Diamondpool Ltd

20 – 28 Hatton Wall

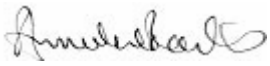
Sustainability Statement

26th March 2008

Diamondpool Ltd

20 – 28 Hatton Wall

Sustainability Statement

Author:	Annabel Roberts	
Checker:	Lisa Kite	
Approver:	Marc Chapman	

Date: 26th March 2008

Hyder Consulting (UK) Limited
2212959
29, Bressenden Place, London, SW1E 5DZ, United Kingdom
Tel: +44 (0)870 000 3006 Fax: +44 (0)870 000 3906 www.hyderconsulting.com

Contents

1 Sustainability Statement

1.1 Introduction

This Sustainability Statement considers the extent to which the Development proposals concur with the principles of sustainable development, specifically as defined by national, regional and local planning policy. The Statement outlines in broad terms the main features of the development which are considered to contribute towards achieving key policy objectives.

Nine underlying themes relating to sustainable development have been identified from planning policy. Each of the component areas has been discussed and the Development proposals have been considered against the relevant policy objectives.

There is a strong and growing policy framework aimed at ensuring developers and development control decisions fully take into account the principles of sustainable development. This is apparent at a national level through the Government's Sustainable Development Strategy, at a regional level through Regional Planning Guidance and at a local level through local Development Plans and emerging Local Development Frameworks.

The most commonly used definition of sustainable development is that used within the 1987 Brundtland Report of the World Commission on Environment and Development (WCED):"*development that meets the needs of the present without compromising the ability of future generations to meet their own needs".*

This was translated in 1999 by the UK Government in 'A Better Quality of Life: A Strategy for Sustainable Development in the UK' which states that it is concerned with: *"ensuring a better quality of life for everyone, now and for generations to come".*

The UK Government launched its new (second) strategy for sustainable development, Securing The Future, in conjunction with a Strategic Framework on 7 March, 2005. The Strategy takes account of developments since the first 1999 Strategy, both domestically and internationally; the changed structure of government in the UK with devolution to Scotland, Wales and Northern Ireland; greater emphasis on delivery at regional level and the new relationship between Government and local authorities.

1.2 Sustainability Principles Identified From Planning Policy

The key planning precedents for sustainable development are encompassed within the following national, regional and local planning policies:

1.2.1 National

The first 1995 UK Sustainable Development Strategy led to the (then) ODPM publishing the Communities Plan ("Sustainable Communities: Building for the Future", ODPM, 2003) which introduced reforms to the planning system and incentives to improve the performance of buildings, driving a planning culture change.

Planning Policy Statement (PPS) 1 ("Delivering Sustainable Development") published in 2005, sets out latest Government policy in the area. In delivering sustainable development, it expects the following objectives to be achieved:

- Promoting regional, sub-regional and local economies.
- Promoting communities which are inclusive, healthy, safe and crime free.
- Bringing forward sufficient land of a suitable quality in the right locations.
- Giving high priority to ensuring access for all to jobs, health, education, shops, leisure and community facilities.
- Focusing developments that attract a large number of people, especially retail development, in existing centres.
- Recognising the need to enhance as well as protect biodiversity and the need to address the causes and impacts of climate change, pollution and waste and resource management impacts.
- Promoting the more efficient use of land.
- Reducing the need to travel.

Building on these policy developments, DCLG, DEFRA, DTI and DfT jointly published a White Paper in May 2007 – "Planning for a Sustainable Future". This includes proposals to:

"streamline further the process in the town and country planning system, improve the ability of local authorities to shape their local communities, and ensure that there is a stronger approach to supporting sustainable economic development alongside work to tackle climate change in a way that is integrated with the delivery of other sustainable development objectives".

It focuses on meeting 6 challenges:

- Addressing climate change
- Supporting sustainable economic development
- Increasing the supply of housing
- Protecting and enhancing the environment and natural resources
- Improving our local and national infrastructure
- Maintaining security of energy supply

Addressing climate change and delivering more renewable energy are key themes, echoing proposals in DCLG's draft PPS on Climate Change and the Government's recent Draft Climate Change Bill and energy White Paper.

