

Sustainability Statement

In respect of

3 Viveash Close, Hayes

On behalf of

General Food Trading Co. Ltd

RPS CgMs Ref: JCG22622

May 2017

Secure & Stable
ADDING VALUE

QUALITY MANAGEMENT

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CONTENTS

1	INTRODUCTION	1
2	SITE CONTEXT AND PROPOSED DEVELOPMENT	2
3	SUSTAINABILITY STATEMENT METHODOLOGY	5
4	PLANNING POLICY SUSTAINABILITY DRIVERS.....	6
5	ENERGY	13
6	MATERIALS	20
7	POLLUTION	21
8	WASTE	24
9	TRANSPORT	27
10	SURFACE WATER AND FLOOD RISK	30
11	ECOLOGY AND BIODIVERSITY	33
12	SITE MANAGEMENT	34
13	SOCIO-ECONOMICS, HEALTH AND WELLBEING.....	36
14	SUMMARY AND CONCLUSIONS.....	38
15	REFERENCES	39
	APPENDIX A: LBH LOCAL PLAN POLICIES	41

1 INTRODUCTION

- 1.1 This Sustainability Statement has been produced by RPS Planning and Development Ltd (RPS) on behalf of General Food Trading Co. Ltd (hereafter referred to as the Applicant), in support of an outline planning application for a proposed development at 3 Viveash Close in Hayes. The application site is located in the London Borough of Hillingdon (LBH).
- 1.2 This Statement details the approach that the Applicant and the design team have collectively taken towards achieving a sustainable new development on the application site, taking into account the wider studies, such as the Energy Strategy, and Flood Risk Assessment. This Statement outlines the features that have been incorporated into the design proposals and the measures that will be implemented during the construction and operation phases, which aim to reduce the environmental impact of the scheme and contribute positively to a sustainable development.
- 1.3 The purpose of the Sustainability Statement is to provide an independent verification that the design of the proposed development is in accordance with sustainable objectives of relevant planning policy at all levels and is an example of good practice in sustainable design. This Statement reports the performance of the proposed development using local, regional and national level guidance on sustainability indicators from both government and industry.
- 1.4 The Sustainability Statement is structured as follows:
- Section 2 provides a description of the development context, including the site and surrounds and a description of the development proposals;
 - Section 3 provides information on how the sustainability statement will be implemented, and the methodology and approach which has been taken;
 - Section 4 provides a review of the national and local policies and strategies regarding sustainability that are of relevance to the proposed scheme;
 - Sections 5 - 13 present a summary of sustainability initiatives proposed for the scheme and how these would address relevant planning policies for sustainability. Information is given on how sustainability will be implemented through detailed design, construction, and operation; and
 - Section 14 presents the conclusions of this sustainability assessment.
- 1.5 By undertaking the sustainability assessment at this stage in the design process, the potential to contribute positively to sustainable development is optimised.

2 SITE CONTEXT AND PROPOSED DEVELOPMENT

The Site and Surrounding Area

- 2.1 The application site (hereafter referred to as the site), is located to the south of Hayes town centre and adjacent to Hayes & Harlington train station and the approved Crossrail station. The train station is on one of the major commuter routes into central London, and provides a direct connection to Heathrow, and also provides links to the South West.
- 2.2 The site currently comprises a two storey building located towards the north of an industrial estate. The existing building is a flat roofed block which is currently occupied by office / light industrial uses (B8). The site area is 0.24ha and is currently occupied by 70% building footprint, 15% hardstanding area (with car parking) and 15% overgrown vegetation.
- 2.3 Informal on-site parking is currently provided adjacent to the building (adjacent to the north-west boundary), which is accessed directly from Viveash Close. Furthermore, the site includes a commercial service bay that is also accessed directly from Viveash Close. Pedestrians can access the industrial units on site through an entrance on the western elevation of the building. The site benefits from a good PTAL rating of 4 which is forecast to rise to a very good PTAL rating of 5 in 2021 due to the arrival of Crossrail to Hayes and Harlington Station.
- 2.4 The plot is at the north end of Viveash Close and lays within site 'B' of London Borough of Hillingdon's Local Plan for redevelopment of this area. The area is predominantly residential south of Nestles Avenue. As noted in LBH's Local Plan document (October 2015) there is no relevant planning history for the site.
- 2.5 There are no statutorily designated nature conservation sites such as Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs), Special Protection Areas (SPAs), National Nature Reserves (NNRs), Local Nature Reserves (LNRs) or Ramsar sites within 2 km of the site. Additionally, the entire site is within Flood Zone 1 (low risk from tidal and fluvial sources) according to Environment Agency mapping.
- 2.6 In terms of relevant designated heritage assets, the study site does not lie within the vicinity of a World Heritage Site, Scheduled Monument, Historic Battlefield or Historic Wreck. Additionally the site is not located within an Archaeologically Significant Area, including any Archaeological Priority Zone or Area. The site is therefore considered to be of low archaeological potential.
- 2.7 There are a number of recently approved tall buildings in the vicinity, namely the recently approved Vinyl Factory and the High Point Village scheme.

The Proposed Development

- 2.8 The proposed development consists of:

Demolition of existing buildings and redevelopment of the land to provide 88 residential units over two blocks comprising one 7 storey building and one 12 storey building and the provision of 934sqm (GIA) of commercial floorspace (Use class B1) at ground and mezzanine level, with raised podium and associated landscaping, access and cycle parking.

- 2.9 The site location plan is shown at Figure 2.1, and the red line plan of the application is detailed at Figure 2.2 below.
- 2.10 The development proposals include the demolition of the existing buildings following which the site will be redeveloped for C3 residential and B1 commercial purposes. Vehicular access from Viveash Close to the west will be retained (in modified format) and will provide access to an undercroft parking area at ground floor level. Pedestrian access points to the ground floor commercial units and upper floor residential units will be on the north elevation of the building.
- 2.11 The ground floor of the development will consist of residential and commercial parking, cycle racks and cycle stores, refuse rooms, a water tank room, commercial space, a residential lobby area, WCs, an energy centre, stair and elevator cores and hardstanding / landscaped areas surrounding the building. The ground floor will also contain a mezzanine level consisting of commercial space, 'combilift' parking and stair and elevator cores.
- 2.12 The first floor of the building will consist of commercial space within western Block 'A' and residential units and stair and elevator cores within the eastern Block B. The blocks will be connected by green amenity space on the roof of the ground floor. The second floor will consist of residential units and stair and elevator cores within both blocks and green amenity space on the roof of the first floor of Block A.
- 2.13 Floors three to seven will consist of residential units and stair and elevator cores in both blocks. Floor eight will consist of residential units and stair and elevator cores in Block A whilst the roof of Block B will consist of a play area and PV / plant areas. Floors eight to twelve of Block A will consist of residential units and stair and elevator cores. The roof of Block A will consist of a play area and PV / plant areas.
- 2.14 A total of 50 car parking spaces will be provided within the car park using triple car stackers, with 45 spaces allocated for the residential land use (including parking spaces for disabled drivers) and 5 spaces provided for the commercial land use. As such car parking for the residential land use will be provided at a ratio of 0.51 spaces per flat on average. Additionally, five motorcycle parking spaces will be provided along with 140 cycle parking spaces for residents and employees. An additional 10 cycle spaces are provided externally for visitors, located directly outside the office building, in full view of the street.
- 2.15 Following redevelopment, the site will be occupied approximately 80% by building footprint, 15% by hardstanding and 5% by landscaping

Figure 2.1 Application Site Location plan

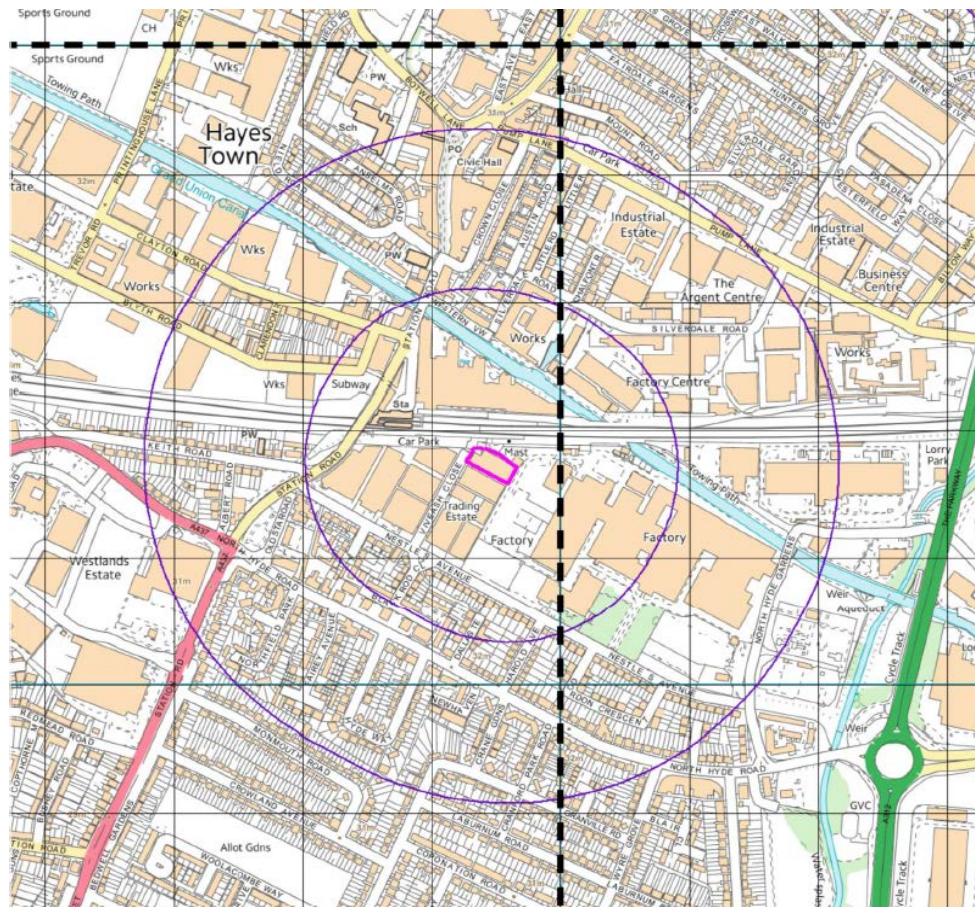
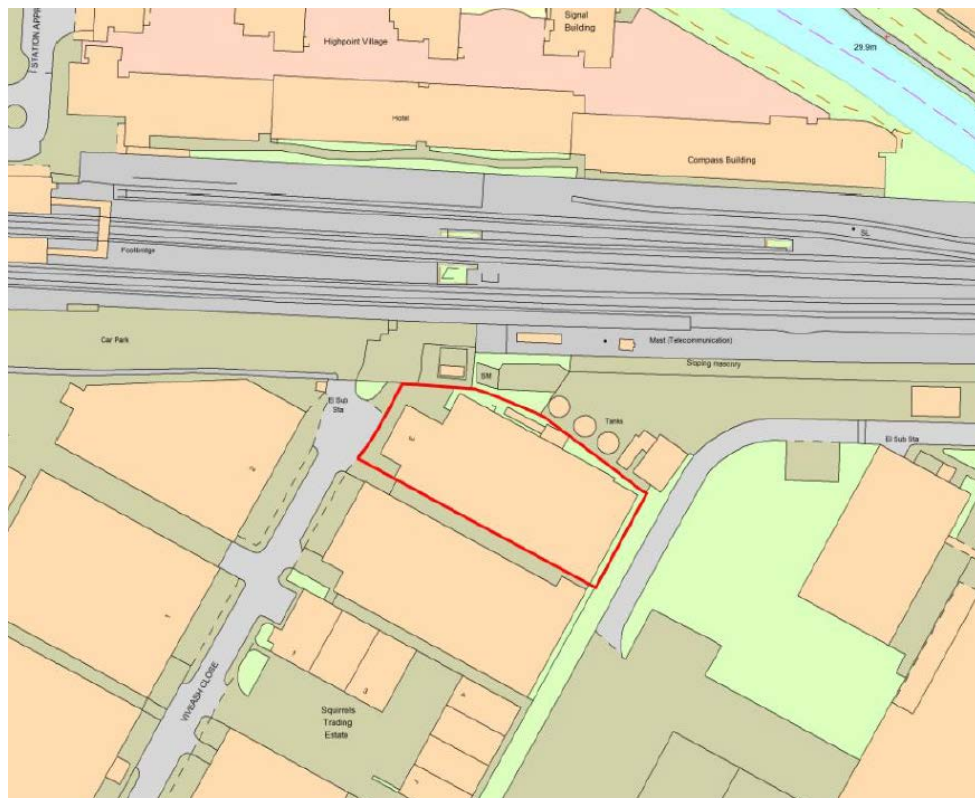


