

Site Address

Hayes End Road,

Hayes, UB4 8EH

Sustainability Statement

Prepared By

Stroma Built Environment

For

Bugler Homes Ltd

Date

September 2020

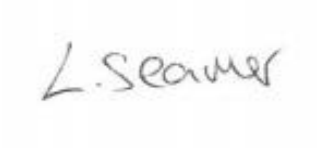
About Stroma Built Environment

Stroma Built Environment is a leading provider of Environmental Monitoring, Performance Testing and Energy Consultancy services to the Construction Industry. With a national presence, Stroma Built Environment supports our clients throughout the project lifecycle by deploying specialist services across the RIBA Plan of Work stages. Our highly experienced team can work as part of your wider project team to help manage environmental sustainability and compliance on a variety of project types. As a consultancy, we do not sell products, and so we are able to take an objective view of a development to assist developers in incorporating the most cost effective and practical solutions.

The team from Stroma Built Environment includes a vast range of specialist, professional skills to help our clients manage regulatory compliance, environmental sustainability targets and building performance requirements. We employ a diversely talented team which includes Acousticians, Air Tightness Engineers, Energy Assessors, Air Quality Consultants, Health & Safety Consultants, Building Envelope Estimators, Thermographers and many more.

A sister consultancy is a Corporate Approved Inspector, approved to provide Building Control services in both the residential and commercial sectors, and where necessary, able to draw on this additional expertise to ensure that all advice given in respect of energy conservation and sustainability will also meet all other constraints imposed by the Building Regulations.

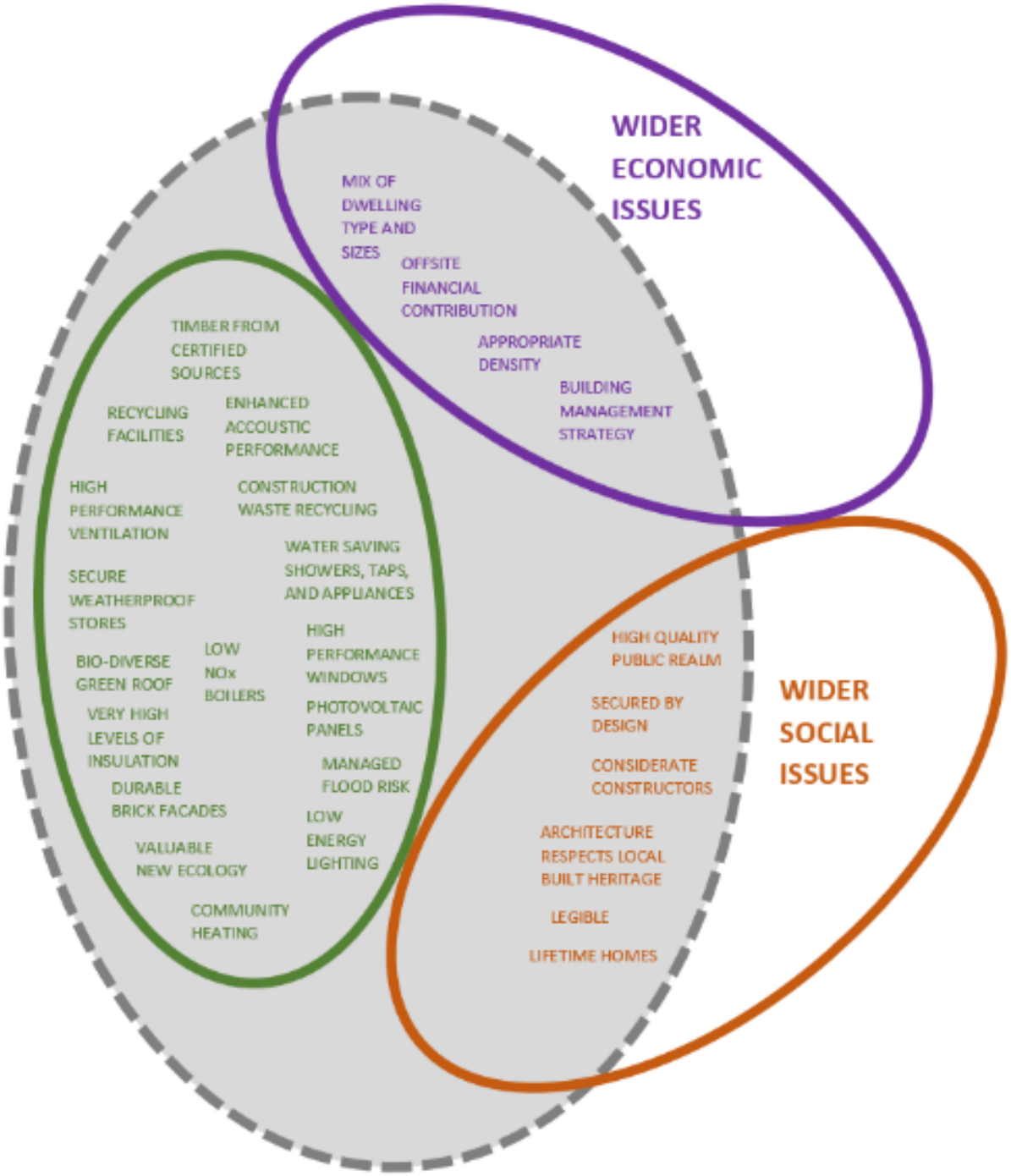
Report Prepared By:



Date: 24.09.20 Liam Seamer BSc

Document History:

Issue	Date	Comment	Author
D.01	27.04.2020	Initial Draft for Comment	L.S.
I.01	11.05.2020	First Issue	L.S.
I.02	18.05.2020	Second Issue	L.S.
I.03	24.09.2020	Third Issue	L.S.



A diagrammatic representation showing the extent and limits to which the design, specification and implementation of a development can contribute to wider sustainability objectives.

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1. Introduction

Background

This Sustainability Statement has been prepared for the Applicant, Bugler Homes Ltd, by Stroma Built Environment, a construction consultancy specialising in sustainability, energy conservation and the application of renewable energy technologies. It has been prepared to accompany a detailed planning application for the proposed redevelopment of the site at Hayes End Road, Hayes, UB4 8EH.

This document outlines the measures that have been taken to contribute to the sustainability of the proposals, including matters relating to the use and layout of the site, the design of the buildings, and the construction and occupation of the development. It draws extensively on the more detailed technical reports commissioned from specialist consultants and submitted in support of the application. Additional information contained in this report has been assembled from extensive discussions with the Applicant and Design Team.

