

# BEAM PARK

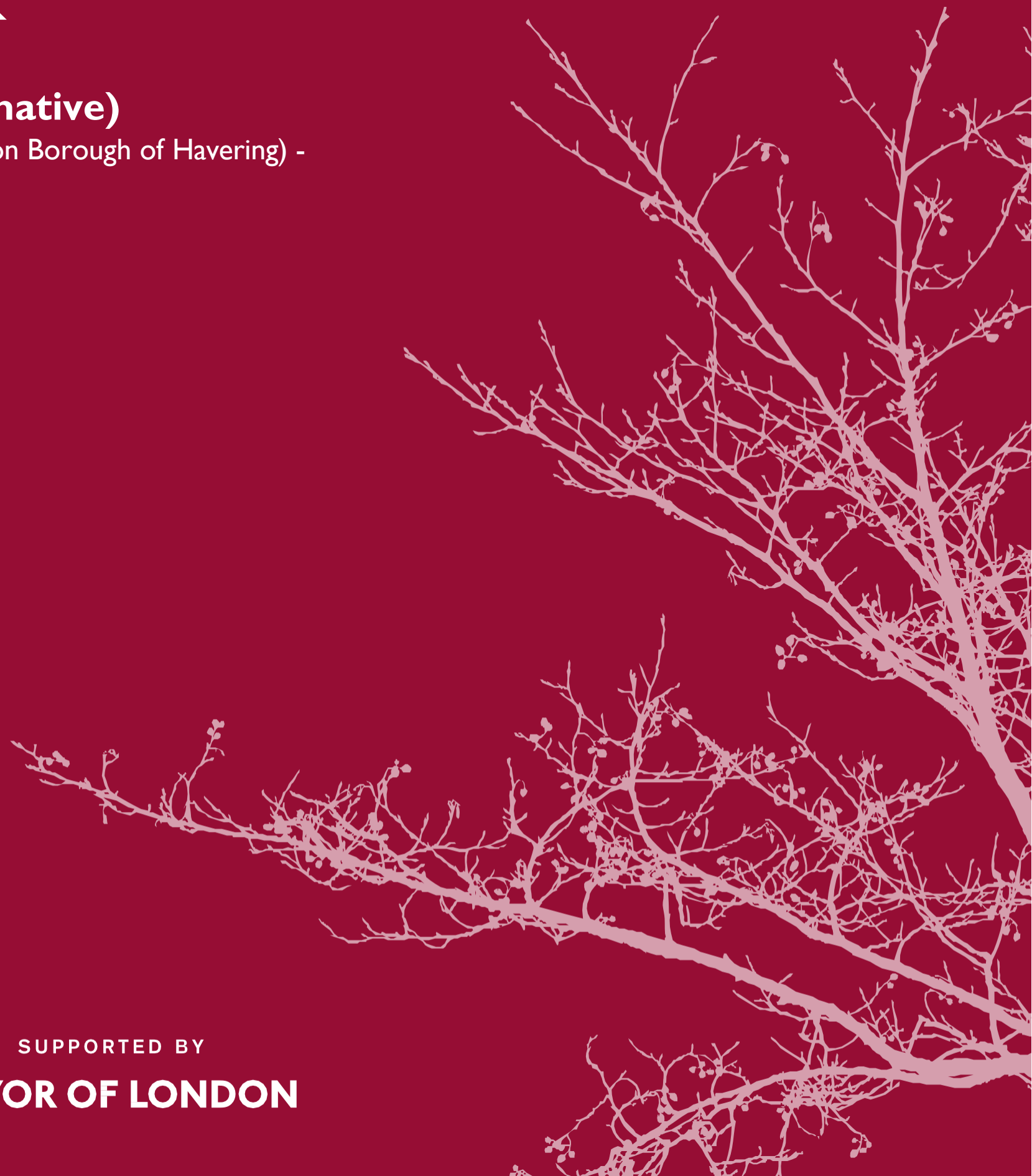
## **Sustainability Statement, Phase 2A (informative)**

Phase 2A Reserved Matters Application (Works within the London Borough of Havering) -  
Submission to the GLA

July 2019



SUPPORTED BY  
**MAYOR OF LONDON**





## **Beam Park Phase 2A (RMA LBH GLA)**

### Sustainability Statement, Phase 2A (Informative)

July 2019

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# 1 Executive Summary

This report has been prepared as an addendum to the AECOM's Sustainability Strategy for a hybrid planning application dated July 2017 and Sustainability Strategy Addendum dated August 2018, in support of the RMA LBH GLA application for Beam Park Phase 2A.

