2.D Urban form

Overarching development principle - D

To use the area's unique open spaces, waterways, character, sporting facilities, heritage buildings and contemporary city scale architecture, to create a network of new linked, inclusively designed and revitalised lifetime neighbourhoods.

Key London Plan policies: 7.1 - 7.9

Context

London Plan policies on place shaping emphasise the need for neighbourhoods to provide a clear character that is easy to understand and relate to, and that in planning for those neighbourhoods, development should have regard to the existing form, function and structure of an area, including the scale and mass and orientation of surrounding buildings ³⁴. They also encourage work with boroughs to identify suitable locations for tall and large scale buildings, and use of lifetime neighbourhood principles to help create places where people will be able to live at different stage in their lives. Good urban design can also allow people to better access to goods, services and employment opportunities, and improve public safety and health.

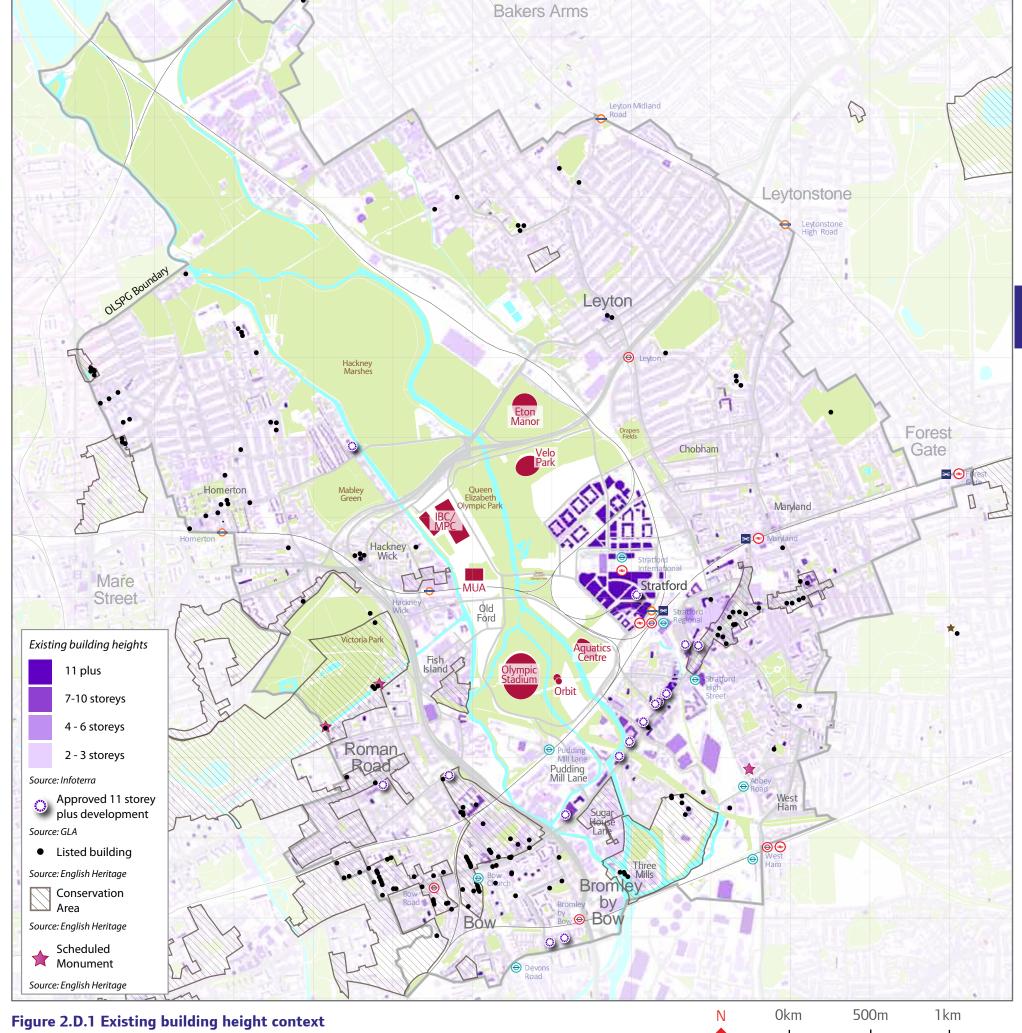
In preparing their own spatial frameworks the OLSPG boroughs have undertaken their own urban design analyses which have identified appropriate scales of development and locations for tall buildings. Most of these documents have been considered by the Mayor and have received support. The OLSPG has sought to synthesise these emerging and adopted plans to give a clear sense of the wider strategic picture across the OLSPG area and to illustrate the fit between borough and strategic aspirations. Figure 2.D.1 sets out the existing urban form context within the OLSPG area. This provides the basis from which new plans should be derived. It shows existing built height, the locations of conservation areas and listed buildings, of open spaces and the valley topography. English Heritage and CABE guidance on tall buildings recommends that a plan led approach to tall building location should be informed by this kind of analysis. This should ensue that tall and large scale buildings do not have an unacceptably harmful impact on their surroundings, and this has formed the basis of the Mayor's approach to boroughs work to identify suitable tall building locations. The quality and built form of the environment can influence socioeconomic change in the OLSPG area and thereby address convergence.

