

The Developing City

A Vision for

20

50

Introduction

What will the City of London be like in 2050? The invitation to participate in the Developing City exhibition in the 2012 London Festival of Architecture inspired these possible answers: a de-carbonised, pedestrianised but largely preserved historic core; enhanced peripheral areas with new types and mixes of activities, and improved connections with neighbouring areas like Southwark, Whitechapel, Clerkenwell and Midtown; a leisure-based eco park along the river, and greater density of building occupation and more variety of uses. We presented these ideas in the exhibition and record them in this brochure.

It is clear that the City will have to change if it is to remain the world's leading financial centre. As patterns of trade evolve, so patterns of space have to adapt to support them. That happened after the Great Fire of 1666, during the extensive rebuilding of London in the 1860s driven by new technologies and financial services, in the period after World War II and again since the Big Bang in 1986.

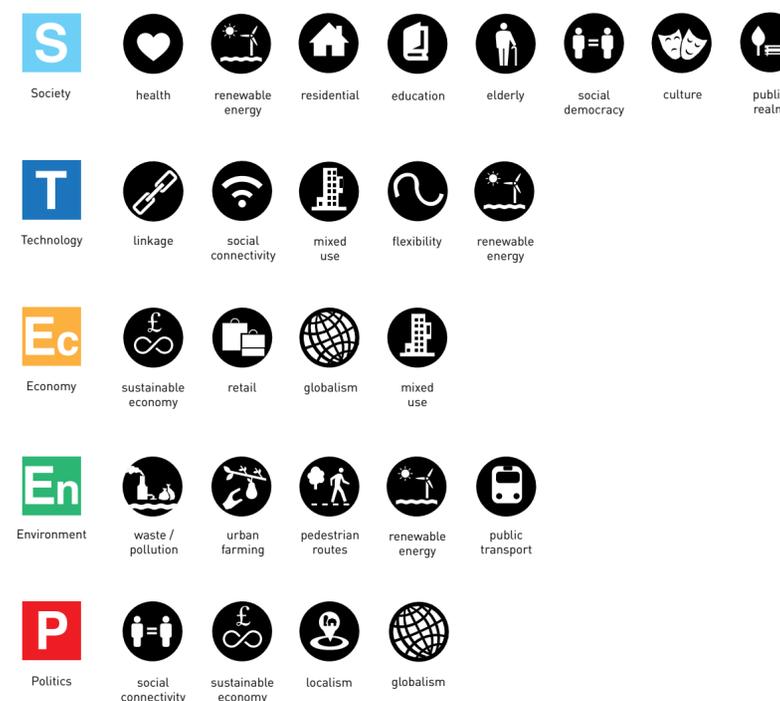
We foresee a need for more intensively used buildings with greater flexibility and occupancy. Pressure on time will encourage more people to live near their place of work, and those who travel between home and office will demand more efficient and less stressful journeys. They will also need shopping and leisure facilities close at hand for their snatched moments of free time, and to a very high standard as quality will have to offset quantity of time away from work.

Our strategy for adapting the pattern of physical development to new commercial demands has several strands. De-carbonising and pedestrianising the historic core, and adding a richer mix of retail activities will exploit the inherent qualities of this area to the full. Aldgate has much more potential for new buildings on a scale and shape that will provide the size, flexibility and variety that financial and professional services will need – without the risk and controversy of building in historically sensitive areas.

Smithfield, with its cavernous, underused and underground spaces, as well as the vast halls of the historic meat market, offers scope for new types of cultural centres, with facilities for museums, galleries, performance spaces and media centres. These activities fit with the emerging digital economy of nearby Silicon Roundabout and Clerkenwell, as well as benefiting from the greatly enhanced transport hub at Farringdon.

The river, the City's raison d'être and for hundreds of years its lifeblood when trade still meant exchanging physical goods by hand, rather than bytes between computer terminals, can evolve into an innovative urban eco-park, with islands, banks and slipways and facilities for leisure and entertainment. It will offer more varied links between north and south banks, and so create mutual benefit for the City and Southwark. All of this is the imminent future in which we all have a stake, but none more so than the next generation who may still be working in 2050.

'STEEP' Factors & Drivers of Change



John Robertson Architects and Arup's team took a structured approach to the challenge of visualising what the City of London might be like in 2050. Using Arup's Drivers of Change and 'STEEP' methodologies the team has identified a number of factors that we believe will determine not only the future of the City in terms of its built environment, but also its culture, its character and its relationship with people.

Drivers of Change is a methodology designed and conceived by Arup which offers key topics for discussion including energy, waste, climate change, water, demographics, urbanisation and poverty.