Figure 2.2: 3 Viveash Close Proposed Redline Boundary



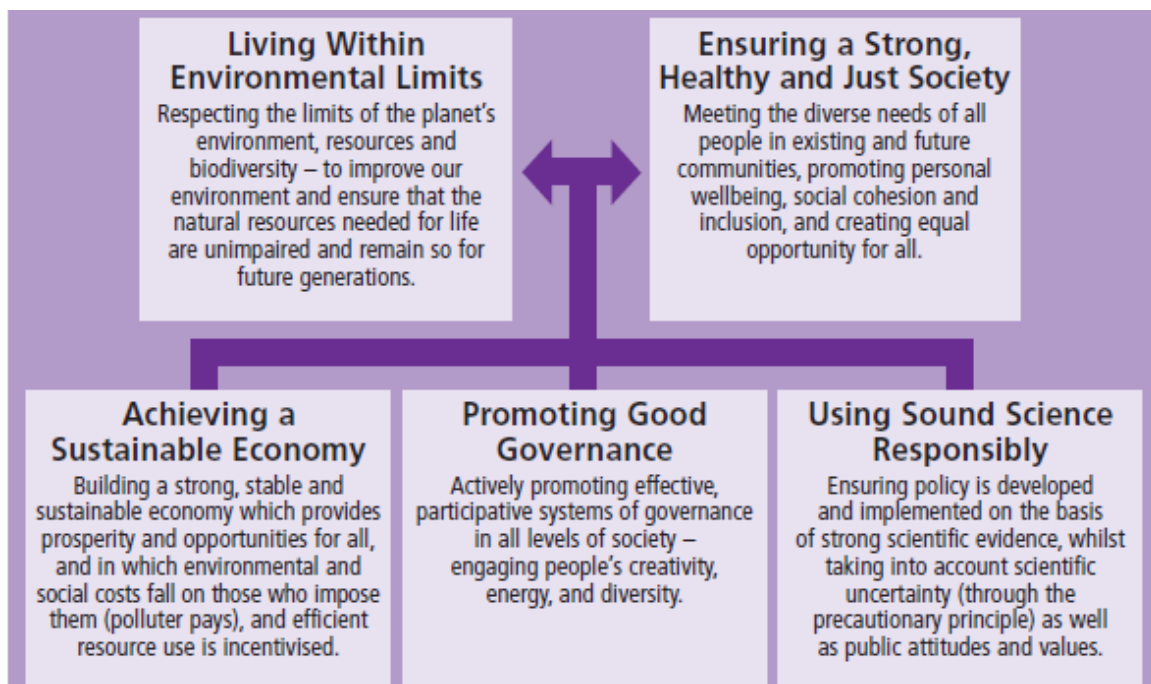
3 SUSTAINABILITY STATEMENT METHODOLOGY

- 3.1 The purpose of the Sustainability Statement is to provide an independent verification that the design of the proposed development is in accordance with the sustainability objectives of relevant planning policy at all levels and is an example of good practice in sustainable design.
- 3.2 In order to appraise the sustainability performance of the proposed development this statement provides a review of local, regional and national level guidance on sustainability indicators from both government and industry policy. This involved identifying policies across these levels which are directly or indirectly relevant to the sustainable performance of a project. Those policies deemed to be relevant to this Sustainability Statement have been detailed in Section 4. Further details on local policies have also been provided in Appendix A.
- 3.3 The sustainability topic sections included within this report have been set out in line with the London Plan Sustainable Design and Construction SPG (Ref. 1), as well as taking into account the topics considered within the LBH Local Plan Part 2: Sustainability Appraisal (2014) (Ref. 2) and Addendum to Sustainability Appraisal (2015) (Ref. 3), and relevant policies from the LBH Local Plan Part 1 (2012) (Ref. 4) and Part 2: Development Management Policies (2015) (Ref. 5).
- 3.4 Details of how the proposed development complies with the related sustainability policies are provided in Sections 5-13 of this Sustainability Statement. This will draw upon relevant scheme information included within the relevant environmental reports and their appendices, along with the other documents submitted as part of the planning application such as the DAS and Energy Strategy.

4 PLANNING POLICY SUSTAINABILITY DRIVERS

- 4.1 International and national bodies have set out the broad principles of sustainable development. Resolution 42/187 of the United Nations General Assembly defined sustainable development as “*meeting the needs of the present without compromising the ability of future generations to meet their own needs*”. In the UK, the Sustainable Development Strategy Securing the Future (Defra, 2005) (Ref. 6) sets out five ‘guiding principles’ of sustainable development, as Figure 4.1 below shows:

Figure 4.1: Sustainable Development Strategy Securing the Future Guiding Principles



- 4.2 Furthermore, the challenge of climate change and the need to stabilise CO₂ levels in the atmosphere whilst enabling sufficient growth to support the UK's growing population has intensified. There is now a comprehensive range of legislation and policy at various scales which supports the design and implementation of measures and approaches to ensure new development is sustainable and 'low carbon'.

National Planning Policy and Legislation

- 4.3 The UK Government has since made commitments on a wide range of social, economic and environmental targets through its implementation of national planning policy, which is set out in the National Planning Policy Framework (NPPF) (Ref. 7).

Box 1: National Planning Policy Framework

The NPPF was adopted in March 2012 and constitutes a key part of the UK Government's reforms to make the planning system less complex and more accessible, to protect the environment and to promote sustainable growth.

The NPPF sets out the Government's economic, environmental and social planning policies for England. Taken together, the policies in the NPPF articulate the Government's vision of sustainable development, which should be interpreted and applied locally to meet local aspirations.

At the heart of the NPPF is a 'presumption in favour of sustainable development', which requires Local Authorities to provide clear guidance on how the presumption should be applied locally. In addition, the NPPF sets out a number of core land-use planning principles that the Government has identified to underpin both plan-making and decision-making:

1. Building a strong, competitive economy;
2. Ensuring the vitality of town centres;
3. Supporting a prosperous rural economy;
4. Promoting sustainable transport;
5. Supporting high quality communications infrastructure;
6. Delivering a wide choice of high quality homes;
7. Requiring good design;
8. Promoting healthy communities;
9. Protecting Green Belt land;
10. Meeting the challenge of climate change, flooding and coastal change;
11. Conserving and enhancing the natural environment;
12. Conserving and enhancing the historic environment; and
13. Facilitating the sustainable use of minerals.

4.4 The government has launched a raft of measures to combat global warming and climate change. The following publications demonstrate the timeline of measures that have been implemented within the department of the UK NPPF:

- The Department of Transport and Industry White Paper entitled *Our Energy Future – Creating a Low Carbon Economy*, 2003 (Ref. 8), sets a target for 10% of electricity to be produced from renewable sources nationally by 2010 and twice this by 2020, with a goal for 60% reduction in CO2 emissions by 2050;
- *Sustainable and Secure Buildings Act*, 2004 (Ref. 9), sets out the purposes for which Building Regulations may be made to further the conservation of fuel and power, ensure water use efficiency, protect and enhance the environment, and prevent/detect non-compliance;

- *Climate Change and Sustainable Energy Act*, 2006 (Ref. 10), enhances the contribution of the UK to combating climate change, alleviating fuel poverty and securing a diverse and viable long-term energy supply;
- The Department for Communities and Local Government (CLG)'s *Building a Greener Future: Towards Zero Carbon Development*, 2006 (Ref. 11), demonstrates the step change required in the Building Regulations to achieve zero carbon housing in order to ensure energy security, which is a risk of climate change;
- The Department of Transport and Industry White Paper entitled *Meeting the Energy Challenge*, 2007 (Ref. 12), sets out UK strategy, which recognises the need to tackle climate change and energy security;
- The *Climate Change Act*, 2008 (Ref. 13), sets up a framework for the UK to achieve its long-term goals of reducing green house gas emissions by 34% over the 1990 baseline by 2020 and by 80% by 2050 and to ensure step changes are taken towards adapting to the impact of climate change. The Act introduces a system of carbon budgeting which constrains the total amount of emissions in a given time period, and sets out a procedure for assessing the risks of the impact of climate change to the UK, and a requirement on the government to develop and adaptation programme;
- The *Planning and Energy Act*, 2008 (Ref. 14), enable local planning authorities to set requirements for energy use and energy efficiency in local plans;
- The *Energy Act*, 2011 (Ref. 15), provides for a step change in the provision of energy efficiency measures to homes and businesses, and makes improvements to our framework to enable and secure low carbon energy supplies and fair competition in the energy markets. The Bill tackles barriers to investment in energy efficiency by launching the Green Deal and measures to maximise uptake, introducing a new Energy Company Obligation from 2012 to underpin the Green Deal, extending powers to direct the rollout of smart meters, requiring cheapest tariff information on energy bills and energy performance data from Energy Performance Certificates more widely available.

Regional Planning Policy

Greater London Authority (GLA) Policies

- 4.5 The Mayor of London has a vision for the city to become an exemplary sustainable world city, based on the three integrated principles of:
- Strong and diverse economic growth;
 - Social inclusivity to allow all Londoners to share in London's future success; and
 - Fundamental improvements in environmental management and use of resources.
- 4.6 In achieving sustainable development, the Mayor has published a series of strategy documents setting out the policies for London:
- The London Plan 2016 - Spatial Development Strategy (consolidated with alterations since 2011) (Ref. 16);

- Mayor's Energy Strategy (2011) (Ref. 17);
- Mayor's Air Quality Strategy (2010) (Ref. 18);
- Mayor's Biodiversity Strategy (2002) (Ref. 19);
- Mayor's Municipal Waste Management Strategy (2011) (Ref. 20);
- Mayor's Ambient Noise Strategy (2004) (Ref. 21); and
- Mayor's Sustainable Design and Construction SPG (2014) (Ref. 1).

The London Plan 2016 (Consolidated with Alterations Since 2011)

- 4.7 On its formal publication, March 2016, the two Minor Alterations to the London Plan documents (MALP) were adopted into the London Plan (Ref. 22). The Further Alterations to the London Plan (FALP) were previously adopted in March 2015. The two MALPs and the FALP are operative as formal alterations to the London Plan 2011 (consolidated with alterations since 2011). The policies within the London Plan form part of the development plan for Greater London, and should be taken into account in all relevant planning decisions, such as determining planning applications.
- 4.8 The MALPs bring the London Plan in line with the national housing standards and car parking policy.
- 4.9 The London Plan is the overall strategic plan for London, setting out an integrated economic, environmental, transport and social framework for the city's development over the next 20-25 years. The document brings together geographical and locational aspects of the Mayor of London's other strategies, including those dealing with the following:
- Transport;
 - Economic development;
 - Housing;
 - Culture;
 - Social issues (health, inequality etc); and
 - Environmental issues (climate change, air quality, noise).
- 4.10 The most important policy in the London Plan with regards sustainable development is Policy 5.3 Sustainable Design and Construction. Further details of the Mayor's sustainability policies are provided in the Sustainable Design and Construction SPG (2014) (Ref. 1).

Box 2: London Plan Policy 5.3 Sustainable Design and Construction

A – The highest standards of sustainable design and construction should be achieved in London to improve the environmental performance of new developments and to adapt to the effects of climate change over their lifetime.

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 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 the buildings

d) minimising pollution (including noise, air and urban run-off)

e) minimising the generation of waste and maximising reuse or recycling;

f) avoiding impacts from natural hazards (including flooding).

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

h) securing sustainable procurement of materials using local supplies where feasible, and promoting and protecting biodiversity and green infrastructure.

i) promoting and protecting biodiversity and green infrastructure.

Local Planning Policy

London Borough of Hillingdon Local Plan Part 1: Strategic Policies (2012)

- 4.11 The LBH Local Plan: *A Vision for 2026 Part 1 - Strategic Policies* (Ref. 4) was adopted in November 2012. It is the key strategic planning document for Hillingdon and will support the delivery of the spatial elements of the Sustainable Community Strategy. It sets out the long-term vision and objectives for the Borough, what is going to happen, where, and how it will be achieved. The relevant core policies detailed in the Local Plan are included in Appendix A.

London Borough of Hillingdon Local Plan Part 2: Development Management Policies (2015)

4.12 The Development Management Policies document (Ref. 5) forms part of Hillingdon's Local Plan Part 2. Its purpose is to provide detailed policies that will form the basis of the Council's decisions on individual planning applications. It covers 7 topic areas:

- The Economy;
- Town Centres;
- New Homes;
- Historic and the Built Environment;
- Environmental Protection and Enhancement;
- Community Infrastructure; and
- Transport and Aviation.

4.13 The relevant Development Management policies detailed are included in Appendix A.

London Borough of Hillingdon Local Plan Part 2: Sustainability Appraisal (2014)

4.14 The Sustainability Appraisal (Ref. 2) was developed for the Local Plan Part 2, and the wider planning framework, in order to deliver sustainable development. As Part 2 of the Local Plan is an integral part of the planning framework in Hillingdon and provides a significant influence on decision making, it has developed a Sustainability Framework on which to rank potential development sites against. This Framework is detailed in Table 4.1.

Table 4.1: LBH Local Plan Sustainability Framework

Sustainability Objectives		Reference in Appraisal
1	To improve air quality to a standard that is acceptable for human and ecological health	Air Quality
2	To ensure sustainable management and conservation of wildlife and habitats representative of the borough and reverse those in decline	Biodiversity
3	To protect and preserve landscape character, historic buildings, archaeological sites and cultural features of importance to the community	Landscape & Heritage
4	To avoid the adverse effects of activities and development on the natural functions of soil and water systems	Soil & Water
5	To reduce contributions towards, and vulnerability to, the effects of climate change	Climate Change
6	To minimise the hazard risk from flooding in Hillingdon	Flood Risk
7	To ensure efficient use of non renewable resources and minimise the production of waste	Resources and Waste
8	To encourage efficient use of available land that will not foreclose on	Efficient Land

	future options	Use
9	To create a variety of high quality residential environments that provides everybody with the opportunity to live in a decent home	High Quality Housing
10	To provide environments that promote healthy and safe living and reduce anti social behaviour	Health, Noise, Safety, Crime
11	To improve the ready access to essential services and facilities for all residents	Accessibility
12	To promote methods to reduce dependence on private transport and manage the effects of traffic on the environment	Traffic reduction
13	To provide residents of all ages with the option to access education and skills based enhancement	Skills & Education
14	To encourage built environments of high quality urban design that assists in enhancing areas amenity value and promote community sense of place	Design & Amenity
15	To promote growth in the economy whilst improving its environmental and social performance	Economic Growth
16	To enhance the image of the borough as a location for new business	Business Image
17	To encourage business to provide a range of jobs and services that will support and enhance existing residential and employment areas	Provision of Jobs

4.15 These objectives will help to inform this Sustainability Statement; however, the main focus will be on the policies detailed within the London Plan Sustainable Design and Construction SPG.

4.16 There is also an Addendum to the Sustainability Appraisal (2015) (Ref. 3) which provides an audit of the sites included for consideration within Part 2 of the Local Plan using the Sustainability Objectives set out in Table 4.1.

Key Sustainability Issues

4.17 The following sections of the Sustainability Statement provide details of the sustainability initiatives proposed for incorporation within the proposed development.

4.18 These initiatives are presented as a series of key sustainability issues. The sustainability topic sections included within this report have been set out in line with the London Plan Sustainable Design and Construction SPG (Ref. 1), as well as taking into account the topics considered within the LBH Local Plan Part 2: Sustainability Appraisal (2014) (Ref. 2) and Addendum to Sustainability Appraisal (2015) (Ref. 3), and relevant policies from the LBH Local Plan Part 1 (2012) (Ref. 4) and Part 2: Development Management Policies (2015) (Ref. 5).

