar gains in the south facing kitchen will be installed;
- Reduced air permeability rate and maximised insulation levels;
- Mechanical ventilation with heat recovery and summer bypass to provide fresh air and purging of heat; and,
- Passive ventilation measures will include openable windows.

Energy and Carbon Sustainability Statement Chalcot House

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Embodied Carbon

Existing scenario

The existing scenario has been modelled as though no work has been done. Therefore, as no new materials are entering the scheme, the embodied carbon of the existing scheme is 0 kgCO₂e. The total lifetime carbon impact (60 years) of the existing scenario is 1,882,486 kgCO₂e.

The existing scenario has an energy intensity of 267 kWh/m²/year and carbon intensity of 3,513 kgCO₂e/m².

Refurbishment scenario

The total lifetime carbon impact (60 years) of the refurbishment scenario is 776,547 kgCO₂e.:

- The energy intensity of the refurbishment scenario is 53 kWh/m²/year.
- The total carbon intensity of the refurbishment scenario is 1,506 kgCO₂e/m².
- The operational carbon of the refurbishment scenario is 302,240 kgCO₂e.
- The embodied carbon of the refurbishment scheme over the study period is 474,307 kgCO₂e:
 - Construction stage impacts: 415,317 kgCO₂
 - Building operation impacts: 52,282 kgCO₂e/year
 - Deconstruction impacts: 20,979 kgCO₂
 - Reuse, recovery, and recycling potential: -14,271 kgCO₂

The carbon intensity of the refurbishment scenario is described in the table below:

Stage	Intensity (kgCO ₂ e/m ²)
Construction	775
Building Operation	98
Operational Energy	564
Deconstruction	39
Reuse, recovery, and recycling potential	-27

New build scenario

The total lifetime carbon impact (60 years) of the new build scenario is 718,646 kgCO₂e.

- The energy intensity of the new build scenario is 41 kWh/m²/year.
- The total carbon intensity of the refurbishment scenario is 1,398 kgCO₂e/m².
- The operational carbon of the new build scenario is 222,840 kgCO₂e.
- The embodied carbon of the new build scheme over the study period is 495,806 kgCO₂e:
 - Construction stage impacts: 434,330 kgCO₂
 - Building operation impacts: 52,385 kgCO₂e/year
 - Deconstruction impacts: 23,395 kgCO₂
 - Reuse, recovery, and recycling potential: -14,305 kgCO₂

The carbon intensity of the new build scenario is described in the table below:

Stage	Intensity (kgCO ₂ e/m ²)
Construction	810
Building Operation	98
Operational Energy	416
Deconstruction	44
Reuse, recovery, and recycling potential	-27

At Year 0, the refurbishment scenario has a lower embodied carbon compared to the new build. As the operational impact of the refurbished scenario is higher, the new build scenario becomes the less carbon-intensive option after Year 14. Several options have been appraised to investigate whether this can occur at an earlier year. The viability of each option should be discussed within the design team.

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Benchmark Comparisons

In order to compare multiple buildings, different benchmarks have been developed. In particular, the Greater London Authority (GLA) is the most applicable benchmark set for planning applications. However, this does not cover operational energy, and hence benchmarks from the UKGBC have also been acknowledged.

It is important to note that the GLA guidance stipulates that Whole Life Carbon assessments are required for planning applications referable to the Mayor, but are supported and encouraged on major applications that are not referable to the Mayor.

As per Camden guidance, major developments are classed as developments comprising:

- 10 or more houses or flats; or
- A floor space of 1,000m² or more

The Chalcot House development is a single dwelling of approximately 535m² and therefore does not need to demonstrate compliance against the benchmarks, only a comparison against them.

GLA Benchmarks	Benchmark (kgCO ₂ e/m ²)		Aspirational Benchmark (kgCO ₂ e/m ²)	
	A1–A5	B–C (excl. B6–B7)	A1–A5	B–C (excl. B6–B7)
Apartment/Hotel	750 – 850	300 – 400	450 – 500	180 – 240
Refurbishment scenario – results	775	137	775	137
New build scenario – results	810	142	810	142

Both scenarios demonstrate compliance with GLA Benchmarks for Construction and compliance with GLA Aspirational Benchmarks for Use and Deconstruction.