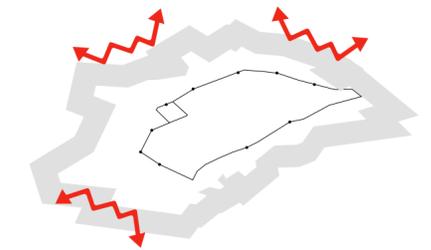
Questions asked include:
 What will our world be like in 2050?
 How secure is your water supply?
 When does waste become a resource?

These Drivers of Change have inspired John Robertson Architects' vision for what the City of London might be like in 2050.

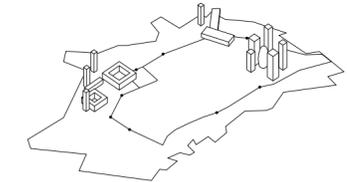
A vision for 2050



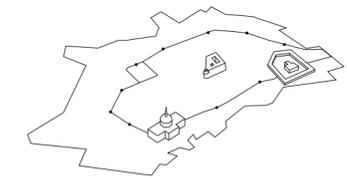
The Developing City



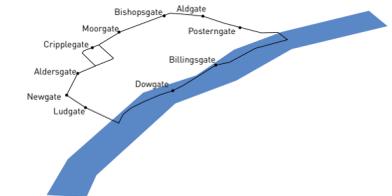
2050 City Fringe



20th Century City



18th Century City



Roman City

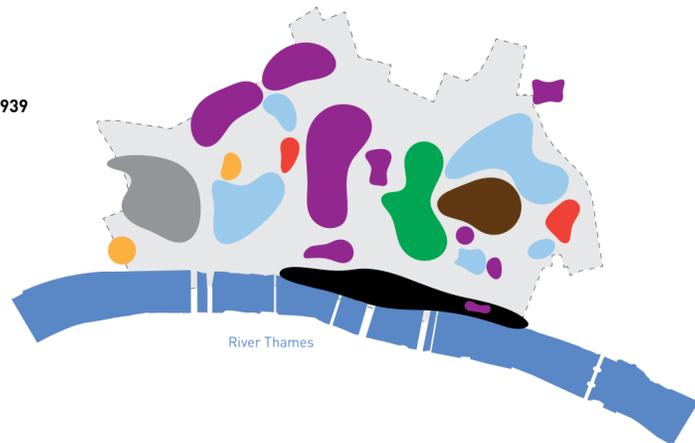
The Changing City

There have been huge changes in the patterns of trade in the City since 1939. During the last 70 years, the City has evolved from trading in physical goods including fur, fish, meat, and other commodities, which could be carried by rail and ship and stored in warehouses to today's trading where the medium is electronic. Data, including bonds, currencies, equities and derivatives are transmitted and stored in new ways. Over the next 40 years we envisage the pattern of change accelerating and new building typologies will be required to meet the demands of a new generation of City occupiers.

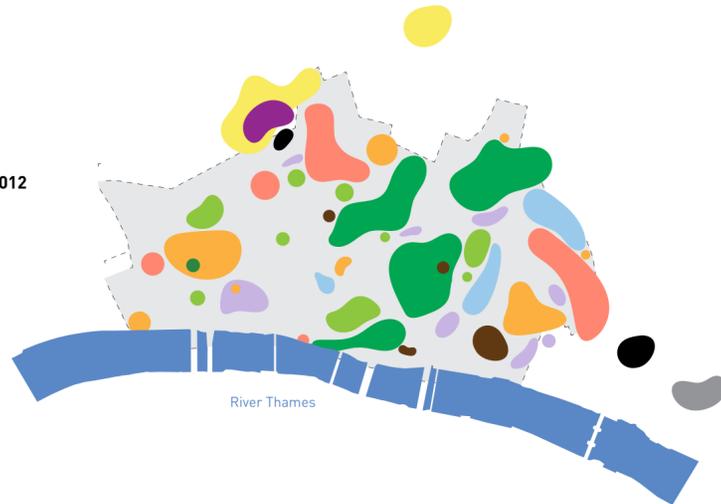
We envisage the City Core will not change significantly, in physical terms. However, the perimeter of the City will become the focus for major new developments. These will take place outside the City Core around a new green 'ring' or 'necklace' that can be developed to link the City Core and the adjoining areas, including Tower Hamlets, Southwark, Mid-town, Hoxton and Clerkenwell.