The Phase 2A consists of two apartment blocks of T and I and two house-blocks of 13 and 16. Block T is a total seven-storey height block and Block I a total eight-storey height block. The terrace houses are two/three-storey height.

This report seeks to address the measures of Sustainability and demonstrate the design intention in relation to policies at National, Regional and Local level as appropriate.

This report is prepared as a brief addendum to the existing Approved Sustainability Statement, covering the same topic areas as the original application and addressing any change in impact between the original application and the proposed scheme. The report follows the sustainability statement structure suggested by the Mayor of London's Supplementary Planning Guidance (SPG) on Sustainable Design and Construction.

This Sustainability Statement demonstrates that the RMA LBH GLA application has no substantial impact on the sustainable design and construction strategy.

Phase 2A of the Beam Park Development shall therefore be designed and constructed in accordance with Best Practice sustainable design.

## 1.1 1.1 Summary of Sustainability Measures

The proposed development has incorporated sustainability measures and features throughout. This section provides an overview of the sustainability measures proposed:

Issue	Proposed Sustainability Measures
Energy	By incorporating passive design measures an efficient CHP based community heating system services, the development is predicted to achieve >35% CO <sub>2</sub> reduction onsite against Part L 2013.
Water	Low flow water fittings and fixtures proposed in order to meet 110 liters/person/day for the dwellings.
Materials	Sustainably sourced materials with low embodied carbon are proposed, in accordance with the requirements of BREEAM.
Surface Water Run-off and Flood Risk	The site is situated within Flood Zone 3. Flood Risk mitigation measures and SUDs solutions shall be implemented in accordance with Best Practice, as detailed in the Environment Statement.
Waste	During construction, a Site Waste Management Plan will be produced with benchmarks to divert non-hazardous demolition and construction waste from landfill.
Pollution	Pollution Prevention measures shall be implemented in accordance with Best Practice, as detailed in the Environment Statement.
Health and Wellbeing	All dwellings will provide occupants with access to communal amenity space, and those on upper storeys include private balconies.  An overheating analysis has been undertaken to ensure a comfortable internal environment in all dwellings. All dwellings have been designed to achieve good daylight levels in accordance with BRE criteria.
Management	The site will be registered with the Considerate Constructors Scheme and aim to meet compliance beyond best practice standards.  Construction site impacts, including site energy, water, and transport consumption will be monitored in accordance with BREEAM requirements.
Transport	The development proposes a safe environment for pedestrians and cyclists, including the provision of cycle storage spaces. The new railway station shall improve the site's Public Transport Accessibility Level (PTAL).

## 2 Policy Context

### 2.1 Policy Summary

This sustainability statement has been designed in accordance with the following applicable policy and guidance documents, as outlined in the previously approved AECOM's Energy Strategy and Sustainability Statement.

Where these documents have been superseded in the interim, the latest version has been followed. The list of relevant documents are:

- National Planning Policy Framework 2019
- Great London – the London Plan: The special development strategy for London consolidated with alterations since 2011 (March 2016); and the London Mayor's Air Quality Strategy (Dec 2010)
- Draft London Plan 2018
- London Borough of Havering (LBH) – Core Strategy (2008); Rainham and Beam Park Planning Framework (2016)