UKGBC Benchmarks	Baseline scenario	Intermediate scenario	Stretch scenario
Residential Operational Energy (kWh/m ² (GIA)/year)	146 (RIBA – Business as usual)	70 (RIBA 2025 target)	35 (RIBA 2030 target)
Refurbishment scenario	53	53	53
New build (Proposed) scenario	41	41	41

Both scenarios demonstrate compliance with the UKGBC Intermediate benchmark for operational energy consumption.

Recommendations for Further Mitigation

The design team intends to create as low an impact building as possible and aims to further increase the carbon gap between a refurbished scheme and the proposed new construction development. Due to the lower operational energy consumption, the greatest areas of carbon improvement will be made through material changes. Several options have been analysed to determine measures that the design team may do to further reduce the total carbon of the scheme over its lifespan. It is important that the relevant consultants are approached to evaluate the viability of each with respect to procurement, construction time, cost, change in structural strength, etc.

Description of measure	Lifecycle carbon reduction (kgCO ₂ e)		
	Embodied	Operational	Total
1 Reduction in window U-value from 0.9 W/m ² K to 0.8 W/m ² K through the substitution of aluminium framed windows for timber framed windows.	–34,253	–20,722	–54,975
2 Specification of 50% repurposed brick for internal walls from the deconstruction of the existing building.	–9,728	(–)	–9,728
3 Increase in Air Source Heat Pump Co-efficient of Performance from 2.8 to 3.0	(–)	–6,487	–6,487
4 Substitution of 40% of the volume of foundation Portland Cement for Ground Granulated Blast Slag	–2,257	(–)	–2,257

Adaptation to Climate Change

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Climate Change Mitigation

The proposed development will utilise an air source heat pump, PV panels and mechanical ventilation with heat recovery. Passive design measures, including openable windows and night-time cooling, will be integrated into the design of the development. Mechanical ventilation using fans will remove heat from the building during summer months.

Flood Risk and Sustainable Drainage

Chalcot House is located within Flood Zone 1 of the Environment Agency's Flood Map for Planning, as shown in Figure 6. This is defined as an area with little or no risk to flooding where the annual probability of river, tidal and coastal flooding (with defences where they exist) is <0.1% i.e. less than 1 in 1,000 years. Whilst the development is residential and therefore classed as highly vulnerable, the site situation in Flood Zone 1 means the proposed development is therefore deemed acceptable as per the Surface Water Management report produced by Cannon Consulting Engineers in May 2021.

The existing site is considered to be brownfield, consisting of approximately 0.1ha and bound by residential buildings on all sides. Based on the current proposals, there will be no increase to the overall area of hardstanding on the site.

The drainage strategy by Cannon Consulting Engineers outlines a viable solution for a below ground drainage system in line with Policy CC2 and CC3. This proposes the use of geo-cellular buried attenuation crates (total 10m³ capacity) as well as the use of permeable paving to provide additional capacity of 13m³.

A flow control (hydro-brake or similar) will be used to restrict flows to 5 l/s for all storm events up to and including the 1 in 100-year event plus 40% allowance for climate change. All existing drainage infrastructure is to be abandoned and removed.

In addition to the use of the buried geo-cellular crate system, areas of soft landscaping within the public realm and terraced areas are proposed and the design team is considering the use of blue roof systems across the development. These measures will ensure surface water run-off will not be detrimental to the environment, public wellbeing and the economy.

Overall, the strategy aims to restrict runoff rates to as close to greenfield runoff rates as possible, without increasing on that of the previous development. The discharge rate is set to 5 l/s for all storm events up to and including the 1 in 100 years plus 40% climate change event.

