

294-295 HIGH HOLBORN

SUSTAINABILITY STATEMENT

CHH LONDON

MARCH 2017

REV 02

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EXECUTIVE SUMMARY

BACKGROUND

The applicant is proposing the redevelopment of the site at 294-295 High Holborn to involve the:

“Erection on the site of a building up to 9 storeys in height, comprising office (use class B1) and retail (use classes A1-A3) uses, 10 residential units (use class C3), plant and associated works”

Despite the spatial challenges posed by the infill site, the applicant and the project team are keen to demonstrate environmental and social responsibility by delivering a scheme with good ‘green’ credentials and sustainability performance. The sustainability aspirations for the Development are guided by the Developer Brief and relevant planning policy objectives.

Working to these drivers the standards and targets that have been adopted by the project are as follows:

- Achieve at least a 35% reduction in CO₂ emissions over Part L 2013 for both domestic and non-domestic elements of the scheme, in accordance with the energy hierarchy (refer to the energy statement submitted with this application);
- Deliver ‘zero carbon homes’ through a cash in lieu payment to Camden Council for the residual residential CO₂ emissions;
- Comply with Part L 2013 through ‘Be Lean’ measures alone (refer to the energy statement);
- Retail and office elements to achieve BREEAM ‘Excellent’ certification;
- Residential units to achieve a maximum internal water use rate of 105 litres/person/day;
- No increase in surface water runoff from that of the existing development site;
- Introduce planting where feasible to provide an element of urban greening;
- Create healthy internal living and working environments for occupants;
- Best practice construction site management procedures to be used across the site;
- All buildings to target an exemplary performance under the Considerate Constructors Scheme.

SUSTAINABILITY STRATEGY

In recognition of these drivers and the site constraints, sustainability principles have been used to guide the development of the Sustainability Strategy for the Development. These are mostly based on the Camden policy objectives, Chapter 5 of The London Plan and BREEAM.

The key sustainability measures adopted by the Development are summarised in the following table. Through these measures, it is anticipated that the standards and targets listed above will be achieved.

Key Sustainability Issue	Proposed Design Measures/Approaches
Site Layout and Building Design	<ul style="list-style-type: none">• Sense of place & wellbeing with improvements to the building frontage and streetscape• Provision of 32no secure cycle parking for use by residents and employees• Inclusive design principles including Lifetime Homes and Building Regulations• Good internal air quality and thermal comfort through controllable systems and devices• Safety & security measures• ‘Real life’ overheating modelling of apartments in accordance with CIBSE TM52 methodology and appropriate design measures to manage risk
Energy & CO ₂	<ul style="list-style-type: none">• Good fabric performance through high levels of insulation and air tightness• Solar control glazing and south-facing projecting balconies designed to create shade to the apartments below• Mechanical ventilation with high heat recovery• Energy efficient lighting systems and good control• Air source heat pumps• Roof-mounted PV
Water Management – Minimising use of mains supplied water	<ul style="list-style-type: none">• Water efficient sanitaryware throughout• Water efficient white goods• Water management and monitoring devices to the commercial units
Urban Greening & Ecology	<ul style="list-style-type: none">• Planted boxes to south-facing balconies• Bird and bat boxes located at a high level will be considered
Pollution	<ul style="list-style-type: none">• The omission of boilers will ensure zero NOx emissions• Acoustic treatment of roof-top plant to minimise noise pollution risk• Engineered mitigation measures to the facade to protect occupants from the risks associated with noise ingress from the street• External lighting designed in accordance with best practice for minimising night time light pollution• Best practice construction procedures for environmental management

1 INTRODUCTION

1.1 DEVELOPMENT OVERVIEW

294-295 High Holborn is a cleared, vacant site situated between two existing, in-use buildings (refer to figure 4.1 on page 8 for image). The applicant is proposing the redevelopment of the site at 294-295 High Holborn to involve the:

“Erection on the site of a building up to 9-storeys in height, comprising office (use class B1) and retail (use classes A1-A3) uses, 10 residential units (use class C3), plant and associated works”.



Figure 1.1 – Proposed west and south-east elevations

1.2 SUSTAINABILITY DRIVERS

Despite the spatial challenges posed by the infill site, the applicant and the project team are keen to demonstrate environmental and social responsibility by delivering a scheme with good ‘green’ credentials and sustainability performance.

The sustainability aspirations for the Development are guided by the Developer Brief and relevant Camden & GLA planning policy objectives, as summarised in Section 2. It is important to acknowledge that although both environmental and social issues contribute to the sustainability performance of a development, value in terms of upfront and ongoing costs is also a key consideration.

1.2.1 STANDARDS AND TARGETS

Working to these drivers the standards and targets that have been adopted by the sustainability strategy are as follows:

- Achieve at least a 35% reduction in CO₂ emissions over Part L 2013 for both domestic and non-domestic elements of the scheme, in accordance with the energy hierarchy (refer to the energy statement submitted with this application);
- Deliver ‘zero carbon homes’ through a cash in lieu payment to Camden Council for the residual residential CO₂ emissions;
- Comply with Part L 2013 through ‘Be Lean’ measures alone (refer to the energy statement);
- Retail and office elements to achieve BREEAM ‘Excellent’ certification;
- Residential units to achieve a maximum internal water use rate of 105 litres/person/day;
- No increase in surface water runoff from that of the existing development site;
- Introduce planting where feasible to provide an element of urban greening;
- Create healthy internal living and working environments for occupants;
- Best practice construction site management procedures to be used across the site;
- All buildings to target an exemplary performance under the Considerate Constructors Scheme.

1.3 SUSTAINABILITY STATEMENT

This document provides a summary of the design proposals that have been considered as part of the sustainability strategy to support delivery of a high quality, resource efficient development. It demonstrates compliance, where viable and appropriate, with relevant GLA and Camden policy on sustainable design and construction and has been structured to broadly align with The Mayor’s Sustainable Design & Construction SPG (April 2014).

The early chapters provide an overview of the policy context and an introduction to the indicative BREEAM pre-assessments carried out for the retail and office elements.

Chapter 4 addresses resource management and introduces the design and operational measures which aim to promote long-term energy, water and material efficiency across the site. It also discusses the waste strategy, including waste minimisation and recycling, and the potential for providing local community benefits and introducing soft landscaping.

Chapter 5 addresses the effect the Development could have locally. It discusses the measures that have been carefully considered to ensure associated pollution impacts, whether it be air, light or noise, are mitigated as far as practicable, guided by the various assessments and analysis conducted by specialist consultants. Information is provided on the expectations of the lead contractor to construct in an environmentally and socially responsible manner. This will be defined in a Code of Construction Practice which would set the parameters for the Construction Environmental Management Plan (CEMP).

