

SUSTAINABILITY STATEMENT

Ossory Road

Produced by XCO2 for Pocket Living

September 2021



XCO2
56 Kingsway Place, Sans Walk
London EC1R 0LU

+44 (0)20 7700 1000
mail@xco2.com
xco2.com



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SUSTAINABILITY STATEMENT

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Remarks	Draft	For planning				
Prepared by	SG	SG				
Checked by	SP	SP				
Authorised by	RM	RM				
Date	06/09/2021	07/09/2021				
Project reference	9.257	9.257				

EXECUTIVE SUMMARY

The sustainability strategy for Ossory Road has been developed with the design team to comply with the relevant environmental policies from the London Borough of Southwark and the London Plan. Relevant energy policies have been addressed in the accompanying Energy Statement. The proposed development is expected to reduce on-site regulated carbon emissions by 68.8% with SAP10 emission factors.

This report outlines the sustainability strategy for the proposed development at Ossory Road, in line with the requirements set out by the London Plan and the London Borough of Southwark.

The first part of the report provides an overview of the site and planning policies applicable to this development in accordance with the London Plan and relevant the London Borough of Southwark policies.

The second part then outlines the sustainability strategy that has been employed to address the relevant planning policies.

The key sustainable design and construction measures incorporated in the proposals are summarised below, in line with the LB Southwark Sustainability Assessments SPD:

- The re-use of previously vacant and developed land with an effective layout and scale in response to surrounding context;
- Efficient design of the proposed massing, openings and internal layouts for adequate daylight and sunlight levels;
- Maximisation of energy and carbon dioxide emission reduction following the energy hierarchy through enhanced building fabric, low air permeability, use of mechanical ventilation with heat recovery and energy efficient lighting.
- Integration of renewable technology for additional carbon reduction on site.
- Enhance ecology and biodiversity on site with associated landscaping on communal amenity spaces throughout the site;
- Use of responsibly sourced materials with low embodied carbon, where possible;
- Specification of water efficient fittings to limit water consumption to less than 105 litres per person per day for domestic uses.

- The potential risk of overheating and demand for active cooling will be mitigated by incorporating passive and active design measures;
- Site specific SuDS strategies including a below ground gravity drainage will be implemented.
- Air pollution risk from construction and demolition activities on site will be minimal and has been assessed to be insignificant;
- The development will take measures to reduce waste and pollution on site during construction and operation and provide adequate waste and recycling storage;
- Adequate mitigation measures will be implemented to ensure internal noise levels are in line with specific targets.
- Water pollution will be minimised with water efficiency measures, surface water run-off reductions and SuDS strategies as well as best practice to reduce water pollution during construction.

In summary, the proposed development at Ossory Road meets the targets set out by London Borough of Southwark and the Greater London Authority (GLA).

The sustainability measures incorporated reflect the client and design team's aspirations in integrating sustainability measures and demonstrates that the project is designed to exceed the planning policy sustainability requirements.

SITE

The proposed development is a mixed-use development of light industrial space and 117 homes located within the London Borough of Southwark.

The proposed site is located on Ossory Road, within the London Borough of Southwark and is currently occupied by an industrial building.

The application scheme involves the erection of a part one, part ten, part eleven-storey building comprising 117 one-bedroom homes (39no. intermediate homes and 78no. market homes) with 421sqm of light industrial (Class E) floorspace at ground floor level together with

two residential cycle stores, commercial cycle parking and associated plant rooms. The application scheme will deliver high quality amenity space for the residential element of the proposal through provision of attractive communal and private amenity spaces.

The approximate location and boundary of the application site is shown in the figure below.

 Site Location

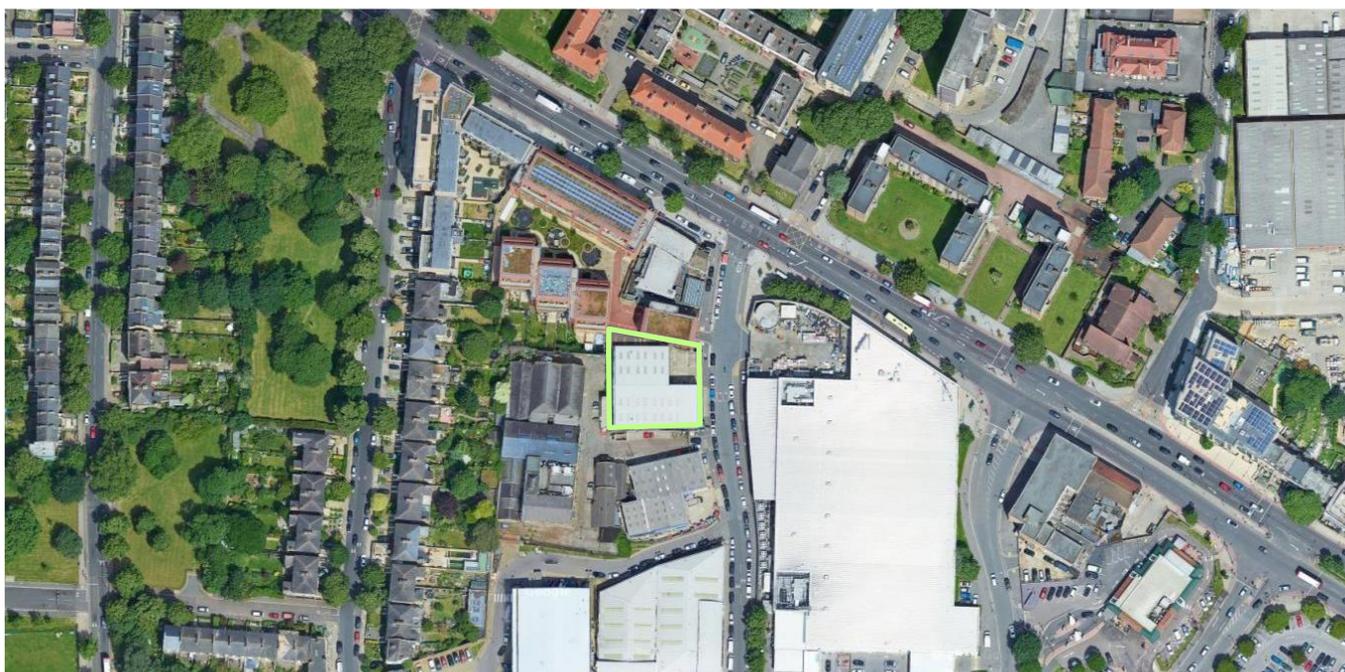


Figure 1: Approximate location of application site

PLANNING POLICY

The Ossory Road development has been designed in line with the requirements set out by the London Borough of Southwark as well as the London Plan.