The Changing Patterns of Trade

City of London 1939



City of London 2012

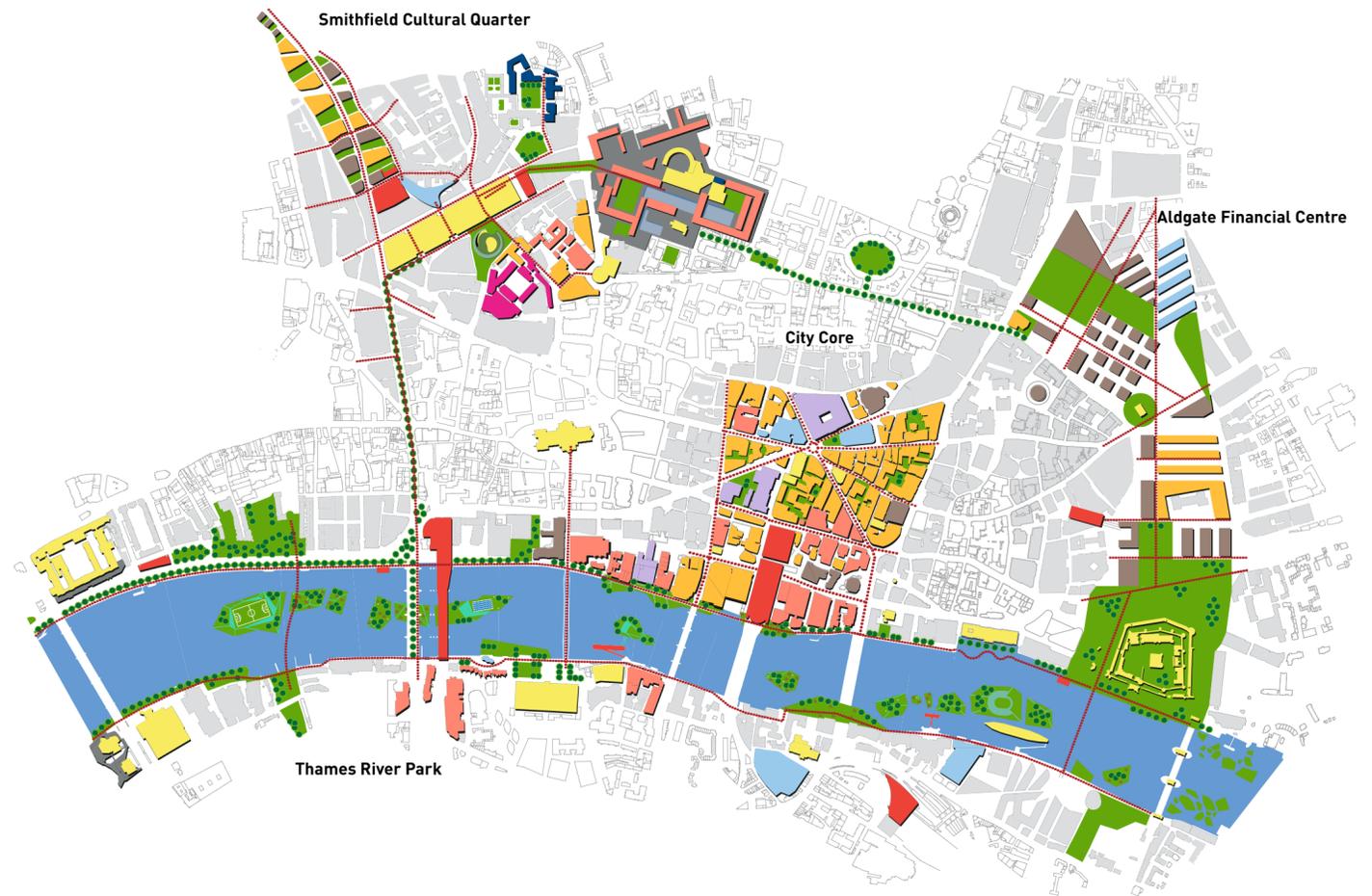


City of London 2050



- Accountancy / audit / tax
- Culture and recreation
- Food markets
- Finance and banking
- Hotels
- Industrial and railway
- Insurance and shipping
- Legal
- Press
- Services
- Residential
- Retail
- Textiles, furs and skins
- Warehouses

2050 City Masterplan



- Tube & rail stations
- Pocket parks
- Office space
- Education
- Residential
- Culture
- Health
- Recreation
- Mixed-use
- Retail
- Hotels

Our 2050 Vision

- A de-carbonised City core with pedestrianised streets, with a mix of uses including retail, residential and more green space.
- More intensively occupied real estate. By 2050 the City will accommodate 50% more workers albeit occupying 25% less space.
- A new eco-park will be created on the River Thames with new bridges and islands linking the City to transport interchanges, leisure and cultural centres.
- A new cultural quarter will emerge around Smithfield Market.
- A major re-development with a new Financial Centre at Aldgate which links Broadgate with the Tower of London. New hybrid buildings will emerge here on a scale never seen before.