Development Proposals

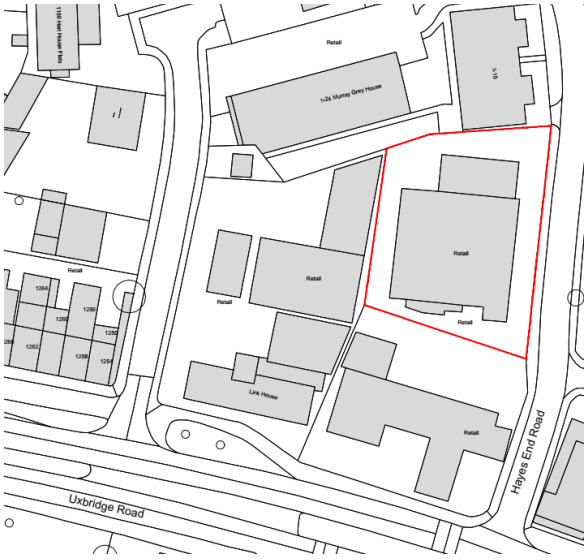


FIGURE 1: SITE LOCATION

The site forms roughly a 0.19-hectare area, located on the western side of Hayes End Road. The site is located towards the Uxbridge Road end of Hayes End Road the road.

The surface of the site is covered in concrete hardstanding. To the south of the site is 3-storey building housing commercial units. To the east and north of the site are 3-storey apartment buildings 'Thurbin House' and 'Charolais House'.

The proposed works entail the Demolition of existing buildings and redevelopment of the site to provide a building of 5 storeys with flexible commercial floorspace (Class E) at ground floor and residential accommodation (Use Class C3) at upper floors, with associated residential amenity space, landscaping, car and cycle parking, refuse storage and access.

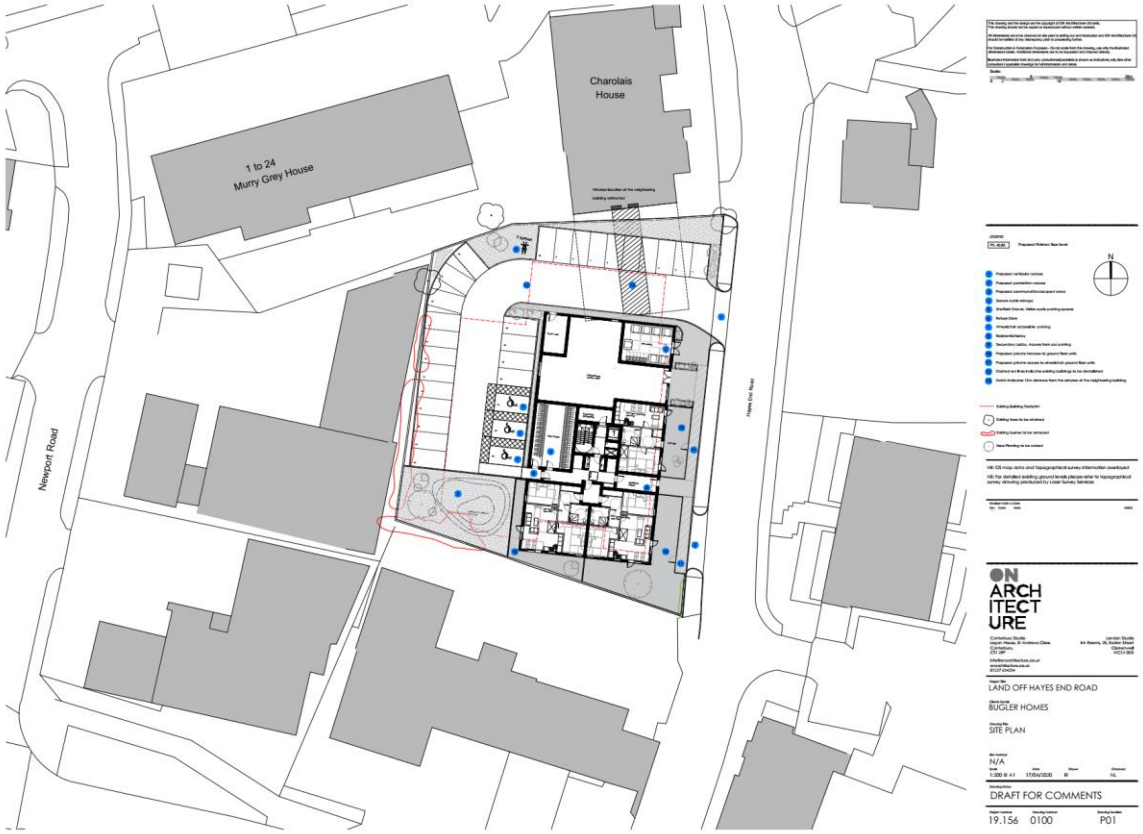


FIGURE 2: PROPOSED SITE PLAN

This statement includes the following sections:

- A summary of the local, regional and national planning policies relating to sustainability and applicable to the development

- An examination of how the design of the proposed development responds to these policies

It makes reference to a separately submitted CO_2 emissions assessment, in line with the guidance set out by the planning authority and shall detail the energy efficiency measures and low carbon technologies proposed within the design.

This document makes frequent reference to other technical reports that are being submitted separately in support of the application and contains several relevant excerpts from these texts. Reference should be made to these documents for further detailed information.

2. Planning policy context

2.1 Introduction

The development proposals have been considered in the context of national, regional, and local planning policy. The National Planning Policy Framework (NPPF), published February 2019, sets out the current national policy on land use planning. At the heart of the NPPF is a presumption in favour of sustainable development, which is characterised in three objectives:

Economic Sustainability

To help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;

Social Sustainability

To support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being;

Environmental Sustainability

To contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

This presumption must guide decision-taking; and means that development proposals that accord with the applicable development plan must be approved without delay. Where a development plan is absent, silent, or relevant policies are out of date, approval should also be granted unless any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in the NPPF taken as a whole, or where specific policies in the NPPF indicate that development should be restricted. It follows therefore that where an adopted development plan or emerging policies are in place, both at a regional and local level, the NPPF requires that

the application is determined in the light of these policies. The key policy and planning guidance documents that are relevant to the proposals in this application are detailed below.

2.2 Regional planning policy (Greater London Authority policies)

The current overarching spatial planning document for London is the London Plan: Spatial Development Strategy for London (consolidated with alterations) (GLA) (March 2016).



This contains a substantial number of individual policy sections that relate to sustainable design and construction, the overarching policy, setting out the principles of sustainable design & construction, is policy 5.3: Sustainable Design and Construction.

Policy 5.3: Sustainable Design and Construction

“Planning decisions:

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

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

a. minimising carbon dioxide emissions across the site, including the building and services (such as heating and cooling systems)

b. avoiding internal overheating and contributing to the urban heat island effect

c. efficient use of natural resources (including water), including making the most of natural systems both within and around buildings

d. minimising pollution (including noise, air and urban runoff)

e. minimising the generation of waste and maximising reuse or recycling

f. avoiding impacts from natural hazards (including flooding)

g. ensuring developments are comfortable and secure for users, including avoiding the creation of adverse local climatic conditions

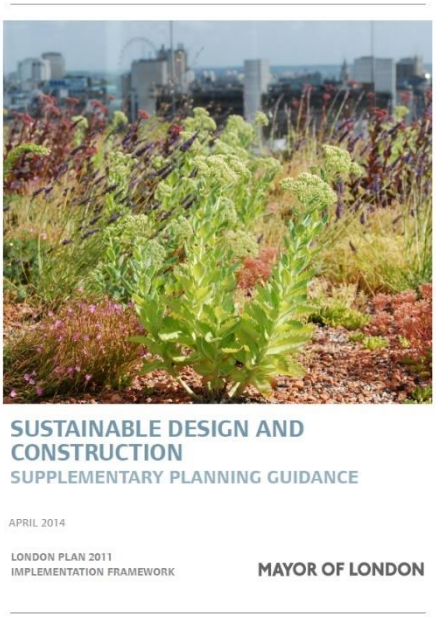
h. securing sustainable procurement of materials, using local supplies where feasible

i. promoting and protecting biodiversity and green infrastructure."