Historically the centre of the OLSPG area was dominated by industrial buildings and uses and the challenge has been to create a new context using the best elements of this historic infrastructure including the canal and river system, and the older industrial buildings within the conservation areas at Fish Island and Hackney.

The Olympic and Stratford City developments have begun this process of place making and represent an upper limit in terms of scale of development, and their physical form and land use establish the context for development that will follow in legacy. In addition various large scale private developments have come forward over the last ten years, particularly along Stratford High Street, which also need to be integrated into the wider urban structure. The extensive network of waterways at heart of the OLSPG area, some of which had been derelict and underused since the Second World War, have been restored and opened up to form an integral part of the Queen Elizabeth Olympic Park. These provide key connections across the wider open space network and should be used to frame and inform new development. The key open spaces include Victoria Park in the west, Three Mills Green in the south and Walthamstow wetlands and Hackney Marshes in the north which provide important links to the Queen Elizabeth Olympic Park.

The OLSPG supports the Mayor's Green Grid objectives and Strategic Walk Network (SWN), as well as proposals in the LLV OAPF to create a network of parks and open spaces focused on the River Lea. These spaces and pedestrian and cycling links should be used to help connect the area's new and existing communities, improve connections south to the Thames, and north into the Upper Lee Valley, and link with and into the open spaces and sports facilities provided by the Lee Valley Regional Park Authority. New development should also carefully consider the relationship between buildings, activities and the public realm, help link the area's green and blue spaces take advantage of the improved water environment and bring forward waterside developments and leisure uses. The Queen Elizabeth Olympic Park will create a metropolitan scale open space, though this doesn't obviate the need to create new public spaces within the fringe sites in order to help deliver the attractive Lifetime Neighbourhoods this guidance promotes. Some of boroughs plans are beginning to identify where such spaces should be and incorporate them into their local plans. The cumulative impact of these proposals should protect and enhance the area's rich biodiversity.

Beyond the core of the OLSPG area large parts of the north, south and east of the OLSPG area are more suburban in scale and form, comprising traditional Victorian and Edwardian terraced housing. This suburban character is something of great value to existing communities and it is important that legacy development relates seamlessly to it. This can be simply achieved by new development within the fringe areas mediating between the larger scale of the core of the OLSPG area and the more suburban scale which surrounds it. It is important that the form of development reflects and recognises the context and prevailing scale of its specific location, taking into account the differing characteristic of each place.



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Key urban form proposals

Stratford

Figure 2.D.1 shows how the OLSPG area's taller and higher density developments are focussed in and around Stratford town centre, partly the consequence of the development of the indoor shopping centre in the 1970s, but also from Westfield Stratford City the Athletes' Village and large scale developments along Stratford High Street. Given its excellent public transport links, Stratford is identified in Newham's Stratford Metropolitan Masterplan as a suitable location for a cluster of taller and high density city scale development centred primarily on the sites to the north of the station at Stratford City. It also now meets the London Plan size criteria for designation as a metropolitan centre, though better linkages between the older and newer retail centres will be needed before this can be formalised in planning terms.

Individual tall building proposals may come forward that help deliver regeneration priorities and also contribute to legibility, and there is scope for some higher buildings around the northern end of Stratford High Street and the old shopping centre, but these need to be balanced against the desire to preserve and enhance the town centre conservation area and the concentration of listed buildings along the alignment of the old high street and the more suburban scale of development immediately to the south.

In order to deal with these transitions in scale, building scales could be reduced on the peripheries of the Stratford City development, dropping to four to six storeys to the north and east of the Athletes' Village. Stratford High Street has undergone significant redevelopment over recent years, with a number of tall and dense developments either having been completed or granted planning permission. The high street itself has been re-landscaped and although it remains a four lane road, additional pedestrian crossings have been provided, and a more pedestrian orientated environment introduced. The building pattern established here is intended to be managed to make the most of the opportunities to create additional routes and connections through the area and to ensure the various proposals are coherently connected at ground floor level.

Northern Olympic Fringe and Hackney Wick and Fish Island

Two other areas the OLSPG identifies for a higher scale of development are Hackney Wick and west of Leyton town centre, with the building heights at the former proposed in the range of four to six, (with scope for taller elements), and at the latter, of seven to ten, reflecting Leyton's town centre status. At present Hackney Wick is predominantly built to two to six storeys and a higher scale of development that takes advantage of the relatively good public transport accessibility around Hackney Wick station can help to deliver the creative employment hub the London Plan and OLSPG promote.

Within Hackney Wick and Fish Island there are number of older industrial buildings largely identified in the conservation area designations that give a distinct form and character to the area. These should where possible not only be integrated into new development, but form the starting point for master planning in these areas. Within the Northern Olympic Fringe taller buildings will help landmark the area's regeneration, and Waltham Forest have identified sites where higher buildings might be appropriate and which are shown on Figure 2.D.2. These combined with a higher density of development should provide the critical mass to ensure successful and viable regeneration proposals. Some of the existing industrial buildings within the sub-area are of lesser quality, and of more importance, is the relationship of new development to the suburban scale of the established housing communities that border the development opportunities in the Northern Olympic Fringe.