City Core

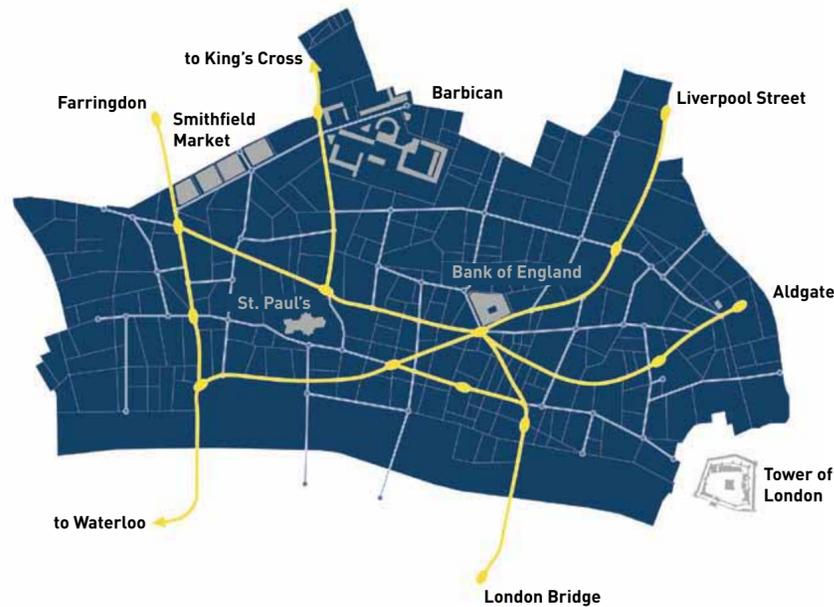


We believe the historic heart or core of the City will remain largely as it is today. Obsolete buildings will be gradually redeveloped. The City Core will be pedestrianised and there will be major changes in the transport infrastructure and in the uses of existing buildings. Demand for retail and residential will increase significantly, particularly on the river frontage, and on main streets.

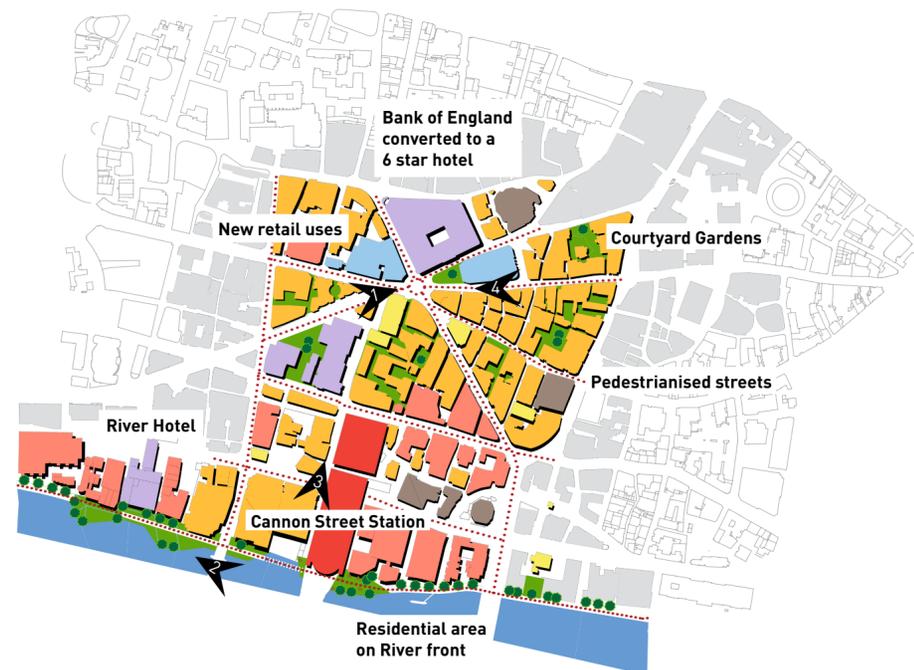
We imagine a broad and treelined Riverside walk and cycle route linked to the heart of the City with landscaped, single surface streets shared by pedestrians, cycles and street cafes during the day. Service vehicles will be limited to operating at night. Radial primary vehicle routes will connect the major commuter stations around the perimeter of the City to the City Core with safe cycle routes, guide ways for electric and mass transit vehicles and with landscaped strips to create green fingers in the heart of the City.