2 POLICY CONTEXT

2.1 OVERVIEW

This section provides a summary of the key GLA and Camden planning policy requirements relating to sustainable design and construction that have been taken into consideration by the design proposals.

2.2 REGIONAL POLICY – THE GREATER LONDON AUTHORITY

Document	Policy	Requirements
The London Plan March 2016	Policy 5.2 – Minimising Carbon Dioxide Emissions	<div>➤ Application of the energy hierarchy:<div><div>1. Be lean: use less energy</div><div>2. Be clean: supply energy efficiently</div><div>3. Be green: use renewable energy</div></div></div> <div>➤ Reduce energy demand and CO2 emissions: 35% improvement on Part L 2013</div> <div>➤ For the residential element, the remaining regulated emissions (up to 100%) will be offset by a cash in lieu payment.</div>
	Policy 5.3 Sustainable Design and Construction	<div>➤ Meet all “priority” standards and aspire to achieve the “best practice” standards set out in the corresponding Supplementary Planning Guidance.</div>
	Policy 5.6 Decentralised Energy in Development Proposals	<div>➤ Evaluate the feasibility of Combined Heat and Power (CHP) systems, and where a new CHP system is appropriate also examine opportunities to extend the system beyond the site boundary to adjacent sites.</div>
	Policy 5.7 Renewable Energy	<div>➤ Major developments should provide a reduction in expected CO₂ emissions through the use of on-site renewable energy generation, where feasible to do so.</div>
	Policy 5.9 Overheating and Cooling	<div>➤ Reduce potential overheating and reliance on air conditioning systems in accordance with the cooling hierarchy</div>
	Policy 5.10 Urban Greening	<div>➤ Integrate green infrastructure from the beginning of the design process to contribute to urban greening, including the public realm. Elements that can contribute to this include tree-planting, green roofs and walls, and soft landscaping.</div>
	Policy 5.11 Green Roofs and Development Site Environs	<div>➤ Proposals should be designed to include roof, wall and site planting, especially green roofs and walls where feasible.</div>
	Policy 5.15 Water Use and Supplies	<div>➤ Minimise the use of mains water by incorporating water saving measures and equipment. Residential development to meet a target of 105 litres or less per head per day.</div>

2.3 LOCAL POLICY – CAMDEN

Document	Policy	Requirements
Core Strategy	CS13 - Tackling climate change through promoting higher environmental standards	<div>➤ Ensure patterns of land use that minimise the need to travel by car and help support local energy networks</div> <div>➤ Promoting the efficient use of land and buildings</div> <div>➤ Minimising carbon emissions from the redevelopment, construction and occupation of buildings by implementing, in order, all of the elements of the following energy hierarchy:<div><div>○ Ensuring developments use less energy;</div><div>○ Making use of energy from efficient sources such as local energy networks;</div><div>○ Generating renewable energy on-site.</div></div></div> <div>➤ Ensure buildings and spaces are designed to cope with, and minimise the effects of, climate change.</div>
Development Policies	DP22 – Promoting sustainable design and construction	<div>➤ Schemes must demonstrate how sustainable development principles have been incorporated into the design and proposed implementation</div> <div>➤ Schemes must incorporate green or brown roofs and green walls wherever suitable.</div> <div>➤ Non-domestic developments of 500sqm of floorspace or above to achieve “Excellent” in BREEAM assessments from 2016.</div>
	DP23 - Water	<div>➤ Incorporate water efficient features and equipment and capture, retain and re-use surface water and grey water on-site.</div>

3 ENVIRONMENTAL ASSESSMENT

3.1 BACKGROUND

There are several benefits to applying an environmental assessment approach to a new development. Firstly, it can help to chart design progress and determine the final sustainability performance of the buildings; secondly it will ensure the project’s key sustainability principles are put into practice; and thirdly, it will validate and benchmark the buildings against industry-recognised standards.

The Development intends to apply BRE’s Environmental Assessment Methodology (BREEAM), as requested by the Council.

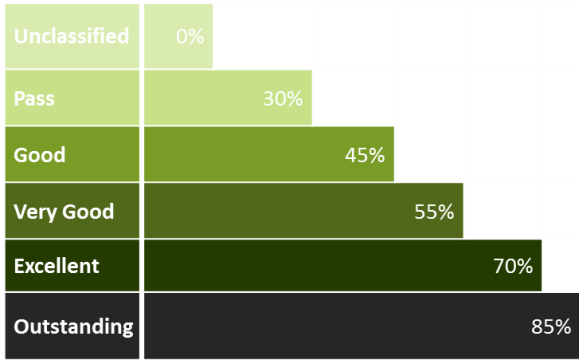
3.2 BREEAM NEW CONSTRUCTION 2014

BREEAM seeks to minimise the adverse effects of new buildings on the environment at global and local scales, whilst promoting healthy indoor conditions for the occupants.

The assessment methodology addresses a range of sustainability issues under nine key categories. ‘Innovation’ credits are also available.

The environmental implications of a new building are assessed at the design stage and compared with good practice by independent assessors. An overall rating of the building’s performance is given using the terms Pass, Good, Very Good, Excellent or Outstanding. This is determined from the total number of BREEAM credit criteria met and their respective environmental weighting.

The total of all these scores is the overall rating, which is awarded according to the scale below.



294-295 High Holborn will be seeking an Excellent rating for its non-domestic elements.

Under BREEAM 2014 there are a number of mandatory credits that must be achieved in order to be awarded an ‘Excellent’ rating. The most challenging of these apply to CO₂ emissions and water consumption:

Credit issue Ene 01 – an ‘Energy Performance Ratio for New Construction’ rate of 0.55

Credit issue Wat 01 – 12.5% improvement compared against a notional baseline performance

3.3 PRELIMINARY ASSESSMENTS

Initial preliminary assessments have been carried out for the retail and the office elements by a BREEAM Accredited Professional. A summary of the indicative performance is provided opposite. It is important to note that at this stage the pre-assessment score is not fixed as credits will likely be replaced by others during the detailed design process. However, the overall target of ‘Excellent’ will be maintained throughout.

The indicative baseline score is currently at 73.64% for the retail scheme and 74.38% for the office scheme; both of which equate to an Excellent rating. A number of ‘potential’ credits have also been identified which could support an increase in credits targeted or any variance in the design as it develops.