Southern Olympic Fringe

Within the Southern Olympic Fringe, Bromley by Bow has the potential to be designated as a district town centre, and Tower Hamlets and the Mayor wish it to also provide a local community focus in terms of retail, based around the redevelopment of the existing Tesco store adjacent to the A12 and a new primary school. The developed St. Andrews Hospital scheme includes two 18 storey residential towers, and the Tesco scheme to the east of the A12 also includes proposals for an 18 storey building. Tall buildings in this location provide appropriate markers for the local centre and add clarity to the legibility of the area by clearly identifying the station. These immediate sites benefit from good public transport accessibility and are suitable for higher density development, although as set out elsewhere in this guidance, local connectivity across the A12 needs to be improved. To the east of the station is the listed Three Mills complex and the conservation area, and to the north the Sugar House Lane conservation area. Masterplans will need to make the most of these assets within these areas as the starting point for new master planning studies.

Olympic Park

The Queen Elizabeth Olympic Park will provide the OLSPG area's principal public open space. It is, and will be, defined by the scale of buildings enclosing and located within it, by the subtle level differences between the river and canal system, and by the different levels of parkland formed as a result of the re-grading of the ground levels of the Olympic site. The main sports venues, the Athletes' Village, and Stratford City help define the urban form as will much of the structure of the park. Tall buildings will appear both within and next to the park and in views from these spaces will help people orientate themselves and identify key destinations, and all buildings fronting the park, in particular tall buildings, will be required to of a very high quality design. The longer urban edges to the north of the park will contrast to the south park in that they will be more suburban in scale, reflecting the primary function of this part of the park, (carrying on in the tradition of Victoria Park). The south park by comparison will have a larger and more urban scale of enclosing development.

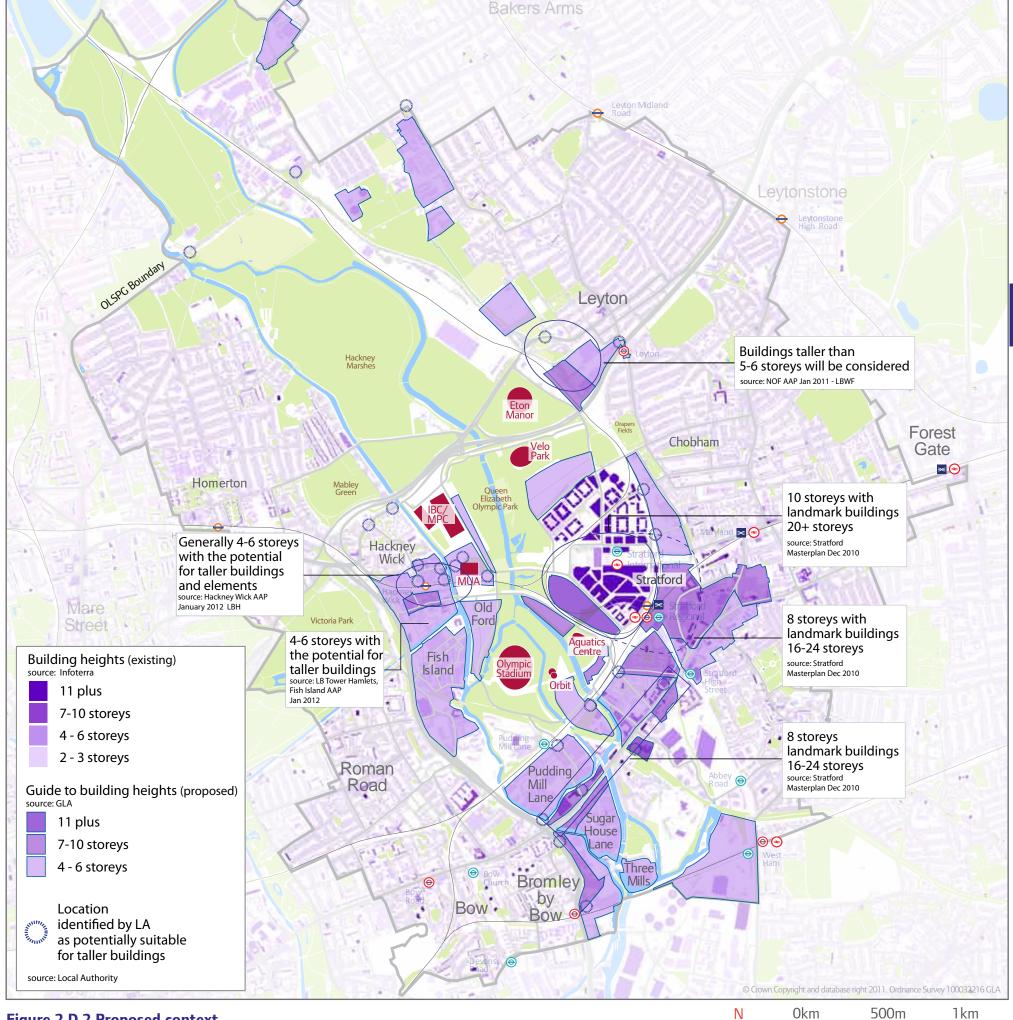


Figure 2.D.2 Proposed context

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2.E Open space and sustainable development

Overarching development principle – E

To create a new part of London which is ready to respond to the challenge of climate change by improving, extending, and linking the OLSPG area's unique network of open spaces and waterways, utilising and developing the sustainability infrastructure inherited from the 2012 Games, and achieving exemplar standards of sustainable design and construction and environmental quality.