5 ENERGY

- 5.1 With increased pressure to meet growing energy demands and concerns over the impacts of greenhouse gases on climate change, governments around the world are putting in place commitments and targets to mitigate these impacts. In the UK, the Government has set targets of reducing overall CO₂ emissions by 80% by 2050 (compared with 1990 levels). To help meet these targets, the focus is not only on expanding the use of renewable sources to generate energy, but also on energy conservation and, specifically on ensuring the energy efficiency of UK buildings is dramatically improved. This last focus is unsurprising considering that buildings account, directly and indirectly, for 44% of the UK's carbon emissions.
- 5.2 Improving energy efficiency and reducing energy consumption are important issues to be taken into account when preparing design proposals and considering building practices in new development. Many developments within Greater London are now required to address the Mayor's Energy Strategy, which sets planning policy standards for energy efficiency and the use of renewable technologies wherever possible through the introduction of the Energy Hierarchy:
- Be Lean – reduce the need for energy through passive design and energy efficiency;
 - Be Clean – supply and use energy in the most efficient manner by using low carbon technology; and
 - Be Green – supplying energy from renewable energy sources.
- 5.3 The London Plan also includes policies requiring major new developments within London to make the fullest contribution to the mitigation of, and adaptation to climate change and to minimise carbon dioxide emissions:
- Policy 5.2 Minimising Carbon Dioxide Emissions (A) - reinforces the requirement to apply the Energy Hierarchy to new developments;
 - Policy 5.2 Minimising Carbon Dioxide Emissions (B) - requires that major residential developments achieve a 40% improvement upon 2010 Building Regulations (Ref. 23) (Code for Sustainable Homes (CSH) Level 4) from 2013 to 2016, and a zero carbon emission rate from 2016 to 2031. Non-domestic building developments must achieve a 40% improvement upon the 2010 Building Regulations from 2013 to 2016, and from 2019 a zero carbon emission rate through to 2031.
 - Policy 5.2 Minimising Carbon Dioxide Emissions (C) & (D) - require an assessment of the energy demand and carbon dioxide emissions to accompany proposals for major development;
 - Policy 5.2 Minimising Carbon Dioxide Emissions (E) - requires at least a 35% carbon reduction (beyond Part L 2013) to be met on site. The remaining regulated CO₂ emissions, to 100% (zero carbon), are to be off-set through cash in lieu contribution to the relevant borough to be ring fenced to secure delivery of CO₂ savings elsewhere.
 - Policy 5.3 Sustainable Design and Construction (C) - requires major new developments to meet the following minimum standards:

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

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

- Policy 5.6 Decentralised Energy in Development Proposals (A) - Development proposals should 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.
- Policy 5.6 Decentralised Energy in Development Proposals (B) - Major development proposals should select energy systems in accordance with the following hierarchy
 - o Connection to existing heating or cooling networks;
 - o Site wide CHP connection;
 - o Communal heating and cooling.
- Policy 5.6 Decentralised Energy in Development Proposals (C) - Potential opportunities to meet the first priority in this hierarchy are outlined in the London Heat Map tool. Where future network opportunities are identified, proposals should be designed to connect to these networks.
- Policy 5.7 Renewable Energy - Within the framework of the energy hierarchy (see above), major development proposals should provide a reduction in expected carbon dioxide emissions through the use of on-site renewable energy generation, where feasible.
- Policy 5.9 Overheating and Cooling (A) - The Mayor seeks to reduce the impact of the urban heat island effect in London and encourages the design of places and spaces to avoid overheating and excessive heat generation, and to reduce overheating due to the impacts of climate change and the urban heat island effect on an area wide basis.
- Policy 5.9 Overheating and Cooling (B) - Major development proposals should reduce potential overheating and reliance on air conditioning systems and demonstrate this in accordance with the following cooling hierarchy:
 - o Minimise internal heat generation through energy efficient design;
 - o Reduce the amount of heat entering a building in summer through orientation, shading, albedo, fenestration, insulation and green roofs and walls;
 - o Manage the heat within the building through exposed internal thermal mass and high ceilings;
 - o Passive ventilation;
 - o Mechanical ventilation;
 - o Active cooling systems (ensuring they are the lowest carbon options).

- o Major development proposals should demonstrate how the design, materials, construction and operation of the development would minimise overheating and also meet its cooling needs. New development in London should also be designed to avoid the need for energy intensive air conditioning systems as much as possible.
- 5.4 Major development proposals should as a minimum meet the regulated carbon dioxide emissions standards outlined within the London Plan.
- 5.5 Non-domestic proposals should achieve a 35 per cent improvement up to 2016, meet building regulation requirements since 2016, and be zero carbon from 2019 onwards.

Proposed Energy Strategy

- 5.6 The proposed energy strategy establishes how the site will achieve compliance with Building, Local Authority, and London Plan requirements. This has been achieved by following best practice procedures of the London Plan's Energy Hierarchy: be lean (improved building performance); be clean (centralised heating and cooling systems); and be green (use of low or zero carbon technologies).
- 5.7 Further details on the proposed energy and overheating strategies are provided in the Energy Strategy submitted as part of this planning application. A summary is provided below.

Reducing carbon emissions through lean measures

- 5.8 To maximise the energy efficiency of the development and thus reduce the energy demands, the following design principles and features have been incorporated:
 - Building fabric elements and glazing specifications significantly improved to the Building Regulation requirements.
 - Reduced air permeability compared to maximum required standards.
 - Specification of efficient heating services and control systems.
 - Energy efficient lighting through the development.
- 5.9 It was identified through the modelling undertaken, that a 7,621.47 kg (5.64%) reduction in CO₂ emissions could be achieved over the baseline emissions via the implementation of the energy efficient design aspects.
- 5.10 In order to minimise the heat losses through the building fabric, U-values for all building fabric elements and openings have been specified to exceed the levels required by Building Regulations. In addition, heat losses from infiltration have been minimised and a low air permeability target has been set. The details of these measures are summarised in the Table 5.1 below.

Table 5.1: Passive design energy saving measures

Building Element	Proposed values	Maximum values under Part L1A 2013	Maximum values under Part L2A 2013
Roof	0.12 W/m ² K	0.20 W/m ² K	0.25 W/m ² K
External Wall	0.17 W/m ² K	0.30 W/m ² K	0.35 W/m ² K
Party walls (between dwellings and unheated areas)	0.17 W/m ² K	0.30 W/m ² K	N/A
Party walls (between dwellings)	0.00 W/m ² K	0.20 W/m ² K	N/A
Ground floor	0.12 W/m ² K	0.25 W/m ² K	0.25 W/m ² K
Windows	1.20 W/m ² K	2.00 W/m ² K	2.20 W/m ² K
Personnel doors	1.20 W/m ² K	2.00 W/m ² K	N/A
Thermal bridging	Default Ψ value apart from Lintels ($\Psi=0.05$ W/mK)	0.15 W/m ² K	N/A
Air permeability	3 m ³ /hm ² @50Pa	10 m ³ /hm ² @50Pa	10 m ³ /hm ² @50Pa

Reducing carbon emissions through clean measures

- 5.11 The inclusion of a site wide heating system was investigated. Potential options at the site included either connection to an area wide low carbon heat distribution network, a site wide heat network or a Combined Heat and Power (CHP) system. It was considered that the installation of either of these options was not practical. However, an allowance will be made within the building services design to allow for a future connection.
- 5.12 By ensuring the necessary infrastructure is in place and providing a single point of connection, a site wide heat network served by a single energy centre, will help to facilitate later connection of the development to an area wide district heating network. As the development is located in an area that could be served by a district heating network in the future, a communal heating system will be adopted.

Reducing carbon emissions through green measures

- 5.13 A low or zero carbon (LZC) technology feasibility study was completed as part of this Energy Strategy which compared the feasibility of different technologies based on the energy demand of the development. Based on this, to comply with the energy requirements, it was identified that the most appropriate technologies to meet its sustainability and energy targets, are the installation of Photovoltaic Panels and Air Source Heat Pumps to provide heating for the domestic units and both heating and cooling for the commercial unit. Overall, it is proposed to install 160m² of PV panels for a total peak of 32.1kWp. This is based on installing 99 PV panels, with an output of 327W each.

- 5.14 Based on the robust approach to the energy hierarchy, the development has exceeded the required sustainability and energy targets. The proposed strategy achieves a site wide total reduction of the regulated carbon dioxide emissions of 37.10% over Building Regulations 2013 (36.28% over Part L1A and 42.72% over Part L2A). Moreover, the development achieves a total reduction of 31.44% of its regulated emissions through the use of renewables on site.

Table 5.2: Site wide regulated carbon dioxide emissions and savings

	Total regulated emissions (Tonnes CO ₂ /year)	CO ₂ Savings (Tonnes CO ₂ /year)	Percentage saving %
Part L 2013 baseline	134.73	-	-
Be lean	127.11	3.99	5.64%
Be clean	127.11	0.00	0.00%
Be green	84.75	42.36	31.44%
Overall Savings		49.98	37.10%
		Lifetime CO ₂ savings offset (Tonnes CO ₂)	
Offset		2249.77	

Overheating

- 5.15 The following measures have been implemented into the design to minimise overheating and to meet cooling needs of the development:

Passive Design

- Use materials with high surface reflectivity to the sun's radiation.
- No windows present on the south elevation.
- Use carefully designed shading measures, including balconies and shading panels
- Heat transfer and infiltration is controlled by maximising insulation levels with low U-values to prevent the penetration of heat as much as practically possible.
- Use low windows with low solar energy transmittance (g-value), to reduce the amount of solar energy passing through the glazing area.
- Minimise internal heat gains by using low energy equipment, including energy efficient lighting.
- Use well insulated hot water systems.
- Encourage the occupants to use energy efficient appliances.

Passive Ventilation

- Design the building and its internal layout to enable passive ventilation, including openable windows, a shallow floor plan, high floor to ceiling heights, and a double façade where possible.

Mechanical Ventilation

- High efficiency Mechanical Ventilation with Heat Recovery (MVHR) will be provided for the whole of the building.
- Extract fans in the kitchen areas and toilets.

Active cooling systems (ensuring they are the lowest carbon options)

- High efficiency cooling system used (SEER: 5) for the commercial unit.

Conclusion

- 5.16 In conclusion, based on the measures outlined in the report, the development achieves both its sustainability and energy targets. The proposed strategy includes high insulation standards, very efficient building services, communal air source heat pumps for the flats, air source heat pumps (heating and cooling, to the commercial unit) and approximately a total 160m² of photovoltaics spread across the roof of the two Blocks. It has been confirmed that a **37.10%** improvement on 2013 Building Regulations will be achieved and **33.32%** of the total CO2 emissions reduction of this development will be achieved by the incorporation of a low or zero carbon technology onsite.
- 5.17 The modelling undertaken shows that Building Regulations 2013, London Plan 2015 and local authority planning requirements have been met with respect to energy and CO2 reduction. This can be seen in Figures 5.1 and 5.2 below.
- 5.18 A 100% carbon dioxide saving cannot be achieved on site for the domestic buildings, and so in order to meet 'Zero Carbon' onsite, 74.99 tnCO2/yr must be offset according to GLA Guidance. By multiplying the annual remaining carbon emissions with the assumed lifetime of the development's services (30 years) the cumulative shortfall has been calculated as 2,249.7 tnCO2/yr. The required cash-in-lieu contribution is £134,982 based on the carbon dioxide offset price of £60/tonne set by Hillingdon Council.