295 High Holborn

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BREEAM 2014 NEW CONSTRUCTION - RETAIL SHELL AND CORE

SUMMARY OF PERFORMANCE & RATING

Assessment Section	Credits Available	Section Weighting	Credit Value	Credits Targeted	Targeted Score	BREEAM Rating	% Score
Management	18	11%	0.61%	15	9.17%	Outstanding	85
Health & Wellbeing	11	11%	0.95%	6	5.73%	Excellent	70
Energy	18	15%	0.83%	10	8.33%	Very Good	55
Transport	9	10%	1.11%	9	10.00%	Good	45
Water	9	8%	0.83%	7	5.83%	Pass	30
Materials	13	15%	1.12%	9	10.04%	Unclassified	<30
Waste	8	10%	1.19%	6	7.13%		
Land Use & ecology	10	11%	1.10%	8	8.80%		
Pollution	13	11%	0.85%	9	7.62%		
Innovation	10	10%	1.00%	1	1.00%		
Expected BREEAM Score					73.64%		
Expected BREEAM Rating					Excellent		

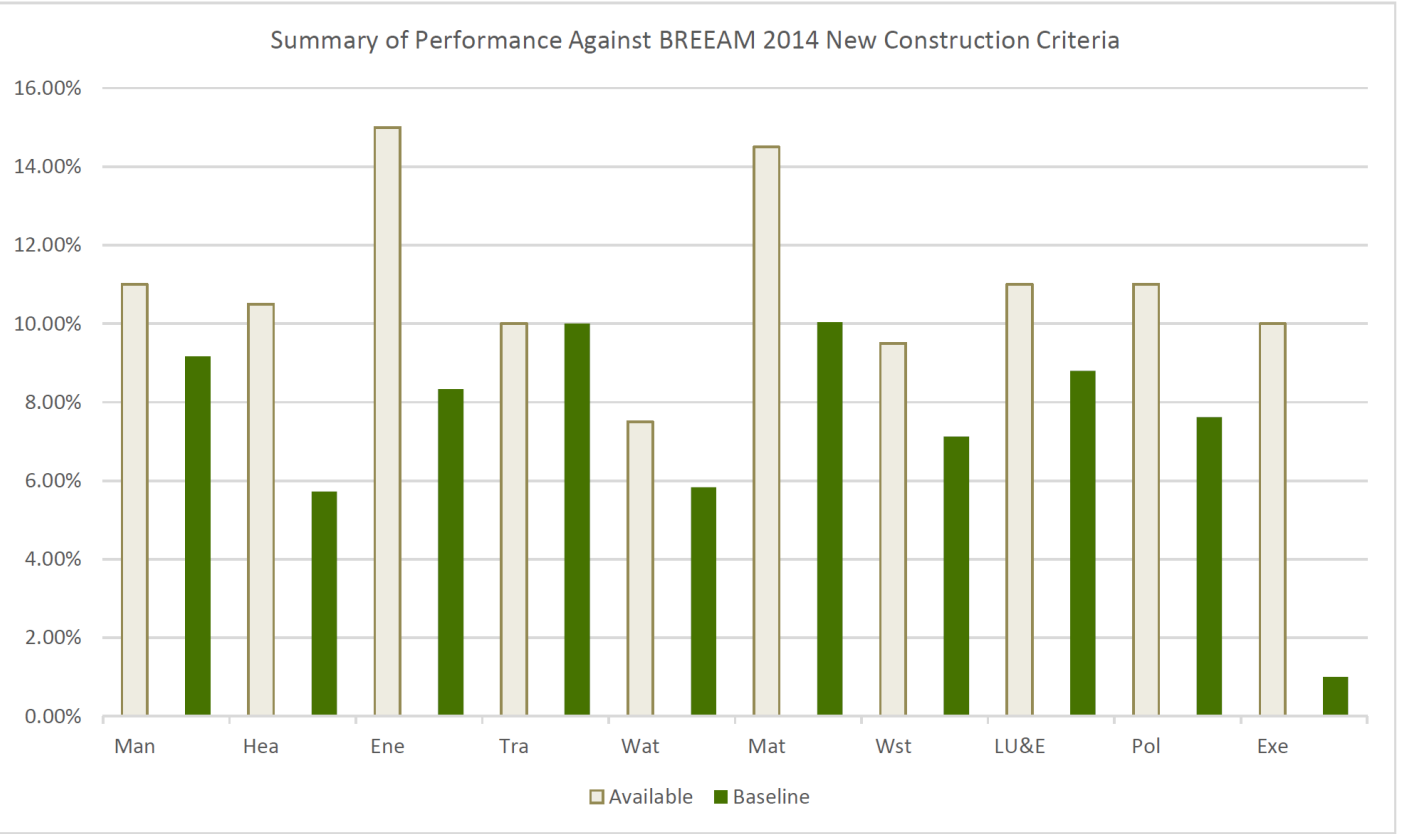


Figure 3.1 – Preliminary BREEAM performance for the retail element

295 High Holborn

20/03/2017

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BREEAM 2014 NEW CONSTRUCTION - OFFICES FULLY FITTED

SUMMARY OF PERFORMANCE & RATING

Assessment Section	Credits Available	Section Weighting	Credit Value	Credits Targeted	Targeted Score
Management	21	12%	0.57%	17	9.71%
Health & Wellbeing	17	15%	0.88%	10	8.82%
Energy	23	15%	0.65%	13	8.48%
Transport	9	9%	1.00%	9	9.00%
Water	9	7%	0.78%	7	5.44%
Materials	13	14%	1.04%	10	10.38%
Waste	9	9%	0.94%	7	6.61%
Land Use & ecology	10	10%	1.00%	8	8.00%
Pollution	13	10%	0.77%	9	6.92%
Innovation	10	10%	1.00%	1	1.00%
Expected BREEAM Score					74.38%
Expected BREEAM Rating					Excellent

BREEAM Rating	% Score
Outstanding	85
Excellent	70
Very Good	55
Good	45
Pass	30
Unclassified	<30