Context

The Greater London Authority Act 2007 places a duty on the Mayor of London to contribute towards the mitigation of, and adaptation to, climate change in the UK, and the London Plan confirms the Mayor's commitment to make London a world leader in tackling climate change, improve the local and global environment reduce pollution, develop a low carbon economy and consume fewer resources. The plan also confirms that the Mayor will use their powers, resources and influence to work with other agencies to raise awareness and promote behavioural change.

The value of open space for amenity, biodiversity and access to nature should be recognised in development proposals as should the need to reduce pressures on existing open spaces. This will require improvements to existing open spaces, the creation of new open space in areas of deficiency and designing and managing all such spaces to maximise their amenity and health benefits.

Development within and around the Queen Elizabeth Olympic Park should be seen as an exemplar for sustainable living and it is important that development in the wider OLSPG area responds to the standards that will be established here. The 2012 Games and Stratford City will take the sustainability lead by bringing major infrastructure improvements to the area including two new energy centres and a comprehensive area wide decentralised energy scheme. There is also a water recycling plant at Old Ford to provide the Olympic village with non-potable water that will be used throughout the Olympic site.

New development in the OLSPG area will be expected to maintain this high performance in terms of sustainability and response to climate change and the London Plan confirms that the Mayor expects all new homes to meet level 4 of the Code for Sustainable Homes and a zero carbon target for non-domestic buildings by 2019.³⁵

Development principle E1 - Open space and leisure

Development proposals and plans in the OLSPG area should protect and improve existing areas of open space, address deficiencies, incorporate measures to improve access and help meet the health needs of the area's existing and future communities.

Key London Plan policies: 2.7, Table 2.1, 2.18, 3.2, 4.5, 4.6, 5.10, 7.1, 7.17, 7.18.

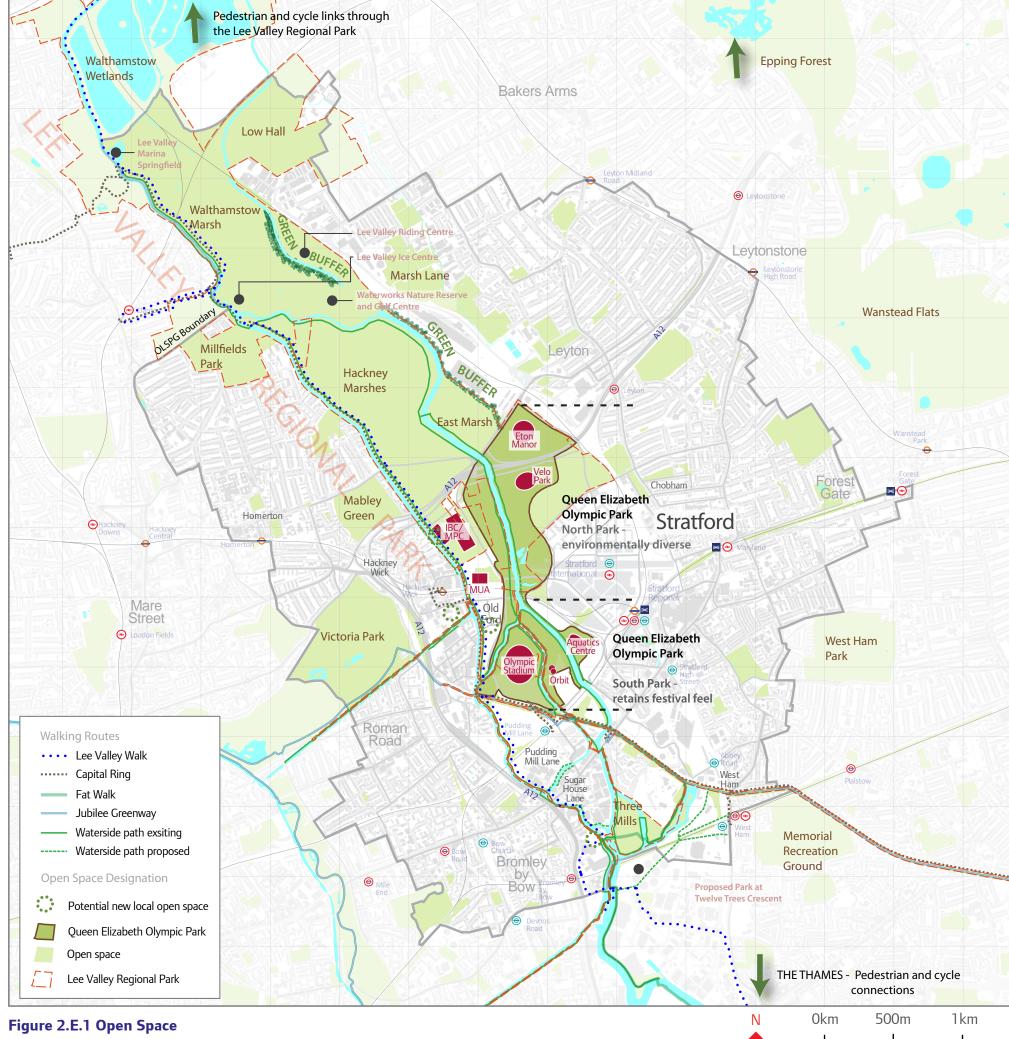
The OLSPG area contains a wide variety of open spaces and will have the new Queen Elizabeth Olympic Park at its core, as well as a section of the Lee Valley Regional Park (LVRP) which links the Thames in the south with Essex and Hertfordshire in the north. These open spaces are protected by European, strategic and local planning policies to protect their amenity and biodiversity value and should be improved and better connected as the new homes and developments this guidance promotes come forward.