Figure 5.1: Step reduction on CO₂ emissions for domestic buildings

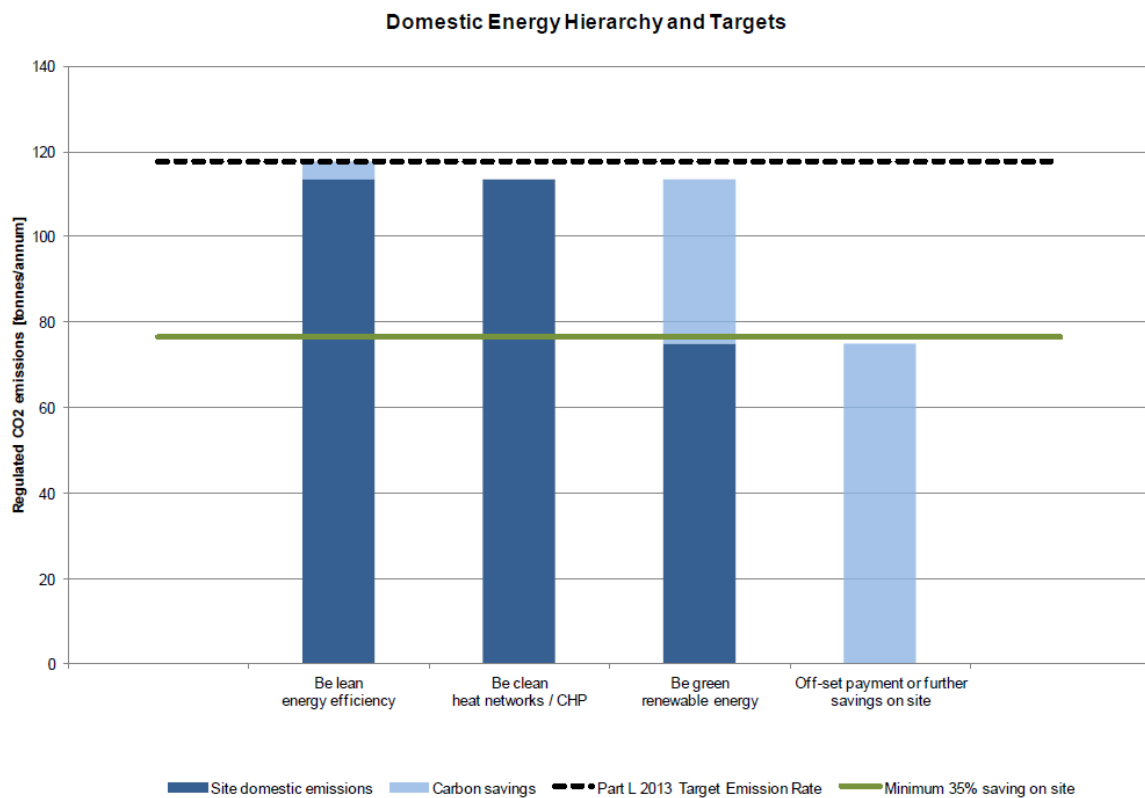
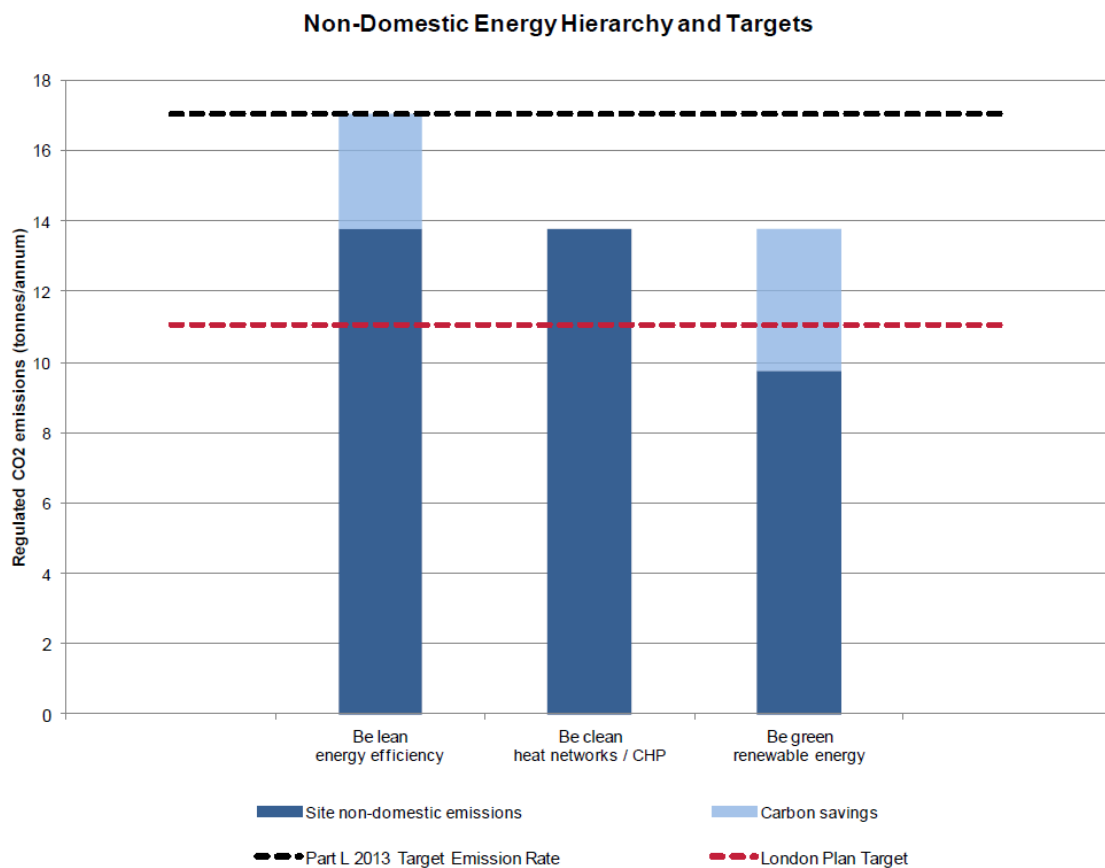


Figure 5.2: Step reduction on CO₂ emissions for non-domestic buildings



6 MATERIALS

- 6.1 Building materials can have a vast environmental impact in terms of energy and resources in their production, use and disposal. Therefore, if environmentally responsible building materials are chosen, a significant amount of CO₂ can be saved during construction as well as during operation. Consideration should also be given to materials' performance under potentially changing climatic conditions over the lifetime of the buildings.
- 6.2 Additionally, London Plan Policy S.4: Sustainable Design and Construction - requires that developments demonstrate that they achieve the highest standards of sustainable design and construction.
- 6.3 In summary, the design team have focused on specifying materials and products with the following characteristics wherever possible:
- That have a high recycled content including steel, glass and certain cladding and flooring products;
 - That reuse materials including reclaimed materials;
 - That are durable;
 - That can be re-used, recycled, refilled, recharged or reconditioned;
 - That can be easily upgraded by adding to/or replacing parts;
 - That are light weight and so reduce the volume of materials within the building structure and require less fuel during transport; and
 - That are accredited to a recognised environmental standard, such as the Forestry Stewardship Council (FSC), or whose extraction and processing is covered by a certified Environmental Management System (EMS) where possible.
- 6.4 The team have committed to using construction materials that have a low environmental impact over the full life cycle of the building by specifying as many building elements as possible with a high rating (A or A+) under the Green Guide to Materials Specification, which provides guidance regarding those materials with a low embodied energy and that are not deleterious to the environment during extraction or manufacturing.
- 6.5 Responsible sourcing of major materials will also be considered and suppliers will be encouraged to have environmental management schemes in place and source all materials legally, meeting international standards, with chain of custody certificates where relevant.

7 POLLUTION

- 7.1 There are many forms of environmental pollution arising from building operation, including noise, odours, light and vibration. A significant proportion of pollution is airborne and is the direct result of fumes, combustion materials; chemicals used in industrial processes, or polluted air from ventilation systems and air conditioning plants. Some pollutants can also escape to soil and groundwater courses. Internal noise and disturbance to neighbours are also important considerations; and light spill from external lighting can sometimes be an annoyance and aggravation to neighbours and local wildlife.

Noise

- 7.2 Noise could potentially arise from the construction and operation phases of the proposed development, including fixed plant, road noise and the impacts of such noise sources on nearby receptors. With appropriate controls and conditions, future noise levels at the site will remain suitable for residential and associated uses and that no permanent adverse noise effects will occur to off-site receptors.
- 7.3 A Noise Impact Assessment has been completed for the proposed development to determine the baseline noise levels, and to provide details of mitigation measures to reduce any potentially significant (adverse) noise.

Construction Phase

- 7.4 Measures will be implemented during construction, and will follow current construction best practice, to reduce noise where possible. Key provision should include:
- Acoustic hoarding of the site to control sound breakout including control of gates during working hours;
 - Use of electrical or LPG plant wherever possible in lieu of diesel or petrol driven plant;
 - Use of effective exhaust silencers and other sound attenuation;
 - Pneumatic percussion tools will not be permitted;
 - Machines in intermittent use should be shut down or throttled down to a minimum when not in use;
 - Appropriate location of noisy plant and equipment to minimise nuisance.
- 7.5 Construction activities will take place to a predetermined schedule. Construction activities will be undertaken during typical construction industry working hours (generally taken to be 08.00 – 18.00 hours Monday to Friday and 08.00 – 13.00 hours Saturdays). As such, there would be very little change to the evening, night-time and weekend baseline noise and vibration conditions as construction activities will be outside these more sensitive periods.

Operational Phase

- 7.6 In order to reduce the potential impacts of noise to non-significant levels during the operation of the proposed development it is planned that double glazing and MVHR acoustic trickle

vents will be incorporated into the design proposals, along with 2 layers of 15mm Soundbloc Plastercard on the upper floor ceilings. These mitigatory methods will ensure that the proposed development complies with the maximum noise levels as outlined in BS 8233:2014.

- 7.7 The Noise Impact Assessment undertaken in accordance with British Standard 8233:2014 indicates that if the proposed mitigation measures are adhered to then the required internal noise levels will be met.

Air Pollution

Construction Phase

- 7.8 A qualitative assessment of dust levels associated with the proposed development has been carried out for the construction phase. The impact of dust soiling and PM₁₀ can be reduced to negligible through appropriate mitigation measures.
- 7.9 These mitigation measures will be put in place at the detailed design and construction phases which will ensure that impacts of local air quality are avoided. Such measures include:
- Implementation of a Travel Plan for construction workers for the site, encouraging a shift away from private vehicle usage through reduced car parking provision, the provision of cycle storage and safe pedestrian routes;
 - Development of a Dust Management Plan (DMP) which could include the monitoring of dust deposition, dust flux, real-time PM₁₀ continuous monitoring and/or visual inspections. Then carry out regular site visits and inspections to assess this;
 - Production of a Construction Logistics Plan to manage the sustainable delivery of goods and services;
 - Best practice construction site management to ensure potential air pollution will be effectively managed, including:
 - o Fitting equipment with dust suppression techniques;
 - o Use of dust sheets and other coverings e.g. to skips and chutes;
 - o Regular 'damping' down of the site in dry weather;
 - o Minimisation of drop heights for equipment and machinery; and
 - o Use of water sustainably where necessary.
- 7.10 Further details on the proposed mitigation measures, including site management methods to reduce and monitor air quality, are provided within the Air Quality Assessment produced by Gem Air Quality Ltd.

Operational Phase

- 7.11 Air quality impacts from the operational phase are not considered to be significant, however, good practice mitigation measures will be complied with to ensure National, Regional and Local standards are adhered to.

Water Pollution

- 7.12 Consideration will be given at detailed design stage to any pollution prevention measures, if required, to ensure that there is no adverse impact of the development on the receiving watercourse (following discharge to the nearby surface water sewer). It is noted that the majority of the site will be occupied by built footprint, so runoff will either be from the roof or the external areas where no car parking is proposed (i.e. limited potential for pollution).
- 7.13 A Construction Management Plan (CMP) will be produced to ensure that any potential for contaminants during the construction phase are reduced and mitigated against.

Ground Contamination

Construction Phase

- 7.14 Potential human health receptors include future residential and commercial site users and neighbouring commercial properties. Providing construction workers adopt appropriate levels of hygiene and personal protective equipment, they are not considered to be at significant risk from potential contaminants of concern and have not been considered further as part of this assessment.

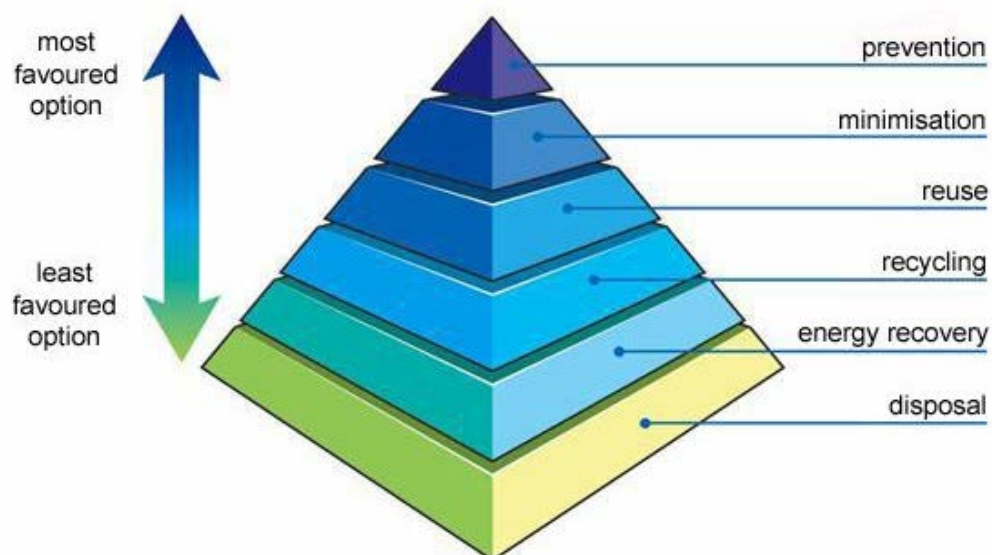
Operational phase

- 7.15 Following redevelopment, the potential risks to future site users *via* the dermal contact and ingestion pathways in areas of the site comprising building cover and hardstanding will be mitigated. In areas of soft landscaping, the pathways of dermal contact and ingestion could still be active. Furthermore, there would be potential for the airborne off-site migration of soil/dust from these areas. It is considered that the presence of a well ventilated basement car park beneath the entire of the ground floor level will likely provide sufficient mitigation of any potential risk from volatile contaminants of concern or ground gas in soil and/or groundwater (if present) beneath the site; thereby limiting the potential impact to future site users *via* the inhalation pathway in indoor areas.
- 7.16 Alternatively, if contamination is present at the site this would be remediated before construction works were completed, resulting in a positive enhancement and reduction of contamination at the site.

8 WASTE

- 8.1 The UK faces major challenges to sustainable waste management - each year it is estimated that we generate about 100 million tonnes of waste from households, commerce and industry. About 30% of solid waste produced in the UK is construction waste, and 96% of all waste produced goes direct to landfill, creating risks of contamination from leaching of toxic materials and missing the opportunity to recover latent embodied energy and valuable materials for recycling.
- 8.2 The minimisation of waste and the increased use of recycled materials therefore form an intrinsic key to resource protection. The Waste Regulations 2011 includes the Waste Hierarchy, which is a framework for sustainable waste management setting out the preferential treatment of waste, as Figure 8.1 below shows.