The relevant planning policy documents for sustainability are:

- The London Plan (2021);
- Housing Supplementary Planning Guidance (2016);
- LB Southwark Core Strategy (2011);
- LB Southwark Sustainable Design and Construction SPD (2009);
- LB Southwark Sustainability Assessments SPD (2009);
- LB Southwark Emerging New Local Plan

THE LONDON PLAN (2021)

The London Plan (2021) published 2nd March 2021 sets out the Mayor’s overarching strategic spatial development strategy for greater London and underpins the planning framework from 2019 up to 2041. This document replaced the London Plan 2016.

The new Plan has a strong sustainability focus with many new policies addressing the concern to deliver a sustainable and zero carbon London.

Policy GG6 Increasing Efficiency and Resilience is an overarching policy references London’s target to become zero carbon by 2050 and the need to design buildings and infrastructure for a changing climate, addressing water, flood and urban heat island.

Sustainability is a trend through the whole Plan but is particularly addressed in chapter 9 Sustainable Infrastructure. The following sections outline the key principles of sustainable design and construction to be incorporated in major proposals.

Policy SI1 Improving air quality requires development proposals to be at least air quality neutral and submit an Air Quality Assessment.

“...

*Development plans, through relevant strategic, site specific and area-based policies should seek opportunities to identify and deliver further improvements to air quality and should not reduce air quality benefits that result from the Mayor’s or boroughs’ activities to improve air quality.
...”*

Any mitigation required to meet the Air Quality Neutral target should be done on site preferably.

Policy SI2 Minimising greenhouse gas emissions sets the requirements for all major developments to follow the energy hierarchy and achieve net-zero-carbon for both residential and non-residential schemes (via on-site carbon reductions and offset payments) and introduces new targets at Lean stage:

“...
This means reducing greenhouse gas emissions in operation and minimising both annual and peak energy demand in accordance with the following energy hierarchy:
1) *be lean: use less energy and manage demand during operation*
2) *be clean: exploit local energy resources (such as secondary heat) and supply energy efficiently and cleanly*
3) *be green: maximise opportunities for renewable energy by producing, storing and using renewable energy on-site*
4) *be seen: monitor, verify and report on energy performance.*
...”

“...
A minimum on-site reduction of at least 35 per cent beyond Building Regulations is required for major development. Residential development should achieve 10 per cent, and non-residential development should achieve 15 per cent through energy efficiency measures. Where it is clearly demonstrated that the zero-carbon target cannot be

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*fully achieved on-site, any shortfall should be provided, in agreement with the borough, either:
1) through a cash in lieu contribution to the borough's carbon offset fund, or
2) off-site provided that an alternative proposal is identified and delivery is certain.
..."*

This policy also sets the requirements to consider whole-life carbon emissions, including embodied carbon and unregulated emissions:

*"...
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, i.e. unregulated emissions.

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

The policy supporting text provides additional clarifications on the requirements for major developments:

- Developments including major refurbishments should also aim to meet the net-zero carbon target.
- All developments should maximise opportunities for on-site electricity and heat production from solar technologies (photovoltaic and thermal), use innovative building materials and smart technologies.
- Recommendation to use SAP10 carbon factors as per GLA Energy Guidance.
- Recommended carbon offset price of £95 per tonne CO₂.
- Requirement for major developments to monitor and report operational energy performance to the GLA.

Policy SI 3 Energy Infrastructure requires all major developments within Heat Network Priority Areas will need to utilise a communal low-temperature heating system. Where developments are utilising CHP this policy also requires them to demonstrate that 'the

emissions relating to energy generation will be equivalent or lower than those of an ultra-low NOx gas boiler'. Any combustion on site should meet the requirements of part B of Policy SI1.

Policy SI 4 Managing heat risk requires:

A Development proposals should minimise adverse impacts on the urban heat island through design, layout, orientation, materials and the incorporation of green infrastructure.

*B Major development proposals should demonstrate through an energy strategy how they will reduce the potential for internal overheating and reliance on air conditioning systems in accordance with the following cooling hierarchy:
1) reduce the amount of heat entering a building through orientation, shading, high albedo materials, fenestration, insulation and the provision of green infrastructure
2) minimise internal heat generation through energy efficient design
3) manage the heat within the building through exposed internal thermal mass and high ceilings
4) provide passive ventilation
5) provide mechanical ventilation
6) provide active cooling systems.*

Policy SI5 Water infrastructure sets the requirements to manage water resources efficiently:

*"...
Development proposals should:
1) through the use of Planning Conditions minimise the use of mains water in line with the Optional Requirement of the Building Regulations (residential development), achieving mains water consumption of 105 litres or less per head per day (excluding allowance of up to five litres for external water consumption)
2) achieve at least the BREEAM excellent standard for the 'Wat 01' water category or equivalent (commercial development)
3) incorporate measures such as smart metering, water saving and recycling measures, including retrofitting, to help to achieve lower water consumption rates and to maximise future-proofing.
..."*

Policy SI 7 Reducing waste and supporting the circular economy introduces the notion of circular economy whereby materials are retained in use at their highest value for as long as possible. For referable applications a Circular Economy Statement demonstrating how developments promote circular economy and aim to be net zero-waste must be submitted.