In addition to Policy 5.3, the following policies expand on other requirements applicable to the development proposals:

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

The requirements are all brought together, with additional guidance, in the GLA London Plan Supplementary Planning Guidance document: Sustainable Design and Construction SPG (GLA) (April 2014).



The content is arranged under three general categories:

- Resource Management;
- Climate Change Adaptation
- Pollution Management.

Therefore, this Sustainability Statement has been arranged to reflect this structure and uses the same three categories. However, where there are distinctive local policy requirements, that go beyond the requirements of the London Plan, these are noted.

2.3 Local planning policy (London Borough of Hillingdon policies)

The local development plan for Hillingdon stipulates that projects adhere to the requirements of the London Plan; in addition, the following documents are applicable to the development:

- Local Plan Part 1 – Strategic Policies, November 2012
- Local Plan Part 2 – Development Management Policies, January 2020
- Joint West London Waste Plan, July 2015

These current policies are all aligned to the London Plan 2016, and broadly follow the form and content of the GLA Sustainable Design and Construction SPG (GLA) (April 2014) although where this latter document contains more demanding requirements, particularly with regard to energy efficiency and air quality, these have been given precedence ahead of the local policies.

2.4 Changes to National Planning Policy

An amendment to National Planning Policy was issued in the form of a Written Ministerial Statement (WMS) on 25th March 2015. The WMS announced the withdrawal of the Code for Sustainable Homes (CfSH) and a general prohibition on local planning authorities requiring CfSH compliance with immediate effect. This change has rendered all CfSH related policies of the Hillingdon Local Plan obsolete.

The WMS also announced the introduction of new National Technical Standards (NTS) including new standards on energy and emissions, water conservation, access and internal space, and a new Part Q of the Building Regulations on Security. It further stated that these standards can be applied by local planning authorities that have in place an existing policy requirement for CSH Level 4 compliance. The new standards for energy and water are described as being equivalent to compliance with the mandatory requirements of CSH Level 4, section Ene1 which requires (for dwellings subject to Part L1A: 2013) a 19% reduction in emissions, and section Wat1 which requires that internal water use does not exceed 105 L/p/d. The London Plan 2016 duly confirms that there is a continuing requirement for compliance with the previous CSH Level 4 target for residential water conservation, as now re-stated in the NTS, and the development proposals as set out in this and the other supporting documents fully satisfy this standard. The new NTS on energy and emissions, whilst being applicable in principle, is significantly less onerous than the requirements of the London Plan 2016, so compliance with the latter requirements means that compliance with the NTS is assured.

3. Design Response

3.1 Introduction

This Sustainability Statement addresses issues that relate to local and regional planning policy and each section identifies relevant policies and an explanation of how the proposed development responds to these policies. The information presented is based on documentation prepared by and discussions held with the Design Team

3.2 Resource management

3.2.1 Introduction

London is a growing city with a limited supply of land for economic, residential, recreational and natural land uses. This section outlines how the proposals make the most of the opportunities provided by the site, based on its specific circumstances, and how they have been designed to improve the local and wider environment and minimise their demand on wider resources including land, energy, water and materials.

3.2.2 Land

MAYOR'S PRIORITIES

Optimising the use of land (London Plan policy references: 3.4, 4.3, 7.6)

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

Design response

The development site comprises of disused office and industrial space, of A1, B1-B8 use. The existing buildings on site consists of a two-story office block with shop fronts, and double height warehouse/industrial building.



Street View of existing site

Image taken from gogle maps

The Planning Statement and the Design and Access Statement address these issues in greater detail, and specifically London Plan polices 7.1; 7.4 and 7.6.

The proposals contain the following key provisions of land uses:

- 29 residential units
- 445.6m² of private amenity space
- 145m^2 of flexible use commercial space
- 29 Car parking spaces (3 wheelchair spaces)
- 52 (+2 visitor) Secure cycle parking spaces



The underlying objectives of the proposal are to increase the intensity of use on the site to create a development that is high quality, that will contribute positively to the character of the neighbourhood; to use the latest technologies and construction practices to create a development that has a low environmental impact; and to provide much-needed dwellings for local people.

3.2.3 Site layout and building design

MAYOR'S PRIORITIES

Site layout and design (2.18, 5.2 – 5.13, 5.16, 5.18, 5.21, 6.1, 6.7 – 6.13, 7.1, 7.6, 7.14 – 7.22)

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

Existing features

- *the possible retention and reuse of existing buildings and structures; and*
- *the retention of existing green infrastructure, including trees and potential for its improvement and extension;*
- *access routes to public transport and other facilities that minimise the use of private transport;*

New design of development

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

Design response

The development history of the site holds little historical value, is not in a conservation area, and consists solely of industrial buildings and hardstanding. The existing commercial buildings are in a poor state of repair, have no architectural merit, and cannot be incorporated into the design, so will be removed.

The land consists solely of hardstanding, and the site contains no current green infrastructure. Therefore, it can be confirmed that no trees or ecological value shall be impacted by the proposed development.

A transport statement has been produced, which has confirmed the site lies in a PTAL 2 area, with Uxbridge Underground, Hayes & Harlington and West Drayton railway stations approximately 3miles from site. The nearest bus-stop is under a 4-minute walk, however, and therefore, despite the low PTAL, public transport accessibility is considered to be good. For this reason, and in line with the LBH policy requirements, car parking shall be provided at a ratio of 1 space per flat, including 3 spaces for disabled use.

In addition, 54 cycle spaces shall be provided (including 2 visitor spaces), in order to provide secure storage and encourage residents to travel by non-car means when possible.

During the development of the scheme the Architects have consulted with the LBH, and advice and feedback received has been considered in the final form of the proposals.

Other highlights of the design include:

- Careful façade design to achieve a balance between daylight, heat loss and overheating

- Designing 90% of the dwellings to be accessible and adaptable to part M4(2)

- Designing 10% of dwellings for wheelchair users, to Part M4(3)

- Specifying enhanced fabric thermal performance to reduce energy demand and significantly exceed current standards

- Constructing a high-mass thermal envelope to aid adaptability to climate change and maintain stable internal conditions.

- Implementing a sustainable drainage system to mitigate flood risk; and

- Installing a photovoltaic array on the flat roof, to take advantage of the excellent solar access of the site and design.