The Draft Climate Change Bill was published by DEFRA in March 2007, together with an explanatory consultation document. The consultation period closed in June 2007 and DEFRA is currently considering the responses. The Bill emphasises the Government's commitment to developing a low carbon economy and proposes a statutory goal of a 60% reduction in Carbon Dioxide emissions by 2050.

The energy White Paper *Meeting the Energy Challenge* was published in May 2007 by the Department of Trade and Industry. It outlines a strategy to address both climate change (by cutting carbon emissions as proposed in the draft climate bill) and the so-called "energy gap" which is resulting from an increase in demand and the simultaneous loss of UK generating capacity. It estimates, based on existing policies, that renewable energy is only likely to contribute about 5% of the total energy demand by 2020. The paper also outlines plans to encourage more energy saving and to better support the development of low carbon technologies.

Current policies and objectives for energy use and renewable energy consumption are explained in PPS1 and in PPS 22: Renewable Energy. The latter states that:

"local planning authorities may include policies in local development documents that require a percentage of the energy to be used in new residential, commercial or industrial developments to come from on-site renewable energy developments".

Local authorities are increasingly including these provisions in their new local development frameworks. Central Government has also stated it expects local authorities to make use of these powers.

1.2.2 Regional Policy

The London Plan February 2004

The London Plan (Greater London Authority February 2004) is the Spatial Development Strategy (SDF) for London. It sets out an integrated social, economic and environmental framework for the future development of London for the next 15 to 20 years, and provides strategic guidance for the London Boroughs' LDFs. Its vision is based on the following three interrelated strategic objectives:

- Strong and diverse, long term economic growth
- Social inclusivity to give all Londoners the opportunity to share in the city's future success; and

- Fundamental improvements in the city's environment and use of resources

The London Plan sets national sustainability policy in the context of London and includes the following main objectives:

- Making the most sustainable and efficient use of space in London by encouraging intensification and growth in areas of need and opportunity
- Making London a better city for people to live in
- Making London a more prosperous city with strong and diverse economic growth
- Promoting social inclusion and tackling deprivation and discrimination
- Improving London's transport; and
- Making London a more attractive, well designed and green city

Alterations to the London Plan

Draft Further Alterations to the London Plan were published in September 2006 and a consultation exercise was subsequently completed in 2007. The alterations were adopted in February 2008. The most substantive changes relate to Chapter 4A that includes a group of new policies aimed at tackling climate change. Those relevant to this appraisal include:

- Policy 4A.2ii Mitigating Climate Change (new policy).
- Policy 4A.2i Sustainable Design and Construction (expanded policy)
- Policy 4A.8 Energy Assessment (expanded)
- Policy 4A.7 Renewable Energy (expanded and incorporating policy 4A.9 and 4A.10);

Policy 4A.2ii Mitigating Climate Change

Policy 4A.2ii of the Further Alterations proposes a 30% reduction in carbon dioxide emissions (on 1990 levels) in the capital by 2025. However, The Mayor's Climate Change Action Plan, published in February 2007, has superseded this target. This proposes a much more ambitious 60% reduction in carbon dioxide emissions by 2025.

Section 4.4 of the plan also emphasises the need to move to a lower carbon, decentralised energy supply system.

Policy 4A.2i Sustainable Design and Construction (formerly Policy 4B.6)

This policy calls for the highest standards of design to be applied to developments with energy related elements including:

- Management of overheating;

- Minimisation of energy use including passive solar design, natural ventilation and vegetation on buildings;
- Supply of energy efficiently, incorporation of decentralised energy systems, and the use of renewable energy where feasible;
- Minimisation of light lost to the sky particularly from street lights; and
- Encourage incorporation of living roofs and walls where feasible

Policy 4A.8 Energy Assessment

This policy states that "the Mayor will and boroughs should require an assessment of the energy demand and carbon dioxide emissions from proposed major developments, which should demonstrate the expected energy and carbon dioxide emission savings from the energy efficiency and renewable energy measures incorporated in the development, including the feasibility of CHP/CCHP and community heating systems".