Policy SI12 Flood risk management and Policy SI 13 Sustainable drainage sets the requirements for development proposals to ensure that flood risk is minimised, and that sustainable drainage is incorporated. This should be pursued by integrating different strategies including natural flood management. Development proposals should aim to achieve greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible. For this green features should be employed, following the drainage hierarchy.

Policy D14 Noise requires that noise impacts are minimised and mitigated to avoid any adverse impacts on health and quality of life and to reflect the principles set in **Policy D13 Agent of Change** that *“places the responsibility for mitigating impacts from existing noise and other nuisance-generating activities or uses on the proposed new noise-sensitive development.”*

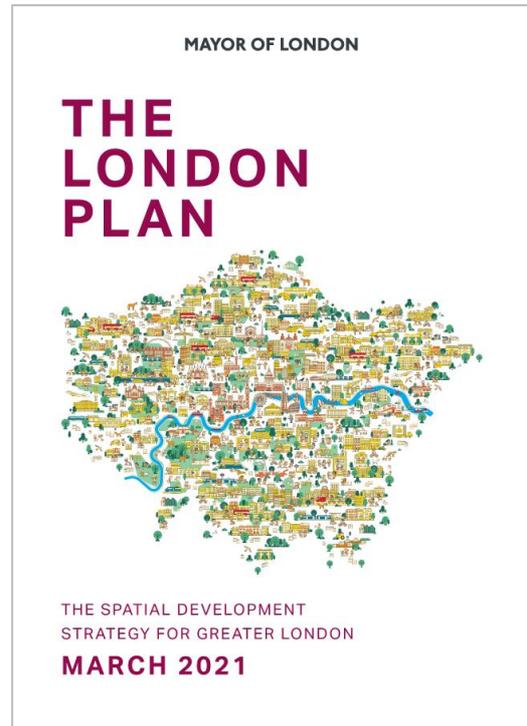
Policy G5 Urban greening requires major developments to contribute to greening of London assessed by an Urban Greening Factor (UGF).

Boroughs should develop their UGF but *“the Mayor recommends a target score of 0.4 for developments that are predominately residential, and a target score of 0.3 for predominately commercial development (excluding B2 and B8 uses).”*

Separate guidance on UGF is under consultation in Spring/Summer 2021.

Policy G6 Biodiversity and access to nature states:

“
Development proposals should manage impacts on biodiversity and aim to secure net biodiversity gain. This should be informed by the best available ecological information and addressed from the start of the development process.
”



HOUSING SPG

This document provides guidance on the implementation of housing policies in the London Plan and it replaces the 2012 Housing SPG.

Part 2 covers housing quality and updates London housing standards to reflect the implementation of the government's new national technical standards through the Minor Alterations to the London Plan (2015-2016).

As design affects the quality of life, health & wellbeing, safety and security of users and neighbours, this guidance is integral to sustainable development and will be cross-referenced as relevant in the subsequent sections.



LOCAL BOROUGH POLICY

In addition to the London Plan and Supplementary Planning Guidance presented in the previous sections; the proposed development will comply with the Local Plan policies from the London Borough of Southwark, where the proposed development is located. The planning policy for the area is comprised of:

- LB Southwark Core Strategy (adopted April 2011);
- LB Southwark Sustainable Design and Construction SPD (adopted February 2009);
- LB Southwark Sustainability Assessments SPD (adopted February 2009);
- LB Southwark Emerging New Local Plan (Main Modifications – August 2021)

LB SOUTHWARK COUNCIL'S CORE STRATEGY

Southwark's Core Strategy, adopted in April 2011, requires the following policies to be achieved:

STRATEGIC POLICY 1 – SUSTAINABLE DEVELOPMENT

Development will improve the places we live and work in and enable a better quality of life for Southwark's diverse population. It will help meet the needs of a growing population in a way that respects the limits of the planet's resources and protects the environment.

- *Allowing more intense development for a mix of uses in the growth areas and making sure development makes the most of a site's potential and protects open space.*
- *Regenerating areas like Aylesbury, Elephant and Castle, Peckham, Camberwell, Old Kent Road, and Canada Water.*
- *Testing the impact of our development plan documents by carrying out sustainability appraisals and equalities impacts assessments and consulting on them widely.*
- *Requiring a sustainability assessment with applications to show how a scheme is the best possible development for a place by balancing economic, social and environmental needs. This includes taking into account the needs of all the community, including people of different ages,*

genders, faith, ethnicity, sexual orientation, income and disability

POLICY 12 – DESIGN AND CONSERVATION

Development will achieve the highest possible standards of design for buildings and public spaces to help create attractive and distinctive places which are safe, easy to get around and a pleasure to be in.

- *Expecting development to conserve or enhance the significance of Southwark's heritage assets, their settings and wider historic environment, including conservation areas, archaeological priority zones and sites, listed and locally listed buildings, registered parks and gardens, world heritage sites and scheduled monuments.*
- *Carefully managing the design of development in the Thames Policy Area so that it is sensitive to the many special qualities of the River.*
- *Making sure that the height and design of development conserves and enhances strategic views and is appropriate to its context, the historic environment and important local views.*
- *Requiring tall buildings to have an exemplary standard of design and make a positive contribution to regenerating areas and creating unique places. Locations where tall buildings could go are in London Bridge, the northern end of Blackfriars Road, Elephant and Castle and action area cores. These are shown on the Key diagram.*
- *Continuing to use the Southwark Design Review Panel to assess the design quality of development proposals.*
- *Requiring Design and Access Statements with applications and encouraging Building for Life Assessments and heritage impact assessments.*

STRATEGIC POLICY 13 – HIGH ENVIRONMENTAL STANDARDS

- *Requiring development to meet the highest possible environmental standards, including targets based on the Code for Sustainable Homes and BREEAM.*
- *Requiring all new development to be designed and built to minimise greenhouse gas emissions across its lifetime. This will be achieved by applying the energy hierarchy:*