- Light Rail Transport (LRT)
- LRT Station
- Personal Rapid Transport (PRT)
- PRT Station
- City Grid

2050 Multi-model surface transportation system

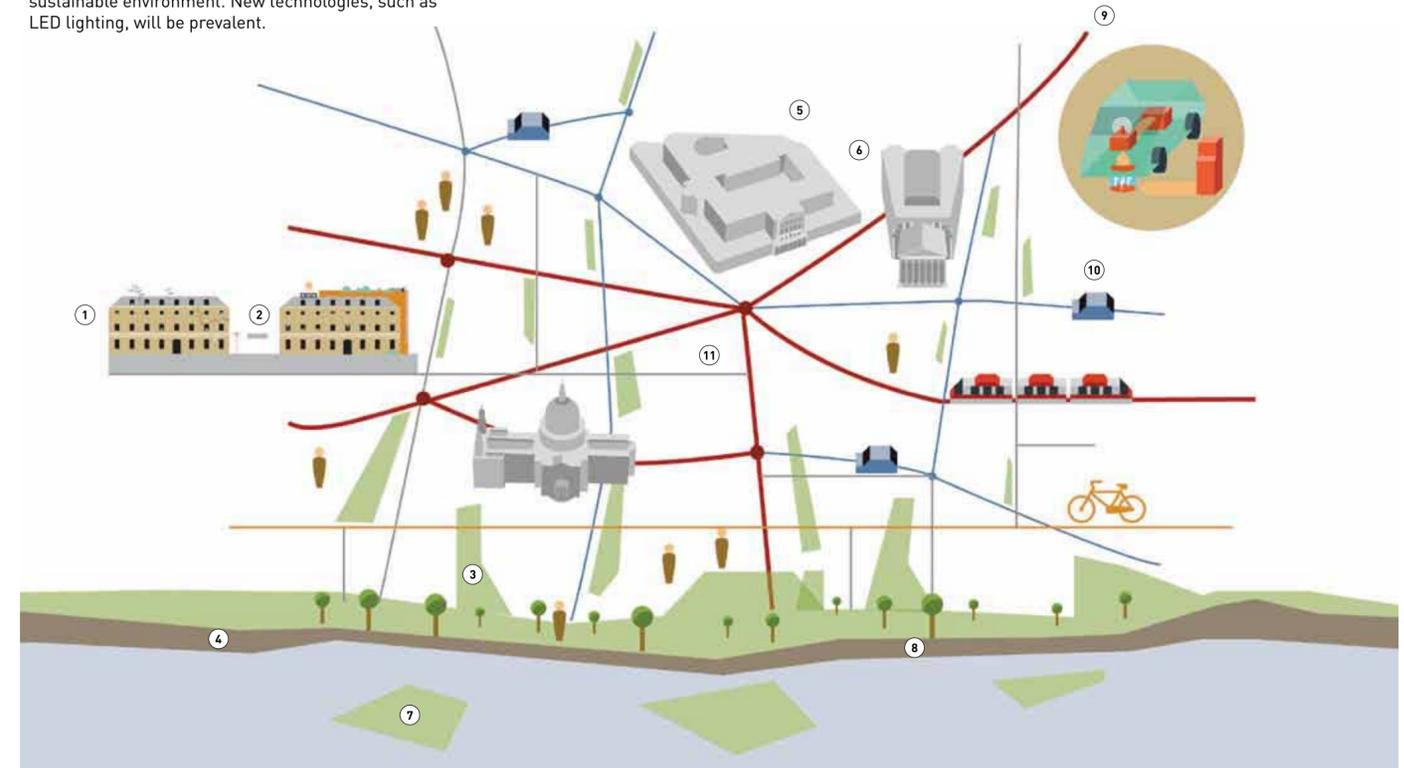


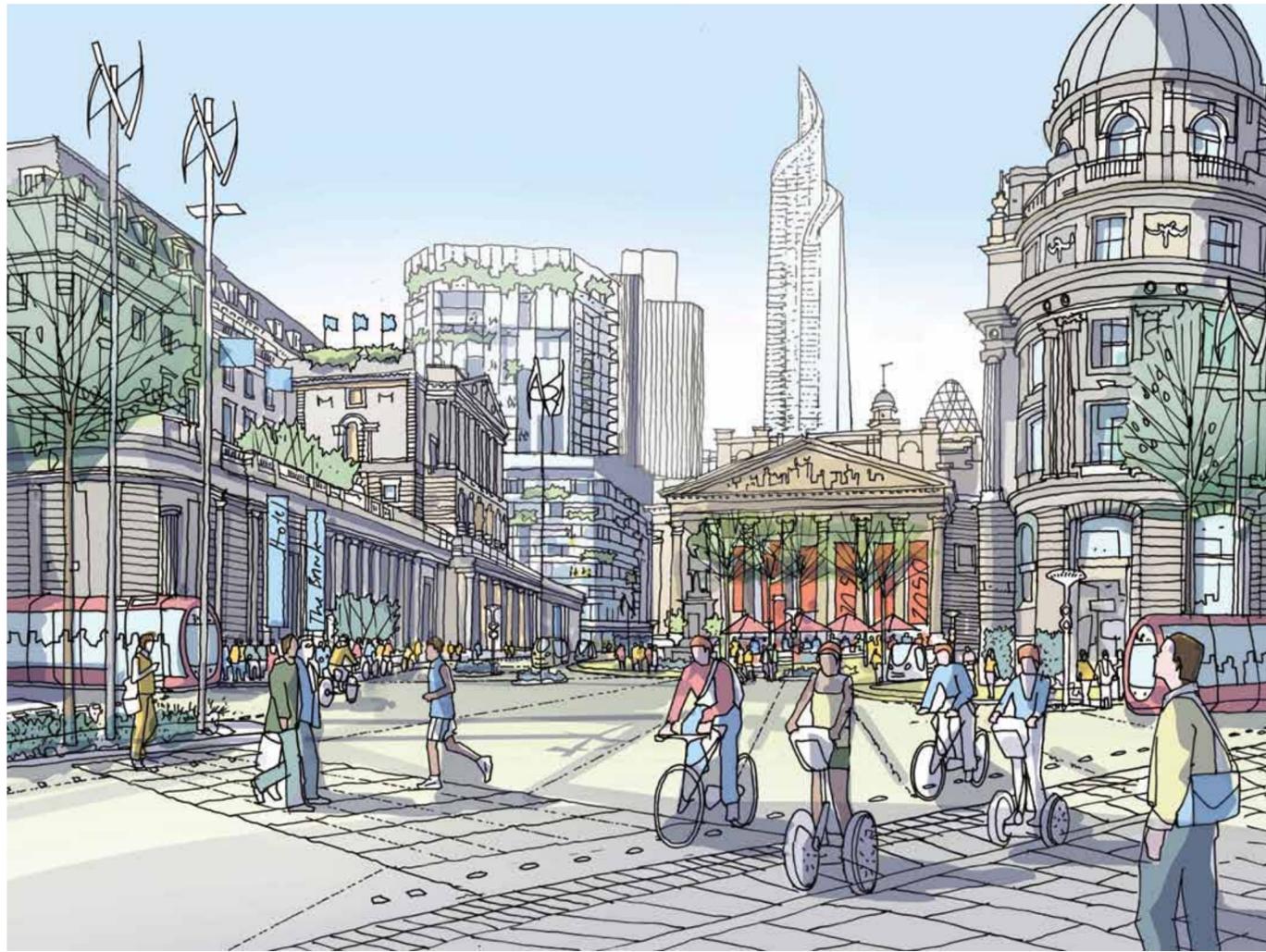
Masterplan



Drivers of change

- ① **Demand and energy reduction**
Energy demand is reduced significantly compared to current practice meaning new development satisfies the future Energy Performance of Building Directive (EPBD) requirements.
- ② **Environmental retrofit**
Old buildings become intelligent 'smart' buildings that control energy consumption and contribute towards a sustainable environment. New technologies, such as LED lighting, will be prevalent.
- ③ **Green fingers**
Garden areas will not be limited to the river walkway. These will be interspersed within the City fabric, making it a more pleasant and healthy place to work and reside.
- ④ **River walk**
Green public space by the river will provide City workers with a healthy and comfortable environment with sunlight and clean air.
- ⑤ **Historic buildings**
Many historic and listed buildings will have a new lease of life stimulated by new uses, including hotel and residential uses, creating a 24 hour sustainable environment at the heart of the City Core.
- ⑥ **Mixed-use area programme**
Providing a mix in building uses around shared public space increases the vitality of the City Core.
- ⑦ **River islands**
A new river park will be created where people can relax and enjoy the river. The islands will provide eco-environments with natural habitats and water filtration for the City.
- ⑧ **River flood defence**
The reality of climate change is all too evident to residents in many world cities learning to live with hazards, from violent storms and extreme droughts, to rising sea levels and flooding. The new river walkway will provide the City with flood defence by 2050.
- ⑨ **Going wireless**
Plugs and trailing wires to charge your electric vehicle? By 2050 this will be old-fashioned! Instead, an environment where wireless charging for electric vehicles exists everywhere — underneath parking bays or even embedded in the highway. So you don't have to stop to recharge at all.
- ⑩ **Low carbon mobility**
Tram and metro stations allow for easy access by public transport to the City Core.
- ⑪ **Traffic free zone**
The City Core will become a de-carbonised centre with largely pedestrianised areas. Reducing traffic will lead to reduced CO₂ emissions, freeing the streets which will become safe and agreeable places to cycle and walk.