The assessment should include:

- Calculation of the baseline energy demand and carbon dioxide emissions;
- Proposals for the reduction of energy demand and carbon dioxide emissions from heating, cooling and electrical power (Policy 4A.2ii);
- Proposals for meeting the residual energy demands through sustainable energy measures (policy 4A.5i and 4A.5ii);
- Calculation of the remaining energy demand and carbon dioxide emissions.

These results should then form part of the sustainable design and construction statement.

Policy 4A.7 Renewable Energy

This policy states that "the Mayor will and boroughs in their DPDs should require developments to achieve a reduction in carbon dioxide emissions of 20% from onsite renewable energy generation".

Renewable sources that should be considered include:

- Biomass fuelled heating, cooling and electricity generating plant,
- Biomass heating,
- Combined heat, power and cooling,
- Communal heating cooling and power,
- Renewable energy from waste (covered in policy 4A.1),
- Photovoltaics,
- Solar water heating,
- Wind,
- Hydrogen fuel cells, and

- Ground coupled heating and cooling.

The policy also supports the identification of suitable locations for wind turbines in developments and use of off-grid solar power and other renewable energy sources for new street appliances (such as bus shelters, bus stops, parking ticket machines and road signs) where feasible.

Mayor of London's Environmental Strategies

The Mayor has produced a number of environmental strategies, which set out his priorities and proposals for making London a cleaner, greener, more sustainable city.

- Air Quality Strategy - presents a comprehensive set of policies and proposals aimed at improving London's air quality to meet the objectives set out by the Government's National Air Quality Strategy.
- Energy Strategy - aims to reduce London's contribution to global climate change, tackle the problem of fuel poverty and promote London's economic development through renewable and energy efficient technologies.
- Ambient Noise Strategy - is part of a Europe-wide move towards more active management of what legislation calls 'ambient' or 'environmental noise' - long term noise, mainly from transport sources.
- Biodiversity Strategy - seeks to ensure that there is no overall loss of wildlife habitats in London, and that more open spaces are created and made accessible to all Londoners.
- Municipal Waste Strategy - identifies policies and proposals for reducing waste and recycling, aimed at dealing with London's growing output of municipal waste.
- Climate Change Adaptation Strategy - identifies the impacts and recommends key actions to help London and Londoners prepare for inevitable climate change. Climate change is the Mayor's top priority. The Mayor is committed to preparing London for the climate change that is now inevitable (adaptation) and limiting further climate change by reducing London's carbon dioxide emissions (mitigation).
- Draft Water Strategy - is linked to the London Plan as well as other strategies. The objectives are to reduce the threat of flooding, reduce contamination of clean water from wastewater and to more evenly and carefully share water resources throughout the city.

Sustainable Development Framework for London

The London Sustainable Development Commission (LSDC), an independent advisory body, was set up by the Mayor in May 2002. In June 2003, they launched the Sustainable Development Framework for London, which sets out a sustainable vision for the capital and includes a set of 13 high level objectives to guide strategic policy and decision making in

London. The Framework includes reference to sustainability appraisals of projects.

London's Quality of Life indicators' (London Sustainable Development Commission – April 2005)

The first report was published in 2004 and set objectives to monitor how London is progressing towards Sustainable Development. The 2004 and 2005 objectives provide a benchmark to help gauge whether actions from planners and developers are making London a better city to live in, now and for future generations. The headline indicators of the four main themes are outlined below:

Taking Responsibility:

- Electoral turnout
- Participation in volunteering
- Childcare
- Education
- Sign up to Mayor's Green Procurement Code
- Household recycling rates

Developing Respect:

- Unemployment variation by ethnic group
- Child poverty
- Crime
- Neighbourhood satisfaction
- Travel to school

Managing Resources:

- London's ecological footprint
- Bird populations
- Air quality
- Carbon efficiency of economic activity
- Traffic volumes

Getting Results:

- Labour force participation
- Business survival
- Life expectancy

Decent housing

1.2.3 Local Policy

London Borough of Camden Replacement Unitary Development Plan adopted June 2006

The UDP is split into two parts; Part I and Part II. Part I deals with strategic policies such as Sustainable Development, Housing, Built Environment, Natural environment, Transport, Town centres, Retail and Entertainment, Economic Activity, Community Issues, Leisure and Tourism and King's Cross Opportunity Area.