Flood Map

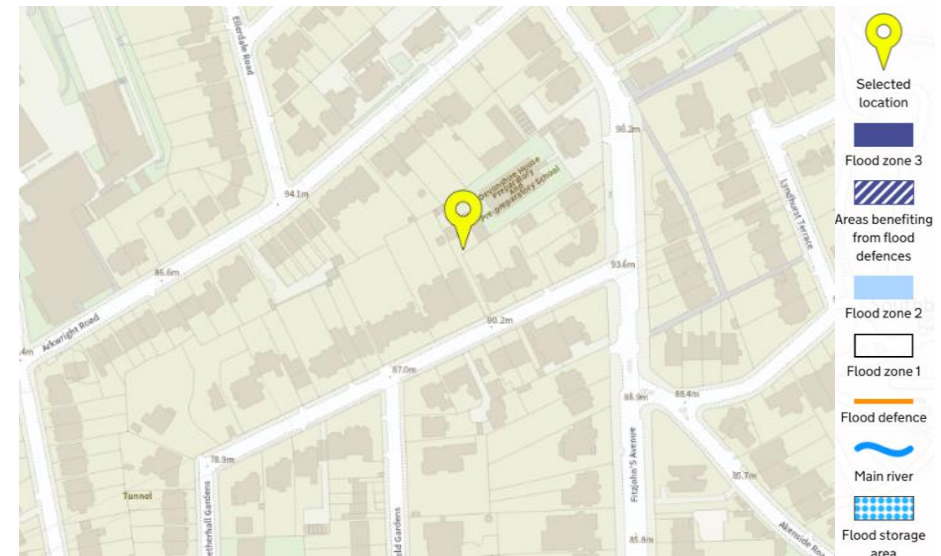


Figure 6: Flood map showing the approximate location of the development within Flood Zone 1.

Waste

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Construction Waste Management

Resource efficiency will be promoted through effective and appropriate management of demolition and construction site waste.

In line with the waste hierarchy, during the construction phase, the approach will be the following:

- Use reclaimed materials;
- Use materials with higher levels of recycled content; and,
- Use new materials.

For any demolition, the following approach will be adopted:

- Prioritise the on-site reuse of demolition materials;
- Adopt on site recycling and, where required, use off site recycling; and,
- The least preferred option – disposal to landfill.

A site waste management plan will be developed which adopts best practice benchmarks for resource efficiency, details procedures and commitments to minimise non-hazardous and hazardous waste at the design stage and monitors/measures waste production on site. The plan will apply to the location of the building.

The site waste management plan will also include procedures and commitments to sort and divert waste from landfill through the following:

- Re-use on site;
- Salvage/ reclaim for re-use off-site;
- Return to supplier via a 'take-back' scheme;
- Recovery and recycling using an approved waste management contractor; and,
- Compost.

Operational Waste

Dedicated internal and external waste storage facilities are proposed as required by Policy CC5. Appropriate internal facilities will be provided within the dwelling for the appropriate storage and segregation of the required waste streams as collected by Camden Council. As outlined within the ground floor plan, facilities will also be provided for the appropriate waste streams for storage prior to collection. All storage space will provide inclusive access and usability.

The London Borough of Camden offers a fortnightly collection service for general waste, as well as a weekly collection for domestic food waste and mixed recyclable. A weekly garden waste collection service is available from the council for a subscription fee.

For those wishing to dispose of bulky or other waste not covered by the fortnightly collection service, it is possible to book a bulky waste collection with Camden Council for a one-off fee, with two free collections a year for Camden residents. For items not covered by this service these can be disposed of at the Camden – Regis Road reuse and recycling centre. In addition, there are numerous electrical recycling banks located across north London, the closest to the development site located at the O₂ Centre, 255 Finchley Road.

Construction Management Sustainability Statement Chalcot House

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Construction Environmental Management

A Construction Management Plan has been produced for the development by Quoin Consultancy in June 2012.

Environmental impacts of the construction works will be mitigated as far as possible. This will include the incorporation of the following:

- Contractor following environmental management system processes (under ISO14001), including the development of a construction environmental management plan (CEMP) specific to the sites;
- Training and site induction of all site operatives;
- Monitoring of energy, water and transport to and from site during construction;
- Management of waste on site;
- Following best practice pollution guidance from the Environment Agency;
- Ensuring all site timber is responsibly sourced in line with the UK Government's Timber Procurement Policy;
- Minimising vehicle emissions through the use of catalytic converters and the regular maintenance of vehicle engines;
- Damping down of brick walls etc. during any building demolition;
- Regularly inspecting and wet suppressing materials/soil stockpiles where necessary (including wind shielding or completely enclosing, storing away from site boundaries, and restricted height of stockpiles);
- Appropriate orientating of material stockpiles;
- Providing wheel washing and wet suppressing during the loading of wagons vehicles;
- Covering vehicles carrying dry soil and other wastes;
- Shielding of dust-generating construction activities;
- Providing suitable site hoarding;
- Restricting vehicle speeds on haul roads and other unsurfaced areas of the site; and,
- Inspecting unsurfaced haulage routes, and wet suppressing should this be necessary (in times of prolonged dry periods).