▶ Bank of England & The Royal Exchange



▶ Queenhithe to Millennium Bridge



▶ Dowgate Hill



▶ Cornhill and Mansion House

Timeline for change

The Green City, 2015

Legislative changes have led to a flowering of green roofs across the City providing increased insulation, food, herbs and flowers, gardens and wildlife habitats — as well as limiting the stress of storm-water run-off from the increasingly extreme and unpredictable weather.



The White City, 2035

By 2035 major advances in low energy LED lighting technology have been rolled out across the whole of the UK — transforming the ambient night time colour of the City — from the orange glow of sodium light to the bright purity of white light.



The Dark City, 2040

By 2040 changes in occupancy habits, increased energy costs, reduced amounts of facade glazing and more sophisticated building management systems have led to the City being dark at night. The streets and pavements remain in constant use... but for the first time in decades City occupiers can see the stars.

The Red City, 2045

In 2045 the UK Government's success in securing the City of London's role as the largest trader of Chinese Renminbi - the global reserve currency (which superseded the US dollar in 2030) has led to an annual celebration of the Chinese New Year which rivals Hong Kong.



The Clean City, 2050

By 2050 all City buildings will be naturally ventilated and carbon neutral; the City will be a car free environment without noise and pollution. City landmarks will be retrofitted as naturally ventilated buildings.



The Blue City, 2030

By 2030 the Square Mile is a hotter drier place and solar panels colonise every available south facing elevation on buildings new and old alike — both generating power and shielding occupants from the sun.

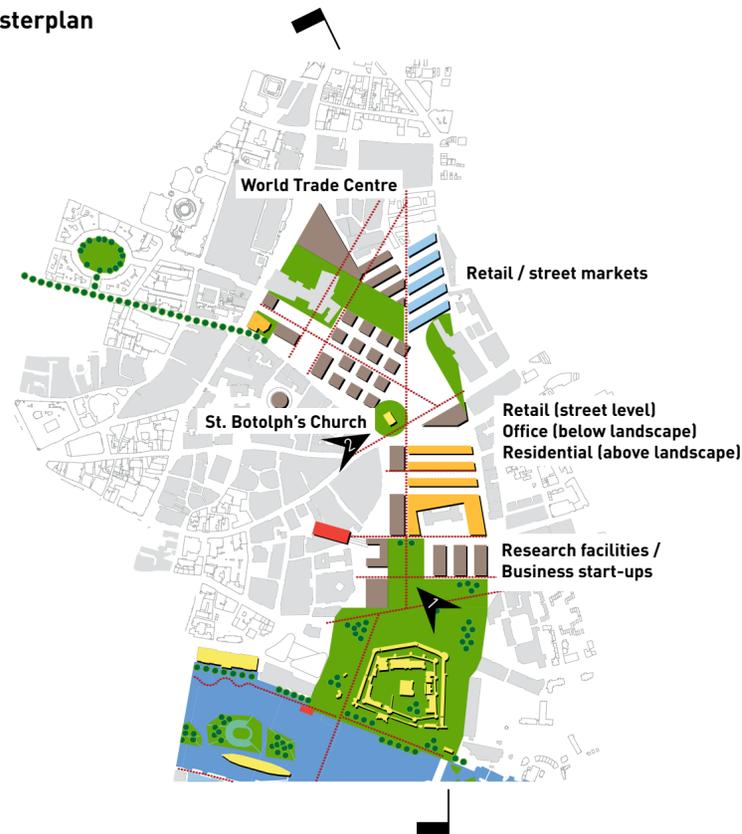


Aldgate Financial Centre



We imagine Aldgate will become the City's new Financial Centre. Set within a landscaped 'high park', new hybrid building typologies, and larger buildings than have ever been seen in the City before, will be clustered to achieve synergies between offices and trading rooms, live/work units, residential apartments and technology, and research uses, activating the eastern edge of the City.