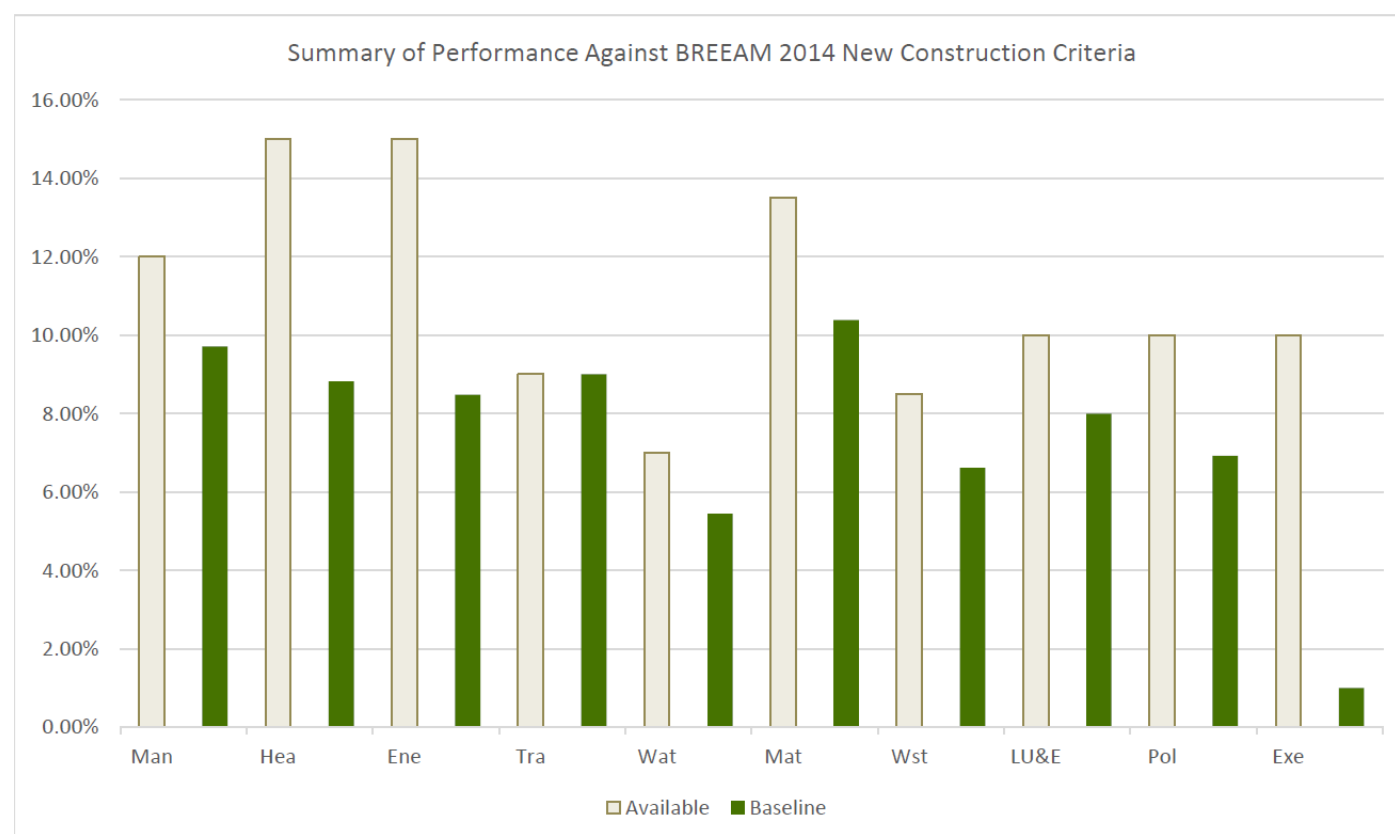


Figure 3.2 – Preliminary BREEAM performance for the office element

4 RESOURCE MANAGEMENT

4.1 SUSTAINABLE LAND USE

Ideally, a sustainable development utilises land that has been previously developed, thereby ensuring that 'green' spaces or areas of open public space are retained wherever possible. This is particularly important in urban centres where ideally 100% of a new development should utilise previously developed land.

The location and nature of the Development means that in a number of respects it is intrinsically environmentally sustainable. The existing site comprises previously developed land and High Holborn has numerous amenities and transport nodes providing links to destinations across London and beyond.

The application site is currently comprises cleared, undeveloped land. The Applicant proposes to develop the infill site to provide a new, sustainable mixed-use development maximising height as far as acceptable; subsequently limiting its carbon footprint.



Figure 4.1 - Aerial image of the existing pre-development site

4.2 SITE LAYOUT AND BUILDING DESIGN

Acknowledging that the full detail will be developed at the next stage of the project, the following constraints and opportunities have guided the design process for the building layout and influenced the building concepts:

Constraints

The site is affected by a number of constraints typical of an infill site in central London. These include:

- Noise from High Holborn;
- Limited frontage;
- Limited footprint;
- Narrow site with tall buildings either side.

Opportunities

The site also offers a number of opportunities as follows:

- Site is cleared and in need of development;
- Close to transport nodes with a high PTAL;
- Potential to create fresh new frontage to enhance the streetscape;
- Potential to optimise the site for mixed use;
- Favourable rear outlook to Lincolns Inn gardens.

Through careful architectural and engineering design, the intention is to redevelop and regenerate the site to provide new, resource efficient commercial and residential accommodation. Detailed information is set out within the Design & Access Statement.

4.3 LOCAL COMMUNITY BENEFITS

The current site is cleared and vacant which presents many opportunities to deliver a new development that complements the existing neighbouring buildings and bring benefits to local people, workers and the local economy. These include the potential to create a new frontage and to provide a mix of uses.

The Applicant actively encouraged feedback from the local authority and relevant stakeholders, including Friends of Lincoln's Inn Fields and English Heritage, as part of this planning application.

Taking account of the consultation and the pre-application feedback from Camden, a number of principles have been applied when developing the design proposals to ensure the Development delivers benefits to both new users and the surrounding area. A significant amount of work has already been carried out by project team to ensure these principles have been fully explored and considered in the application proposals. This work is demonstrated throughout this sustainability statement and the other documents forming the planning application submission.

4.4 ENERGY AND CO₂ EMISSIONS

4.4.1 APPROACH TO A LOW CARBON DEVELOPMENT

This section summarises the key approaches adopted by the energy strategy to reducing site-wide CO₂ emissions as far as practicable against each tier of the energy hierarchy. Details of the approach to reducing energy demand and carbon, together with the indicative energy assessment, are provided within the Energy Statement that accompanies the planning application.

The energy strategy has been developed in accordance with the principles of the London Plan energy hierarchy: "be lean; be clean; be green" which promotes a reduction in a development's energy demand at source.

The Development has an aspiration for an energy performance that meets the policy target of 35% CO₂ emissions reduction over Part L 2013 for both the domestic and the non-domestic elements of the scheme. In support, the applicant will exploit opportunities for reducing CO₂ emissions at source through passive and active energy efficiency measures. The feasibility of onsite renewable energy generation has also been explored to support a reduction in grid-supplied electricity.



Figure 4.2 - Steps of the energy hierarchy

4.4.2 ENERGY EFFICIENCY – ‘LEAN’

Reducing the demand for energy is the first fundamental step in minimising building-related CO₂ emissions. The Development’s energy strategy takes a proactive approach to this by designing buildings that prioritise the inclusion of passive and low energy design solutions wherever possible, whilst ensuring the design standards for each building element are achieved.

The following demand reduction measures have been applied to the Development within the constraints posed by the infill nature of the site:

Passive Measures

- Building fabric and air tightness performance that exceed the Part L minimum standards for the notional building.
- High performance glazing, including solar control.

Active Measures

- Mechanical ventilation with high efficiency heat recovery to each apartment.
- Commercial areas to be specified with mechanical ventilation with high efficiency thermal wheel heat recovery and low energy fans.
- LED lighting and controls.
- Smart meters to residential units.