- *Designing all developments so that they require as little energy as possible to build and use.*
- *Expecting all major developments to set up and/or connect to local energy generation networks where possible. We will develop local energy networks across Southwark.*
- *Requiring developments to use low and zero carbon sources of energy.*
- *Requiring applicants to demonstrate how they will avoid waste and minimise landfill from construction and use of a development.*
- *Requiring developments to minimise water use and use local sources of water where possible.*
- *Setting high standards and supporting measures for reducing air, land, water, noise and light pollution and avoiding amenity and environmental problems that affect how we enjoy the environment in which we live and work. This includes making sure developments are designed to cope with climate conditions as they change during the development's lifetime.*
- *Requiring developments to help reduce flood risk by reducing water run-off, using sustainable urban drainage systems and avoiding the paving over of gardens and creation of hard standing areas.*
- *In line with Strategic Policy 13 the targets the development will be expected to meet are listed below:*
 - *Residential development should achieve at least Code for Sustainable Homes Level 4.*
 - *All other non-residential development should achieve at least BREEAM Excellent.*
 - *Major developments should achieve a 44% saving in carbon dioxide emissions above the building regulations (2006) from energy efficiency, efficient energy supply and renewable energy generation. (This equates to a 25% reduction under Building Regulations 2010)*
 - *Major development must achieve a reduction in carbon dioxide of 20% from using on-site or local low and zero carbon sources of energy.*
 - *Major development must reduce surface water run-off by more than 50%*
 - *Major housing developments must achieve a potable water use target of 105 litres per person per day.*



LB SOUTHWARK SUSTAINABILITY ASSESSMENTS SPD

The SPD, adopted in February 2009, is intended to provide guidance on the content of submitted sustainability assessments. A sustainability assessment is a mandatory requirement for developments in the London Borough of Southwark.

LB SOUTHWARK SUSTAINABLE DESIGN AND CONSTRUCTION SPD

This document, adopted in February 2009, provides guidance on how new development in Southwark should be designed and built so that it has a positive impact on the environment; the SPD sets out different environmental performance standards for major and minor development.

The design principles, 'minimum' and 'preferred' standards that major development should adhere to are presented in the section 11. *Development standards for major development* and have been reviewed.

ENERGY USE & MINIMISING CLIMATE CHANGE

By applying the energy hierarchy, development should achieve at least a 25% improvement over the Building Regulations energy efficiency standards current at the time of the application. Council procured housing should achieve a 44% improvement.

- *An assessment of the energy demand and carbon dioxide emissions from the development must be*

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provided. [...] Energy calculations need to include all energy uses in the development.

- *Development should connect to existing CHP/CCHP networks where possible, following the guidance in Section 3.4.*
- *Developments must achieve a reduction in carbon dioxide emissions of 20% from onsite renewable energy generation (which can include sources of decentralised renewable energy) unless it can be demonstrated that such provision is not feasible.*

ADAPTING TO CLIMATE CHANGE

- *The proposal includes living roofs and walls where feasible.*
- *Buildings provide for flexibility of uses during their projected operational lives.*
- *Buildings adapted to and mitigate for the effects of the urban heat island and the expected increase in hot dry summers and wet mild winters*

AVOIDING POLLUTION AND ENVIRONMENTAL NUISANCE

Development in the Air Quality Management Area will need to provide a formal air quality impact assessment (as set out in appendix 6).

- *All new gas boilers should produce low levels of NO_x.*
- *Design and Access Statement should include information on how development has been designed to provide good indoor air quality and minimise the need for mechanical ventilation.*
- *Inert and low emission finishes, construction materials, carpets and furnishings should be used.*
- *All plant and machinery should be accessible for easy maintenance.*
- *External lighting should meet the recommended levels set out in British Standards BS5489_1: 2003 and BS EN 12193: 2003 where relevant.*
- *Applications should provide information on how lighting has been used efficiently and how unnecessary light spill has been overcome.*
- *Construction works should be carried out in accordance with council's Environmental Code of Construction Practice.*
- *Development should incorporate sustainable drainage techniques suitable to the site (see standards for reducing flood risk).*

- *Applications should include a construction management plan that sets out how noise and vibration impacts will be managed.*

AVOIDING WASTE AND MINIMISING LANDFILL

- *Design and Access Statement should include information on how a development has been designed to minimise the use of building materials, reuse existing buildings and materials on-site and recycle materials that are not needed. This includes information on how long materials used are likely to last before they need replacing or repairing.*
- *Construction works should be carried out in accordance with council's Environmental Code of Construction Practice.*

PROTECTING AND ENHANCING BIODIVERSITY

- *Developers must comply with protected species legislation. Where development could result in harm to protected or priority species, a Scoping Study will be required.*
- *Site surveys should be undertaken at the appropriate time of year for the species concerned.*
- *There should be no net loss in ecological value of a site.*
- *A Tree Report should be submitted, covering the issues set out in appendix 6.*
- *Green walls or roofs are to be included in all schemes, unless this is not feasible.*

CONSERVING WATER

- *Applications should demonstrate how the water demand of the development has been minimised through water efficient design.*
- *Residential developments should achieve a potable water use target of 105L per person per day.*
- *Non-residential development should achieve at least 1 BREEAM credit for water consumption.*
- *Highly efficient water saving fixtures, fittings and appliances should be used.*

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- *Development should include a system to collect rainwater for use in external irrigation/watering, unless this is not feasible due to site constraints.*
- *The development should connect to a local water supply or borehole where this is available.*
- *There should be 100% metering of all newly built property*

REDUCING FLOOD RISK

- *Achieve 50% reduction in surface run-off (measured in litres per second per hectare) leaving the site at peak times. The rate at which run-off leaves a site should be controlled so that it is the same for all storms expected in a 100 year period.*
- *Development must not increase the area of hard standing areas.*
- *Sustainable Urban Drainage Systems (SUDS) should be used on each site, in accordance with the preferences set out in section 9.3. Justification for why a SUDs technique higher up the hierarchy cannot be used should be included with planning applications.*
- *Drainage must meet the minimum requirements of Part H of the Building Regulations. Where drainage is to be adopted by Thames Water, it will need to meet the authority's design requirements.*
- *Drainage should be designed so that it does not flood during the worst storm likely to occur within a 50 year period. Existing drainage should be brought up to this standard.*
- *Contributions towards off-site sustainable urban drainage schemes will be sort where a development cannot fully manage surface water on-site.*



