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SUSTAINABILITY

13.1 SUSTAINABILITY PRINCIPLES

This section provides a summary of key Sustainability principles.

For more information, please see the Flatts statement submitted with the application.

The Energy Statement is prepared using Building Regulation 2010 (SAP 2012) and SAP 10 carbon factors according to the GLA Energy Assessment Guidance.

Air Source Heat pumps (ASHP) are proposed, which being an energy efficient system, is prioritised in the energy hierarchy over renewables and the benefits exceed the planning targets. They are electrically powered systems, which means no localized air quality concerns (as no fossil fuels are burnt on site) and they benefit from the new SAP10 carbon factors which makes them an efficient and low carbon technology.

Waste water heat recovery is also proposed as a means of reducing the most significant Energy usage for new build properties which is domestic hot water.

The results of the analysis are summarised below:

SAP2012

- Domestic
 - o 11% reduction in regulated emissions compared to Building Regulations Part L1A 2013 on energy efficiency measures alone (Be Lean)
 - o An overall reduction in regulated emissions of 36%
 - o 24% reduction in regulated emissions attributable to renewables (ASHP)

SAP10

- Domestic
 - o 14% reduction in regulated emissions compared to Building Regulations Part L1A 2013 on energy efficiency measures alone (Be Lean)
 - o An overall reduction in regulated emissions of 67%
 - o 53% reduction in regulated emissions attributable to renewables (ASHP)

Climate Change:

Climate Change mitigation and adaptation measures have been incorporated within the building design strategy.

Passive design measures combined with energy efficient services and renewable technologies result in significant carbon emission reduction for the project. Monitoring of the operational energy aims to reduce the performance gap and further contribute to minimising the carbon footprint of the building.

Implementing more efficient ways of making, using and disposing of materials will allow resources to flow in a more circular pattern therefore reducing the greenhouse gas emissions and resource depletion. Consumption of potable water for sanitary use has been minimised through water efficient components.

Ecological features will aim at increasing the overall ecological value of the site while improving biodiversity but also reducing the effect of the urban heat island which is a common issue in big cities.

Adaptation to climate change has been achieved through structural and fabric durability measures addressing the potential for extreme weather conditions such as temperature fluctuations, winds and heavy rainfall. Building services design, architectural and structural solutions will ensure the building flexibility to adapt to various climate change conditions.

SUSTAINABILITY TARGETS



Energy Strategy and performance

- Sustainable design i.e. low carbon enhanced building fabric, minimising energy use through air-tightness, natural ventilation, heat recovery and LED lighting.
- Designed-in energy efficiencies to achieve a minimum of 35% reduction in carbon emissions
- Use of clean sources of energy and no fossil fuels i.e. no gas fired boilers.
- Use of renewable energy sources, e.g. air source heat pumps and the Green Grid.

Embodied Carbon

- Reducing demand for high carbon embodied materials with alternatives to the traditional concrete frame and reinforced concrete floors.
- Combining brick and low carbon blocks for walls to reduce the high carbon footprint of an all brick building.



Ecology

- Resizing basement to reflect the footprints of the buildings above to reduce dig waste and impact on ground ecology.
- An ecology zone is proposed which provides sanctuaries for bats, bees and other insects
- A grow zone is provided to encourage residents to grow their own fruits and vegetables
- Proposed 70% of the roof area will be green roof.



Circular Economy

- Considering building in layers, allows not only for future demolition, but also repairs;



Transport

- Electrical charging points provided for 20% of parking spaces with passive provision for the remainder.
- Cycle parking is provided in excess to the LHDG requirements both on ground and basement levels.



Adaptation & Resilience

- Sizing windows to maximise the heat gain in winter and minimise solar gain in summer, while providing for good levels of internal daylight.
- Overheating calculations to TM59 to ensure good levels of thermal comfort.



Equity and Social Justice

- Communal facilities are provided to encourage socialisation and leisure activities. There are proposed in the form of a residents' lounge, play spaces, grow gardens, landscape furniture and centralised gardens.



Health and Wellbeing

- Grow gardens/ allotments to allow for resident-grown produce
- Pedestrian paths integrated within the landscaping to connect residents with nature
- Outdoor natural children's playspace

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CONCLUSION

16.1 CONCLUSION

The Proposed Development provides an opportunity to deliver an increased provision of both affordable and market residential accommodation over and above the OPP. This includes the provision of 22% affordable housing with a tenure split of 79% affordable rent and 21% intermediate accommodation.

The proposals will deliver significant public realm and urban greening benefits as well as enhancing ecology and biodiversity on the site.

Design Summary:

Scale and Massing

- Additional storey added to Block C to match existing building height
- Comprehensive townscape assessment has been carried out
- Increased distance between Block A and the BTMs
- The scale of the proposal has been considered through massing, sections and elevations in relation to the surrounding existing and proposed context.
- Block B&C have been moved away from boundary for fire access and maintenance

Masterplan and Access Strategy

- Reduction in basement dig to improve site ecology and construction reduce construction traffic and export of soil from site
- Removal of the basement from Block C
- Improvements to basement layout and vehicular access through the site including emergency services.

Residential Quality

- Providing a residential amenity/ work spaces and a post room/ concierge at the entrance to the site

- Improvements to construction and servicing strategies through a strategic sustainability analysis
- Introduction of air sourced heat pump to reduce energy consumption and improve the ESG of the development
- Introduction of sprinklers over code to improve safety
- Block C contains all of the scheme's affordable units with the exact quantum to be determined following feedback from registered providers and viability assessments
- Entrances to Block C are proposed to be of equal design quality and area both accessed from the linear garden.

Architecture and Materiality

- Height impact of Block A has been considered and mitigated through updates on massing and design. Its impact on South Worple way, as well as its relationship with the BTMs and the cemetery have been considered through a comprehensive townscape assessment, as well as facade design.
- Variation of architectural details and features through the facade design
- Material palette has been updated to complement the existing context

Landscaping

- Developed landscaping plan with improvements to play space provisions
- Proposals to improve the ecology of the site through the introduction of an eco-zone with sanctuaries proposed for bats, bees and other insects
- Creation of natural pockets of play, and reflection moments to encourage a sense of community throughout the site.