The more detailed policies and proposals are contained within Part II of the UDP where the headline and key policies of relevance include:

- Section 1: Sustainable Development
  SD1 Quality of Life
  SD3 Mixed Use Development
  SD4 Density of Development
  SD9 Resources and Energy
  SD11 Waste Management Facilities
  SD12 Development and Construction Waste

- Section 2: Housing
  H3 Protecting Existing Housing
  H8 Mix of Units

- Section3: Built Environment
  B1 General Design Principles
  B3 Alterations and Extensions
  B7 Conservation Areas

- Section 4: Natural Environment
  N5 Biodiversity

- Section 5: Transport
  T1 Sustainable Transport

- Section 7: Economic Activities
  E3 (D) Specific Business Uses and Areas

- Section 8: Community, Leisure and Tourism
  C4 Protecting Existing Provision

London Borough of Camden Supplementary Planning Guidance 2006

Camden Planning Guidance December 2006

Camden Planning Guidance 2006 gives additional advice and information on how the Council will apply the planning policies in the London Borough of Camden Replacement UDP adopted in June 2006.

The guidance covers design considerations from access to micro-climate issues. Guidance of most importance to the scheme includes:

- Conservation Areas

Development within a Conservation Area should demonstrate that the proposal preserves or enhances the character or appearance of the area. Conservation area consent is needed to demolish a building in a conservation area.

- Construction and Demolition

Developers must consider issues that may affect the construction or demolition of the site such as contamination or underground structures. In addition the effect that construction and demolition works may have on the surrounding environment must also be considered e.g. noise, dust, vibration, access, run-off

- Design

Design of a building should be considered in terms of height, built form, accessibility, orientation, siting, detailing of materials as well as consideration of outdoor spaces, landscaping and access points and at an early stage in the design of a development.

- Energy and Onsite Renewable Facilities

Energy saving design principles set out in the Sustainable design and construction section of the guidance should be considered in order to reduce the energy and heating demands of a scheme. Renewable energy technologies should be considered in particularly for large schemes, such technologies include; photovoltaics and solar water heating, wind turbines, biomass and CHP and ground source heating and cooling. Proposed developments will also be expected to achieve 60% of the available credits in the BREEAM Offices Assessment Energy section.

- Materials and Resources

Building materials should be from sustainable sources and where possible sourced locally. Where possible prefabricated materials should be reused as far as possible (reduction of embodied energy). The BRE's Green Guide to Specification should be given consideration to when procuring and hazardous and toxic substances avoided. Proposed developments will also

be expected to achieve 40% of the available credits in the BREEAM Offices Assessment Materials and Resources section.

- Noise and Vibration

Planning permission will not be granted where noise thresholds are exceeded beyond those stated in PPG 24. Sufficient sound insulation must be provided between dwellings to prevent the transmission of noise between dwellings in a development. Noise considerations on sensitive receptors must be considered.

- Roofs and Terraces

The incorporation of green roofs are encouraged into schemes where appropriate in design and aesthetic terms.

- Sustainable Design and Construction

Design elements considered should include; natural ventilation, passive solar design, green and brown roofs. BREEAM and EcoHomes (refurbishment) or Code for Sustainable Homes Assessments (new build) must be undertaken for office developments over 1000m2 and developments with 5 or more dwellings.

- Waste and Recyclables

Internal storage for waste and recycling must be located in an accessible and commonly used communal area inside each dwelling. External storage must be provided to allow for recyclables and waste that is expected to be produced by the development.