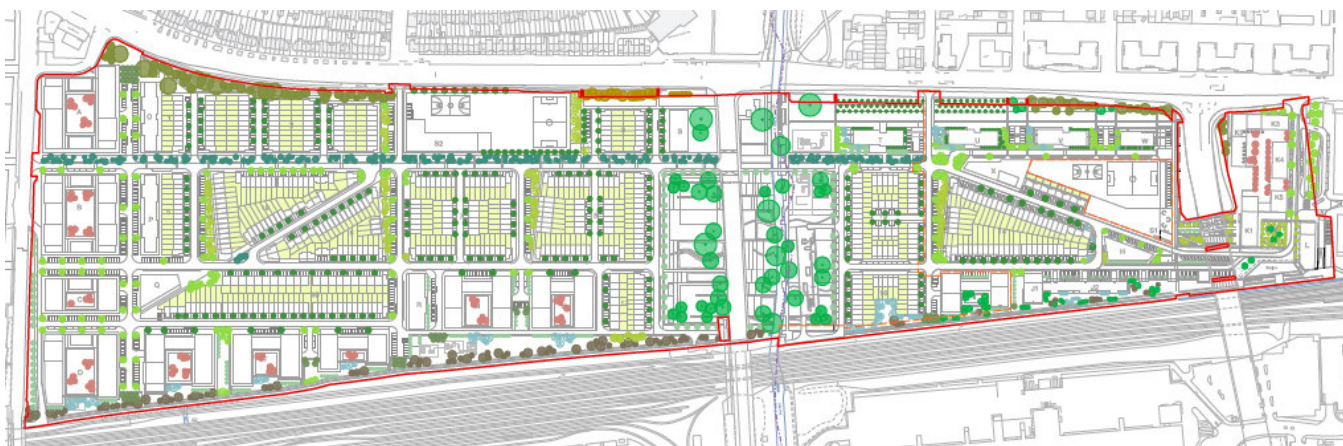
## 3 Site and Proposed Development

### 3.1 Site and Planning Application Description

The Beam Park site (31.54 ha) is situated on the border between the London Borough of Havering and the London Borough of Barking and Dagenham, it is a post-industrial brownfield site with the River Beam running North-South through the site centre and which also forms the boundary between London Borough of Havering (LBH) and London Borough of Barking and Dagenham (LBBD).

The development is planned to be delivered over eight phases up to 2030. Planning permission is sought in detail for phase 1, which is entirely within LBH whilst phase 2 is divided between LBH and LBBD with the River Beam running thorough the centre.

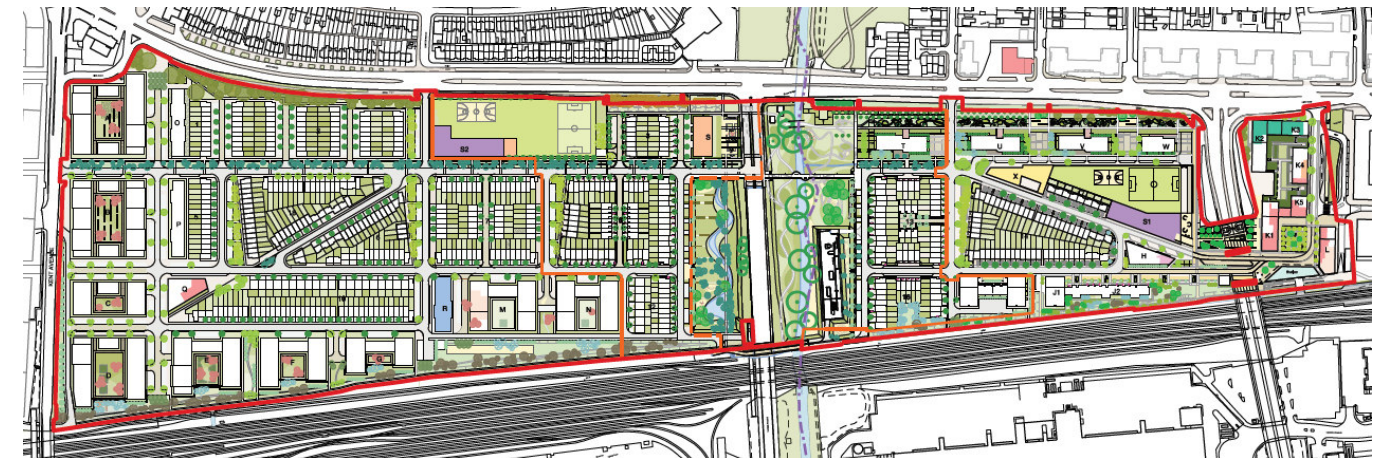
The original proposal hybrid planning application for the redevelopment of the site to include up to 2900 homes was submitted on July 2017, its master plan is shown below:



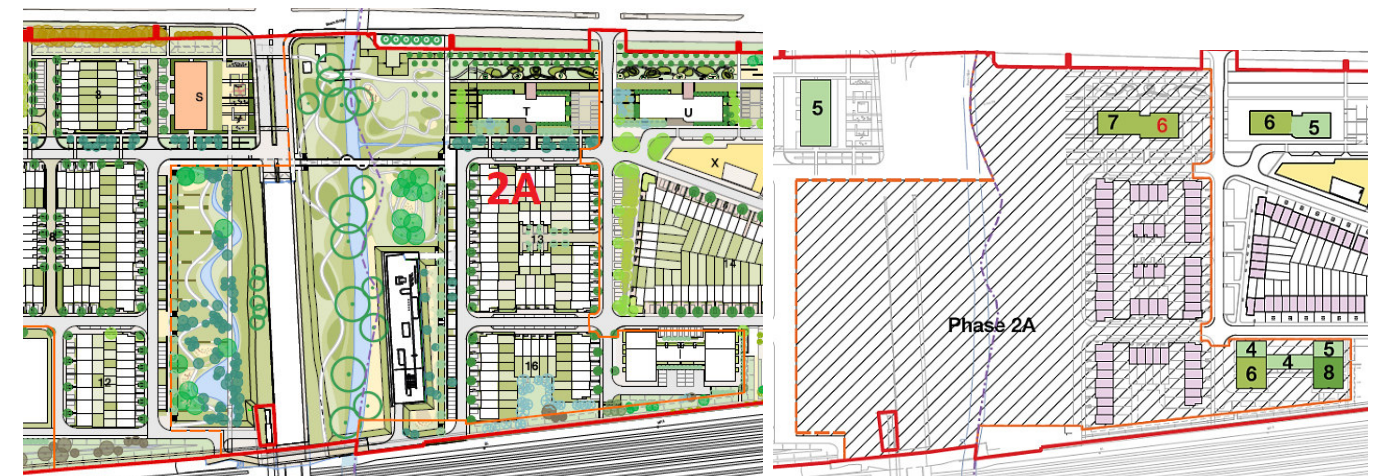
**Figure 1:** Original hybrid planning application master plan – July 2017

In the revisions February 2018, the main changes included increasing affordable housing from 35% to 50% and increasing height by two floors to block K3 to accommodate the medical centre whilst maintaining the same number of residential units.

Further revisions were made afterwards to the planning application during the GLA Call-In period. The changes related to ES addendum August 2018 (produced by AECOM) covered an increase of 100 homes from 2900 to 3000 in phase 1 and increase of building height in Phase 1 of up to 16 storeys.



**Figure 2:** Revised planning application master plan – August 2018



**Figure 3:** Revised planning application master plan – details of phase 2A

Figure 3 shows the outline details of the phase 2A including the height change of block T, which east part was changed from five storeys to six storeys and which highest point stays seven storeys. Phase 2A includes total 120 apartments and 64 houses, providing 50% affordable homes.



## 4 Resource Management

### 4.1 Land Use

The RMA application has no effect on the site location and approved land use: As per the previous application, land use will be optimised by building on a previously developed site.

The Proposed Development Phase 2A includes domestic use only. Domestic units will include both private rented and affordable homes and flats, of a range of sizes, which will help to create mixed and balanced communities.

### 4.2 Nature Conservation and Biodiversity

An ecological assessment was carried out by RPS for the Master Plan, in order to establish the ecological value of the site.

The surveys indicated that the majority of habitats currently present on site are of limited intrinsic ecological value, with limited potential for protected species. The primary exception to this is the river corridor, which was found to offer potential to support reptiles, breeding birds, water voles, hedgehogs, and foraging and commuting bats.

An updated Ecology Report has been prepared separately by RPS.

### 4.3 Incorporation of Green Infrastructure and Open/Play Space

Dwellings have been designed to meet the Nationally Described Space Standards (DCLG, May 2016). All flats will provide occupants with access to communal amenity space, and those on upper storeys include private balconies. The communal amenity space is designed to address and support the needs of a diverse community, including children and older people.