The LVRP contains a number of regional sporting and leisure facilities including riding, ice and golf centres, and important nature reserves. These are illustrated in Figure 2.E.1 which also shows the main strategic walking and cycling routes that cross the area. The provision of additional regional leisure facilities within the OLSPG area will generally be supported where they comply with strategic and local planning policy and the Development Principles this SPG promotes.

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The Lee Valley Regional Park Authority (LVRPA) will take over responsibility for the Games' permanent hockey, cycling and tennis venues and will therefore play a vital role in maintaining and enhancing the OLSPG area's open spaces and offering additional sporting facilities which can help improve the health of people who will live within and visit the area. The LVRPA has identified the need for a green buffer which should be created as shown on Figure 2.E.1 to protect and enhance the amenity of the marshes and encourage their use for formal and informal recreation. The valley's green spaces and waterways also form part of London's wider green infrastructure which provides biodiversity, add to London's natural and historic landscapes, provide opportunities for local food production and culture, can help mitigate and adapt to the effects of climate change and provide tremendous opportunities to improve people's health through exercise and sport.

Section 2 Development Principles



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The OLSPG area is however deficient in some types of open space particularly in the south of the area where there are shortages of neighbourhood and district open spaces, and whilst the QEOP will provide regional or metropolitan scale open space, it will not necessarily address existing deficiencies beyond its boundary. Boroughs should therefore continue to prepare Open Space Strategies working in partnership with their neighbours to address existing and anticipated deficiencies. New public open space should be focused in areas of open space deficiency, and provided as an integral part of larger residential, mixed use, and employment schemes, with smaller schemes contributing towards improvements to existing open spaces as well providing private amenity space. Different types of open space should be provided including parks, squares, allotments, private gardens and wilderness spaces.

Development principle E2 - Biodiversity and access to nature

Development proposals in the OLSPG area should improve access to and protect and enhance the area's important wildlife, biodiversity and ecological assets.

Key London Plan policy 7.19.

The OLSPG area contains many different habitats, some of which are designated as of metropolitan importance.³⁶ The OLSPG area also adjoins and could impact on sites of European importance – notably the Lee Valley SPA and Ramsar site and Epping Forest SAC. This should be recognised when Habitat Assessments are undertaken and projects and plans developed. These habitats in turn support a tremendous variety of plants and animals, with the area's many watercourses providing important marginal and wetland vegetation. The area's post-industrial landscape also supports native and exotic plants and provides valuable habitat for invertebrates. Notwithstanding the presence of this rich biodiversity, many neighbourhoods have limited access to these assets as a result of severance caused by railway lines, major roads, waterways and areas of contaminated industrial land. Access to the Lee Valley Regional Park, for example, is strongly car focused which is both unsustainable and limits access for those without cars.

This deficiency must also be recognised in the context of some of the most socio-economically deprived wards in London. The OLSPG therefore reinforces the need to improve access to nature, which can then improve the quality of life for existing and future communities. Biodiversity action plans should be prepared across the OLSPG area These plans should protect existing valuable habitats and species; provide enhanced wetland habitats and areas of open, flower-rich vegetation that reflect the post-industrial landscape; reintroduce indigenous flora and fauna; remediate contaminated land; address deficiencies in access to nature; and prioritise the redevelopment of brownfield sites. Development proposals should reflect these plans.