4.4.3 SUPPLY EFFICIENTLY – ‘CLEAN’

An assessment has been carried out to establish the feasibility of connecting the Development to a current or proposed district heating network in the area. With reference to the London Heat Map, it has been determined that there are no existing heat networks within a moderate radius from the Development.

The feasibility of an on-site heating network with central boiler & CHP plant has been reviewed. It has been concluded that a central system would not be appropriate for the Development given the following considerations:

- For CHP systems to operate efficiently, running hours must be maximised which is dependent on a year-round base load. Given the nature as well as the smaller scale of the Development the base load is expected to be too low to warrant the use of a CHP system.
- A centralised boiler system would not be appropriate where CHP is not proposed as it is likely to be more energy intensive given the additional heat losses associated with the distribution network along with additional pumping power required to deliver the heating mains water to the network.
- A centralised boiler system would require thermal storage and therefore making the system space inefficient for a development of this size.

For these reasons, it has been concluded that heating provision will not be met via CHP or an on-site heating network. The ‘Be Clean’ development CO₂ emissions therefore remain the same as for the ‘Be Lean’ development.

4.4.4 RENEWABLE ENERGY – ‘GREEN’

The last stage of the energy hierarchy is the application of renewable energy technologies. An options appraisal has been carried out to understand which technologies would be viable for the Development. Certain technology options have been automatically discounted as not viable due to the lack of available resource. These are anaerobic digestion, mid and large scale wind, and hydro. The benefits and constraints for the remaining renewable technologies are summarised within the Energy Statement.

Energy efficient air source heat pumps are proposed to deliver both heating and cooling to the offices. The dwellings will be served from dedicated air to water heat pumps providing both heating and domestic hot water, with a separate heat pump providing cooling.

An array of 20No 0.32kWp PV panels are proposed to be located on the roof of the plant room and flat 10. These panels will be split equally between the domestic and non-domestic elements. There is a roof area of approximately 115m² with a proposed roof coverage of circa 28.5m² for PV (figure 4.3). Here the panels will experience little overshadowing and can be orientated to face South.

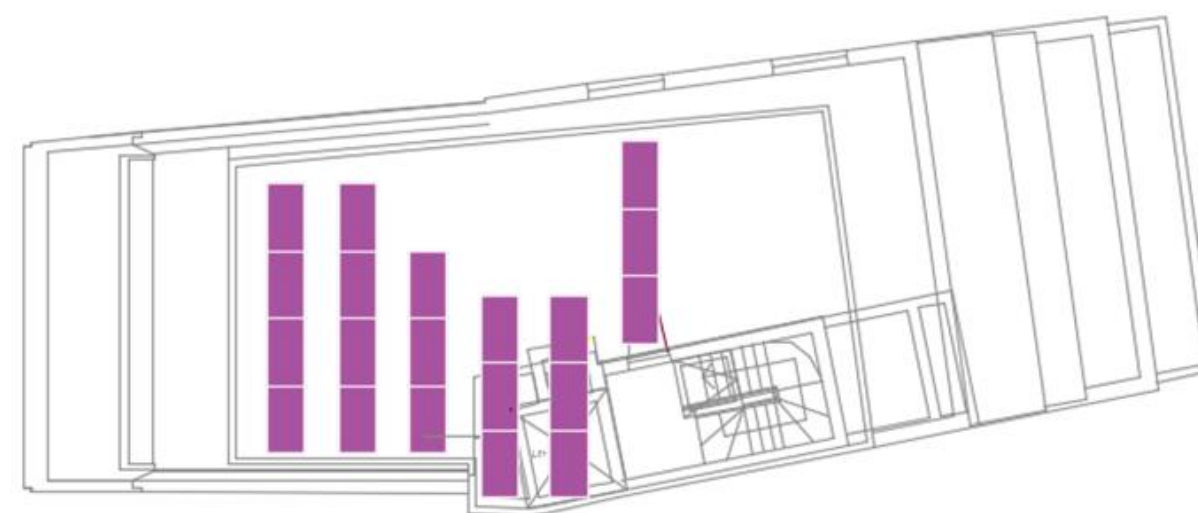


Figure 4.3 – Estimated roof area available for PV installation

Given the early design stage at which this assessment is completed the final specification of the air source heat pumps and PV are subject to change at the detailed design stages.

4.4.5 OVERALL CARBON SAVINGS

The CO₂ emissions for the Development has been evaluated against Building Regulations Part L 2013 using Standard Assessment Procedure (SAP) software for residential dwellings and Simplified Building Energy Model (SBEM) software for the non-domestic element.

Figures 4.4 and 4.5 demonstrate the emissions reduction after each stage of the energy hierarchy for both elements following the energy reduction measures as summarised above. Both the domestic and the non-domestic element exceed the 35% policy target. The residual regulated emissions to zero carbon would be offset via a financial contribution to Camden. Refer to the Energy Statement for full details.

Table 4.1 on the following page shows that an overall, Whole Development CO₂ saving of **38.3%** could be achieved.