### 4.4 Access to Public Transport, Promotion of Low Carbon Transport

A Transport Assessment Addendum has been prepared separately by Vectos. As per the approved Master Plan, Phase 2 has been designed with an emphasis on connectivity through the site. The development shall create a safe environment for pedestrians and cyclists and include the provision of new cycle storage spaces. Increased public transport accessibility shall be achieved via the provision of a new railway station which will connect the site to Central London in 20 minutes

### 4.5 Energy Demand Reduction and CO<sub>2</sub> savings

An Addendum to the approved Energy Strategy has been prepared by MWL, which concludes significant CO<sub>2</sub> savings of >35% onsite will be achieved for Phase 2A through energy efficiency measures and CHP.

Energy Demand Reduction and CO<sub>2</sub> savings have been achieved by following the hierarchy of:

- 'Be Lean' - Use less energy
- 'Be Clean' - Supply energy efficiently
- 'Be Green' - Use Renewable Energy

Overheating analysis has been undertaken by MWL for Phase 2 to ensure the proposed dwellings for Phase B implement all practical measures in line with the 'Cooling Hierarchy' to minimise the risk of overheating – refer to further details in Section 6.

### 4.6 Sunlight Parameter Study

A Sunlight Parameter Report has been prepared by MWL for RMA application. The report was undertaken in accordance with BRE criteria and methodology for calculating daylight, and sunlight and overshadowing. IES software was used to undertake full 3D simulation.

The BRE report: *"Site layout planning for daylight and sunlight: a guide to good practice, BRE 2011"* has been used as guideline for this study.

This BRE report gives criteria and methods for calculating daylight, and sunlight and to some degree overshadowing and through that approach define what they consider as a material impact.

The report finds that the new scheme complies with BRE daylighting and sunlight requirements.

### 4.7 Water Efficiency

The proposed approach is to achieve a water consumption target of 110 litres per person per day or less for all domestic properties. The target design consumption date will be achieved through the use of low water use sanitary wear, including dual flush WCs, flow regulated taps and shower fittings, and bath with a reduced capacity to the overflow. Countryside Properties has considerable experience of delivering water efficiency at this level, which has been demonstrated by a range of completed projects.



#### **4.8 Materials and Waste**

The design and construction team are committed to implementing best practice materials and waste procedures in accordance with the requirements of BREEAM. This means the specified materials shall be sustainably sourced and have a low embodied carbon where feasible. In addition, the construction team shall monitor and reduce waste on site through the implementation of a Site Waste Management Plan.

#### **4.9 Secured by Design**

To ensure future robustness and manage potential damage and loss, the development has been designed in accordance with Secured by Design principles. The scheme design has been discussed with the Design Out Crime Officer and the principles of Secure by Design have been incorporated from an early stage.

#### **4.10 Lifetime Homes and Accessibility**

The development has been designed with future adaptation for accessibility in mind. A wide range of private sale and affordable shared ownership/rented dwellings are to be provided, which have been designed in accordance with Lifetime Homes principles. Accessibility measures incorporated include:

- Level entrances to all homes, including level thresholds from living areas to balconies
- Adequate circulation space for wheelchairs throughout the development and turning space within all living rooms
- Walls in the bathrooms/WCs capable of taking adaptations such as handrails and each unit to provide an entrance-level accessible WC
- Bedrooms designed to allow a reasonable route for a potential hoist to be installed

## 5 Adapting to Climate Change and Greening the City

An additional Flood Risk Assessment Addendum has been undertaken by Brands Consulting Engineers for Phase 2 – for further details of this, refer to the Environment Statement.

### 5.1 Tackling Increased Temperature and Drought

Overheating analysis has been undertaken by MWL for Phase 2. Through the application of passive design and low energy measures the design team have worked to ensure that the risk of summer overheating and reliance on mechanical cooling is minimised in line with the 'cooling hierarchy'.

Dynamic simulation modelling (DSM) against CIBSE TM59 standards has been carried out and a separate report has been produced. The report finds that based a strategy of low emissivity windows, continuous mechanical ventilation, and natural purge ventilation when necessary via openable window, that the new scheme complies with CIBSE overheating requirements.