Considerate Constructors

The scheme will adopt the principles of the Considerate Constructors Scheme (CCS). The CCS scheme aims to recognise and encourage construction sites that are managed in an environmentally and socially considerate, responsible and accountable manner.

Water Efficiency

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Water Conservation

The development proposal recognises the need to create a scheme that is efficient and adaptable to future climatic scenarios.

The design team is committed to achieve a significant reduction in internal water use for the development over typical performance, equating to a water consumption target of 110 litres per person per day (including 5 litres for external water use) under the optional national technical standard as specified within the Camden Local Plan.

Water consumption will be reduced through the use of water efficient components for all specified domestic water-consuming components (including low-flow showerheads and taps, dual flush toilets and low water consuming washing machines and dishwashers). A water meter will be provided for the dwelling, as well as water recycling systems where appropriate.

External Water Use

The design team has confirmed that rainwater collection systems will be considered for irrigation use where feasible. This is likely to take the form of water butts and will aim to encourage the recycling of rainwater and reduce the amount of mains potable water used for external water uses.

Transport and Connectivity

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Public Transport

The development has a PTAL rating of 5 which represents good connectivity as the network of public transport routes accessible from the site is extensive as demonstrated in Figure 7. There are three different bus stops located within 500m of the site serving 5 different bus routes. The closest bus stop, Lyndhurst Road Akenside Road (Stop K), can be reached in 1 minute by foot and is served by bus routes 31, 46, 603, N28 and N31.

Hampstead Underground Station is located within 650m (9-minute walk) and is served by Northern Line services to Edgware and Morden. Finchley Road Underground Station is also located within 800m (10-minute walk), providing access to the metropolitan and Jubilee line. In addition, Finchley Road & Frognal Overground Station is located within 650m (8-minute walk) which is served by regular services to Stratford, Clapham Junction and Richmond.

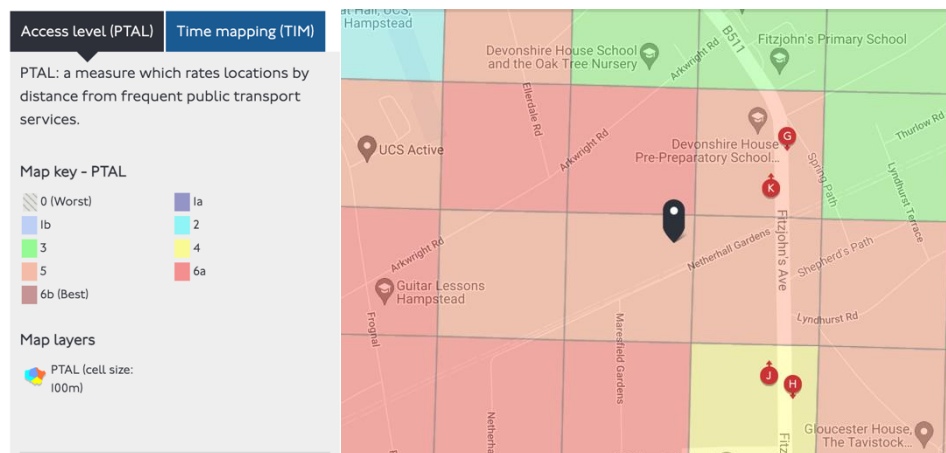


Figure 7: PTAL output map

Cycling and Car Provision

The development will further seek to promote low carbon travel alternatives and choices in accordance with Policy T1 through the provision of cycle parking. Cycle parking will be provided in accordance with the London Plan minimum cycle parking standards. 3 secure and covered cycle spaces are proposed as indicated on the ground floor plan.

Car parking facilities will be unchanged from the existing on-site facilities which includes 2 external parking spaces. Electric vehicle charging infrastructure will be provided to these spaces as part of the proposed works to facilitate the transition to lower carbon, electrical modes of personal transport.