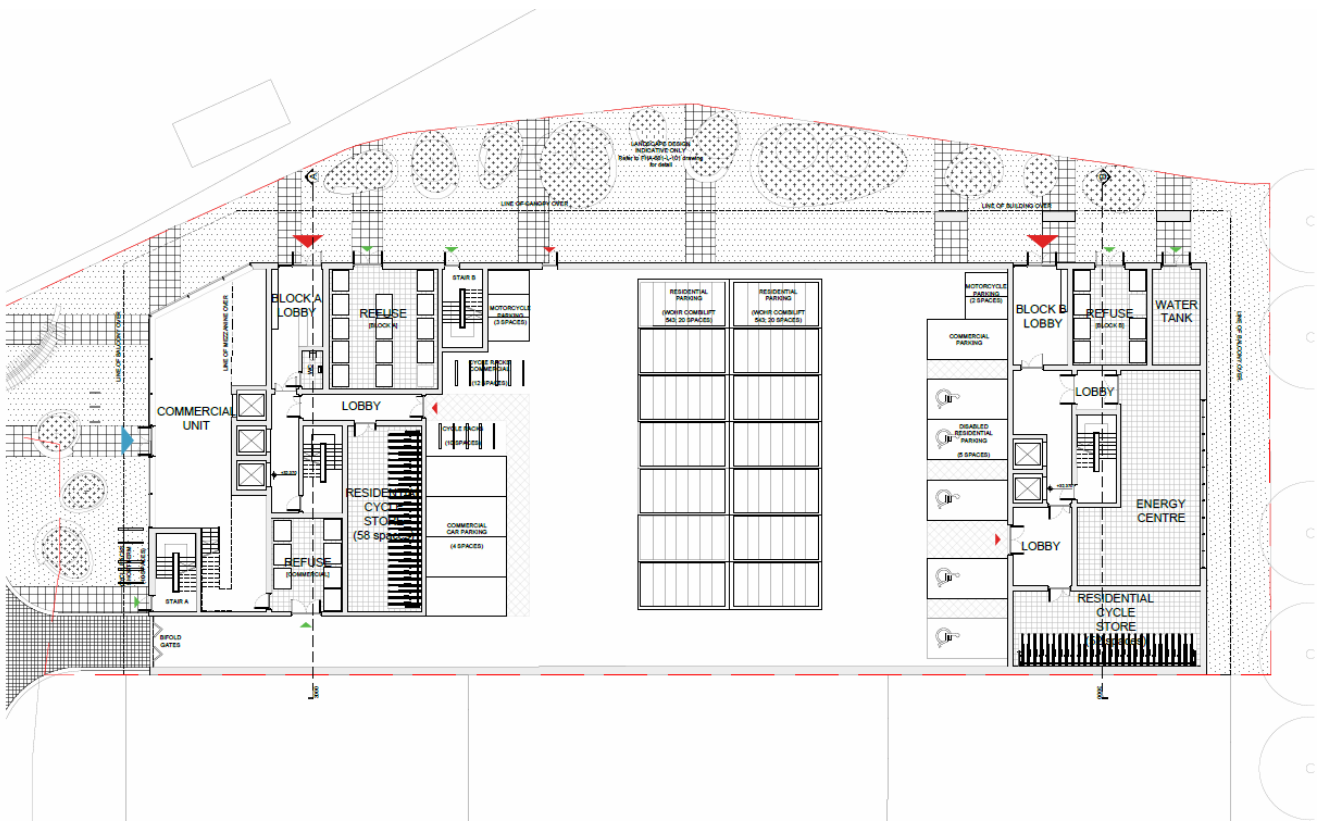
Figure 8.1: Waste Management Hierarchy



- 8.3 All relevant contractors will be required to investigate opportunities to minimise and reduce waste generation in line with WRAP's 'Halving Waste to Landfill' (Ref. 24) initiative by:
- The removal of all packaging from site by the suppliers for re-use, thus reducing the waste produced on site. Implementation of a 'just-in-time' material delivery system to avoid materials being stockpiled, which increases the risk of their damage and disposal as waste;
 - Use of standard size components in design detailing to eliminate risk at source where possible to do so;
 - Attention to material quantity requirements to avoid over-ordering and generation of waste materials;
 - Re-use of materials wherever feasible, e.g. re-use of excavated soil for landscaping;

- Re-use and recycling of materials off-site where re-use on-site is not practical (e.g. through use of an off-site waste segregation facility and re-sale for direct re-use or re-processing);
 - Skips will be colour coded and signposted to reduce risk of cross contamination and covered to prevent dust and debris blowing around the site, these will be cleared on a regular basis; and
 - Burning of wastes or unwanted materials will not be permitted on-site.
- 8.4 Relevant contractors will be required to carry out works in such a way that, as far as is reasonably practicable, the amount of spoil and waste to be disposed of by landfill is minimised and that any waste arising from the site are transported and disposed of in accordance with relevant legislation including the following:
- The Environmental Permitting (England and Wales) (Amendment) Regulations 2013 (Ref. 25);
 - The Waste (England and Wales) (Amendment) Regulations 2012 (Ref. 26);
 - The Waste Management (England and Wales) (Amendment) Regulations 2006 (Ref. 27); and
 - Clean Neighbourhoods and Environment Act 2005 (Ref. 28).
- 8.5 In addition, disposal sites and routes will be identified by the contractors in consultation with LBH and the Environment Agency (EA). When assessing the most suitable option for landfill disposal, the mode of waste transportation and alternatives to reduce adverse environmental impacts, transport times and landfill capacity must be considered. This project will also aim to use recycled and secondary aggregates where possible.
- 8.6 Refuse storage is provided within three refuse storage areas along the northern boundary of the site, with separate storage for the residential blocks (Block A and Block B) and within the commercial space. These have been sized to provide suitable capacity, as determined by GLA guidelines.
- 8.7 Loading of refuse vehicles will be on-street, with vehicles being able to stop within 18m of the refuse and recycling holding area to minimise drag distances. Due to the narrow street frontage and limited vehicular access to Block B, the refuse bins serving this block will be moved to a temporary store located at the end of Viveash Close on collection day.
- 8.8 The proposed ground floor layout is shown in Figure 8.2. This includes details on the proposed location of the refuse storage.

Figure 8.2: Proposed Ground Floor Layout



9 TRANSPORT

- 9.1 The site is located in an area that has a PTAL rating of 4 (increasing to 5 once Crossrail opens), representing an area that has a 'good' level of public transport accessibility.
- 9.2 The site is particularly well located in terms of accessibility to local services, being located within 500 metres of Hayes town centre. A good standard of footway provision exists within the existing highway network, which generally benefits from wide footways on both sides of the carriageway and pedestrian crossing facilities at junctions. Dedicated cycle facilities also exist within Station Road, providing safe and convenient cycle access between the site and Hayes town centre. As such the site is within the immediate vicinity of an extensive range of local services and facilities that are available within Hayes town centre.
- 9.3 Furthermore, the site is located a 200 metre walk distance from Hayes and Harlington mainline rail station, which can be accessed via the station car park. Hayes and Harlington station provides direct rail services to London Paddington (21 minutes) as well as a range of destinations including Heathrow Airport, Southall, Hanwell, West Ealing, Ealing Broadway, West Drayton, Slough, Maidenhead, Reading and Oxford. The station also provides 18 secure cycle parking spaces plus 120 car parking spaces.
- 9.4 The nearest bus stops to the site are located within Station Road, adjacent to Hayes and Harlington station. The bus stops within Station Road benefit from having shelters, seating and timetable information, and are located within a 200 metre walk distance from the site, via the station car park, or 500 metres via Viveash Close, Nestle's Avenue and Station Road. The bus stops provide access to services E6, H98, U4, U5, 90, 140, 195, 350, 696, and 698. These services provide frequent bus services to various local destinations. Further bus stops are also available within North Hyde Road, which is within a 450 metre walk distance of the site and provide access to bus service 195.

Construction Phase

- 9.5 Construction traffic movements will be confirmed once a contractor has been appointed. These movements will be detailed in the CLP. However, it is expected the Principal Contractor will consider the following measures to control any potential impacts arising from the site:
- To avoid congestion along adjoining roads, suppliers and sub-contractors will be contracted to deliver to an agreed schedule, listing both the date and time of delivery;
 - Delivery vehicles will be provided with directions to the site and will be required to turn off engines to avoid nuisance upon arrival. All deliveries will arrive within the agreed working hours, unless for abnormal loads requiring specific out-of-hours arrangements;
 - All deliveries will be routed to site along a preferred access route selected to minimise disruption to local residents and surrounding areas;
 - All freight vehicles travelling to the site shall be low emission vehicles, where feasible, and regular fleet maintenance shall take place in order to reduce emissions. Additionally, all deliveries of materials, plant and equipment will be strictly controlled and co-ordinated, to prevent congestion and disruption to traffic;

- All vehicles will be required to comply with the current Fleet Operator Recognition Scheme (FORS) guidance with respect to visibility, audibility of reversing/turning warnings during manoeuvring and other controls when interfacing with the public;
- At the pedestrian access, signing in/out procedures for the operatives and staff will be established. These will be operated in conjunction with an authorised pass system and site safety and environmental inductions for all personnel visiting and working on the project;
- No waiting will be permitted on the roads adjacent to the site. Banksman will be posted at the site entrance to ensure that construction vehicles do not obstruct pavements or queue on the roads adjacent to the site;
- No delivery vehicle will, as far as it is possible to enforce, leave the site empty. A “take-back” policy will be adopted where it is possible, all return vehicles will take “associated waste/packaging” with them;
- A ‘just in time’ policy shall be implemented for the delivery of material for the construction phase. This is to reduce the amount of on-site stockpiling required on site and thereby reduce the risk of breakages and the generation of dust;
- The site access will be kept clean to avoid debris and other materials being deposited on the surrounding roads;
- A 10mph speed limit will be enforced on site; and
- Safety signs will be placed around the site and along all pedestrian routes.

Operational Phase

- 9.6 A total of 50 car parking spaces will be provided within the car park using triple car stackers, with 45 spaces allocated for the residential land use (including parking spaces for disabled drivers) and 5 spaces provided for the commercial land use. As such, car parking for the residential land use will be provided at a ratio of 0.51 spaces per flat on average per flat. This level of residential car parking is fully in accordance with The London Plan and Hillingdon’s maximum parking standards, and meets the requirement specified by TfL within the GLA’s pre-planning response (0.5 spaces per flat).
- 9.7 As such it is considered that the proposed level of residential parking has been provided at an appropriate level that will minimise transport impacts whilst promoting and encouraging the use of viable alternative modes of sustainable transport.
- 9.8 A total of five parking spaces will be provided for the commercial uses, which equates to a provision of 1 space per 187 sqm (within the London Plan’s specified range of 1 space per 100 – 600 sqm). This level of parking takes into account the accessible nature of the site and the need to promote sustainable transport and minimise transport impacts. The provision of 5 spaces is in accordance with Hillingdon’s maximum parking standards and the standards set out within The London Plan.
- 9.9 A total of 5 motorcycle/moped parking spaces have also been provided within the car park, which exceeds the minimum requirements set out within Hillingdon’s parking standards, which require a motorcycle/moped space for every 20 car parking spaces.

- 9.10 Electric charging points will be provided within one bank of car stackers (20 spaces). As such 20 of the 45 residential parking spaces (44%) will be designed for electric vehicles, which is in excess of the requirements set out within The London Plan, which requires a minimum of 20% of all car parking spaces to be designed for electric vehicles with an additional 20% passive provision for electric vehicles in the future. Charging points will also be provided for two of the five commercial car parking spaces. Parking for electric vehicles is therefore provided in accordance with the standards set out within The London Plan.
- 9.11 On-site car parking, motorcycle parking, disabled parking and parking for electric vehicles is all provided in accordance with the standards set out within The London Plan and Hillingdon's Unitary Development Plan, as well as being in accordance with the pre-planning advice received from both the GLA and Hillingdon.
- 9.12 A total of 140 cycle parking spaces are provided across the development, with 118 spaces for the residential uses, 12 secure cycle parking spaces for the commercial land use and a further 10 short term cycle parking spaces that are provided to the front of the building.

Travel Plan

- 9.13 A Travel Plan has been developed for the proposed development with the aims to:
- Increase the proportion of journeys to and from the site by sustainable modes of transport; and
 - Reduce single occupancy vehicle trips to and from the site.
- 9.14 This will help address the following sustainability issues:
- Reduced CO2 emissions;
 - Reduced demand for on-street parking within the local area;
 - Improved health and well-being for future residents; and
 - Reduced impact in respect to local congestion.
- 9.15 The key aspects of the Travel Plan to enhance sustainability are:
- A travel welcome pack for new residents and occupiers of the commercial floorspace which will detail the objectives of the travel plan and include details (including timetable) of sustainable modes of transport that are available;
 - A notice board providing up-to-date information relating to sustainable travel and on public transport in the area;
 - The provision of details of local walking routes;
 - Provision of measures to encourage cycling such as secure cycle parking, details of cycle routes, a cycle to work scheme, and the creation of a bicycle user group (BUG);
 - Car sharing and the development of a car club; and
 - By reducing the need to travel by providing advice on home working and available home delivery services.