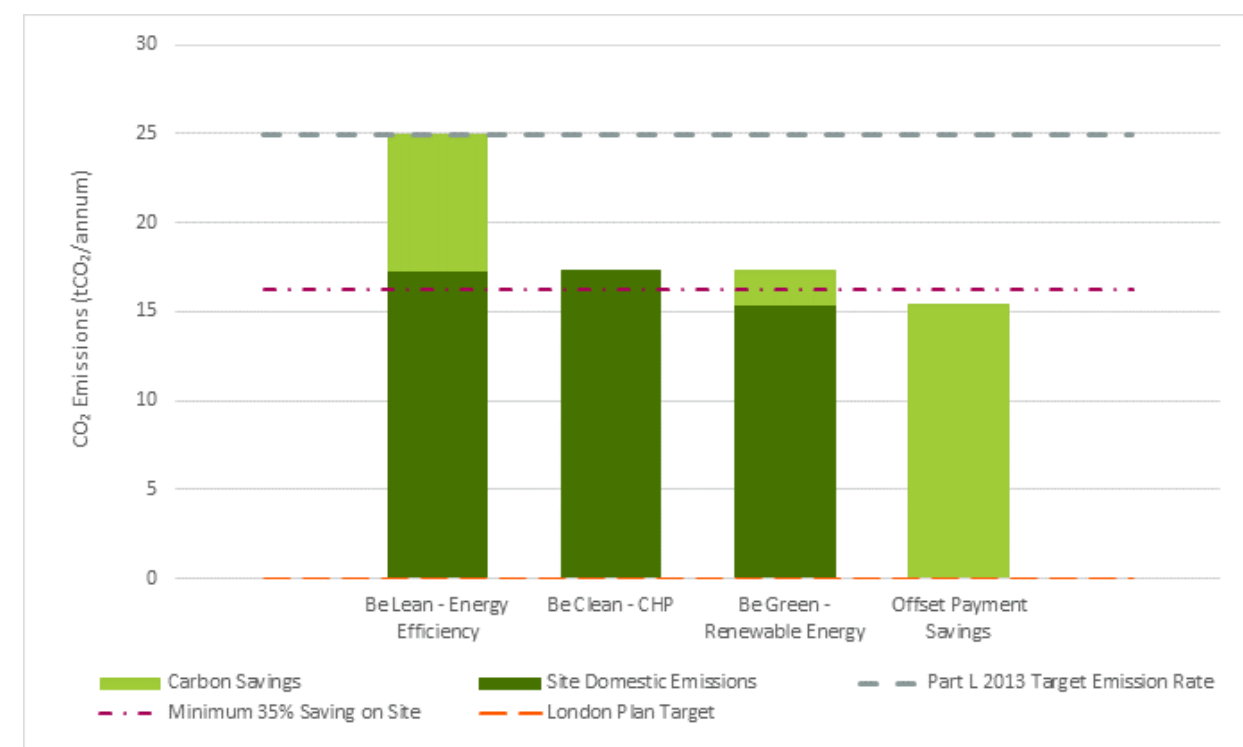


Figure 4.4 – Domestic CO₂ Emissions Savings Against the Energy Hierarchy

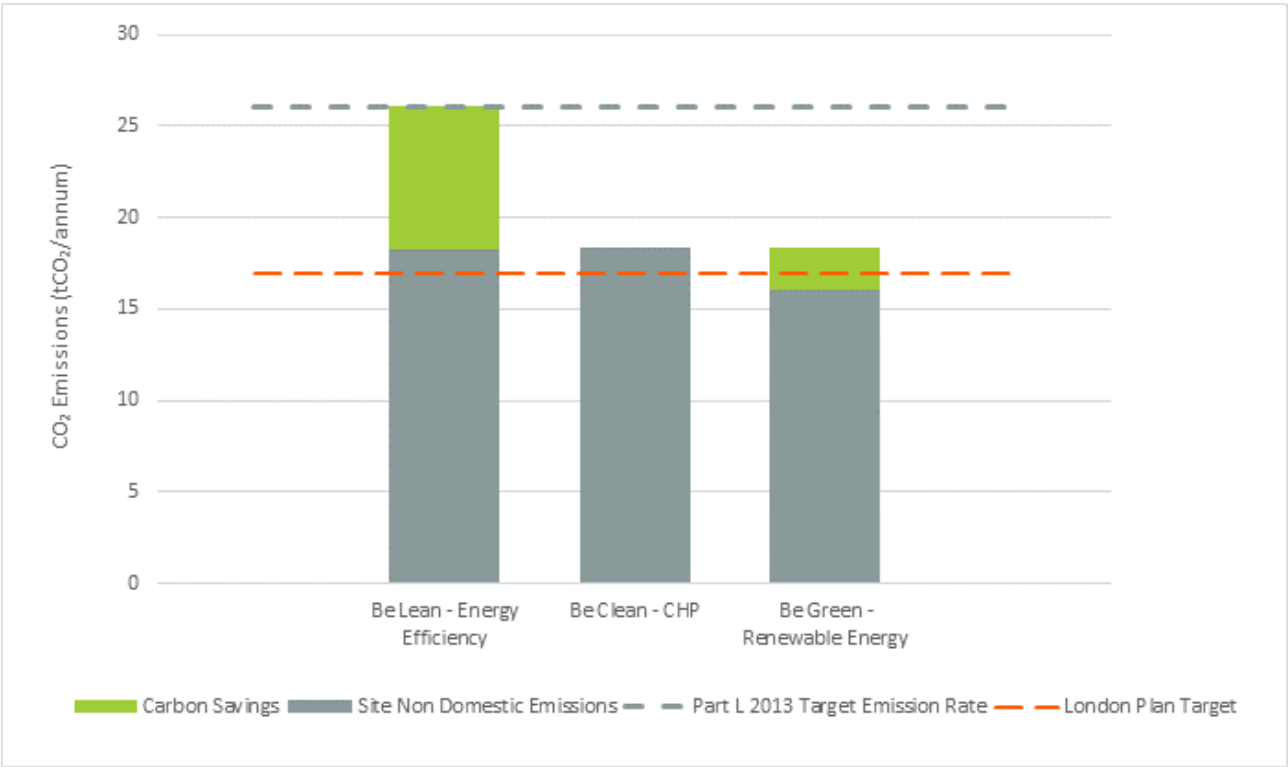


Figure 4.5 – Non-Domestic CO₂ Emissions Savings Against the Energy Hierarchy

Table 4.1 - Whole Development Regulated CO₂ Emissions and Savings

	Total regulated emissions (tCO ₂ /annum)	CO ₂ savings (tCO ₂ /annum)	Percentage Savings
Part L 2013 Compliant Baseline	51.013		
After Energy Demand Reduction	35.649	15.363	30.1%
After CHP	35.649	0.000	0.0%
After Renewable Energy	31.494	4.155	8.1%
Cumulative Onsite Savings		19.518	38.3%
		CO ₂ savings off-set (tCO ₂)	
Offset		462.608	
Offset Payment		£27,756	

4.5 WATER EFFICIENCY

Water efficiency is a key issue, particularly in light of the risk to London’s water supply associated with projected climate change. As such, the project team is seeking to achieve a reduction in water use over typical domestic and non-domestic performance.

Various water economy measures can be implemented in order to reduce the demand for mains water. Water efficient sanitaryware is the most cost effective means of achieving water reduction targets and would be considered as a priority at the detailed design stage to help achieve compliance with the 105l/p/d domestic consumption target and the BREEAM Excellent Wat 01 Minimum Standard, where sanitaryware is part of the Cat A fit-out by the applicant.

Where sanitaryware falls outside the responsibility of the applicant it is not possible to state what the adopted strategy will be for reducing water demand at this stage. However, in accordance with BREEAM we’d expect the fit-out contractor to install water efficient sanitaryware and devices as standard.

Any soft landscaping will specify planting that can rely on precipitation and manual watering when required. An automated irrigation system is not proposed thereby ensuring mains water will be used responsibly.

4.6 MATERIALS

4.6.1 REUSE OF MATERIALS

As the site is currently cleared and undeveloped, there is no scope to reuse building materials.

During construction, contractors will be required to prioritise the use of hoarding/enclosure fencing made from recycled materials (such as recycled plastic hoarding) or reused from other sites (if timber, these will comprise 100% legally sourced products such as FSC accreditation).

4.6.2 ENVIRONMENTAL IMPACT OF NEW MATERIALS

The materials specification will be important in terms of balancing the requirements of the design brief with the requirement for buildings with a low environmental impact.