Accessibility and Security

Creating a secure but fully accessible development is a key part of the proposed development, in line with Policy C5 and D1. To ensure this is achieved, the design team will adopt, where feasible, the key principles of "Secured by Design" within all elements of the scheme. An Architectural Liaison Officer (ALO) or a Crime Prevention Design Advisor (CPDA) will be consulted at an early stage to provide a set of bespoke security recommendations for the development. The recommendations of the CPDA will be implemented within the development's design and layout.

Materials

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Materials and Waste Introduction

Sustainable material sourcing and waste management will be considered throughout the life of the building to ensure the scheme's environmental footprint is minimised as far as possible. The scheme will also ensure low embodied carbon is employed throughout the procurement, transport and construction of building materials, together with end of life emissions.

Materials Selection and Sourcing

The design team has confirmed that efforts will be made to reuse materials where feasible and that where required, new materials will be responsibly sourced. New construction materials will be selected, where feasible, with a low environmental impact. In addition, the project will aim for new materials to come from a recycled or reused source, including a high-recycled content in steel. Minimum standards apply to new timber, which must be sourced in accordance with the UK Government's Timber Procurement Policy.

In addition, all timber will be FSC/ PEFC certified, all concrete will be BES 6001 certified and any other material will be ISO 14001 certified for both key processes and supply chain/ extraction processes where feasible to do so.

The Green Guide for Specification is a reference tool, providing guidance on the relative environmental impacts for a range of different building elemental specifications, based on Life Cycle Assessment and the Environmental Profile Methodology. The design team will reference the Green Guide to Specification to help specify materials with a low environmental impact, where feasible. The design will incorporate at least 5 build-up elements that will be A-C rated on the Green Guide.

Insulation specifications will eliminate hydrochlorofluorocarbons (HCFCs) and ozone depleting materials, wherever possible. All insulation specified will have a Global Warming Potential (GWP) of less than 5 and be responsibly sourced to have a low embodied impact.

Embodied Carbon Analysis

The development will utilise a number of opportunities to cut embodied carbon, as follows:

- A materials efficiency strategy will be followed throughout the design, procurement and construction stages of the development, to ensure the scheme produces less waste on site. For example, adjustment of some sizes will be made to minimise offcuts of materials, and some bespoke materials will be developed off-site;
- Materials will be procured from the local area where possible, to reduce carbon through transportation;
- Materials and products with a higher recycled content will be preferentially procured where feasible, as these have a low embodied carbon; and,
- Consideration has been made to use timber as a low embodied carbon alternative to steel and concrete where possible.

Health and Wellbeing Sustainability Statement Chalcot House

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Occupant Wellbeing

As required by Policy D1, the development has been designed to ensure the wellbeing of occupants in terms of levels of fresh air, thermal comfort and reduction of overheating, access to natural light, good lighting levels internally and externally, acoustic performance and access to safe drinking water.

The building services strategy has been carefully considered in order to balance the need for energy-smart, low carbon technologies with the need for adequate and controllable ventilation, heating and cooling.

Internal Air Quality

In line with Policy CC4, the design team will specify only low volatile organic compounds (VOC) finishing products, including sealants and paints. All composite wood products will contain no added urea formaldehyde.

Daylight

The design has been developed to allow the use of daylight within the dwelling to be maximised as far as practical, in accordance with Policy D1.

Inclusive Design

In line with Policy C6 and Policy D1, guidance in the Approved Document M (March 2016) will be incorporated to achieve an inclusive built environment that enables users to maximise their individual abilities and enjoy a safe and independent participation. The dwelling has been designed to demonstrate compliance to Part M4(1): Visitable dwellings and the principles of the Lifetime Homes scheme will be incorporated where feasible.

Land Use and Ecology Sustainability Statement Chalcot House

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As the proposed development involves brownfield redevelopment, a Site Investigation Report was produced by Soil Consultants in February 2021 to assess the ground conditions in relation to the proposed works. This has assessed any potential risks on site and has provided recommendations to ensure that any potentially contaminated soil encountered is disposed of in a safe and controlled manner and to mitigate any potential health risks to acceptable levels.