The Mayor's priorities within this section are all covered in much greater detail in the specialist reports that accompany the application. In particular, please refer to the Design and Access Statement, the Energy Statement and the Flood Risk and Drainage Strategy Report.

3.2.4 Energy and carbon dioxide emissions

MAYOR'S PRIORITIES

Energy and carbon dioxide emissions (5.2, 5.3)

- *The overall carbon dioxide emissions from a development should be minimised through the implementation of the energy hierarchy set out in London Plan policy 5.2.*
- *Developments should be designed to meet the following Regulated carbon dioxide standards, in line with London Plan policy 5.2.*

Residential buildings	
Year	*Improvements beyond 2010 Building regulations*
2013 - 2016	*40 percent*
2016 - 2031	*Zero carbon*
Non-domestic buildings	
2010-2013	*25 percent*
2013-2016	*40 percent*
2016-2019	*As per building regulation requirements*
2019-2031	*Zero Carbon*

Energy demand assessment (5.2)

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

Use less energy (5.2, 5.3, 5.9)

The design of developments should prioritise passive measures.

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

Efficient energy supply (5.5, 5.6)

Developers should assess the potential for their development to:

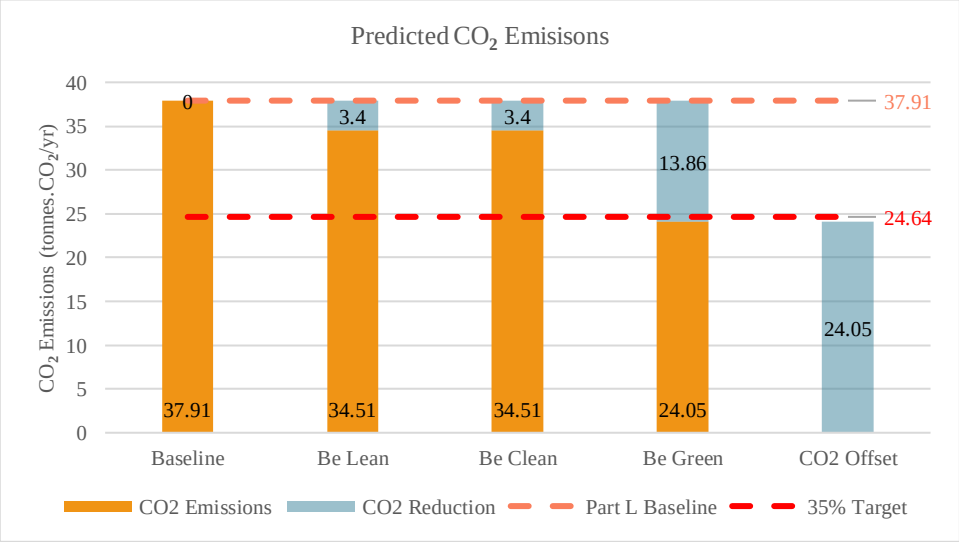
- *connect to an existing district heating or cooling network;*
- *expand an existing district heating or cooling network, and connect to it; or*
- *establish a site wide network and enable the connection of existing buildings in the vicinity of the development.*

Design response

One of the fundamental objectives of any development that embraces sustainable design principles is to reduce operational carbon dioxide emissions. This is of course to reduce the rate at which the level of atmospheric carbon dioxide is increasing as well as to conserve finite fossil fuel reserves.

An Energy Statement has been prepared for the development and this is being submitted as in addition to this document. The statement adheres to the principles set out in the London Plan 2016 and follows the updated London Plan Energy Assessment Guidance (October 2018) and has been prepared in accordance with the GLA Guidance on preparing energy assessment (March 2016). This statement reports a site-wide CO_2 saving of 36.56%, over the notional baseline target set by the building regulations Part L1A 2013.

Scenario - Residential Scheme	Regulated CO_2 savings (Tonnes CO_2/annum)	CO_2 reduction (%)
Savings from demand reduction	3.40	8.97
Savings from DEN / CHP	N/A	N/A
Savings from renewable energy	10.46	30.31
Cumulative on-site savings	13.86	36.56
Remaining emissions to offset	24.05	63.44



The starting point in developing the energy strategy for the proposed buildings was to determine, and then design-in specifications that would minimise the intrinsic energy demand of the development. The National Calculation Method (NCM) for dwellings, SAP2012, was used for the apartments and SBEM for the commercial area. The full site has been modelled and calculated as accurately as feasibly possible in order to make the scheme as accurate and representative as possible.

The specifications proposed will ensure that the buildings exceed the requirements of Part L1A/L2A: 2013 of the Building Regulations prior to the application of low and zero carbon technologies. Further details are provided in the Energy Statement, but key efficiency measures proposed for the development are as follows:

- Significantly reduced U-values (compared to the compliance reference values) for external walls, roof, floors and windows for all buildings;

- Careful detailing of non-repeating thermal bridges to reduce the linear thermal transmittance figures as far as possible and minimise surface condensation risk;

- Careful detailing to create a robust airtight building envelope for each dwelling and within the commercial space with an air leakage rate of <4m3/hour/m2, verified by an appropriate scheme of testing;

- Optimised window sizes and recessed windows designed to benefit from desirable winter solar gains, but avoid problems with summer overheating;

- Low energy lighting throughout the development;

- Automatic controls using PIR or daylight sensors for all common area and external lighting, including ancillary areas such as bin and cycle stores;

- Low water showers and taps to reduce as far as possible the consumption of domestic hot water.

As a further energy saving measure – albeit one that does not affect the regulated energy use as defined by the Building Regulations – all relevant white goods, namely fridges, freezers, washing machines, washer-dryers and dishwashers will have “best in class” EU energy ratings (typically “A” or A+”).

In addition to adopting the extensive range of efficiency measures listed above, the Design Team reviewed the options for heating systems in the context of the constraints of the scheme itself, including the architecture of the buildings, the location of the site, the latest planning guidance and substantial practical experience of low and zero carbon heating systems. The possibility of connecting to an existing district heating system was considered but a review of existing schemes revealed that there are none within a reasonable distance of the site. Furthermore, the London Heat Map confirms the heat density within the region to be relatively low. Therefore, connection to an existing network is not an option at the moment nor does the energy profile support development of a new network.

The options for the on-site systems were evaluated as set out in the Energy Statement and the final proposals are as follows:

- High efficiency gas-fired condensing boilers to each individual apartment
- High efficiency air source heat pumps to the commercial space

Due to the relatively small scale of the development, and above limitations, a site-wide network was not deemed appropriate. Individual boilers within the residential units and air source heat pumps within the commercial area will improve operational efficiency by eliminating distribution losses, also mitigating overheating issues in communal corridors from DHW pipework in summer. The boilers will be specified as Ultra low NOx, in order to ensure that air quality is not unreasonably affected by the proposals. Installation of the heat pumps will be the source of cooling within the commercial area, preventing installation of two systems.

This approach is wholly consistent with The London Plan 2016 Policy 5.6 Decentralised Energy Networks, and the equivalent LBH policies, and is explained further within the attached Energy Statement.

