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PULSE CONSULT

BRUCE GROVE WORKSPACE PROJECT

LONDON

SUSTAINABILITY STATEMENT

REVISION P04

Document History

SUITABILITY	REVISION	DATE	DETAILS	BY	CHKD
S2	P01	09 September 2022	Issued for information	PM	JA
S2	P02	30 September 2022	Updated with ADP comments	PM	JA
S2	P03	13 January 2023	Updated with Heritage Potential comments	PM	JA
S2	P04	16 January 2023	Further comments incorporated	PM	MW

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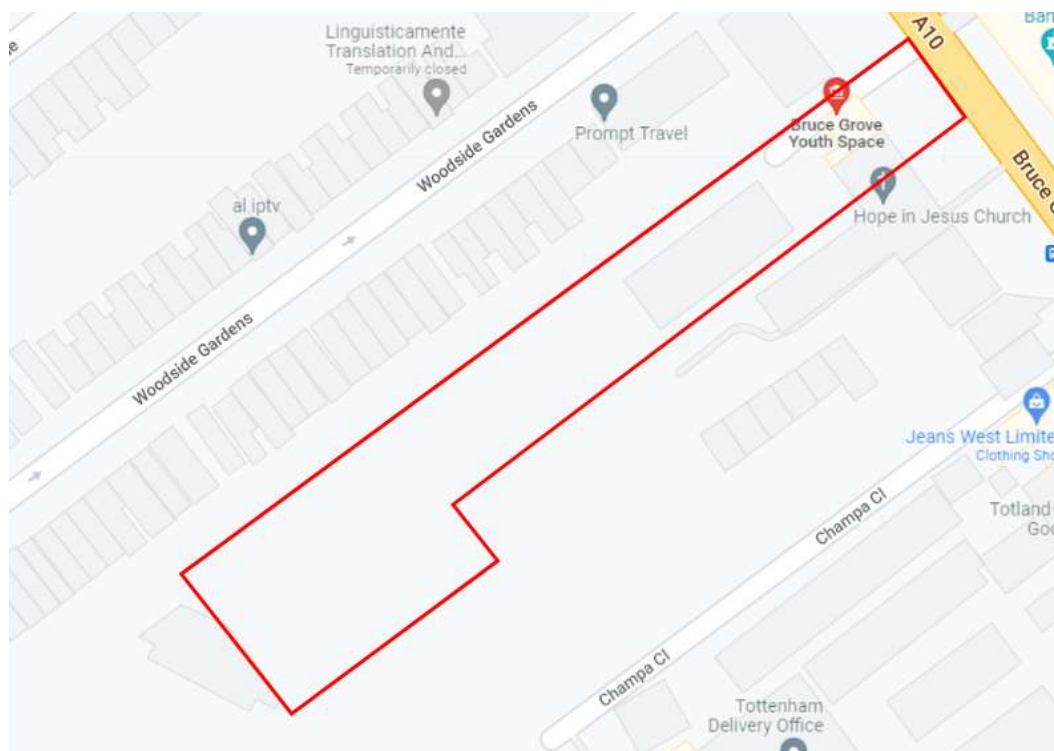
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4.0 SUMMARY

1.0 INTRODUCTION

KJ Tait Engineers were appointed by Pulse Consult to complete a sustainability assessment of the proposed redevelopment for Bruce Grove Youth Space, based at Tottenham High Road.

The building was constructed in 2000, and is located at 10 Bruce Grove, situated just off the High Road which runs north south from Fore Street, Edmonton to Stamford Hill. The building is grade II listed, it is owned by the council and sits within the Bruce Grove Conservation Area and Tottenham Heritage Action Zone (THAZ).



The project seeks to carry out refurbishments to the interior of the youth space and associated external improvements to 10 Bruce Grove.

The purpose of this report is to demonstrate that the redevelopment can comply with the Haringey Development Management DPD (July 2017) policy DM21 – Sustainable Design, Layout and Construction. Haringey has a goal to be carbon neutral by 2040, therefore, decisions made need to take into account this aspiration.