EMERGING NEW SOUTHWARK PLAN

London Borough of Southwark are in the process of updating their Local Plan to provide the new borough-wide planning and regeneration strategy up to 2033. Once finalised, the New Southwark Plan will replace the current Local Plan. Therefore, the following policies, contained in the emerging New Southwark Plan, is also a material consideration:

P58: GREEN INFRASTRUCTURE

1. *Major development must:*
 1. *Provide green infrastructure with arrangements in place for long term stewardship and maintenance funding.*
2. *Large-scale major development must:*
 1. *Provide new publically accessible open space and green links.*
3. *Green infrastructure should be designed to:*
 1. *Provide multiple benefits for the health of people and wildlife; and;*
 2. *Integrate with the wider green infrastructure network and townscape / landscape, increasing access for people and habitat connectivity; and*

3. Be adaptable to climate change and allow species migration while supporting native and priority species; and

4. Extend and upgrade the walking and cycling networks between spaces to promote a sense of place and ownership for all.

P59: BIODIVERSITY

Development must contribute to net gains in biodiversity through:
(...)

3. Including features such as green and brown roofs, green walls, soft landscaping, nest boxes, habitat restoration and expansion, improved green links and buffering of existing habitats.

P61: REDUCING WASTE

Development must:

1. Demonstrate how the following waste management hierarchy will be applied during construction:

1. Avoid creating waste; then
2. Reduce the amount of waste produced; then
3. Prepare waste materials for re-use; then
4. Recycle and compost waste materials; then
5. Recover energy from waste materials; then
6. Dispose waste materials in landfill; and

2. Provide adequate recycling, composting and waste disposal, collection and storage facilities on site; or

3. Provide a suitable off site waste management strategy that does not adversely impact amenity, access or the environment where on site waste management provision is not possible.

P64: IMPROVING AIR QUALITY

Development must:

1. Achieve or exceed air quality neutral standards; and

2. Address the impacts of poor air quality on building occupiers and public realm users by reducing exposure to and mitigating the effects of poor air quality. This must be achieved through design solutions that include:

- Orientation and layout of buildings, taking into account vulnerable building occupiers, and public realm and amenity space users; and
- Ventilation systems; and
- Urban greening appropriate for providing air quality benefits proportionate to the scale of the development; and
- Appropriate abatement technologies to bring emissions within the equivalent of 'ultra low' NOx boiler emissions levels where decentralised energy networks are implemented or utilised.

P65: REDUCING NOISE POLLUTION AND ENHANCING SOUNDSCAPES

1. Development must:

- Avoid significant adverse impacts on health and quality of life; and
- Mitigate any adverse impacts caused by noise on health and quality of life; and
- Mitigate and manage noise by separating noise sensitive developments from major noise sources by distance, screening or internal layout, in preference to sound insulation.

2. Major development adjacent to, or within:

- Designated open space; and
- Designated open water space; and
- Hard landscaped civic spaces with public amenity value; and
- Street markets,

should be designed to protect and enhance positive aspects of the acoustic environment identified through a public soundscape assessment. New spaces proposed as part of development should also assess the potential to enhance a place's character and identity through the acoustic environment and positive public soundscape.

3. Major development will be required to demonstrate how the noise pollution impacts created during the construction process will be reduced, mitigated and managed appropriately to minimise harm to present occupiers of the site and adjoining neighbours.

P66: REDUCING WATER USE

Development should reduce water use by:

1. Ensuring that residential development has a 'safe to drink' water use of no more than 105 litres per person per day, excluding an allowance of 5 litres or less per person per day for external water use; and
2. Incorporating measures to reduce the demand for mains water treated to drinking standard and enable the use of grey water and/or rainwater for non-drinking uses.

P67: REDUCING FLOOD RISK

1. Development must not increase flood risk on or off site, by ensuring that:

- It is designed to be safe and resilient to flooding; and
- Finished floor levels are set no lower than 300mm above the predicted maximum water level where they are located within an area at risk of flooding; and
- Major development reduces surface water run-off to greenfield run-off rates. This must be through the application of water sensitive urban design and Sustainable Urban Drainage Systems (SUDS), in accordance with the following drainage hierarchy:
 - Store rainwater for later use; then
 - Use infiltration techniques; then
 - Attenuate rainwater in ponds or open water features for gradual release; then
 - Discharge rainwater direct to a watercourse; then
 - Discharge rainwater to a surface water sewer/drain; then
 - Discharge rainwater to the combined sewer; and
 - Hard surfacing of any gardens is permeable.

P68: ENVIRONMENTAL STANDARDS

Development must:

1. Achieve a BREEAM rating of 'Excellent' for major non-residential development and non-self-contained residential development over 500sqm; and
2. Achieve BREEAM rating of 'Excellent' in domestic refurbishment for conversion, extension and change of use of residential floorspace over 500sqm; and
3. Achieve BREEAM rating of 'Excellent' in non-domestic refurbishment for conversion, extension and change of use of non-residential floorspace over 500sqm; and
4. Reduce the risk of overheating, taking into account climate change predictions over the life time of the building, in accordance with prioritised measures set out in the following cooling hierarchy:
 - Minimise internal heat generation through energy efficient design; then
 - Reduce the amount of heat entering a building through the orientation, shading, albedo, fenestration, insulation and green roofs and walls; then
 - Manage the heat within the building through exposed internal thermal mass and high ceilings; then
 - Passive ventilation; then
 - Mechanical ventilation; then
 - Active cooling systems (ensuring they are the lowest carbon options).