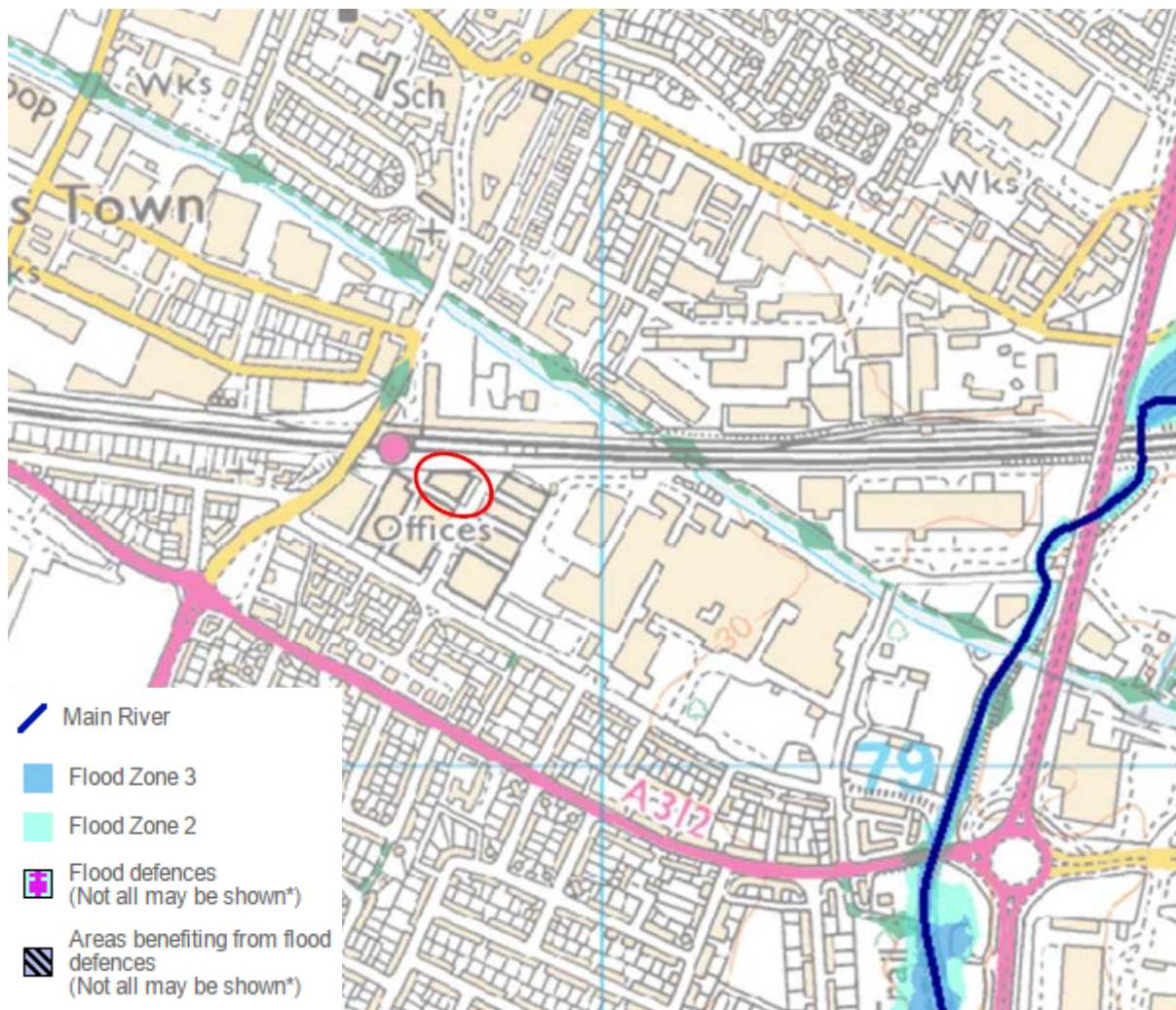
10 SURFACE WATER AND FLOOD RISK

- 10.1 Water is becoming an increasingly scarce resource, with only 3% of the world's water being held as fresh water and less than 0.3% of this being available to humans. As more buildings are built and the population increases, the pressures on the UK's water resources are growing. Climate change will only add to these pressures. To ensure a sustainable water supply for the future, it is therefore vital that water is used more efficiently and methods of harnessing and reusing water are developed and implemented. Pursuant to this, DEFRA's Future Water Strategy (Ref. 29) sets out a number of objectives for more sustainable water use and management.
- 10.2 Furthermore, climate change is also likely to mean more extreme weather events; therefore the issue of 'surface water' flooding is becoming more and more important. Use of Sustainable Drainage Systems (SuDS) that drain away surface water run-off through collection, storage and cleaning before allowing it to be released slowly back into the environment can often be an effective solution.
- 10.3 Policy 5.13: Sustainable Drainage - of the London Plan identifies a Sustainable Drainage Hierarchy and states that new developments should aim to achieve greenfield run-off rates and ensure that surface water runoff is managed as close to its source as possible.
- 10.4 Policy 5.15: Water Uses and Supplies - of the London Plan states that development should minimise the use of mains water by incorporating water saving measures and equipment.
- 10.5 The LBH Local Plan requires the use of SuDS in major developments. This is supported by the London Plan which promotes the use of SuDS in all developments, and states that greenfield runoff rates should be targeted.

Flood Risk and Drainage Strategy

- 10.6 The EA flood map (available online) indicates that the site is located within Flood Zone 1, whereby the annual probability of flooding from fluvial / tidal sources is classified as less than 1 in 1000. The EA flood map is provided in Figure 10.1 below.
- 10.7 The potential for the use of SuDS has been considered at this stage in accordance with the SuDS Hierarchy.
- 10.8 It has been determined that Swales, Detention Basins and Ponds are not feasible due to the lack of space on site and because there is no open space available.
- 10.9 Soakaways and permeable/ porous paving are also not feasible as there will not be enough room on site considering that the built footprint covers a significant portion of developable land.
- 10.10 A reduction in runoff rates to the lowest practical minimum rate has been achieved through the use of an underground attenuation tank. Additional attenuation and ecological benefits will be provided through the incorporation of living roofs and rainwater harvesting. As a result of the proposed measures, there will be a significant reduction in flood risk within the area.

Figure 10.1: EA Flood Risk Map



Efficient Water Use

10.11 Consideration has been given to the efficient use of water in the construction phase and the main contractor will be required to monitor water consumption during this. Examples of measures that could enhance water efficiency involve the use of:

- Misting/ atomising water systems for dust suppression using non-potable water sources;
- Water efficient plant and equipment;
- Water efficient taps, toilets and water fittings in site offices; and
- Closed loop water system for washing tools and vehicles.

10.12 To reduce water consumption during the operation of the buildings, water efficient appliances will be incorporated within the proposed development to conserve water at its point of use by incorporating water efficiency and water recycling measures, where specified. Water use in the new dwellings will meet the 105 Litres per person / day requirement specified in the LBH Local Plan.

- 10.13 The proposed development would incorporate water efficiency measures such as water efficient fixtures and fittings (dual flush WCs, white goods with low demand), and use of greywater or rainwater harvesting to reduce potable / mains water consumption would be considered at detailed design stage. A commitment will also be made to liaise with incoming tenants for the specification and incorporation of water efficiency measures as far as practicable.

11 ECOLOGY AND BIODIVERSITY

- 11.1 The London Plan requires developments to create opportunities for biodiversity and nature as part of the proposed development in support of the Mayors Biodiversity Strategy (Ref. 19).
- 11.2 Policy 7.19: Biodiversity and Access to Nature – requires development proposals, to wherever possible, make a positive contribution to the protection, enhancement, creation and management of biodiversity.
- 11.3 It also requires that proposed developments do not adversely affect the integrity of European sites, or have significant adverse impacts on European or nationally designated sites or on the population or conservation status of a protected species or a priority species or habitat identified in a UK, London or appropriate regional Biodiversity Action Plan (BAP) or borough BAP.
- 11.4 A Preliminary Ecological Appraisal (PEA) was undertaken at the site in January 2017. This determined that the habitats present were considered to be of low ecological value and did not represent any significant development constraints, and that the site itself was highly constrained, significantly limiting opportunities for habitat enhancement.
- 11.5 The PEA confirmed that there were suitable habitats for both birds and bats, with potential roosting spots in the surrounding vegetation and within the existing building on site. However, it did not confirm whether birds and bats were present on site during the investigation. There was also no evidence to suggest suitable habitats for any other species, protected or otherwise.
- 11.6 Suitable bird nesting habitat was identified in a stand of introduced shrubs and a hedge. However, any vegetation removal that takes place (such as the Buddleja (butterfly bush)) will be conducted at a time of year when nesting birds will not be disturbed or following inspection by a suitably qualified ecologist in advance of the works.
- 11.7 Additionally, there are no statutorily designated nature conservation sites such as Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs), Special Protection Areas (SPAs), National Nature Reserves (NNRs), Local Nature Reserves (LNRs) or Ramsar sites within 2 km of the site.
- 11.8 One potential opportunity identified by the proposals to enhance biodiversity at the site is the incorporation of a living roof. This feature could be combined with the installation of PV panels on the roof of the building, enhancing the ecological value of the site while allowing for the installation of a renewable energy technology. A living roof should seek to maximise its use of native species, and be subject to an appropriate management regime. Other areas of soft landscaping should also aim to use native species wherever practicable.

12 SITE MANAGEMENT

- 12.1 The construction phase of the development can have a significant effect on the quality of the site and its surroundings, including the local environment, neighbouring residents, employees and the general public. Sustainable construction involves the prudent use of existing and new resources, the efficient management of the construction process, and consideration of potential adverse environmental impacts on local sensitive receptors.
- 12.2 The Applicant will ensure that the contractor for the development of the site will adopt high standards of sustainable construction, and will implement the following:
- Neighbouring properties: Measures will be implemented to reduce noise and nuisance affecting neighbours and noise levels will be minimised as far as possible during construction;
 - Dust and emissions: The contractor will implement best practice site management procedures such as those discussed in 'Control of Dust from Construction and Demolition Activities' and 'Pollution Control Guide Parts 1-5' to control dust and emissions during construction and demolition to minimise risk to construction workers and adjacent site occupiers;
 - Pollution control: Measures will be implemented during construction to minimise pollution to water, air (dust) and ground. Provisions for dust and mud control may include use of dust sheets, regular proposals to 'damp' down the site in dry weather, and covers to skips etc. Best practice pollution policies and procedures on site will be demonstrated through compliance with the following (it should be noted that PPG 1 and 5 have now been withdrawn but still provide relevant guidance having not yet been replaced):
 - o PPG 1: Pollution prevention Guidelines; Environment Agency (Ref. 30);
 - o PPG 5: Works and maintenance in or near water; Environment Agency (Ref. 31); and
 - o Building a Better Environment, a guide for developers; Environment Agency (Ref. 32).
 - Considerate Constructors – the contractor will be required to sign up to the UK Considerate Constructor Scheme, a Code of Practice (Ref. 33) that seeks to:
 - o Minimise any disturbance or negative impact;
 - o Eradicate offensive behaviour and language on construction sites; and,
 - o Recognise and reward the constructor's commitment to raise standards of site management, safety and environmental awareness beyond statutory duties.
- 12.3 Plans will be put in place to ensure safe working practices during the construction phase. These include the careful and coordinated programming of work activities, resource conservation, minimising vehicle trips, pollution control measures, adhering to health and safety regulations, quality management and communication procedures.

- 12.4 In this way, all parties involved with the site preparation and construction works, including trade contractors and site management, will be required to work in a coordinated manner and to adopt common best practice and sustainable construction methods.
- 12.5 A commitment to monitor utility (energy and water) consumption will be made, along with the monitoring of transport of construction materials and waste.

13 SOCIO-ECONOMICS, HEALTH AND WELLBEING

Socio-economics

Employment

- 13.1 Employment opportunities are provided by the provision of commercial space, and through the wider supply chains that would be created as a result. This will provide both full-time and part-time jobs; however, the exact number of jobs which will be created are currently unknown.
- 13.2 Short term employment will also be provided during the construction phase.
- 13.3 Jobs created in both the construction and operational phase will therefore help to reduce unemployment locally, and in the wider area, although would need to be contrasted against those lost from the food distribution business currently on site.

Health and Wellbeing

Design and Accessibility

- 13.4 A clear access strategy has underpinned the design approach to this scheme. Considering the needs of all users alongside the requirements of servicing strategies raises a number of issues which influence the design.
- 13.5 The proposals include 9 wheelchair adaptable units, which are capable of being fitted out as wheelchair accessible dwellings. This comprises over 10% of the overall accommodation.
- 13.6 These units have been designed to comply with the standards set out in the Building Regulations Part M(3) for Category 3: Wheelchair user dwellings.
- 13.7 Both communal and private entrances and approaches to units comply as follows:
- Approaches are step-free, level and clear of obstructions;
 - Approach routes have a minimum clear width of 1200 mm;
 - There is a level 1500x1500mm landing outside the entrance;
 - A clear turning circle, 1500mm in diameter is provided inside the entrance area;
 - All communal lifts are designed to be accessible for wheelchair users and 2 lifts per Block are proposed.
- 13.8 With regards to the wheelchair accessible dwellings, The following key criteria have been addressed for the following spaces:

Bedrooms

- Principal double bedroom is 13.5m² and at least 3m wide;

- There is a 1200x1200 clear manoeuvring space on both sides of the bed in the principal bedroom;
- All single bedrooms are 8.5m² and at least 2.4m wide.

Kitchens/Dining Areas

- 1500mm wide in front of all kitchen units and appliances;
- The overall length of kitchen worktop meets the described requirements and there is a continuous section that includes a combined sink and drainer unit and is at least 2200mm long.

Winter Gardens and Balconies

- 13.9 Most units have access to winter gardens via kitchen/dining space and occupying part of the balcony space. The remaining part of the balcony is left open and can be accessed either through the winter garden or directly via the master bedroom.
- 13.10 The floor to ceiling glass panels enclosing the space are mounted on sliding tracks. This enables the space to be used fully enclosed, partially enclosed or fully open.
- 13.11 This system allows for the private amenity space to be used all year round and improves its overall quality. Additionally, by providing a shielded outdoor amenity space, the winter gardens also have a noticeable acoustic benefit, blocking noise from the adjacent railway tracks.
- 13.12 Having a private open space that is usable all year can provide an enhancement to a person's wellbeing, providing a space to relax outside of the apartment that can be enhanced through the use of vegetation or seating.

Crime and Safety

- 13.13 Secured by design (SBD) values have been agreed in principle following a meeting with the Designing out Crime officer. In order to improve the quality of the spaces and to minimise antisocial behaviour:
- Reconfiguration of the ground floor plan to minimise the number of entry doors into the development;
 - All doors to buildings and individual units to be SBD approved, accessed by fob-key and utilise an air lock system;
 - SBD approved letter boxes provided in the entrance lobby;
 - Reconfiguration of the cycle store to only have one access door and access available only for bicycle owners; and
 - Using hit and miss brick for car park wall to provide ventilation and passive surveillance.

14 SUMMARY AND CONCLUSIONS

- 14.1 In conclusion, this Sustainability Statement demonstrates that the proposed development will meet a number of key policy objectives, responding to local needs and requirements, and conforming to many best practice standards for sustainable design and management.
- 14.2 As set out above, commitments have been made by the Applicant with respect to a range of sustainable design features to be finalised at the reserved matters/ detailed design stage. These include energy efficiency, water conservation, waste minimisation/ recycling, measures to reduce pollution and biodiversity enhancements.
- 14.3 The Sustainability Statement has helped inform the design process by identifying further opportunities and constraints for sustainable development and ensuring compliance with national, regional and local planning policy requirements and industry best practice standards.
- 14.4 Such opportunities include:
- the use of a living roof;
 - water efficient fittings;
 - rainwater harvesting/ grey water usage;
 - the provision of sufficient cycle spaces;
 - the provision of vegetation and potential wildlife habitats where possible; and
 - proposals to improve the sustainability of both construction and operational phases.