- Water

All development that has on-site open space or landscaping should incorporate a water collection facility (a rainwater tank or water butt). Large areas of hard surfacing (e.g. for car parking and maneuvering) should be Broken up with landscaping. Consideration should be given to attenuating run-off from hard surfaces to reduce the effects of a significant rainfall event on the drainage system. Proposed developments will also be expected to achieve 60% of the available credits in the BREEAM Offices Assessment Water section.

1.3 Sustainability Principles

A review of national, regional and local planning policies has identified nine underlying sustainability principles relevant to the proposed Development as:

1 Natural Environment (biodiversity)

2 Built Environment (built heritage)

3 Sustainable Design and Construction (BREEAM, EcoHomes & Code for Sustainable Homes)

4 Sustainable transport

5 Economic Activities

6 Community, Leisure and Tourism

7 Housing

8 Renewable energy needs and energy efficiency

9 Pollution, resource and waste management (e.g. air, noise, materials, water, flooding etc)

10 Construction and Demolition

1.3.1 Natural Environment (Biodiversity)

Planning Policy Statement 9 (PPS 9) set out the Government's national policies on the protection of biodiversity through the planning system. Within the UDP Policy N5 Biodiversity sets out the policies towards conserving and enhancing species.

The development is not located close to any ecological designation, there are no trees present and the site is currently covered in hard surfacing.

The development would not be contrary to any nature and biodiversity conservation policy nor would it impact on any protected or London BAP species. In addition the roof area will be surfaced as a sedum roof. Sedum is a plant with a very high rate of moisture absorption, which will attenuate rainfall away from hard surfaced areas and may attract insects and aid towards enhancing biodiversity.

1.3.2 Built Environment (built heritage)

The development site forms part of the Hatton Garden Conservation Area where the Georgian and Victorian buildings display similar characteristic features such as their greater height and larger width. There is a predominantly vertical grain in the orientation of windows and doors and deep reveals to the windows. Policy B1 General Design Principles of the UDP and guidance on 'Conservation Areas' and 'Design' within the SPG state the character of the built environment must be conserved and careful design decisions including sustainable design principles must be considered

The development offers the provision of a sustainable, mixed-use development where the character will be designed to fit in with the immediate context and to enhance and integrate with the use and character of Hatton Garden. The development will house a jewellery workshop which is in keeping with the existing business use of the area as Hatton Garden is

renowned as the diamond quarter of London. The key urban design objective for the building is for it to become an integral part of the streetscape – not an icon, where the principles for the planning and facades respect the conservation area and streetscape in a contemporary way, thus reinforcing the local urban character.

1.3.3 Sustainable Design and Construction

PPS1 guidance aims to promote high quality, inclusive design in the layout of new developments and individual buildings in terms of function and impact over the lifetime of the development. Design must improve the character and quality of an area. In addition PPS1 states the design must be of high quality and must be safe.

The proposed scheme would incorporate elements of sustainable design and this is demonstrated through the development of a BREEAM Offices Pre-Assessment for the office areas. At the Design Stage a full BREEAM Offices Assessment will be undertaken.

Camden Planning Guidance requires that only developments with 5 or more dwellings are required to undertake EcoHomes (refurbishment) or Code for Sustainable Homes Assessments (new build). However, although the Development falls below this 5 dwelling threshold (3 residential units) sustainable design and construction considerations have taken place as part of the overall site development, including the dwellings.

The BREEAM Offices assessment will help to explore sustainable design principles into the continuing design development which will aim to improve occupant health and wellbeing, reduce water use for low water use sanitary specifications and procurement of materials with low embodied energy and high recycled content where possible. The development will include a sedum roof and energy efficiency measures (see energy section 1.3.8). In addition the building will be secure and in particular the jewellery workshop will have high levels of security. The existing building has limited disabled facilities and so the proposed design will ensure level access to the entrance as well as lifts to all floors and disabled facilities on each floor.

A daylight and sunlight report in line with BRE guidance has been produced where it has been concluded that the proposed development would retain good daylight and sunlight levels to the surrounding residential properties within an inner city environment. However, many neighbouring residential windows will experience a loss of light comparable to that of the existing situation, the design has however, ensured that the losses be kept to a minimum.