### 5.2 Effect on Microclimate

A microclimate wind assessment has been prepared by MWL to address the likely significant wind microclimate effects of the proposed development. The whole Beam Park development (Phases 1 to 8) as per the parameter plans and the relevant committed developments have been modelled using Computational Fluid Dynamics (CFD) tools. The predicted wind flow patterns were analysed, and the probability of exceeding predefined wind speed thresholds were compared against the Lawson's LDDC Criteria for comfort and safety.

The assessment indicated that the proposed amended scheme would result in new microclimate wind effects to those reported in the August 2018 ES Addendum, none of which are identified as Significant.

### 5.3 Flooding and Surface Water Run-Off

A Flood Risk Assessment and Sustainable Drainage report (FRA) for the Master Plan was produced by Capita. The report determined that the site is situated within Flood Zone 3, and is at risk from fluvial and tidal flooding from the River Thames.

Modelling undertaken covered a number of flooding scenarios, and results indicated that the site remains dry up to and including the 1% annual probability AEP climate change (35%) event. The more extreme event 1% annual probability AEP climate change (70%) event shows minor ponding along the southern boundary of the site, but this was not deemed significant.

The design approach has sought to integrate flood mitigation and drainage with other aesthetic and ecological functions onsite. SUDS measures have been incorporated into the designs from an early stage in order to ensure that they are fully integrated into the broader landscaping strategy.

## 6 Pollution Management

### 6.1 Land Contamination

A thorough investigation of ground conditions at the Master Plan stage indicated that there is historic ground contamination across the site due to its industrial history.

A remediation strategy has been produced by RSK. for further details of this, refer to the Environment Statement.

### 6.2 Air Pollution

An Air Quality Assessment for the Master Plan was produced by PBA. In accordance with the report, the CHP engine will be specified to meet the Mayor's SPG for CHP standards based on the Proposed Development baseline NOx emissions, and where gas boilers are specified they will achieve a NOx rating of <40mg NOx/kWh.

Road traffic emissions associated with the Proposed Development are estimated to be below the Transport Emissions Benchmark calculated in accordance with the methodology prescribed within the Mayor of London's Sustainable Design and Construction SPG. As such, the Proposed Development can be considered to be air quality neutral with regard to transport emissions.

An additional Air Quality Assessment report has been undertaken by PBA for Phase 2. For further details of this, refer to the Environment Statement.

### 6.3 Noise

A Noise Assessment for the Master Plan was produced by PBA. The existing environmental sound levels on the site were determined by a site survey, and the suitability of the site for domestic development was assessed on the basis of surveyed data and the guidance contained within BS 8233:2014. An acoustic model was prepared for the assessment.

An additional Noise Assessment report has been undertaken by PBA for Phase 2. For further details of this, refer to the Environment Statement which was accompanied and considered as part of the hybrid planning application.

### 6.4 Light Pollution

In accordance with the Master Plan design, Phase 2 external lighting will only be installed where necessary (for the sake of safety or security).

To mitigate negative effects of lighting pollution, the following measures will be incorporated where every possible:

- Lighting to be targeted at specific areas with spill light limited

- Luminaires to direct light downwards (no greater than 70 degrees from the vertical plane)
- 24-hour lighting to be limited to routes required for safe access to buildings and through the site
- Lighting design shall follow the recommendations of the ILP Guidance notes for the reduction of obtrusive light, 2011

### 6.5 Water Pollution

Water Pollution Prevention procedures shall be implemented in accordance with Best Practice, as detailed in the Environment Statement.



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## 7 Conclusion

This report has been prepared as an addendum to the AECOM's Sustainability Strategy for a hybrid planning application dated July 2017 and Sustainability Strategy Addendum dated August 2018, in support of the LBH RMA application for Beam Park.

The proposed development has targeted high standards of sustainability throughout the lifetime of the development. In particular, energy efficiency measures will be integral to the design and specification. Passive design measures will also feature within the buildings to prevent overheating and avoid excessive requirements for heating and cooling.

As demonstrated in this Sustainability Statement, the LBH RMA application has no substantial impact on the sustainable design and construction strategy for the development, covering areas such as water, management, waste, pollution, and materials.

Phase 2 of the Beam Park Development shall therefore be designed and constructed in accordance with Best Practice sustainable design.