3.2.5 Renewable energy

MAYOR'S PRIORITIES

Renewable energy (5.4, 5.7)

Major developments should incorporate renewable energy technologies to minimise overall carbon dioxide emissions, where feasible.

Carbon dioxide off-setting (5.2, 5.4)

Where developments do not achieve the Mayor's carbon dioxide reduction targets set out in London Plan policy 5.2, the developer should make a contribution to the local borough's carbon dioxide off-setting fund.

Monitoring energy use (5.2, 5.3)

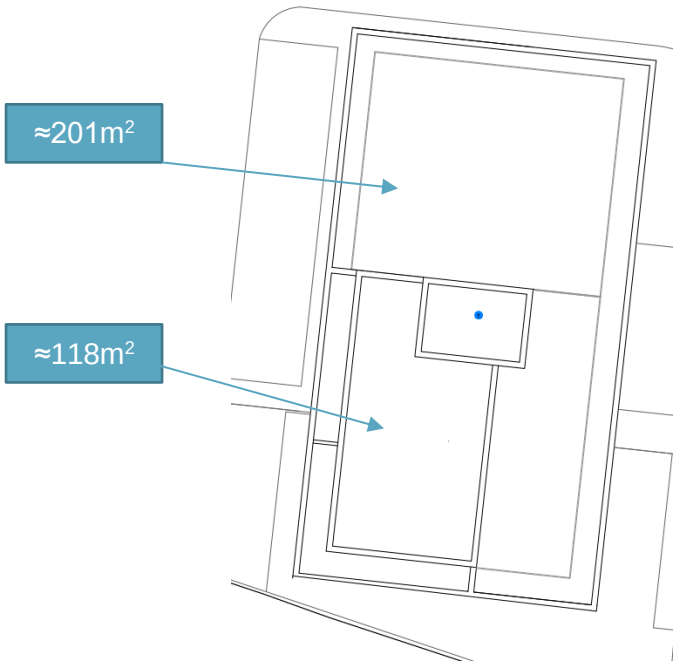
Developers are encouraged to incorporate monitoring equipment, and systems where appropriate to enable occupiers to monitor and reduce their energy use.

Design response

There is often limited scope for renewable energy production within urban and suburban development, due to limitations with both physical space and aesthetics. As part of the concept design of the scheme, multiple renewable technologies were investigated for feasibility. This investigation concluded that the site would benefit from a photovoltaic installation, due to the excellent solar access at roof level.

The current proposals include for a nominal 26.5 kWp of photovoltaic panels, equating to approx. 190m² dependent on type, make and model installed on the buildings flat roof. Note that this shall need to be investigated fully during detailed design by the appointed PV specialist. This system will be calculated to achieve the 35% reduction in carbon emissions from the site, in accordance with the London Plan Policy 5.2, and LBH local policy. This equates to a carbon reduction of circa 10.5 tonnes/CO_2 per year.

The below image details the available space for a PV array, to be investigated fully at detailed design. More information can be found within the accompanying Energy Statement.



The proposals have demonstrated that a 35% carbon reduction can be achieved on-site, compliant with the London Plan guidance and significantly more that the NTS requirement of a 19% reduction. In order to comply with the London Plan zero carbon

requirement, a, financial contribution is proposed to the LBH carbon offset fund, to finance energy efficiency measures elsewhere in the borough. This is to be made against the emissions remaining on the residential element of the scheme.

The preliminary calculations within the energy statement indicate this offset fee at £37,332.

Carbon Emissions (tonnes/CO_2 year)	Offset Payment (£1,800/tonne)
20.74	**£37,332**

However, this will be subject to change during detailed design, and should be re-calculated from the 'As Built' site emissions.

Further 'in-use' carbon reductions shall be made possible by the specifications of smart meters where appropriate, to allow occupants to monitor their energy use and let information and education allow for effective energy management.

3.2.6 Water efficiency

MAYOR'S PRIORITIES

Water efficiency (5.3, 5.4, 5.13, 5.15)

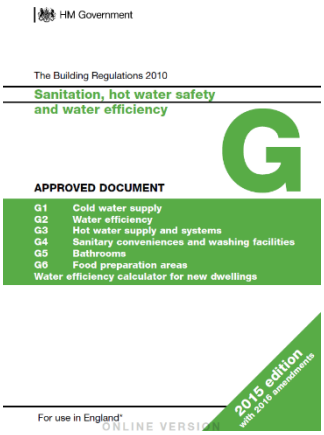
Developers should maximise the opportunities for water saving measures and appliances in all developments, including the reuse and using alternative sources of water.

Developers should design residential schemes to meet a water consumption rate of 105 litres or less per person per day.

All developments should be designed to incorporate rainwater harvesting.

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

Design response



A range of water conservation measures will be implemented to reduce the calculated water consumption to below 105 litres per day for each resident as calculated using the methodology defined in Part G: 2010 of the Building Regulations.

The sanitaryware and fitting specifications shall be investigated fully during detailed design. However, the following are typically used by the Applicant:

- 4.5/3 Litres dual flush WCs
- Bath capacity 155 Litres to overflow
- Showers regulated to 9 Litres/minute
- Basin taps regulated to 4 Litres/minute

- Kitchen sink taps regulated to 6 Litres/minute

In addition, low water appliances are typically specified with consumption figures not exceeding 8.17 Litres/kg of wash load for washing machines and 1.3 Litres/place setting for dishwashers. Each dwelling will have an individual water meter and landlord's area be similarly metered.

3.2.7 Materials and waste

MAYOR'S PRIORITIES

Design phase (5.3, 5.20, 7.6, 7.14)

The design of development should prioritise materials that:

- *have a low embodied energy, including those that can be re-used intact or recycled;*
- *at least three of the key elements of the building envelope (external walls, windows roof, upper floor slabs, internal walls, floor finishes / coverings) are to achieve a rating of A+ to D in the BRE's The Green Guide to specification;*
- *can be sustainably sourced;*
- *at least 50% of timber should be sourced from accredited Forest Stewardship Council (FSC) or Programme for the Endorsement of Forestry Certification (PEFC) sources;*
- *are durable to cater for their level of use and exposure; and*
- *will not release toxins into the internal and external environment, including those that deplete stratospheric ozone*

Construction phase (5.3, 5.20)