15 REFERENCES

- Ref. 1 GLA (2014); Mayor's Sustainable Design and Construction SPG (2014)
- Ref. 2 London Borough of Hillingdon (2014); Local Plan Part 2: Sustainability Appraisal
- Ref. 3 London Borough of Hillingdon (2015); Local Plan Part 2: Sustainability Appraisal Addendum
- Ref. 4 London Borough of Hillingdon (2012); Local Plan Part 1: Strategic Policies
- Ref. 5 London Borough of Hillingdon (2015); Local Plan Part 2: Development Management Policies
- Ref. 6 Department for Environment Food and Rural Affairs (2005); The UK Government Sustainable Development Strategy. March 2005
- Ref. 7 Department for Communities and Local Government (2012); National Planning Policy Framework: HMSO. March 2012.
- Ref. 8 Department of Transport and Industry (2003); Our Energy Future – Creating a Low Carbon Economy
- Ref. 9 HMSO (2004); Sustainable and Secure Buildings Act
- Ref. 10 HMSO (2006); Climate Change and Sustainable Energy Act
- Ref. 11 Department for Communities and Local Government (2006); Building a Greener Future: Towards Zero Carbon Development
- Ref. 12 Department of Transport and Industry (2007); Meeting the Energy Challenge. White Paper
- Ref. 13 HMSO (2008); Climate Change Act
- Ref. 14 HMSO (2008); Planning and Energy Act
- Ref. 15 HMSO (2011); Energy Act
- Ref. 16 GLA (2016); The London Plan 2016 - Spatial Development Strategy (consolidated with alterations since 2011)
- Ref. 17 GLA (2011); Mayor's Energy Strategy (2011)
- Ref. 18 GLA (2010); Mayor's Air Quality Strategy (2010)
- Ref. 19 GLA (2002); Mayor's Biodiversity Strategy (2002)
- Ref. 20 GLA (2011); Mayor's Municipal Waste Management Strategy (2011)
- Ref. 21 GLA (2004); Mayor's Ambient Noise Strategy (2004)
- Ref. 22 Mayor of London (2016); The London Plan – The Spatial Development Strategy for London Consolidated with Alterations Since 2011 (March 2016)
- Ref. 23 HMSO (2013); The Building Regulations 2010 Part L (2013 edition incorporating 2016 amendments)

- Ref. 24 WRAP (2009); Halving Waste to Landfill
- Ref. 25 HMSO (2013); The Environmental Permitting (England and Wales) (Amendment) Regulations 2013
- Ref. 26 HMSO (2012); The Waste (England and Wales) (Amendment) Regulations 2012
- Ref. 27 HMSO (2006); The Waste Management (England and Wales) (Amendment) Regulations 2006
- Ref. 28 HMSO (2005); Clean Neighbourhoods and Environment Act 2005
- Ref. 29 DEFRA (2008); Future Water The Government's water strategy for England
- Ref. 30 Environment Agency (2013); PPG 1: Pollution Prevention Guidelines
- Ref. 31 Environment Agency (2007); PPG 5: Works and maintenance in or near water
- Ref. 32 Environment Agency (2013); Building a better environment
- Ref. 33 The Considerate Constructors Scheme (2013); Considerate Constructors Code of Considerate Practice

APPENDIX A: LBH LOCAL PLAN POLICIES

London Borough of Hillingdon Local Plan Part 1: Strategic Policies (2012)

Policy BE1: Built Environment

The Council will require all new development to improve and maintain the quality of the built environment in order to create successful and sustainable neighbourhoods, where people enjoy living and working and that serve the long-term needs of all residents. All new developments should:

- 1. Achieve a high quality of design in all new buildings, alterations, extensions and the public realm which enhances the local distinctiveness of the area, contributes to community cohesion and a sense of place;*
- 2. Be designed to be appropriate to the identity and context of Hillingdon's buildings, townscapes, landscapes and views, and make a positive contribution to the local area in terms of layout, form, scale and materials and seek to protect the amenity of surrounding land and buildings, particularly residential properties;*
- 3. Be designed to include "Lifetime Homes" principles so that they can be readily adapted to meet the needs of those with disabilities and the elderly, 10% of these should be wheelchair accessible or easily adaptable to wheelchair accessibility encouraging places of work and leisure, streets, neighbourhoods, parks and open spaces to be designed to meet the needs of the community at all stages of people's lives;*
- 4. In the case of 10 dwellings or over, achieve a satisfactory assessment rating in terms of the latest Building for Life standards (as amended or replaced from time to time);*
- 5. Improve areas of poorer environmental quality, including within the areas of relative disadvantage of Hayes, Yiewsley and West Drayton. All regeneration schemes should ensure that they are appropriate to their historic context, make use of heritage assets and reinforce their significance;*
- 6. Incorporate a clear network of routes that are easy to understand, inclusive, safe, secure and connect positively with interchanges, public transport, community facilities and services;*
- 7. Improve the quality of the public realm and provide for public and private spaces that are attractive, safe, functional, diverse, sustainable, accessible to all, respect the local character and landscape, integrate with the development, enhance and protect biodiversity through the inclusion of living walls, roofs and areas for wildlife, encourage physical activity and where appropriate introduce public art;*
- 8. Create safe and secure environments that reduce crime and fear of crime, anti-social behaviour and risks from fire and arson having regard to Secure by Design standards and address resilience to terrorism in major development proposals;*
- 9. Not result in the inappropriate development of gardens and green spaces that erode the character and biodiversity of suburban areas and increase the risk of flooding through the loss*

10. Maximise the opportunities for all new homes to contribute to tackling and adapting to climate change and reducing emissions of local air quality pollutants. The Council will require all new development to achieve reductions in carbon dioxide emission in line with the London Plan targets through energy efficient design and effective use of low and zero carbon technologies. Where the required reduction from on-site renewable energy is not feasible within major developments, contributions off-site will be sought. The Council will seek to merge a suite of sustainable design goals, such as the use of SUDS, water efficiency, lifetime homes, and energy efficiency into a requirement measured against the Code for Sustainable Homes and BREEAM. These will be set out within the Hillingdon Local Plan: Part 2- Development Management Policies Local Development Document (LDD). All developments should be designed to make the most efficient use of natural resources whilst safeguarding historic assets, their settings and local amenity and include sustainable design and construction techniques to increase the re-use and recycling of construction, demolition and excavation waste and reduce the amount disposed to landfill;

11. In the case of tall buildings, not adversely affect their surroundings including the local character, cause harm to the significance of heritage assets or impact on important views. Appropriate locations for tall buildings will be defined on a Character Study and may include parts of Uxbridge and Hayes subject to considering the Obstacle Limitation Surfaces for Heathrow Airport. Outside of Uxbridge and Hayes town centres, tall buildings will not be supported. The height of all buildings should be based upon an understanding of the local character and be appropriate to the positive qualities of the surrounding townscape. Support will be given for proposals that are consistent with local strategies, guidelines, supplementary planning documents and Hillingdon Local Plan: Part 2- Development Management Policies.

Climate Change Adaptation and Mitigation

Strategic Objectives

SO8: Protect and enhance biodiversity to support the necessary changes to adapt to climate change. Where possible, encourage the development of wildlife corridors.

SO10: Improve and protect air and water quality, reduce adverse impacts from noise including the safeguarding of quiet areas and reduce the impacts of contaminated land.

SO11: Address the impacts of climate change and minimise emissions of carbon and local air quality pollutants from new development and transport.

SO12: Reduce the reliance on the use of the car by promoting safe and sustainable forms of transport, such as improved walking and cycling routes and encouraging travel plans.

Policy EM1: Climate Change Adaptation and Mitigation

The Council will ensure that climate change mitigation is addressed at every stage of the development process by:

1. Prioritising higher density development in urban and town centres that are well served by sustainable forms of transport.

2. Promoting a modal shift away from private car use and requiring new development to include innovative initiatives to reduce car dependency.
3. Ensuring development meets the highest possible design standards whilst still retaining competitiveness within the market.
4. Working with developers of major schemes to identify the opportunities to help provide efficiency initiatives that can benefit the existing building stock.
5. Promoting the use of decentralised energy within large scale development whilst improving local air quality levels.
6. Targeting areas with high carbon emissions for additional reductions through low carbon strategies. These strategies will also have an objective to minimise other pollutants that impact on local air quality. Targeting areas of poor air quality for additional emissions reductions.
7. Encouraging sustainable techniques to land remediation to reduce the need to transport waste to landfill. In particular developers should consider bioremediation(39) as part of their proposals.
8. Encouraging the installation of renewable energy for all new development in meeting the carbon reduction targets savings set out in the London Plan. Identify opportunities for new sources of electricity generation including anaerobic digestion, hydroelectricity and a greater use of waste as a resource.
9. Promoting new development to contribute to the upgrading of existing housing stock where appropriate. The Borough will ensure that climate change adaptation is addressed at every stage of the development process by:
10. Locating and designing development to minimise the probability and impacts of flooding.
11. Requiring major development proposals to consider the whole water cycle impact which includes flood risk management, foul and surface water drainage and water consumption.
12. Giving preference to development of previously developed land to avoid the loss of further green areas.
13. Promoting the use of living walls and roofs, alongside sustainable forms of drainage to manage surface water run-off and increase the amount of carbon sinks.
14. Promoting the inclusion of passive design measures to reduce the impacts of urban heat effects.

[Policy EM6: Flood Risk Management](#)

The Council will require all development across the borough to use sustainable urban drainage systems (SUDS) unless demonstrated that it is not viable. The Council will encourage SUDS to be linked to water efficiency methods. The Council may require developer contributions to guarantee the long term maintenance and performance of SUDS is to an appropriate standard.

Policy EM7: Biodiversity and Geological Conservation

Hillingdon's biodiversity and geological conservation will be preserved and enhanced with particular attention given to:

- 5. The provision of biodiversity improvements from all development, where feasible.*
- 6. The provision of green roofs and living walls which contribute to biodiversity and help tackle climate change.*
- 7. The use of sustainable drainage systems that promote ecological connectivity and natural habitats.*

Land, Water, Air and Noise

Strategic Objectives

SO10: Improve and protect air and water quality, reduce adverse impacts from noise including the safeguarding of quiet areas and reduce the impacts of contaminated land.

SO11: Address the impacts of climate change, and minimise emissions of carbon and local air quality pollutants from new development and transport.

Policy EM8: Land, Water, Air and Noise

Water Quality

The Council will seek to safeguard and improve all water quality, both ground and surface. Principal Aquifers, and Source Protection Zones will be given priority along with the: River Colne Grand Union Canal River Pinn Yeading Brook Porter Land Brook River Crane Ruislip Lido.

Air Quality

All development should not cause deterioration in the local air quality levels and should ensure the protection of both existing and new sensitive receptors. All major development within the Air Quality Management Area (AQMA) should demonstrate air quality neutrality (no worsening of impacts) where appropriate; actively contribute to the promotion of sustainable transport measures such as vehicle charging points and the increased provision for vehicles with cleaner transport fuels; deliver increased planting through soft landscaping and living walls and roofs; and provide a management plan for ensuring air quality impacts can be kept to a minimum. The Council seeks to reduce the levels of pollutants referred to in the Government's National Air Quality Strategy and will have regard to the Mayor's Air Quality Strategy. London Boroughs should also take account of the findings of the Air Quality Review and Assessments and Actions plans, in particular where Air Quality Management Areas have been designated. The Council has a network of Air Quality Monitoring stations but recognises that this can be widened to improve understanding of air quality impacts. The Council may therefore require new major development in an AQMA to fund additional air quality monitoring stations to assist in managing air quality improvements.

Noise

The Council will investigate Hillingdon's target areas identified in the Defra Noise Action Plans, promote the maximum possible reduction in noise levels and will minimise the number of people potentially affected. The Council will seek to identify and protect Quiet Areas in accordance with Government Policy on sustainable development and other Local Plan policies. The Council will seek to ensure that noise sensitive development and noise generating development are only permitted if noise impacts can be adequately controlled and mitigated.

Land Contamination

The Council will expect proposals for development on contaminated land to provide mitigation strategies that reduce the impacts on surrounding land uses. Major development proposals will be expected to demonstrate a sustainable approach to remediation that includes techniques to reduce the need to landfill.

Water Resources

The Council will require that all new development demonstrates the incorporation of water efficiency measures within new development to reduce the rising demand on potable water. All new development must incorporate water recycling and collection facilities unless it can be demonstrated it is not appropriate. For residential developments, the Council will require applicants to demonstrate that water consumption will not surpass 105 litres per person per day.

Waste Management

Strategic Objective

SO13: Support the objectives of sustainable waste management.

Policy EM11: Sustainable Waste Management

The Council will aim to reduce the amount of waste produced in the Borough and work in conjunction with its partners in West London, to identify and allocate suitable new sites for waste management facilities within the West London Waste Plan to provide sufficient capacity to meet the apportionment requirements of the London Plan which is 382 thousand tonnes per annum for Hillingdon by 2026.

The Council will require all new development to address waste management at all stages of a development's life from design and construction through to the end use and activity on site, ensuring that all waste is managed towards the upper end of the waste hierarchy.

The Council will follow the waste hierarchy by promoting the reduction of waste generation through measures such as bioremediation of soils and best practice in building construction. The Council will promote using waste as a resource and encouraging the re-use of materials and recycling. The Council will also support opportunities for energy recovery from waste and composting where appropriate. The Council will safeguard existing waste sites unless compensatory provision can be made.

The Council will seek to maximise the use of existing waste management sites through intensification or co-location of facilities.

Accessible Local Destinations

Strategic Objectives

SO3: Improve the quality of, and accessibility to, the heritage value of the borough's open spaces, including rivers and canals as areas for sports, recreation, visual interest, biodiversity, education, health and well being. In addition, address open space needs by providing new spaces identified in Hillingdon's Open Space Strategy.

SO6: Promote social inclusion through equality of opportunity and equality of access to social, educational, health, employment, recreational, green space and cultural facilities for all in the borough, particularly for residents living in areas of identified need.