The proposed materials palette will have regard for selecting components that rate highly under The Green Guide to Specification. The Green Guide is a reference website and electronic tool providing guidance for designers and their clients on the relative environmental impacts for a range of different building elemental specifications. The ratings within the Guide are based on Life Cycle Assessment, using the BRE’s Environmental Profile Methodology.

4.6.3 RESPONSIBLE SOURCING

This issue will mainly be managed by the Contractor as part of their procurement strategy. However, in order to demonstrate the Applicant’s commitment to responsible sourcing of materials, requirements relating to this issue will be defined with the BREEAM Pre-Assessment and the Contractor will be required to produce a sustainable procurement plan.

There will be a requirement to source timber in accordance with the UK Government’s Timber Procurement Policy. Additionally, if appropriate local supplies are available, the Development will aspire to use timber which is reclaimed, including during construction. Both measures will ensure the sustainable use of wood within the Development.

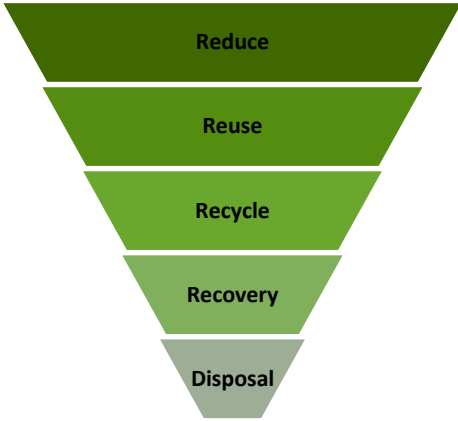
Where possible, the contractor will be encouraged to prioritise the use of suppliers with a current accredited environmental management system (EMS) in place over those suppliers that don’t.

4.7 WASTE

4.7.1 WASTE MANAGEMENT STRATEGY – OVERALL CONCEPT

In line with best practice procedures and the waste hierarchy (shown right), the aim of the site-wide waste management strategy would be to:

1. first, minimise the amount of waste produced; then
2. re-use as much as possible of that which is generated; then
3. recycle so that materials can be used to make new products; then
4. recover value from that waste which cannot be re-used, for example, through composting and energy from waste; and lastly
5. dispose of residual waste through landfilling or incineration without energy recovery.



4.7.2 WASTE MANAGEMENT STRATEGY – CONSTRUCTION

CONSTRUCTION

The Applicant is committed to ensuring that the Development achieves best practice performance for waste management by setting resource efficiency targets, to be included as part of a Resource Management Plan. The targets, which are defined within the BREEAM pre-assessment but would be applied across the site, relate to minimising waste generation and to diverting waste from landfill through reuse and recycling. It will be the responsibility of the contractor to put in place procedures to sort and reuse/recycle construction waste to seek achievement of these targets wherever possible.

4.7.3 WASTE MANAGEMENT STRATEGY – OPERATION

The strategy for waste management promotes waste minimisation, re-use and recycling through good design and accessible storage facilities for both residents and commercial users.

Refuse storage for the proposed residential units would be accommodated within a basement refuse store and the refuse store has been designed with reference to Camden Planning Guidance 1 – Design and based on the assumption of weekly refuse collection.

Residents would be responsible for transferring their waste from their flat to the basement refuse store. On the day of collection, building management would be responsible for transferring refuse bins from the basement refuse store to street level for collection. Bins would be transferred between basement and ground floor level using the lift, which would also be utilised for cycle access to the basement.

Refuse associated with the retail unit and the commercial offices would be managed and stored within each of those units. Refuse associated with retail/restaurant unit and the commercial offices would be collected on a weekly basis and the operator/tenant of each of the spaces would be responsible for transferring their own waste to street level on an arranged/managed basis.

4.8 FLOOD RISK

4.8.1 FLOODING

A review of the Environment Agency Flood Risk Map indicates that the application site is in an area of low probability of flooding from fluvial sources.

The new development will not result in an increase in hard standing; as such, the rate of runoff will not exceed that of the existing conditions.

4.9 URBAN GREENING & ECOLOGY

A preliminary ecological appraisal and extended Phase I habitat survey of the application site has been carried out as part of the previous, consented planning application. The aim of this survey was to establish the current ecological value of the site, including its potential to support protected species and habitats.

Although it was recognised that nesting birds may use the site in the future, the results suggested the site and its vicinity overall has low potential for protected species to be present on the development site. Additionally, it is considered that the site currently has some very limited potential to support nesting birds, therefore the site is considered to have low ecological value.

From the survey results various ecological mitigation and enhancement measures have been recommended. These measures would aim to maintain legal compliance pertaining to wildlife legislation associated with nesting birds and to enhance the biodiversity value of the site. The recommendations have been focused on (i) avoiding constraints relating to nesting birds, (ii) the potential for installing nest boxes for birds to breed in the future, (iii) creating areas such as planted balconies and (iv) providing species lists of native plants that can be grown to provide benefit to wildlife. Measures are currently being considered by the architect with regards to their appropriateness for this constrained site; particularly given the need for roof space to support a large PV array and building services plant (refer to section 4.4.4).

By adopting feasible recommendations, it is anticipated that the ecological value of the site could be enhanced from its existing status. The inclusion of planters to the south-facing balconies will also result in a greener development to that of previous building.

4.10 TRANSPORT

4.10.1 EXISTING CONDITIONS

A Transport Statement has been prepared by Motion to advise on highways and transport matters associated with the Development.

The site is in a highly accessible location benefitting from a PTAL rating of 6b indicating ‘excellent’ levels of accessibility to public transport services. These services provide routes across central London and to the surrounding areas, thereby providing site occupiers and users with little incentive to use a private car.

The site benefits from being located within easy walking distance of shops, local facilities and amenities, including the public grounds of Lincoln’s Inn Field. As such, the Development is considered to accord with the relevant Local, Regional and Central Government Policy Guidelines in terms of being in a suitable location and accessible by modes other than the private car.

Signed cycle routes connecting towards Kings Cross and Camden Town are situated approximately 50m to the west of the site. These connect to further signed routes on Hunter Street which route towards the West End, The City, Waterloo and Finsbury.

Advanced stop lines are provided for cyclists at key junctions along High Holborn including that of High Holborn / Kingsway to the west of the site and High Holborn / Grays Inn Road to the east of the site. There are several public cycle parking opportunities available along each side of High Holborn.

The North-South Cycle Superhighway will be situated approximately 700 metres to the east of the site. The Cycle Superhighway would operate between Elephant & Castle to the south and Kings Cross to the north and would connect to several other superhighways including the East-West Superhighway joined at Blackfriars Bridge and Cycle Superhighway 7 at Elephant & Castle.

Car clubs can help to reduce car ownership by offering the convenience of a car without the costs of repairs, servicing, insurance and parking. The nearest car club vehicle is located approximately 250 metres south of the site on Newman’s Row where two spaces are provided by ZipCar. Further car club spaces are located on Bedford Row and Red Lion Square comprising one space each and operated by City Car Club and ZipCar respectively.