Proposed developments will also be expected to achieve 40% of the available credits in the BREEAM Offices Assessment Materials and Resources section. The BREEAM Offices Assessment assumes that a minimum of 41.67% will be achieved for this section.

1.3.4 Sustainable Transport

PPG13: Transport states the Government's intention that land use planning should be used to help deliver an integrated transport system. The key objectives for the guidance note are to promote more sustainable transport choices, promote accessibility to services by public transport and to reduce the need to travel by car. Local policy aims to facilitate developments which are accessible by public transport and encourage sustainable transport modes such as walking and cycling.

A Transport Statement has been prepared and separately submitted by JMP Consultants Limited (JMP).

Although the development does not directly aid in supporting the London Plan where aims are to improve London's transport system, it is within a central London location within easy walking access to bus stops and two underground stations (Farringdon and Chancery Lane) and therefore will reduce the reliance on getting to and from the development by private car.

The site is identified as being located within an area with a Public Transport Accessibility Level (PTAL) rating of 6b ('Excellent'), with 1a ('Very Poor') being the lowest level obtainable and 6b being the highest level achievable.

The development will make provision for two designated disabled only parking bays conveniently located at ground level, in the courtyard to the east of the Site, in close proximity to the pedestrian entrance to the main office building. The parking provision is in accordance with the Borough's UDP and the London Plan. In addition to the two dedicated disabled only parking bays, three existing additional car parking bays will be retained (These additional parking bays are already in existence at the Site and will not be used by occupiers of the Site).

Vehicular access / egress to / from the two disabled only parking bays will be via the existing gated entrance on Hatton Wall. Pedestrian access will be via the pedestrian entrances on Hatton Wall and via the pedestrian entrances leading to / from the existing courtyard area.

Servicing arrangements proposed for residential refuse / recyclables collections will take place on-street on Hatton Wall. Retail loading / unloading will take place within the courtyard area where feasible.

A total of seventeen secure, sheltered cycle parking / storage spaces are proposed for staff of the office, workshop and retail land use elements. In addition, two visitor cycle parking spaces are proposed for visitors. These proposals are in accordance with the LBC UDP requirements and TfL guidance recommendations.

A total of three secure, sheltered cycle storage spaces for the residential land use element will be provided, conveniently located within the courtyard and easily accessible from the nearby pedestrian entrances. This equates to a residential cycle parking / storage provision of 100% equal to one

secure cycle storage space per residential unit. The residential cycle parking / storage proposals are therefore in accordance with the LBC UDP and the TfL cycle parking guidance.

1.3.5 Economic Activities

A stable and competitive economy is required in order to deliver a better quality of life for all. One of the London Plan's main objectives is to make London a more prosperous city with strong and diverse economic growth. The local UDP Policy E3 seeks to retain and promote creative and environmental industries in the Borough.

The Scheme supports the local policy as the development will incorporate light industrial workshops within the basement area. The Hatton Garden area is famous for its reputation as the Jewellery quarter of London and the proposals will retain and enhance this traditional local business use. By incorporating jewellery workshops the development is maintaining and ensuring the creative pool of skills and resources stay located within the area. The proposed retail space, workshop area and work associated with the demolition and construction phase would provide further jobs which wouldn't exist without the development in place and therefore contribute to the prosperity of the economy.

1.3.6 Community, Leisure and Tourism

PPG17: Sport and Recreation states the Government's intention for maintained open spaces, sports and recreational facilities to help create urban environments that are attractive, clean and safe. Policy C4 Protecting Existing Provision of the UDP states to maintain existing provisions of such facilities. Borough of Poole's Local Plan First Alteration advocates the protection and enhancement of open spaces. The visual character of the Development will be enhanced by a variety of courtyards and shared amenity spaces as well as hard and soft landscaping.

The proposals will not impact upon leisure and tourism, however, they will benefit the community by maintaining the existing business use, creating jobs and bringing skilled resources into the area thus protecting the existing status as a local area with a very specific community identity for jewellery and gem specialists.