P69: ENERGY

Energy Hierarchy

1. Development must minimise carbon emissions on-site in accordance with the following energy hierarchy:
 - Be lean (energy efficient design and construction); then
 - Be clean (low carbon energy supply); then
 - Be green (on-site renewable energy generation and storage).

Targets for major development

2. Major development must reduce carbon dioxide emissions on-site by:

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- 100% on 2013 Building Regulations Part L standards for residential development; and
- A minimum of 40% on 2013 Buildings Regulations Part L and zero carbon (100%) for non-residential developments.
- Any shortfall against carbon emissions reduction requirements must be secured off-site through planning obligations or a financial contribution.

Decentralised energy

3. Major development must be designed to incorporate decentralised energy in accordance with the following hierarchy:

- Connect to an existing decentralised energy network; then
- Be future-proofed to connect to a planned decentralised energy network; or
- Implement a site-wide low carbon communal heating system; and
- Explore and evaluate the potential to oversize the communal heating system for connection and supply to adjacent sites and, where feasible be implemented.



PROPOSED SUSTAINABILITY MEASURES

This part of the report presents the key elements of the proposal that underpin environmental sustainability, demonstrates how the development complies with sustainable development policies and incorporates guidance on sustainable design and construction.

LAND AND SITE LAYOUT

Land use

The land for this proposal is efficiently used as the scheme will be constructed on previously developed land. The site currently comprises B1c light industrial unit. The proposed development will provide a light industrial space and 117 homes.

Reuse of Existing Buildings

There is no scope for reusing the existing buildings. A pre-demolition audit will be undertaken to identify the existing materials and suitable recycling/waste streams.

Land Form and Site Layout

The site is relatively flat. The proposed development has utilised this to ensure the building footprint does not increase.

The height of the surrounding context varies from low rise buildings to the west and the Old Kent Road Masterplan area to the east with large tall developments coming into construction.

The scheme comprises a ten-storey building with light industrial unit on the ground and residential units above that.

Daylight & Sunlight Impacts

In effect, all habitable spaces adequate glazing areas and the study prepared by Rights of Light Consulting confirmed that the majority of the proposed rooms and amenity areas meet or surpass the BRE recommendations. Whilst a small number do not meet the recommendations, it is Right of Light Consulting opinion that the results are commensurate with

developing a masterplan in an urban context. Furthermore, it is noted that the BRE guidance should be interpreted flexibility within the context of the wider benefits of the planning application.

Impact on neighbouring properties has been assessed as well and the scheme is expected to achieve a high level of compliance to ensure adequate levels of daylight and sunlight to neighbouring properties.

For further details, please refer to the Daylight and Sunlight Assessment prepared by Rights of Light Consultants.

Micro-climate

A microclimate is the distinctive climate of a small-scale area and the variables within it, such as temperature, rainfall, wind or humidity may be subtly different to the conditions prevailing over the area as a whole. The main characteristics of microclimates within London are temperatures and wind.

The proposed scheme is not of a scale that could potentially have any significant impact on wind conditions around the site or any adverse effects on pedestrian and residents' comfort.

Urban Greening

The proposed scheme will contribute to the increase of green spaces within London by providing landscaped areas, which contribute to increase in physical activity and relaxation of occupants, improvement of local air quality, and reduction of Urban Heat Island effect.

Impacts on Neighbours from Demolition and Construction

Construction impacts such as dust generation and increased traffic movements will be minimised through adoption of best practice construction measures,

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formalised through the production of a Construction and Environmental Management Plan to be delivered by the main contractor where appropriate.

Land Contamination

A Phase 2 Geo-environmental and Geotechnical Site Investigation has been carried out to identify possible environmental concerns associated with redeveloping the site and to highlight the sensitivity of the site to any potential on site and off site sources of contamination.

For details on the findings and remedial actions can be found in the report prepared by RSK.

HEALTH AND WELLBEING

Inclusive Design

The development aims to prioritise the future needs of occupants by ensuring that all dwellings and shared amenity spaces are designed to comply with Part M of the Building Regulations and includes 12 full wheelchair accessible units.

Safety and Security

The design team has consulted a Crime Prevention Officer and will follow the principles of Secured by Design to provide safe and secure spaces to all residents and users.

Open Spaces/Amenity

Private and communal amenity spaces will be provided throughout the development to allow residents to gather, socialise and connect to the natural environment. This will also enhance the residents' wellbeing as nature can significantly improve mood and happiness.

Daylight/Sunlight

In effect, all habitable spaces adequate glazing areas and the study prepared by Rights of Light Consulting confirmed that the majority of the proposed rooms and amenity areas meet or surpass the BRE recommendations. Whilst a small number do not meet the recommendations, it is Right of Light Consulting opinion that the results are commensurate with developing a masterplan in an urban context. Furthermore, it is noted that the BRE guidance should be interpreted flexibility within the context of the wider benefits of the planning application.

Amenity areas for the residents of the flats will be provided on communal roof terraces and private balconies. Consideration has been given to these areas which by virtue of appropriate massing of the buildings and the proposed site layout will experience adequate levels of sunlight, above the BRE threshold.

For further details, please refer to the Daylight and Sunlight Assessment prepared by Rights of Light Consultants.

Physical activity

The presence of amenity providers (shops, pharmacies, public park) within walking distance to the development will encourage residents to walk rather than use personal vehicles. The provision of cycle storage spaces will also encourage the use of alternative means of transportation for longer distances trips.

ENERGY & CARBON DIOXIDE EMISSIONS

The Energy Strategy for the development has been designed in line with the London Plan's Policy SI2 or other local policy, which states that every effort should be made to minimise carbon dioxide emissions 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: monitoring

Be Lean

The buildings have been thoughtfully designed to reduce energy demand through an enhanced building fabric, minimising heat loss through air infiltration, reducing reliance on artificial lighting, utilising low energy lighting and ensuring adequate levels of ventilation are maintained whilst reducing heat loss through the specification of MVHR.