SO12: Reduce the reliance on the use of the car by promoting safe and sustainable forms of transport, such as improved walking and cycling routes and encouraging travel plans.

SO17: Link deprived areas with employment benefits arising from the development of major sites and existing key locations.

SO18: Improve access to local services and facilities, including health, education, employment and training, local shopping, community, cultural, sport and leisure facilities, especially for those without a car and for those in more remote parts of the borough through well planned routes and integrated public transport.

SO25: Maintain support for operational uses within the existing airport boundary that do not increase environmental impacts and continue to reduce existing impacts.

Policy T1: Accessible Local Destinations

The Council will steer development to the most appropriate locations in order to reduce their impact on the transport network. All development should encourage access by sustainable modes and include good cycling and walking provision. The Council will ensure access to local destinations which provide services and amenities. The Council will promote active travel through improvements to Hillingdon's public rights of way.

Community Infrastructure

Strategic Objectives

SO6: Promote social inclusion through equality of opportunity and equality of access to social, educational, health, employment, recreational, green space and cultural facilities for all in the borough, particularly for residents living in areas of identified need.

SO9: Promote healthier and more active lifestyles through the provision of access to a range of sport, recreation, health and leisure facilities.

Policy CI1: Community Infrastructure Provision

The Council will ensure that community and social infrastructure is provided in Hillingdon to cater for the needs of the existing community and future populations by:

1. Resisting of the loss of community facilities, and where the loss of these facilities is justified it will seek to ensure that resulting development compensates these uses to ensure no net loss;
2. Supporting the retention and enhancement of existing community facilities;
3. Supporting extensions to existing schools and the development of new schools and youth facilities;
4. Encouraging the development of multi-purpose facilities that can provide a range of services and facilities to the community at one accessible location;
5. Promoting innovation in service provision and recognising that there are a range of modes appropriate for providing for all sections of the community;
6. Requiring development to contribute towards the provision of community facilities to meet the needs of new communities and mitigate impacts on existing communities;
7. Locating libraries, health facilities, police facilities, leisure facilities and community centres in town centres or other accessible locations to maximise community access, sustainable transport and build a sense of local community identity;
8. Ensuring new facilities demonstrate how they will tackle climate change, in line with Policy EM1;
9. Providing facilities and services that are accessible and inclusive to all potential users regardless of age, ability, gender or socio-economic status; and
10. Implementing a borough-wide Community Infrastructure Levy (CIL) to fund community infrastructure provision.

Policy CI3: Culture

To ensure that cultural uses help improve the quality of life of residents and visitors, a strong and well-developed cultural provision will be established by:

Ensuring all facilities promote walking, cycling and sustainable transport measures. The inclusion of cycle storage and electric charging points will be encouraged in new facilities and installed in existing facilities.

London Borough of Hillingdon Local Plan Part 2: Development Management Policies (2015)

These policies will need to be considered, however, they are still in the consultation phase and have not been finalised.

Policy DMHB 11: Design of New Development

A) All development, including extensions, alterations and new buildings will be required to be designed to the highest standards and, incorporating principles of good design including:

i) harmonising with the local context by taking into account the surrounding:

- scale of development, considering the height, mass and bulk of adjacent structures;

- *building plot sizes and widths, plot coverage and established street patterns;*
- *building lines and setbacks, rooflines, streetscape rhythm, for example, gaps between structures and other streetscape elements, such as degree of enclosure;*
- *architectural composition and quality of detailing; and*
- *local topography, views both from and to the site; and*
- *impact on neighbouring open spaces and their environment.*

ii) ensuring the use of high quality building materials and finishes;

iii) ensuring that the internal design and layout of development maximises sustainability and is adaptable to different activities;

iv) protecting features of positive value within and adjacent to the site, including the safeguarding of heritage assets, designated and un-designated, and their settings; and

v) landscaping and tree planting to protect and enhance amenity, biodiversity and green infrastructure.

B) Development proposals should not adversely impact on the amenity, daylight and sunlight of adjacent properties and open space.

C) Development will be required to ensure that the design safeguards the satisfactory re-development of any adjoining sites which have development potential. In the case of proposals for major development⁵ sites, the Council will expect developers to prepare master plans and design codes and to agree these with the Council before developing detailed designs.

D) Development proposals should make sufficient provision for well designed internal and external storage space for general, recycling and organic waste, with suitable access for collection. External bins should be located and screened to avoid nuisance and adverse visual impacts to occupiers and neighbours.

[Policy DMEI 1: Living Walls and Roofs and on-site Vegetation](#)

All development proposals are required to comply with the following:

i) All major development should incorporate living roofs and/or walls into the development. Suitable justification should be provided where living walls and roofs cannot be provided; and

ii) Major development in Air Quality Management Areas must provide onsite provision of living roofs and/or walls. A suitable offsite contribution may be required where onsite provision is not appropriate.

[Policy DMEI 2: Reducing Carbon Emissions](#)

A) All developments are required to make the fullest contribution to minimising carbon dioxide emissions in accordance with London Plan targets.

B) All major development proposals must be accompanied by an energy assessment showing how these reductions will be achieved.

C) Proposals that fail to take reasonable steps to achieve the required savings will be resisted. However, if the Council is minded to approve the application despite not meeting the carbon reduction targets, then it will seek an off-site contribution to make up for the shortfall. The contribution will be sought at a flat rate at of £/tonne over the lifetime of the development, in accordance with the current 'allowable solutions cost'.

POLICY DMEI 3: Decentralised Energy

A) All major developments are required to be designed to be able to connect to a Decentralised Energy Network (DEN).

B) Major developments located within 500 metres of an existing DEN, and minor new-build developments located within 100 metres, will be required to connect to that network, including provision of the means to connect to that network and a reasonable financial contribution to the connection charge, unless a feasibility assessment demonstrates that connection is not reasonably possible.

C) Major developments located within 500 metres of a planned future DEN, which is considered by the Council likely to be operational within 3 years of a grant of planning permission, will be required to provide a means to connect to that network and developers shall provide a reasonable financial contribution for the future cost of connection and a commitment to connect via a legal agreement or contract, unless a feasibility assessment demonstrates that connection is not reasonably possible.

D) The Council will support the development of DENs and energy centres in principle, subject to meeting the wider policy requirements of this plan and in particular on design and air quality.

Policy DMEI 7: Biodiversity Protection and Enhancement

A) The design and layout of new development should retain and enhance any existing features of biodiversity value within the site. Where loss of a significant existing feature of biodiversity is unavoidable, replacement features of equivalent biodiversity value should be provided on-site. Where development is constrained and cannot provide high quality biodiversity enhancements on-site, then appropriate contributions will be sought to deliver off-site improvements through a legal agreement.

B) If development is proposed on or near the vicinity of a site considered to have features of ecological value, applicants must submit appropriate surveys and assessments to demonstrate that the proposed development will not have unacceptable effects. The development must provide a positive contribution to the protection and enhancement of the site or feature of ecological value.

C) All development alongside, or that benefits from a frontage on to a main river or the Grand Union Canal will be expected to contribute to additional biodiversity improvements.

D) Proposals that would be detrimental to sites designated for nature conservation will be resisted.

Policy DMEI 10: Water Management, Efficiency, and Quality

A) Applications for all new build developments (not conversions, change of use, or refurbishment) are required to include a drainage assessment demonstrating that appropriate sustainable drainage systems (SuDS) have been incorporated in accordance with the London Plan Hierarchy (Policy 5.13: Sustainable drainage).

B) All major new build developments, as well as minor developments in Critical Drainage Areas or an area identified at risk from surface water flooding must be designed to reduce surface water run-off rates to no higher than the pre-development greenfield run-off rate in a 1:100 year storm scenario, plus 30% allowance for climate change for the worst storm duration. The assessment is required regardless of the changes in impermeable areas and the fact that a site has an existing high run-off rate will not constitute justification.

C) Rain Gardens and non householder development should be designed to reduce surface water run-off rates to Greenfield run-off rates.

D) Schemes for the use of SuDS must be accompanied by adequate arrangements for the management and maintenance of the measures used, with appropriate contributions made to the Council where necessary.

E) Proposals that would fail to make adequate provision for the control and reduction of surface water run-off rates will be refused.

F) Developments should be drained by a SuDS system and must include appropriate methods to avoid pollution of the water environment. Preference should be given to utilising the drainage options in the SuDS hierarchy which remove the key pollutants that hinder improving water quality in Hillingdon. Major development should adopt a 'treatment train' approach where water flows through different SuDS to ensure resilience in the system.

Water Efficiency

G) All new development proposals (including refurbishments and conversions) will be required to include water efficiency measures, including the collection and reuse of rain water and grey water.

H) All new residential development should demonstrate water usage rates of no more than 105 litres/person/day.

I) It is expected that major development proposals will provide an integrated approach to surface water run-off attenuation, water collection, recycling and reuse.

Water and Wastewater Infrastructure

J) All new development proposals will be required to demonstrate that there is sufficient capacity in the water and wastewater infrastructure network to support the proposed development.

[Policy DMEI 14: Air Quality](#)

A) Development proposals should demonstrate appropriate reductions in emissions to sustain compliance with and contribute towards meeting EU limit values and national air quality objectives for pollutants.

B) Development proposals should, as a minimum:

- i) be at least “air quality neutral”;
- ii) include sufficient mitigation to ensure there is no unacceptable risk from air pollution to sensitive receptors, both existing and new; and
- iii) actively contribute towards the continued improvement of air quality, especially within the Air Quality Management Area.

Policy MIN 4: Re-use and Recycling of Aggregates

A) The Council will promote the recycling of construction, demolition and excavation waste.

B) All developments will be encouraged to:

- i) recycle and re-use construction, demolition and excavation waste as aggregates;*
- ii) process and re-use the recyclable material on-site, and where this is not possible, the material should be re-used at another site or for land restoration; and*
- iii) use substitute or recycled materials in new development in place of primary minerals.*

B) Planning permission for aggregates recycling on minerals extraction sites and existing landfill sites will be granted. Applications for aggregates recycling sites in other areas such as Strategic Industrial Locations will be required to satisfy other relevant policies in the Local Plan including the West London Waste Plan.

Policy DMCI 4: Open Spaces in New Development

A) Proposals for major new residential development will be supported where they make provision for new open space, or enhancements to existing open space, which meets the needs of the occupiers of the development and contributes to the mitigation of identified deficiencies in the quantity, quality and accessibility of open space. Regard will be had to Hillingdon’s local recommended standards of provision for all relevant typologies of open space.

B) The provision of major new pieces of open space should contribute positively to Hillingdon’s existing networks of green spaces. In major town centre developments, new civic space may be required as an alternative to green open space.

C) Proposals for major new residential development that fail to make provision for new or enhanced open space, or which would result in open space that is inappropriate in type, quality or location, will be resisted.

Policy DMCI 5: Children’s Play Areas

A) For all major development proposals, the Council will apply Hillingdon’s child yields and the London Plan SPG; ‘Providing for Children and Young Peoples Play and Informal Recreation’, which specifies that 10sqm of play space should be provided for each child and an accessibility standard of 400 metres to equipped playgrounds.

B) In areas of deficiency, there will be a requirement for new provision to be made to meet the benchmark standards for accessibility to play provision.

C) The Council will resist the loss of existing play spaces unless:

i) a replacement play space of equivalent size and functionality is provided to meet the needs of the local population. Where this is not possible, development will only be permitted in exceptional circumstances where there are over-riding planning merits to the proposal; and

ii) it can be demonstrated robustly that they are no longer required and that their loss would not lead to a shortfall in overall play provision in the local area.

Policy DMT 1: Managing Transport Impacts

A) Development proposals will be required to meet the transport needs of the development and address its transport impacts in a sustainable manner. In order for developments to be acceptable they are required to:

i) be accessible by public transport, walking and cycling either from the catchment area that it is likely to draw its employees, customers or visitors from and/or the services and facilities necessary to support the development;

ii) maximise safe, convenient and inclusive accessibility to, and from within developments for pedestrians, cyclists and public transport users;

iii) provide equal access for all people, including inclusive access for disabled people;

iv) adequately address delivery, servicing and drop-off requirements; and v) have no significant adverse transport or associated air quality and noise impacts on the local and wider environment, particularly on the strategic road network.

B) Development proposals will be required to undertake a satisfactory Transport Assessment and Travel Plan if they meet or exceed the thresholds set out in Table 8.1 and any subsequent update to these thresholds. All major developments that fall below these thresholds will be required to produce a satisfactory Transport Statement and Local Level Travel Plan. All these plans should demonstrate how any potential impacts will be mitigated and how such measures will be implemented.

Policy DMT 5: Pedestrians and cyclists

A) Development proposals will be required to ensure that safe, direct and inclusive access for pedestrians and cyclists is provided on the site connecting it to the wider network, including:

i) the retention and, where appropriate, enhancement of any existing pedestrian and cycle routes;

ii) the provision of a high quality and safe public realm or interface with the public realm, which facilitates convenient and direct access to the site for pedestrian and cyclists;

iii) the provision of well signposted, attractive pedestrian and cycle routes separated from vehicular traffic where possible; and

iv) the provision of cycle parking and changing facilities in accordance with Appendix C, Table 1 or, in agreement with Council.

B) Development proposals located next to or along the Blue Ribbon network will be required to enhance and facilitate inclusive, safe and secure pedestrian and cycle access to the network. Development proposals, by virtue of their design, will be required to complement and enhance local amenity and include passive surveillance to the network.

Policy DMT 6: Vehicle Parking

A) Development proposals must comply with the parking standards outlined in Appendix C Table 1 in order to facilitate sustainable development and address issues relating to congestion and amenity. The Council may agree to vary these requirements when:

i) the variance would not lead to a deleterious impact on street parking provision, congestion or local amenity; and/or

ii) a transport appraisal and travel plan has been approved and parking provision is in accordance with its recommendations.

B) All car parks provided for new development will be required to contain conveniently located reserved spaces for wheelchair users and those with restricted mobility in accordance with the Council's Accessible Hillingdon SPD.