Protection of Biodiversity

The proposed development will promote the protection of the retained trees from damage during site demolition and the completion of the construction works. In line with Policy A3, the design team is committed to protecting biodiversity on site and will implement the following measures:

- Confirm that all relevant UK and EU legislation relating to protection and enhancement of ecology has been complied with during the design and construction process;
- Ensure that any affected trees and shrubs are cleared out of bird breeding season (March–August). Alternatively, a suitably qualified ecologist should check for the presence of active nests prior to the commencement of works;
- Implement working methods in line with best practice to manage dust and water runoff; and,
- During the construction phase a Biodiversity Champion will be appointed to monitor and limit environmentally detrimental activities. They will also train the workforce on the project to raise their awareness of environmental impacts during construction.

Arboricultural Impact

As per the Arboricultural Impact Report produced by Liam McGough in February 2021, an arboricultural survey has been carried out to assess the Arboricultural implications of development at Chalcot House. This has concluded that the only potential arboricultural implication with regards the proposed development concerns an existing Oak with a root protection area (RPA) of 7m², which may potentially impact the proposed swimming pool area. Whilst the RPA doesn't reach the new proposed pool area, the possibility that some roots extend into this area means care should be taken when excavation for the pool takes place. Subsequent recommendations have been provided to ensure any required tree works do not cause damage to the retained trees and to ensure the visual amenity, character and appearance of the site is protected and enhanced in line with policies A3 and D1.

Ecological Enhancements

The design team is also committed to enhance biodiversity on site in line with Policy D1.

The proposed development will aim to incur no negative change in ecological value and a suitably qualified ecologist will provide early design stage advice on:

- How to improve the ecological value of the site;
- Confirm that all relevant UK and EU legislation relating to protection and enhancement of ecology has been complied with during the design and construction process; and,
- Produce a landscape and habitat management plan to cover at least the first five years after project completion, if applicable.

As per Policy D1, green lawn areas will be maintained to the rear of the proposed development and additional areas of landscaping are proposed towards the front of the dwelling containing native species and species of benefit to invertebrates. In addition, bird and bat boxes are being considered by the design team as part of the development biodiversity strategy, to provide roosting and nesting opportunities for bats and birds in this roost and nest –limited urban environment.

Green Roof

As well as the above measures, the design team is considering the installation of areas of biodiverse green roof on suitable roof areas. An extensive planted green roof is proposed over the pool wing as outlined on the development drawings. This will provide the following ecological and sustainable benefits:

- Provision of habitat to promote species diversity;
- Reduction in urban heat island effect;
- Improvement in air quality;
- Minimisation of heat loss during winter months;
- Protection from solar gain during summer months; and,
- Provision of a sustainable urban drainage technique.

The aim of these measures is to ensure that the site is enhanced for wildlife and to promote an increase in site biodiversity and greening in line with national and local policy. This will also ensure that the development is in accordance with guidance for pollution prevention near watercourses.

Conclusions

Sustainability Statement

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Conclusions

This Sustainability Statement has responded to the London Borough of Camden's local planning policy requirements.

In summary the scheme will adopt the following sustainable features:

- The whole development will reduce total carbon emissions by 57.2% and 56.5% over Building Regulations using SAP 2012 and draft SAP 10 carbon dioxide emission factors, respectively.
- Reduce energy consumption by targeting improved U-values and airtightness. Low energy lighting will be specified.
- Implement a site waste management plan and stringent resource efficiency benchmarks.
- Follow best practice policies in terms of air, water and ground pollution and appoint a contractor who will register for the Considerate Constructors Scheme.
- Achieve a water consumption target of 110 litres/person/day (including 5 litres for external water use) through the implementation of low water-consuming fittings.
- Utilise sustainable transport, including access to public transport and inclusion of cycle storage facilities.
- Minimise embodied carbon through efficient design, procurement of materials from a local source, or with a high-recycled content.
- Be of high build quality, surpassing the minimum Building Regulations.
- Ensure all materials are responsibly sourced and of low environmental impact where feasible.
- Consider health and wellbeing through design and operational procedures, including daylight, optimum indoor air quality and thermal comfort.
- Protect and enhance the ecological value of the site through integrating measures such as flower rich perennial planting. The incorporation of bird and bat boxes are also being considered by the design team where feasible.