2.0 LOCAL PLANNING

2.1 Development Management DPD

Policy DM21: Sustainable Design, Layout and Construction

- All new development, including building and landscape works, will be expected to consider and implement sustainable design, layout and construction techniques. Proposals should:
 - Apply the energy hierarchy to minimise energy use in order to meet, and if possible, exceed, minimum carbon dioxide reduction requirements
 - Apply the cooling hierarchy to reduce the potential for overheating and limit reliance on mechanical air conditioning systems
 - Maximise opportunities to enhance biodiversity on-site, including through appropriate landscaping, Sustainable Drainage Systems, living roofs and green walls
 - Wherever possible, use building materials with high environmental performance ratings; and
 - Seek opportunities for locally sourced labour
- The Council will support appropriate measures to sustainably retrofit existing homes and non-residential buildings
- Proposals that fail to demonstrate adequate consideration for sustainable design, layout and construction techniques will be resisted
- Consideration will be given to the use of carbon offset payments, to be secured by planning obligations, where it can be demonstrated that proposals are unable to meet carbon dioxide emission reduction targets on-site.

2.2 Haringey Local Plan – Strategy Policies: Policy SP4

Over the life time of the Local Plan, reducing energy use in buildings and working towards a low carbon borough will be one of the key challenges facing Haringey. The Council will promote the measures outlined below to reduce carbon emissions from new and existing buildings.

1. In line with London Plan policy, the Council will promote and require all new developments to take measures to reduce energy use and carbon emissions during design, construction and occupation, by incorporating the following measures:

- a. From 2011 onwards, all new residential development will achieve a minimum 25% reduction in total (regulated) CO₂ emissions in line with Code for Sustainable Homes Level 4 energy standards, and should aim to achieve Level 6. All new residential development shall be zero carbon from 2016 onwards; and
- b. From 2011 onwards all new non-residential development shall be built to at least BREEAM

“very good” standard and should aim to achieve BREEAM “excellent” or the current nationally agreed standard. All new non-residential development shall be zero carbon from 2019.

2. The Council will promote low- and zero-carbon energy generation through the following measures:
 - a. Requiring all developments to assess, identify and implement, where viable, site-wide and area-wide decentralised energy facilities including the potential to link into a wider network;
 - b. Establishing local networks of decentralised heat and energy facilities by requiring developers to prioritise connection to existing or planned networks where feasible;
 - c. Working with neighbouring boroughs and other partners to explore ways of implementing sub-regional decentralised energy networks including the potential in the Upper Lee Valley Opportunity Area; and
 - d. All new developments are required, where viable, to achieve a reduction in predicted carbon dioxide emissions of 20% from on site renewable energy regeneration, which can include connections to local sources of decentralised renewable energy.

2.3 Haringey Urban Design & Construction SPD 2013

Developers can use the following statements to show how their proposals contribute to sustainable design and construction as detailed within the Haringey Urban Design and Construction SPD:

- Design and Access Statement
- Sustainability Statement
- Energy Statement

The level of information required needs to be more detailed for major applications as defined below:

MAJOR:

- Proposals for 10 or more dwellings
- 1,000 sq m or more floorspace
- Development on a site of 0.5 Ha or more

MINOR:

Development that falls below the major applications thresholds. Some applications will also be subject to other external regulations, for example, Environmental Impact Assessment and need additional statements on specific issues.

Applicants should consult the Council’s planning department to check the statements needed to support the planning application.

2.2 Sustainable Design and Construction

Layout and design and construction of buildings have significant effect on a building's environmental and energy performance. The construction and use of buildings currently account for around half of the carbon emissions in Haringey. The Council considers it is important that all new and redeveloped buildings are designed to have a beneficial impact on their environment.