4.10.2 SUSTAINABLE TRANSPORT PROPOSALS

As discussed, the site has excellent access to nearby public transport nodes which includes bus stops and Holborn underground station; both providing frequent and 24-hour means of travel. Additionally, there are nearby car club spaces plus excellent opportunities for cyclists with several dedicated cycle routes within close proximity of the site and a superhighway planned for the future. As such, the scheme will not need to make provision for private car parking and subsequently will be car-free.

Access to the building for pedestrians will be straight from the street (i.e. High Holborn) and this will include residents, employees and visitors/customers. Access has been designed with regard for inclusive design principles and in accordance with security guidance.

Cycle parking will be provided in accordance with LB Camden and London Plan minimum cycle standards. The Development proposals include the provision of 32no cycle parking spaces: 18no for residential use; 6 spaces for office use; and 6no for retail use. This provision is significantly in excess of the minimum cycle parking standards set out in Camden Development Policies and in accordance with the minimum cycle parking standards set out in the London Plan and is therefore considered appropriate to meet the needs of the development.

The proposed cycle parking will be located within the basement of the building and will be accessible via lift. With regard to access to cycle parking reference has been made to Camden Planning Guidance 7 – Transport.

5 POLLUTION MANAGEMENT AND LOCAL IMPACTS

5.1 APPROACH TO MANAGING LOCAL IMPACTS

It is the intention of the applicant to minimise as far as practicable the impact of the Development on the local environment and on future occupants. This will be achieved through the implementation of measures to control pollution and to avoid a negative impact on local environmental indicators, as far as practicable.

The potential impacts and mitigation measures proposed by the redevelopment of the site are summarised in this section. Mitigation in regards to demolition and construction activities will form part of the Construction Environmental Management Plan (CEMP). The plan will include measures to comply with relevant legislation and guidance (including the Environment Agency's PPGs) and best practice measures in line with the Considerate Constructors Scheme.

5.2 AIR POLLUTION

The omission of boilers in favour of air source heat pumps will ensure there will be no NOx emissions directly associated with the Development i.e. at source.

Through the use of good practice construction principles with regard to dust control and deliveries for instance, it is anticipated that the impact on local air quality during construction will be negligible.

5.3 NOISE AND VIBRATION

To assess the impact of noise associated with the Development, noise and vibration surveys have been undertaken. The measurement data has then been used to determine the level of noise intrusion into the building and noise emitted from the proposed building services plant. In addition, the noise impact assessment establishes noise limits in line with guidance provided by the London Borough of Camden.

The primary noise source at the site was road traffic travelling along High Holborn which comprised of buses, cars, emergency vehicles, light and heavy goods vehicles, and the occasional motorbike. High Holborn is a major artery through Central London and as such, the volume of traffic is consistently high, only reducing slightly during the early hours of the morning.

There is a westbound bus stop located directly in front of the site receiving buses every few minutes throughout the day and approximately every 10-20 minutes throughout the night. The low frequency noise generated by these large vehicles is expected to be a source of noise which will need to be carefully considered within the façade design.

With regard to vibration, the survey results show that even the worst-case measurement location, with no corrections to account for the weight of the building, would still meet the VDV criteria from Camden Council.

A number of mitigation measures have been recommended and incorporated into the design. This includes façade design, glazing performance, the use of MVHR and acoustic attenuation to external building services plant located on the roof.

Based on the attenuation measures incorporated within the design, the council's noise limits at each of the neighbouring noise-sensitive properties are expected to be readily achieved. It is believed that the noise impact assessment represents a worst-case scenario and the building services plant will typically operate below its maximum duty. As such, the levels experienced at the neighbouring properties are expected to be even lower than those calculated.

For full details of the survey results and assessment, refer to the Noise and Vibration Impact Assessment that accompanies the application.

Through the use of good practice principles set out within the construction environmental management plan and Considerate Constructors Scheme with regard to noise and vibration, it is anticipated that construction noise impact will be managed sufficiently.

5.4 LIGHT POLLUTION

The external lighting strategy will be designed to limit night time pollution by minimising upward lighting as far as possible and reducing its luminance at night, if not turned off completely. The strategy will be further developed as part of the detailed design of the site and will follow best practice /BREEAM guidelines where applicable.

5.5 CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

It is essential to the Applicant that the environmental impacts of the construction works are mitigated as far as practicable. The project team will work with the lead contractor to assist in the development and implementation of measures to support this commitment. This will include a requirement to have an accredited environmental management system (EMS) in operation, and to develop a construction environmental management plan (CEMP) that exceeds standard practice to include procedures for monitoring and recording resource use.

As an example, this could include the following:

- Monitor, report and set targets for energy use arising from site activities;
- Monitor, report and set targets for water consumption arising from site activities;
- Monitor and record data on transport resulting from delivery of construction materials to site and construction waste from site;
- Adopt best practice standards and local authority guidance in respect of air (dust) pollution arising from site activities;
- Adopt best practice standards in respect of water (ground and surface) pollution occurring on the site.

5.6 CONSIDERATE CONSTRUCTORS

The Considerate Constructors Scheme (CCS) is a UK certification scheme operated by the Construction Confederation that encourages the considerate management of construction sites.

The applicant has committed to requiring the lead contractor to sign up to the CCS and to target an exemplary performance of at least 40 points out of the 50 available.

6 CONCLUSION

A concept sustainability strategy has been developed for the proposed development in accordance with the sustainability objectives of the Greater London Authority and Camden.

Key opportunities for implementing sustainability measures and solutions appropriate to the Development have been identified. This has ensured that the design proposals are aligned with policies relevant to sustainable design and construction and will meet, or where viable exceed, policy requirements.

Subsequently, the Development demonstrates the following sustainability performance indicators:

- A low carbon energy strategy in accordance with the energy hierarchy of ‘be lean, be clean, be green’ that will likely achieve as a minimum a site-wide 35% reduction in CO₂ emissions over Building Regulations Part L 2013 (refer to the Energy Statement submitted with this application);
- BREEAM ‘Excellent’ retail and office accommodation;
- Residential units that will achieve a maximum internal water use rate of 105 litres/person/day and commercial units that achieve the minimum standard for BREEAM Excellent, both through efficient fittings;
- Inclusion of measures to provide ecological enhancement and an increase in urban greening;
- Buildings that will create healthy internal living environments for occupants and users;
- The use of best practice construction site management procedures across the site;
- Buildings that will target an exemplary performance under the Considerate Constructors Scheme.

These indicators are proposed at a concept design stage with the intention of being further developed as the scheme detail is designed. Through the implementation of the measures and approaches set out in this and other documents it is anticipated that the Development will achieve the sustainability aspirations of the planning authorities.



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