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

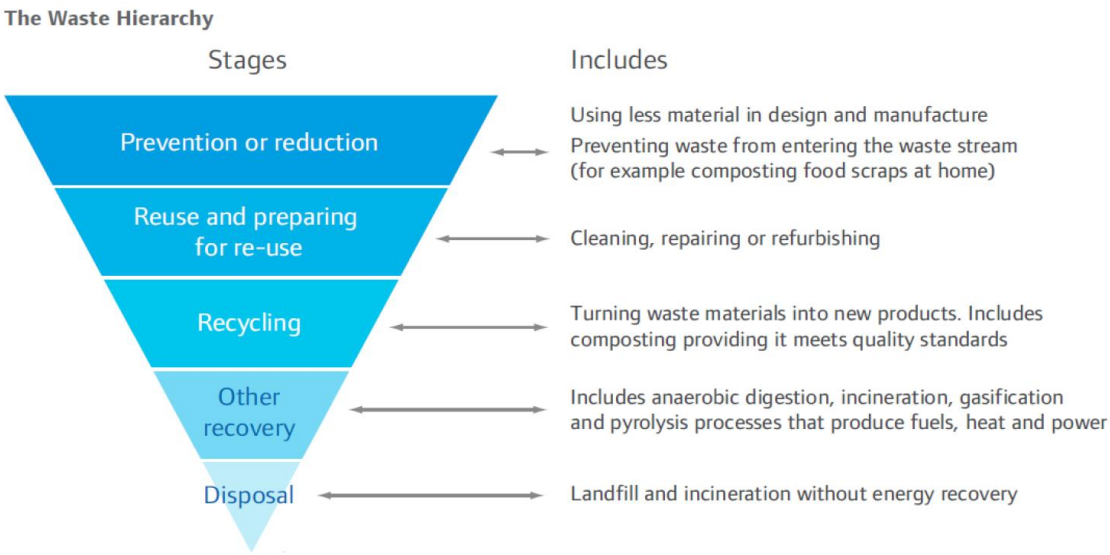
Occupation phase (5.3, 5.17)

Developers should provide sufficient internal space for the storage of recyclable and compostable materials and waste in their schemes.

The design of development should meet borough requirements for the size and location of recycling, composting and refuse storage and its removal.

Design response

The monitoring, reduction, and recycling of construction waste shall be addressed in line with the LBH waste hierarchy.



Source: Government Review of Waste Policy in England, June 2011.

Typical materials groups that are recycled include inert materials, plasterboard, ceramics, metals, concrete and timber. The policy follows guidance issued by BRE such as the SMARTWASTE™ system and the WRAP knowledge base, now hosted by CIRIA.

As far as possible, inert material will be re-used on site for landscaping purposes. It is expected, and evidenced from previous projects, that a significant proportion of construction waste shall be recycled.

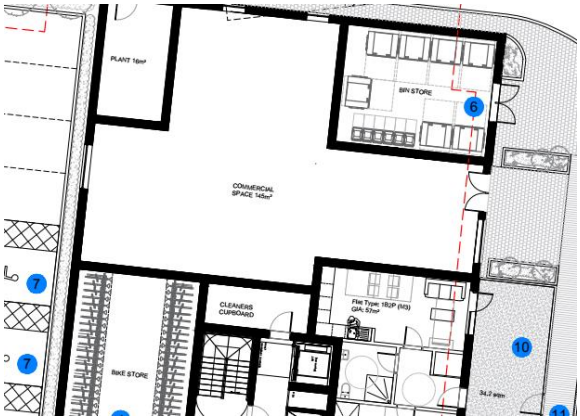
Prior to the commencement of any demolition works, a Pre-demolition Audit will be completed to identify the most appropriate approach to demolition and ways to maximise

the amount and value of materials that can be recycled. The demolition works will be carried out in accordance with the ICE Demolition Protocol.

The brick façades on the buildings benefit from a design life in excess of 60 years and are low maintenance. In the case of other materials, due regard will be given to maximising the use of building elements which gain the higher ratings in the BRE Green Guide to Specification; using materials with recycled content; and using local suppliers and materials from sustainable sources with third party certification.

Wherever feasible, the applicant shall ensure only timber obtained from forests covered by certification schemes that provide for independent verification of sustainable forestry practices and have Chain of Custody certification arrangements overseen by UKAS accredited certification bodies.

The design includes a dedicated residential bin store for the apartments, located to the north of the site. The bin capacities satisfy the LBH requirements and shall be designed in accordance with the council's best practice guidance.



In addition, separate storage for dry recyclables and food waste will be provided in the kitchen of every dwelling, and detailed information will be provided on the LBH recycling service to encourage residents to participate in the recycling collection scheme.

Full details are provided in the Design and Access Statement being submitted in support of the application.

3.2.8 Nature conservation and biodiversity

MAYOR'S PRIORITIES

Nature conservation and biodiversity (5.3, 7.19)

There is no net loss in the quality and quantity of biodiversity.

Developers make a contribution to biodiversity on their development site.

Design response

The whole of the site, which has a total area of approximately 0.19Ha, has been previously developed for industrial use, and contains no natural habitat, or any real ecological value. In addition, it is confirmed that no existing trees shall be impacted by the development proposals

The limited land space at the site, along with the LBH requirement for one car parking space for each unit, has prohibited the inclusion of any large-scale ecological improvements at the site. However, in line with LBH and the London Plan policy requirements, it can be demonstrated that there shall be no net loss in biodiversity as a result of the proposals. Ground floor apartment terraces shall be developed with a proportion of soft landscaping, in order to increase green infrastructure as much as feasible. The plentiful private amenity space provided by each balcony shall also allow residents to keep potted plants or herb gardens, which shall be actively encouraged.





3.3 Climate change adaption

3.3.1 Introduction

This section outlines how the proposals incorporate measures that will enable the new dwellings to adapt to predicted future changes in the climate, and to help ensure that London remains an inviting environment in which to invest, work and live.

3.3.2 Tackling increased temperature and drought

MAYOR'S PRIORITIES

Overheating (5.3, 5.9)

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

Heat and drought resistant planting (5.3, 5.15)

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

Resilient foundations (5.3, 5.76)

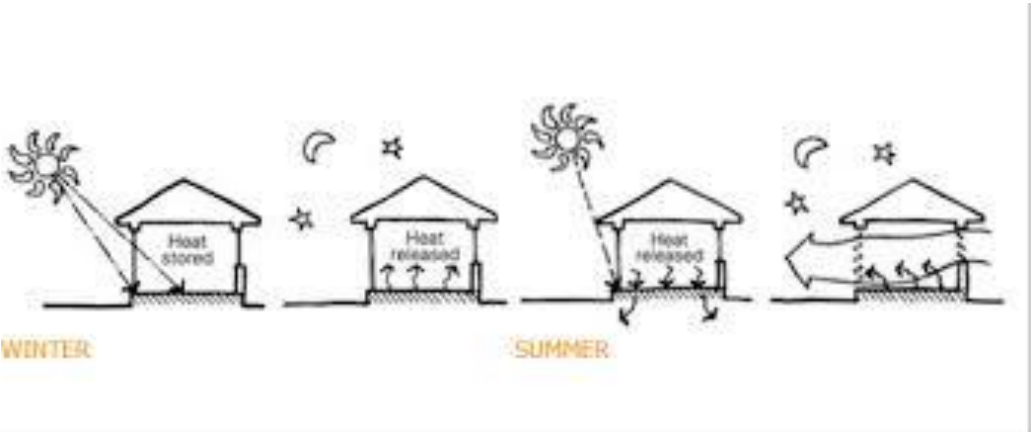
Developers should consider any long-term potential for extreme weather events to affect a building's foundations and to ensure they are robust.

Design response

The development in general, and the dwellings in particular, include a range of measures that reflect the cooling hierarchy set out in London Plan Policy 5.9.