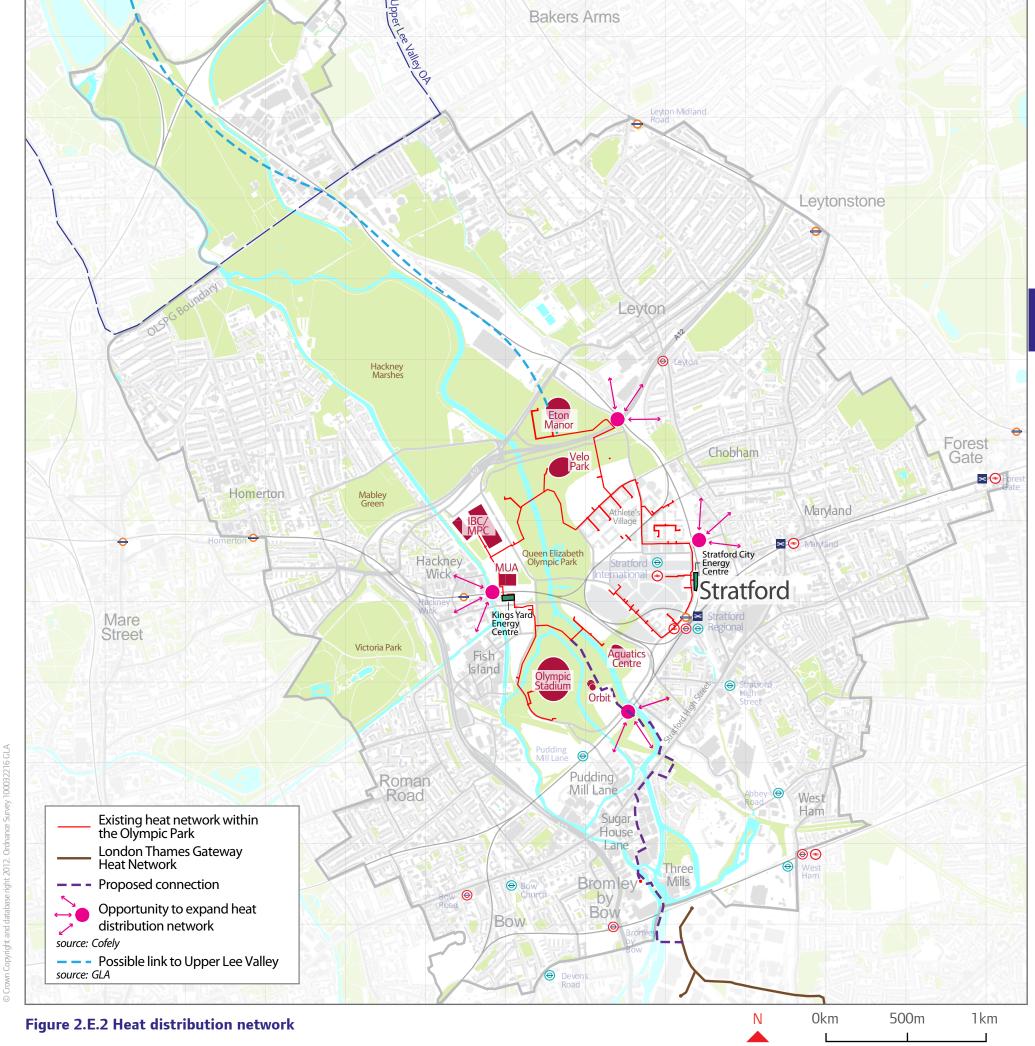
Development principle E3 – Sustainable design and construction and energy

The highest reasonable standards of sustainable design and construction should be secured within the OLSPG area with sustainable urban drainage systems and urban greening measures provided within all new developments. Development in the OLSPG area should also be designed to connect to and be compatible with, and wherever feasible connect to the Queen Elizabeth Olympic Park or Stratford City decentralised energy networks. New development and bridges in the areas shown on Figure 2.E.2 should be designed to allow the network to expand beyond the park boundary.

Key London Plan policies: 2.4, 5.1 – 5.8, 5.13.

Sustainable design and construction seeks to minimise the environmental impact of both the construction and operation of buildings, and importantly addresses the challenges of climate change. Buildings should therefore be designed to minimise carbon dioxide emissions, be efficient in their use of resources, help protect the environment, be healthy and adaptable, and make the most of natural systems such as passive solar design.

The core of the OLSPG area contains an energy network served by two new energy centres. These are shown on Figure 2.E.2. One energy centre is located within Kings Yard to the west of the main Queen Elizabeth Olympic Park and comprises a heat generating biomass boiler and a natural gas powered combined cooling, heat and power plant (CCHP) which generates both heat and electricity. This heat is transferred around the network as hot water. The centre forms part of a wider utilities network of gas, potable and non-potable water, electricity, telecommunications and sewage, which provides a 'backbone' for the long-term development of the area. A second energy centre to the north of Stratford regional station provides power, heat and cooling for Stratford City; and both centres have capacity to be expanded into the surrounding neighbourhoods supplying additional low carbon energy and cooling capability, as set out in the supporting Energy Study.³⁷



The heating and cooling systems of new development in the OLSPG area should therefore be designed to connect into these networks and where feasible, connect. Where this is not currently feasible, heating and cooling systems should be designed to be compatible to allow future connectivity and expansion. Along with an energy efficient design and the use of low carbon energy, this will minimise the environmental impact of new development and help meet the target to supplying 25 per cent of London's energy requirements from decentralised energy by 2025. This guidance also identifies four locations around the Queen Elizabeth Olympic Park where opportunities exist to expand the existing decentralised energy network beyond the Park boundary. Developers, landowners and planning authorities should explore and, where appropriate, facilitate such expansion and connections to the network. All new and improved bridges in these areas should be designed and constructed to support the additional pipes, cables and other infrastructure required to facilitate development of such a network.

Opportunities should also be explored by developers and planning authorities to link these energy networks with the network being developed for the Upper Lee Valley.³⁸ This has broadly similar aims and has significant sources of heat and power at the Edmonton Eco Park and may have a role to play in the development of the Olympic legacy. The possibility of a southern connection to the London Thames Gateway Heat Network should also be explored.