1.3.7 Housing

PPS3:Housing underpins the delivery of the Government's strategic housing policy objectives to ensure that everyone has the opportunity to live in a decent home, which they can afford, in a community where they want to live.

With regard to housing, the Government believes that it is important to help create mixed and inclusive communities that offer a choice of housing and lifestyle. Developments should secure an appropriate mix of dwelling size, type and affordability in both new developments and conversions to meet the changes in composition of households in light of predicted local and regional need. Previously developed sites should be utilised as far as possible for the maximum amount of housing.

Whilst providing a relatively small contribution to the overall housing needs of London, the proposed development does accord with the UDP under Policy H3 Protecting Existing Housing and H8 Mix of Units. The development adds a residential element and also includes a mix of uses.

1.3.8 Renewable energy needs and energy efficiency

PPS22: Renewable Energy states developers should consider the opportunity for incorporating renewable energy projects in all new developments.

A detailed energy strategy has been prepared in line with the Mayoral London Plan Policy 4A.8 for the assessment of a buildings energy demand. The strategy considers how the energy demand for the development can be met through renewables and also other energy efficiency technologies.

During detailed design stage consideration of limiting solar gain by shading, particularly through the west facing windows would be given as well as consideration for improving the insulation in walls, roofs and floors to a standard above the current Building Regulations standards, in order to decrease the total heating load

Windows for the development are to comprise double glazed units. Windows generally contribute a significant proportion of the heat loss of a building and it is therefore proposed to specify high performance windows for this development with a U-value of 1.8 W/m2K. The developments proposed U values will be lower than the existing and an estimated Heat Loss Parameter of around 2.

Due to the deep plan nature of the offices, and the fact that the workshops are located at basement level, a naturally ventilated solution for the main building is not considered a feasible option. A mechanical ventilation system will therefore be provided to supply minimum fresh air requirements to all areas to maintain healthy conditions. The installations will be designed following recommendations to reduce energy use as given in Energy Efficiency Good Practice Guide 257, with heat recovery ventilation units being provided so that as much as possible of the energy can be recovered from the outgoing air and put back into the fresh air supplies.

Proposed ground source heating/cooling pumps will be used for both heating and cooling. It is anticipated that the heat pumps will give a COP of

approximately 3.4 for heating and an EER of approximately 4.2 for cooling. Gas supplies with not be required for the building and water heating will therefore need to be provided by local electric water heaters. Although more energy efficient they will produce higher carbon emissions (Gas = 0.194 Kg CO_2/KWh as compared to electricity at 0.422 Kg CO_2/KWh).

For the residential units it is intended to develop the ventilation strategy based around an assisted ventilation system, using a low-energy fan unit in each dwelling and humidity-sensitive extracts. This system runs continuously at low speed to provide background ventilation with minimum trickle vent areas for fresh air make up, thus minimising uncontrolled leakage. Class 5 boilers would be specified with low NOx emission levels.

Energy efficient light luminaires will be used throughout the office building and within the workshops, with high luminous efficacy lamps, and lighting control systems. The internal common area lighting would be compact fluorescent controlled by PIRs.

Use of ground source heating/cooling installation within the office development would satisfy the requirements of the Camden UDP Policy SD9 for on site renewables and also London Plan Policy 4A.7 Renewable Energy. The further alterations to the London Plan seeks developments to achieve a reduction in carbon dioxide emissions of 20% from on site renewable energy generation, unless it can be demonstrated that such a provision is not feasible.

The proposed ground source heating and cooling installation for the residential units will together achieve substantially more than 20% energy savings from on site renewables. The proposals will also provide a 14% reduction in CO_2 emissions, which is the maximum considered feasible for the site (refer to Mendick Waring Ltd Energy Strategy report for further consideration of the energy strategy).

The development has also been designed to achieve a 'Very Good' score under the BREEAM Offices Assessment and a score of 61.1% has been achieved for Energy Section. The Camden requirements for this section are to achieve a minimum of 60%.

1.3.9 Pollution, resource and waste management

PPS1 recognises the need to address the causes and impacts of climate change, pollution and waste generation.