With respect to summer overheating:

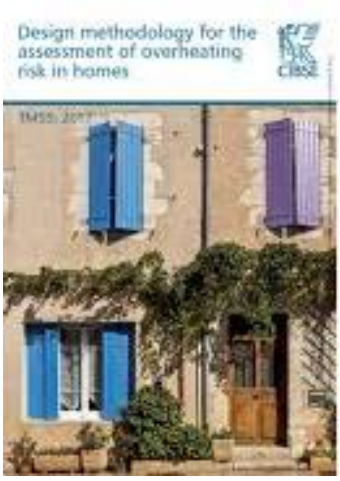
- The building will be constructed with a relatively high level of accessible thermal mass, owing to the traditional masonry construction. This will aid the building in maintaining a stable temperature during hot and cold extremes.





- Solar shading is provided by way of overhanging balconies and recessed windows
- Window sizes have been optimised, and solar control glazing shall be specified to reduce transmitted solar gain
- The specification of independent boilers, rather than a communal system, has eliminated any internal gains from DHW distribution pipework, reducing overheating risk.
- Low energy lighting will be installed in all dwellings to reduce undesirable internal gains;
- Materials will be relatively high albedo where possible, to limit absorption of solar gain.
- All spaces are to have openable windows for passive purge ventilation. Security measures shall also be incorporated to allow partial operation of ground floor windows overnight, to purge built-up heat

Advice on managing overheating during hot weather shall also be provided to occupants within the home user guide, to ensure that residents understand how to operate blinds and windows effectively.



Dynamic simulation modelling has been carried out for the entirety of the site, the results of which have been submitted within a seperate overheating report. These results indicate that the design has reduced overheating risk to levels compliant with the recommendations set out within 'CIBSE TM59: Design methodology for the assessment of overheating risk in homes'

3.3.3 Flooding

MAYOR'S PRIORITIES

Surface water flooding and sustainable drainage (5.3, 5.12, 5.13, 5.14)

Developers should maximise all opportunities to achieve greenfield runoff rates in their developments.

When designing their schemes, developers should follow the drainage hierarchy set out in London Plan policy 5.13.

Developers should design Sustainable Drainage Systems (SuDS) into their schemes that incorporate attenuation for surface water runoff as well as habitat, water quality and amenity benefits.

Flood resilience and resistance of buildings in flood risk areas (5.3, 5.12, 5.13)

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

Flood risk management (5.3, 5.12)

Developments are designed to be flexible and capable of being adapted to and mitigating the potential increase in flood risk as a result of climate change.

Design response

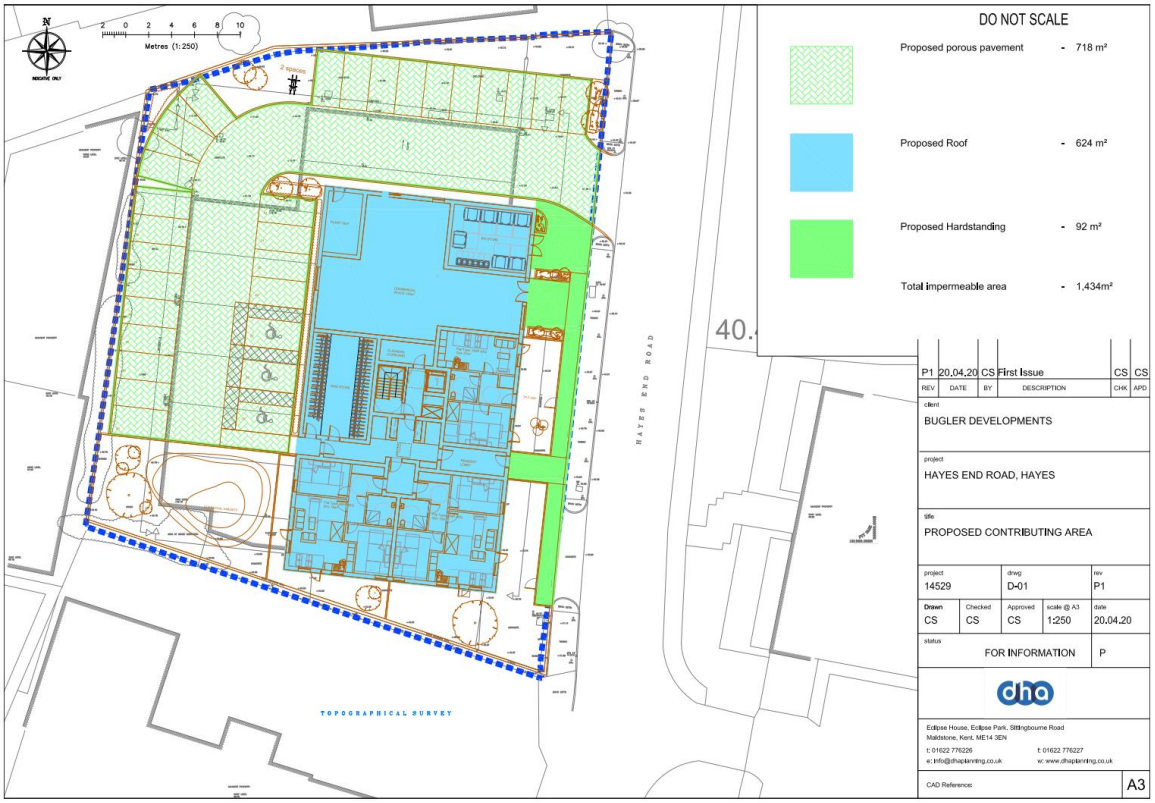
The assessment of flood risk carried out for the purpose of this planning application has confirmed that the whole of the site is in a Zone 1 flood risk zone. The risk of groundwater and sewer flooding is also considered to be low. Full details are provided in the Flood Risk Assessment and Drainage Strategy that is being submitted in support of the application.

The proposed surface water drainage strategy will implement sustainable urban drainage systems (SuDS) to attenuate and reduce the surface water run-off. This will be in the form of lined porous paving which will reduce surface water runoff into the existing surface water sewer freeing up capacity and reducing the risk of downstream flooding

Surface water shall be discharged to the local sewer network. Of the other possible SuDS measures, infiltration is not feasible due to the underlying clay geology and discharge directly to a natural water course is not possible as there are none locally.

The London Plan 2016 policy requirement is that new developments should seek to reduce the surface run-off to the notional greenfield rate. This was investigated by the appointed drainage consultant, whom concluded that flows should be restricted to 5.5/l/s for all storm events, including the 1:100 event allowing for a 40% tolerance to account for climate change. This represents a significant betterment to the current site discharge rates (calculated at 42l/s); and is the minimum practical using flow control devices due to the risk of blockages.

The below drainage strategy plan is courtesy of the accompanying drainage strategy report.