Where current or future connections to existing or proposed heat networks are not available or likely in the future, development proposals should seek to achieve carbon reduction targets set out in the London Plan through other measures such as localised energy production (CHP/CCHP) and onsite renewable energy generation.

Development principle E4 - Flood risk and water conservation and management

Development proposals in the OLSPG area must reduce flood risk through appropriate location, design and risk assessment. Particular attention should be given to locations identified in the GLA's 2009 Regional Flood Risk Appraisal. Development proposals in the OLSPG area should incorporate water efficient fittings within homes and work places and measures should be undertaken to improve water quality.

Key London Plan policies: 2.4, 5.12 - 5.15.

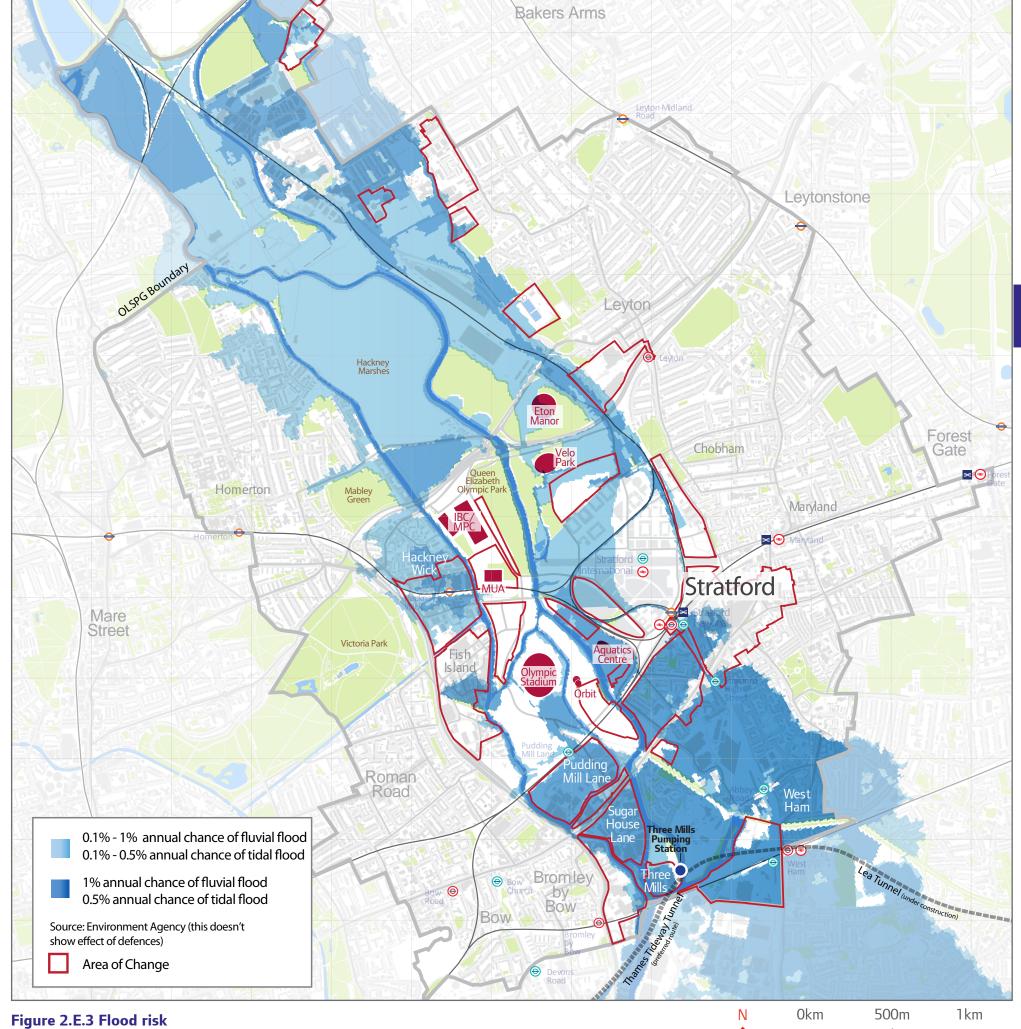
Much of the Queen Elizabeth Olympic Park and its surroundings are in, or close to, the natural flood plain of the River Lea and are at risk of fluvial or tidal flooding - though currently protected by a range of existing flood defences. It is therefore essential that new neighbourhoods and existing communities in the OLSPG area have a high standard of protection from flooding and that the area's open spaces can continue to be used to provide flood storage capacity.

The GLA's 2009 Regional Flood Risk Appraisal identified a range of strategic infrastructure at potential risk of fluvial and/or tidal flooding within the OLSPG area.³⁹ This included parts of the A12 such as the Bow flyover, the eastern portals of the Central line, parts of the London Overground and Jubilee lines, and parts of the Great Eastern mainline, and although some of these lines are elevated, they may have essential infrastructure such as cabling, signalling and electrical equipment which is at ground level and therefore at risk.