Key areas of focus are reducing energy demand and carbon emissions by improvements to the building fabric, the use of passive solar energy and natural light and ventilation, choosing materials with low embedded energy, and the utilisation of low carbon technologies. These measures should be considered alongside policies on climate change (SP4).

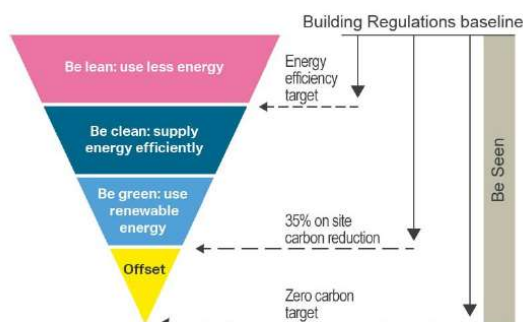
With predicted change in climate in London, measures against heat island effect, use of cooling and shading techniques and the use of sustainable urban drainage measures are all crucial for creating climate resilient communities. Measures to reduce construction waste and water usage, and design solutions which protect and enhance habitats for wildlife are also key components of sustainable design and construction.

2.3 London Plan Policy SI 2: Minimising Carbon Dioxide Emissions

Major non-domestic developments must achieve an on-site reduction of at least 35% beyond baseline Building Regulations.

Major developments should be net zero-carbon. By making a contribution to minimising carbon dioxide emissions and minimising both annual and peak energy demand in accordance with the following energy hierarchy:

1. Be Lean: use less energy
2. Be Clean: supply energy efficiently
3. Be Green: use Renewable energy
4. Be Seen: Monitor and report energy performance



Source: Greater London Authority

A new requirement in the new London Plan 2021, Be Seen, explores the management of energy carried out post occupancy. The Energy Statement must contain proposals on how this will be monitored post construction for at least five years. Proposals on how to future proof the site to achieve net zero-carbon emissions by 2050 must also be investigated along with the expected cost to the occupants of the proposed Energy Strategy.

Major development proposals should calculate and minimise carbon emissions from any other part of the development, including plant or equipment that are not covered by Building Regulations.

Development proposals that are referable to the Mayor should calculate whole life-cycle carbon emissions through a nationally recognised Whole Life-Cycle Carbon Assessment and demonstrate actions taken to reduce life-cycle carbon emissions.

Where it is demonstrated that the zero-carbon target cannot be met on site, any shortfall should be provided either through a cash in lieu contribution to the relevant Borough's carbon offset fund or by providing an alternative proposal.

3.0 KEY SUSTAINABILITY MEASURES

3.1 Energy and Carbon

The development will utilise the Energy Hierarchy (Be Lean, Be Clean, Be Green) to ensure that energy wastage is reduced. The buildings systems will incorporate the following energy efficiency measures to the Bruce Grove youth space:

- New windows within the Kalwall frontage
- Replacement of rooflights
- Lighting to be LEDs of at least 110lm/W
- Lighting to be daylight linked with appropriate occupancy control to suit each spaces requirement
- Heat recovery to be installed on ventilation systems
- Low fan power ventilation systems
- New glazing beyond Part L 2021 standards
- Upgrade to the building fabric that is considered to be of poor standard
- Replacement of gas fired boilers with air source heat pump.

3.2 Changing climate

There is limited scope to alter the buildings passive design characteristics to minimise unwanted heat gains via the building's orientation. Any new glazing will take into account the requirement for good levels of daylighting and reducing the need for cooling systems. It is proposed that the glazing will be openable.

Introduction of shading devices, plants and thermal mass can contribute to ensuring that buildings remain comfortable to occupants in a changing climate. Plants can have an evaporative cooling affect and will help to improve occupants feeling of wellbeing. These measures should be considered by the building users.

3.3 Flood Risk

Surface water run-off should be controlled as near to its source as possible through Sustainable Drainage Systems (SuDS). Green spaces, rainwater harvesting, permeable paving and green roofs can all contribute to reducing the risk of flooding.