Be Clean

As discussed in detail in the Energy Statement, the units will have heating and hot water supplied by a single energy centre served by communal gas boilers to ensure optimal efficient heat generation for the development. The development is located in an area where a future District Heating Network is likely to be developed within the next years. The communal heating system provides the option to connect to a district heat network in the future once it becomes established. Refer to the supplementary Energy Statement for further details on these sections.

Be Green

A range of renewable technologies were considered for generating on-site renewable energy. Photovoltaic panels and air source heat pumps (ASHP) were considered suitable technologies for this development due to adequate flat roof space, easy installation process, and substantial CO₂ savings.

Further details about the photovoltaic and/or ASHP strategy, alternative renewable technology options and site-wide CO₂ emission reductions can be found in the accompanying Energy Statement.

Be Seen

A monitoring strategy will be put in place to ensure that the actual energy performance of the development can be monitored and reported post-occupation.

The relevant parties will also be made aware of their responsibilities at subsequent reporting stages.



WATER

Water Efficiency

The development at Ossory Road aims to reduce water consumption to less than 105 litres per person per day, in line with the recommended target set out in the Housing SPG, through the use of water efficient fittings, and these are listed below.

Table 1: Recommended specification for sanitary fittings

Fitting	Fitting specification
WC	6/3 litres dual flush
Kitchen sink tap	6 litres per min
Wash basin tap	4 litres per min
Shower	8 litres per min
Bath	180 litres
Washing machine	8.17 litres/kg
Dishwasher	1.25 litres/place setting



MATERIALS AND WASTE

Responsible Sourcing

100% of the timber used during construction will be sourced from accredited Forest Stewardship Council (FSC) or Programme for the Endorsement of forestry Certification (PEFC) source.

The main contractor will be required to prioritise products holding responsible sourcing certification (EMS/ISO14001) for the key process as per minimum, to ensure economic, social and environmentally responsible practices are implemented throughout construction products supply chain.

Healthy Materials

To minimise potential sources of indoor air pollution, low VOC paints, finishes and other products will be prioritised as far as practically possible. Best practice design detailing and careful construction techniques will also be employed to reduce the risk of thermal bridging and condensation issues, limiting the potential for mould growth.

Embodied Carbon

To further reduce carbon emissions over the lifecycle of the building, low embodied carbon materials will be used as far as practically possible, whilst also focusing on design practices to reduce waste production.

Circular Economy

Circular economy is based on three key principles: design out waste, keep products and materials in use, and regenerate natural systems. These principles will be applied during the design and construction of the proposed development by following the actions noted below:

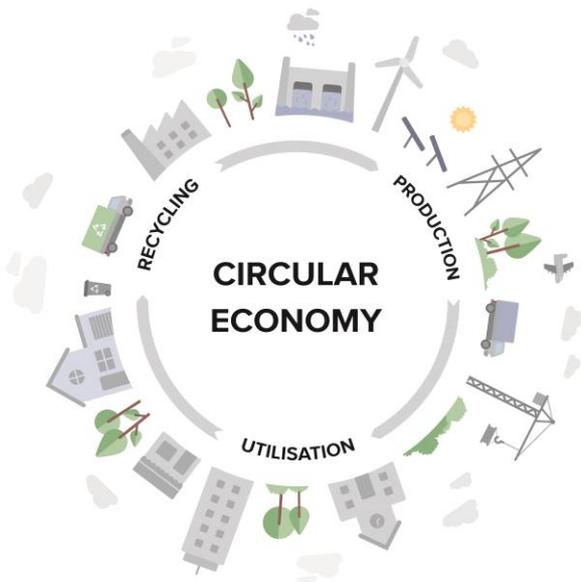
- Design out the need for building components and materials;
- Use of reclaimed materials and remanufactured components over new;
- Product selection considering its entire lifecycle, such as products which can be remanufactured or reused; products with high recycled content; products designed for disassembly; and recyclable or compostable materials.

Construction Waste

Where appropriate, a site waste management plan will be prepared for the development. The SWMP will outline the methodologies for estimating waste quantities and streams generated during the demolition, excavation and construction stages of the site works, and set out recommended measures required to be adopted by the Main Contractor to minimise these as far as practically possible.

Operational Waste

The development has taken into account sustainable methods for waste and recycling management during its operation in order to meet requirements from the London Plan and local authority policies and all applicable legal requirements.



NATURE CONSERVATION & BIODIVERSITY

The site is of low ecological value at present. The proposed development incorporates a broad array of features to enhance the biodiversity onsite through planting and provision of dedicated environments for local wildlife on the different amenity spaces across the building.

The First Floor terrace will provide green boundaries of evergreen and perennial species as well as pockets of sensory and edible plant species. The Tenth floor terrace will have evergreen and sensory planting.

Furthermore, the development incorporates a bio-diverse green roof with a diverse mix of plug plants to attract important pollinator species and capturing rainwater.

Overall, the proposals will result in net gains for biodiversity at the development site

Further details can be found in the Landscape section of the Design and Access Statement submitted in support of the application.



CLIMATE CHANGE ADAPTATION

Overheating

The potential risk of overheating will be mitigated by incorporating both passive and active design measures.

The space heating and hot water to both the domestic and non-domestic elements of the Ossory Road development will be provided by a communal system linked to the DHN. Before the connection is available heat and hot water will be provided by high efficiency gas boilers. All heat sources and pipe work will be sufficiently insulated to avoid excess heat loss into internal space.

Efficient lighting will be used to further minimise internal heat gains and reduce energy expenditure.

Appropriately sized windows will reduce solar heat gains. Glazing with low transmittance will be used throughout the development to reduce solar gains and reduce the risk of overheating.

The dwellings have allowed for passive ventilation as a strategy for providing fresh air and dissipating heat.

Acoustically treated ventilation panels will be incorporated in the bedrooms overlooking Ossory Road to allow for purge ventilation while avoiding high noise levels.

Surface Water and Flooding

Sustainable urban drainage systems (SUDS) will be incorporated on site and the buildings' fabric and structure will be designed to minimise risk of infiltration and damage via flooding where possible.