Given the OLSPG area's position at the end of the River Lea catchment, the GLA will work with the Environment Agency and boroughs within and beyond north London to manage flood risk. OLSPG boroughs have also carried out local flood risk assessments as part of their local development plan processes. They are also engaged with the GLA and regional partners via the Drain London project to produce surface water management plans (SWMPs), and assess local and strategic flood risks. These will help minimise the risk of tidal and fluvial flooding in the OLSPG area and beyond and should be taken account of when planning applications are prepared in the OLSPG area. If additional water storage areas are required, then their amenity and biodiversity value should be recognised and designed and managed to benefit the local community.

The OLSPG area is primarily served by a combined drainage system that collects sewage and surface water. This system is inadequate for the amount of combined sewage and surface water flow that occurs at times of high rainfall, with sewage sometimes overflowing into the Thames and Lea, though Thames Water has started on works to prevent sewage discharges into the River Lea from Abbey Mills pumping station, which will also link the Lee Tunnel and proposed Thames Tideway Tunnel, which would further improve water quality and floor risk in the OLSPG area, 40 as will Thames Water's planned proposal upgrading of its Deephams sewage works to the north of the OLSPG area which will help reduce flood risk and improve water quality further down the Lea Valley. 41

However, high volumes of storm water runoff and low dilution of sewage during dry periods will have increasingly adverse impact on water quality within the OLSPG area as the predicted effects of climate change are felt. Sustainable drainage measures should therefore be incorporated across the OLSPG area to ensure that drainage from new development do not add to already identified flood risk in the area, and it is vital that clean surface water be stored so that it can be used sustainably in place of mains supplied water, or else gradually discharged to the ground, rivers or canals rather than into combined sewers. Sustainable drainage systems should be complemented by urban greening measures such as living roofs, and walls or planting that should form an integral design feature of new developments.



The whole of London faces serious water stress as a result of an imbalance between supply and demand, development in the OLSPG area should minimise water demand. The Mayor's Water Strategy,⁴² sets out a vision for a water neutral London that sets out how water demand can be minimised and water savings secured. Reducing the demand for water is of particular importance in the Lower Lea, with the projected legacy growth. This challenge needs to be met by innovative design, water efficient devices and use of non-potable alternative sources.

The water environment itself is also a precious and vital resource that must be protected as new challenges such as climate change and population growth emerge. The Environment Agency has prepared a number of river basin management plans which focus on achieving the protection, improvement and sustainable use of the water environment within the Lower Lea Valley and set out the key steps needed to achieve this. ⁴³ New development in the Lower Lea Valley will have a part to play in delivering these plans and will also attract investment in waterside buildings, sites and activities.

Development principle E5 - Waste management and contamination

Development proposals in the OLSPG area should promote an efficient approach to the management of waste and, in line with London Plan policy, safeguard existing waste management facilities unless appropriate compensatory provision is identified. The prevention or reduction of waste followed by reuse and then recycling should be order in which waste is dealt with, after which the potential to secure energy from waste using new and emerging advanced conversion technologies should be explored. The Mayor and boroughs will explore the possibility of developing new waste management capacity, with a focus on the potential in industrial areas within and beyond the OLSPG area.

Key London Plan policies: 2.4, 5.16, 5.17, 5.21.

The boroughs of Hackney and Waltham Forest are covered by the joint North London Waste Authority, whilst Newham falls under the joint East London Waste Authority. Tower Hamlets council acts as an independent waste authority.

All existing waste management sites have the potential to make a significant contribution to London's self-sufficiency and are currently safeguarded and if a waste management site is lost to a non-waste use as a result of preparing local development framework documents, or a development proposal, additional compensatory site provision will normally be required to meet the maximum throughput that the site lost could have achieved.⁴⁴ This will need to be carefully audited and managed, especially in areas where industrial designations are lifted or when mixed used development, that includes new residential is proposed, such as within parts of Fish Island and Leyton.

The following waste hierarchy should be adopted in the OLSPG area, firstly prevention and reduction, then reuse followed by recycling and recovery (for example by securing energy from waste using new and emerging advanced conversion technologies). Only then should landfill be considered or pursued. The GLA group, the LLDC and the four boroughs will need to continue to work together to identify how the OLSPG area can contribute to the management of waste apportioned to relevant sub-regions. Co-location should be one of the key sustainability features of the OLSPG area, taking account of borough apportionments and the proximity of sources of waste.

Waste collection plans should use consolidation to reduce the number of waste vehicle journeys and the use of permanent wharves for the management and transport of waste and recyclables should continue to be explored by developers, land owners and planning authorities. Where feasible, energy from waste should be harnessed to create clean energy fuelling CHP or CCHP and suitable waste, green waste and recycling storage facilities be provided in all new developments. These technologies and facilities will provide increasing opportunities to provide green jobs which in turn will help achieve convergence outcomes and are at the core of the Mayor's support for a new east London Green Enterprise District.

Edmonton Eco Park to the north of the OLSPG area is one of the sub-region's major domestic and commercial waste facilities and is also located on the River Lea. There is therefore an opportunity to consolidate waste from the OLSPG area to this facility using the area's many waterways.

Much of the industrial land within the OLSPG area is contaminated and will require remediation before it can be used for housing or community uses. It is therefore suggested that a strategic land contamination study is undertaken which also looks at the opportunity to create a soil treatment plant in the area to build on the success of the facility used to decontaminate the main Olympic site.