During detailed design, consideration will be given to procurement of materials with low embodied energy and high recycled content where possible as well as the use of recycled aggregate. FSC timber will be specified where required. As part of the BREEAM for Offices assessment a commitment has been given that carpets and other floor finishes are specified by the future occupant thus preventing the tenant changing initial material specifications and minimising resource usage.

The site is situated in an area with a low risk of flooding. The Environment Agency Flood Map shows the site being situated within an area with 0.1% (1 in 1000) or less chance of flooding each year from rivers or seas.

Despite low flood risk levels, attenuation of rain water is currently being explored as part of environmental best practice measures. Within the footprint of the courtyard roadway opportunities exist for accommodating attenuation pipes to trickle feed into the main system.

Low water use sanitary specifications will be incorporated throughout the development. A requirement of the Camden UDP is that the BREEAM Assessment must achieve a minimum of 60% score for the Water Section. Based on the assumptions within the BREEAM Offices Pre-Assessment a score of 66.67% has been achieved, this is above the required 60%.

A noise survey carried out by Sharps Redmore Partnership has assessed noise impacts on to the building and to produce plant noise criteria in accordance with the Local Authority requirements. Background noise levels of the site concluded the location is well shielded from direct noise from the surrounding roads by buildings. The main noise source is from plant on adjacent roofs. Specified plant noise levels for the development have not currently been proposed at this stage, however, they would need to be controlled during differing operating time periods.

The noise report recommends achieving good internal levels during day and night, the façade would be required to achieve a minimum Sound Reduction Index of 29db relative to the external noise spectrum.

Given the Excellent PTAL rating as confirmed by the transport assessment, the site's close proximity to key Underground, mainline rail and bus services and the constrained nature of the site, it is proposed that the development will be essentially car-free in nature and is therefore unlikely to contribute to any noticeable AQS gasses such as nitrogen dioxide and particulate matter. There maybe some localized deterioration of air quality during the construction stage.

1.4 Conclusion

Overall the Development can be seen as contributing towards the goals of sustainability. As required by Camden's UDP an initial BREEAM Offices Pre Assessment has been conducted for the offices components of the site. Whilst there is no requirement to conduct an EcoHomes Assessment for the three new residential dwellings, sustainability has been taken into consideration across the whole of site.

The development is to be built upon existing urban land and is located within walking distance to a number of public transport modes as well as encompassing sustainable transport features such as bicycle storage facilities.

Energy efficiency measures have been considered and include the possibilities of passive solar design and solar shading, ground source heating and cooling, solar heating (dwellings only), energy efficient light luminaries and PIR lighting detection. An energy assessment has been undertaken to assess the viable renewable energy options for the site. An energy saving of over 30% should be achieved through the use of on site renewable energy, providing a 14% reduction in carbon dioxide emissions. In addition, in line with the UDP, 61.1% of the BREEAM Energy Section credits are proposed to be achieved meeting the 60% UDP requirement.

The development will continue to aid the prosperity of the local economy by increased employment opportunities as well as retaining the traditional business use of the area; jewellery making and the sale of precious gems and stones, which will help to maintain the character of the Hatton Garden area.

FSC timber will be specified where required and consideration will be given to procurement of materials with low embodied energy and recycled materials. 41.67% of the BREEAM Materials and Resources credits are proposed to be achieved meeting the 40% UDP requirement.

The development will be designed to accord with noise plant levels specified by the borough and will explore façade design features to minimise noise from other buildings and noise from the development on surrounding buildings.

Other elements of sustainable design include low water use sanitary specifications and a living roof. Again, in line with the UDP requirement 66.67% of the BREEAM Water credits are proposed to be achieved exceeding the 60% UDP requirement.

Overall, the BREEAM Offices Pre Assessment captures and delivers the proposed design principles. A total score of 64.14% has been predicted which will result in the Offices being rated as a BREEAM 'Very Good'. The threshold for 'Very Good' is between 55-70% and anything over 70% is classified as a BREEAM 'Excellent'. By achieving an additional 5.86% then the Offices development could upgrade to achieve the BREEAM 'Excellent' Rating.