DO NOT SCALE
Proposed porous pavement - 718 m²
Proposed Roof - 624 m²
Proposed Hardstanding - 92 m²
Total impermeable area - 1,434m²
Metres (1:250)
HAYES END ROAD
TOPOGRAPHICAL SURVEY
P1 20.04.20 CS First Issue CS CS
REV DATE BY DESCRIPTION CHK APD
client
BUGLER DEVELOPMENTS
project
HAYES END ROAD, HAYES
title
PROPOSED CONTRIBUTING AREA
project 14529
drwg D-01
rev P1
Drawn CS
Checked CS
Approved CS
scale @ A3 1:250
date 20.04.20
status
FOR INFORMATION
P
dha
Eclipse House, Eclipse Park, Sittingbourne Road
Maidstone, Kent. ME14 3EN
t: 01622 776226
t: 01622 776227
e: info@dhaplanning.co.uk
w: www.dhaplanning.co.uk
CAD Reference:
A3

3.4 Pollution management

3.4.1 Introduction

The density of activity across London can lead to various forms of disturbance to nearby occupiers and can result in legally recognised levels of pollution. These forms of pollution include air, water, noise and light. The pollution can occur temporarily during the construction of the new development and can also occur as a result of its operation once complete. This section outlines how the proposals seek to minimise the risk and impact of all forms of pollution.

3.4.2 Land contamination

MAYOR'S PRIORITIES

Land contamination (3.2, 5.3, 5.21)

Developers should set out how existing land contamination will be addressed prior to the commencement of their development

Design response

The Applicant has commissioned a ground investigation report, which reported no significant ground or groundwater contamination present at the site. However, if during the construction works any contaminants are found, appropriate decontamination and mitigation measures will be implemented. Further details can be found within the accompanying geotechnical report.

3.4.3 Air pollution

MAYOR'S PRIORITIES

Air quality (3.2, 5.3, 7.14)

Developers are to design their schemes so that they are at least 'air quality neutral'.

Developments should be designed to minimise the generation of air pollution.

Developments should be designed to minimise and mitigate against increased exposure to poor air quality.

Developers should select plant that meets the standards for emissions from combined heat and power and biomass plants set out in Appendix 7.

Developers and contractors should follow the guidance set out in the emerging The Control of Dust and Emissions during Construction and Demolition SPG when constructing their development.

Design response

An air quality assessment has been undertaken in accordance with the Department of Environment, Food and Rural Affairs' (Defra) current Technical Guidance on Local Air Quality Management (LAQM) (TG16) and addresses the effects of air pollutant emissions from traffic using the adjacent roads, and emissions associated with the development of the site. In addition, a risk-based assessment of the likely impact of construction on the air quality of the local environment has been conducted in accordance with the Institute of Air Quality Management's 2014 edition of the Guidance on the assessment of dust from demolition and construction.

The proposed development meets the guidance contained within Technical Guidance on Local Air Quality Management (LAQM) (TG16), IAQM/EPUK's Land-Use Planning & Development Control: Planning for Air Quality and IAQM's Guidance on the assessment of dust from demolition and construction, it is considered that the proposed development adheres to the principles of the National Planning Policy Framework since the new

development will not be “put at risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution”. Since it has been shown that in terms of air quality, the proposals adhere to local and national planning policy, it is considered that the air pollution should not be a constraint on the proposed residential development.

The dwellings will be heated by means of independent gas fired condensing boilers. The gas boilers will be types that achieve NOx emissions that are less than 40 mg/kWh.

The Applicant recognises that the public impression of site activities has a direct impact on the corporate image of a business, and that this has far reaching consequences. To such end, the applicant shall be registering the development with the Considerate Constructors Scheme (CCS) and points shall be targeted that relate to air quality, noise and waste in order to minimise the impact to the local community.

For further detail, please refer to the accompanying Air Quality Assessment Report.

3.4.4 Noise

MAYOR’S PRIORITIES

Noise (3.2, 5.3, 7.6, 7.15)

Noise should be reduced at source, and then designed out of a scheme to reduce the need for mitigation measures.

Design response

A Noise Impact Assessment has been carried and is submitted separately. This assessment outlines the results of an environmental noise survey, and recommendations for achieving the required targets within the design.

Due to the absence of communal heating and ventilation plant, no fixed noise sources are proposed within the current mechanical design.

The construction phase noise will be managed in accordance with best practice, and particularly the requirements of the Considerate Constructors Scheme code of

considerate practice which includes a specific section that requires that the Developer addresses this proactively by selecting the quietest plant, ensuring that it is sited away from neighbouring properties if possible, that it is only used when necessary, that neighbours are advised of when it will be used, and that they are provided with contact details for the site manager so that contact can easily be made if they have concerns.

The internal dwelling-to-dwelling acoustic performance will be designed to meet the requirements of Part E: 2003 of the Building Regulations for both airborne and impact noise.

3.4.5 Light pollution

MAYOR'S PRIORITIES

Light pollution (5.2, 5.3, 6.7)

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

Design response

External lighting will be minimised as far as possible consistent with satisfying requirements for safety and security. Light pollution will be minimised by designing the external lighting in accordance with the Institute of Lighting Professionals guidance including Guidance notes for the reduction of obtrusive light, GN01 (2011).

3.4.6 Water pollution

MAYOR'S PRIORITIES

Surface water run-off (5.3, 5.13, 5.14)

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

Encourage those working on demolition and construction sites to prevent pollution by incorporating prevention measures and following best practice.

Wastewater treatment (5.3, 5.14)

Residential developments discharging domestic sewage should connect to the public foul sewer or combined sewer network where it is reasonable to do so.

Design response

The development will be connected to the local foul sewer network. The drainage system will be compliant with Part H: 2002 of the Building Regulations; and follow the Environment Agency's Pollution Prevention Guidelines PPG3. Full details of the proposed surface and foul water systems are provided in the Flood Risk Assessment and Drainage Strategy that is being submitted in support of the application.

4. Conclusions

The details of the proposed development as set out in the proceeding sections, and in the technical reports on which this document is based, show that the development proposal meets the applicable planning policies that relate to resource management, climate change adaptation and pollution management. It will therefore result in a scheme that is compliant with the broad range of policies that seek to promote sustainable development in Hillingdon, and across London generally.

In developing these proposals, the Design Team has taken careful account of the nature of the site, and the condition of the existing buildings. The proposal will substantially increase the usability of the site, creating much needed homes for local people.

As well as building on the past, the proposals look forward, utilising the latest energy conservation and renewable energy technologies. The localised combustion plants have been specified to have low emissions of atmospheric pollutants, ensuring that there will be a negligible impact on local air quality. Water use will be minimised in accordance with the latest national policy. The risk from future severe rainfall events has been carefully addressed, and the scheme incorporates surface water attenuation features that will ensure that the total rate of discharge of surface water can be reduced significantly compared to the current level. Finally, a photovoltaic array shall be included in order to generate low carbon electricity, directly reducing the 'in-use' carbon impact of the proposals and reducing the strain on the national grid.

The development proposals therefore meet the requirements of The London Plan 2016 for Sustainable Development, particularly as set out in in the GLA London Plan Supplementary Planning Guidance document: Sustainable Design and Construction SPG (GLA) (April 2014). The proposals also comply with or exceed the equivalent local strategic policies of the London Borough of Hillingdon.