The building is not located within any of the identified flood risk zones contained within the Sustainable Design and Construction SPD.

It is not expected that the redevelopment of the building will have an adverse effect on the potential for flooding particularly when considering a once in 200-year rain event. A drainage survey has been complied to support the application and should be referred to for detailed assessment.

3.4 Water

Developments should minimise the need for water. The incorporation of low flow taps and shower heads, dual flush toilets and water efficient appliances will reduce the requirement for water usage.

Any new taps installed will be low flow with wash hand basins not more than 4l/min and kitchen/utility areas not more than 6l/min. New WCs will be dual flush with volume not more than 3.5 litres.

3.5 Pollution

Haringey is designated an Air Quality Management Area for the pollutants of nitrogen dioxide and respirable particulates. As the building is an existing development, it is expected that there would be no rise in pollution associated with the redevelopment. The introduction of air source heat pumps and removal of the gas fired boilers will result in a reduction in the pollution generated from site.

For light pollution, any new external lighting will be designed so that there is little in the way of spill light to neighbouring properties.

3.6 Waste

The redevelopment will follow the Waste Hierarchy to avoid waste creation, reuse waste that is created and allow left over waste to be recycled. To assist in this, a Site Waste Management Plan will be implemented.

The waste management plan will ensure that any strip out materials from the existing building, for example floor coverings and ceiling will be recycled as opposed to being sent to landfill.

A Circular Economy workshop will be setup to investigate methods of reducing both construction and municipal waste and re-using materials at the highest value.

3.7 Construction

A whole life cycle carbon assessment will be carried out for the construction elements at RIBA Stage 4. This analysis will contribute to lowering the emissions associated with the redevelopment by ensuring that the building and fit-out materials selected are of a) low embodied carbon and b) where possible sourced locally to reduce the emissions associated with transport.

Each product specified within the building materials will have an Environmental Product Declaration (EPD) or in the case of building services, a CIBSE TM65 – Embodied carbon assessment.

3.8 Biodiversity

As the redevelopment is of an existing building, there is little aspects to consider with respect to negatively influencing biodiversity in the area. The redevelopment will comply with protected species legislation if it is found that protected species do use the site.

The hard surfaced area to the front of number 10 will be softened with various soft landscaping works to both the front and rear of the building.

The redevelopment will attempt to improve diversity in the surrounding area by

implementation of artificial habitats such as swift boxes, bat bricks and stag beetle loggeries.

3.9 Transport

As the building is existing, there would be little impact on the transport network. The building is located directly on the cycle route 'Cycleway 1' which has a direct cycle route to the Central London Cycle Grid. There are a large number of bus stops along with pedestrian routes within a five minute walk of the site boundary.

4.0 SUMMARY

The redevelopment of Bruce Grove will not result in any adverse effects when considering sustainability. The improvements to the buildings fabric should result in a decrease in the heating demand of the building. The removal of the gas boiler and installation of heat pumps will allow the building to mitigate any direct emissions associated with heating. This will contribute to the buildings trajectory to achieving Net Zero Carbon. Further efforts to reduce the buildings demand will be around installing heat recovery on ventilation plant and the installation of LED lighting, with appropriate daylighting and occupancy controls.

As temperatures continue to increase within London, rainfall continues to decrease causing water shortages. To help alleviate, any new water installation will take into account best practice with respect to flow rates. For wash had basins, these will be 4l/min with kitchen areas 6l/m. Any new WCs will be dual flush with volume no greater than 3.5 litres.

When considering aspects of waste through municipal and construction means, the redevelopment will follow the Waste Hierarchy to help avoid waste creation, reuse waste and allow left over waste to be recycled. A Circular Economy workshop will be setup to understand where materials could be reused and to ensure the redevelopment is being designed for flexibility and longevity. A whole life cycle carbon assessment will further contribute to reducing the emissions associated with the redevelopment by specifying locally sourced products and those of low embodied carbon.