As the site is 100% hardstanding, raised planters and soft landscaped areas have been included at roof level to minimise surface water runoff. In addition, SuDS including a green roof and raised planting at roof level, and an attenuation tank with a Hydro-Brake flow control device below the slab, have been included to restrict peak sewer flows for rainfall events.

For further details on the incorporation of SUDS and flood resilience measures for this scheme please refer to the Flood Risk Assessment and Drainage Strategy prepared by Whitby Wood submitted in support of the planning application.



Figure 2: Ossory Road facade with acoustic panels on bedroom glazing.

AIR, NOISE AND LIGHT

Air Quality

Air pollution risks from construction and demolition activities on site will be minimal in line with the SPG 'The control of dust and emissions from construction and demolition' under the following categories:

- demolition;
- earthworks;
- construction;
- trackout; and,
- non-road mobile machinery (NRMM).

An air quality assessment has been carried out to determine the impacts from dust and stationary plant emissions during the construction period and the potential impact from traffic flows on the local road network on both on-site and off-site receptors, during and after construction. Where necessary, mitigation measures are recommended to reduce any air quality impact.

The proposed development will be connecting to the local DHN and therefore, during the operational phase of the development, there will be no combustion on site. In the interim, should the connection not become available at time of the development completion, high efficient, low-NOx boilers will be specified to reduce impacts on air quality from the combustion of fuels on site (for further details please refer to the accompanying *Energy Statement*).

Overall, the development will meet 'air quality neutral' benchmarks set out in the London Plan. For further details please refer to the Air Quality Assessment submitted in support of the application.

Noise

The development will incorporate design and building fabric measures to mitigate potential noise levels from the proposed development and ensure the impact of any external sources on internal ambient noise levels are within acceptable limits.

The Noise Assessment carried out for the proposed development concluded that with the appropriate mitigation in the form of the specified glazing with enhanced performance and ventilation, internal noise levels within the proposed dwellings will be acceptable.

For further details please refer to the accompanying Environmental Noise Assessment.

LIGHT POLLUTION

The lighting design of the proposed development will follow the recommendations of the Institution of Lighting Engineers' Guidance Notes for the Reduction of Obtrusive Light (2005), to minimise light pollution.

Water Pollution

Water pollution to surrounding watercourses has been minimised by the introduction of SuDS strategies such as landscaped areas and below ground attenuation tank for gradual release to the public sewer, thereby reducing surface water runoff.

In addition, contractors will adopt best practice policies to mitigate water pollution from construction activities on site.

The development will discharge domestic sewage via a connection to the public foul sewer or combined sewer network where it is reasonable to do so.

TRANSPORT

Alternative means of transportation

In order to underpin the reduction of emissions from transport, the development has been designed to encourage cycling; cycle parking will be provided to all flats in a dedicated ground floor stores. Furthermore, secure cycle parking spaces for staff, and a further visitors spaces for both uses will be provided. The proposed development will be car free.

Public Transport Accessibility

The industry standard accessibility indicator for London, the Public Transport Accessibility Level (PTAL) rating has been used to identify the level of accessibility the site has to the public transport network.

A Manual PTAL assessment has been undertaken as the TfL WebCAT platform splits the site between a PTAL rating of 3-4. The manual assessment results in the site having a PTAL rating of 4, indicating a good level of public transport accessibility.

For further details please refer to the Transport Assessment prepared by TPP in support of this application.

Proximity to Amenities

The site is in walking distance of a number of local amenities. There are a number of retail units in the proximity of the site. The Asda Superstore is located adjacent to the site, with the store entrance being located along Old Kent Road. Other nearby retail/leisure units include McDonalds, Halfords and B&Q east of the site and B&M stores located east of the site along Old Kent Road.

GP practices, local schools and parks, including Burgess Park with 56 ha of green space, sporting facilities, play areas, cafe lake and toilets are all within walking distance from the proposed development.



CONCLUSION

The sustainability strategy for Ossory Road has been developed with the design team to comply with the relevant environmental policies from the London Borough of Southwark and the London Plan. Relevant energy policies have been addressed in the accompanying Energy Statement. The proposed development is expected to reduce on-site regulated carbon emissions by 68.8% with SAP10 emission factors.

The proposed development will meet the targets set out by the London Borough of Southwark and the Greater London Authority (GLA). Key sustainability features include:

- The re-use of previously vacant and developed land with an effective layout and scale in response to surrounding context;
- Efficient design of the proposed massing, openings and internal layouts for adequate daylight and sunlight levels;
- Maximisation of energy and carbon dioxide emission reduction following the energy hierarchy through enhanced building fabric, low air permeability, use of mechanical ventilation with heat recovery and energy efficient lighting.
- Integration of renewable technology for additional carbon reduction on site.
- Enhance ecology and biodiversity on site with associated landscaping on communal amenity spaces throughout the site;
- Use of responsibly sourced materials with low embodied carbon, where possible;
- Specification of water efficient fittings to limit water consumption to less than 105 litres per person per day for domestic uses.
- The potential risk of overheating and demand for active cooling will be mitigated by incorporating passive and active design measures;
- Site specific SuDS strategies including a below ground gravity drainage will be implemented.
- Air pollution risk from construction and demolition activities on site will be minimal and has been assessed to be insignificant;

- The development will take measures to reduce waste and pollution on site during construction and operation and provide adequate waste and recycling storage;
- Adequate mitigation measures will be implemented to ensure internal noise levels are in line with specific targets.
- Water pollution will be minimised with water efficiency measures, surface water run-off reductions and SuDS strategies as well as best practice to reduce water pollution during construction.

In summary, the proposed development at Ossory Road meets the targets set out by London Borough of Southwark and the Greater London Authority (GLA).

The sustainability measures incorporated reflect the client and design team's aspirations in integrating sustainability measures and demonstrates that the project is designed to exceed the planning policy sustainability requirements.

XCO2
56 Kingsway Place, Sans Walk
London EC1R 0LU

+44 (0)20 7700 1000
mail@xco2.com
xco2.com