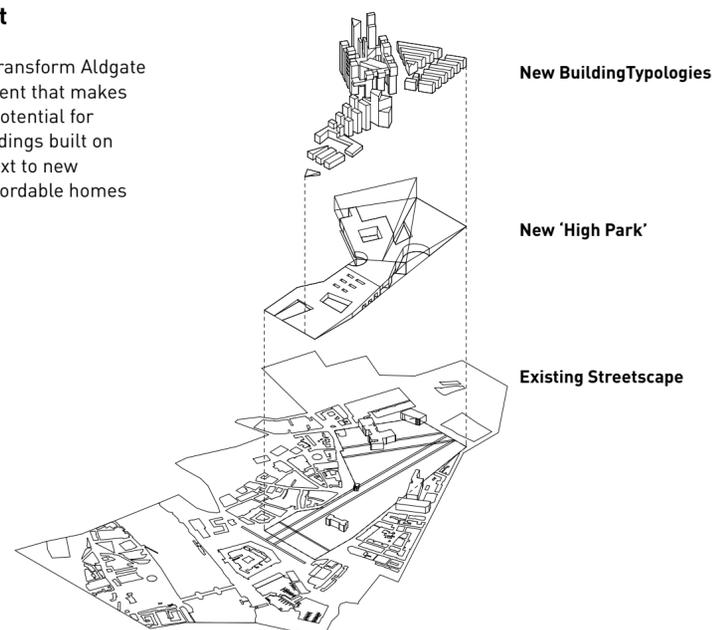
Masterplan



- Tube & rail stations
- Pocket parks
- Office space
- Culture
- Recreation
- Mixed-use
- Retail
- ▶ Image reference
- ▶ Section markers

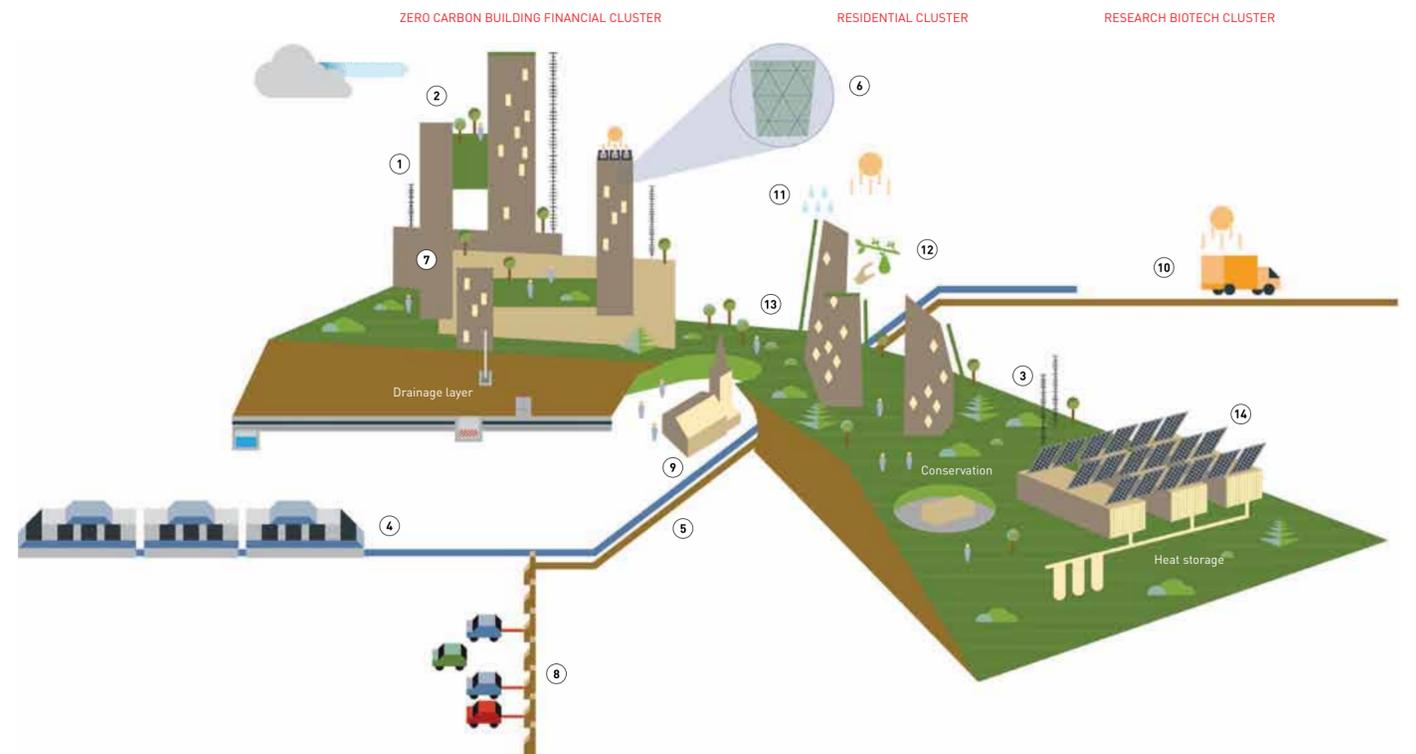
Financial Centre concept

A 40 year growth strategy will transform Aldgate into a vibrant 24 hour environment that makes best possible use of Aldgate's potential for re-development. Tall office buildings built on premium-priced land will sit next to new residential towers and more affordable homes and community uses.

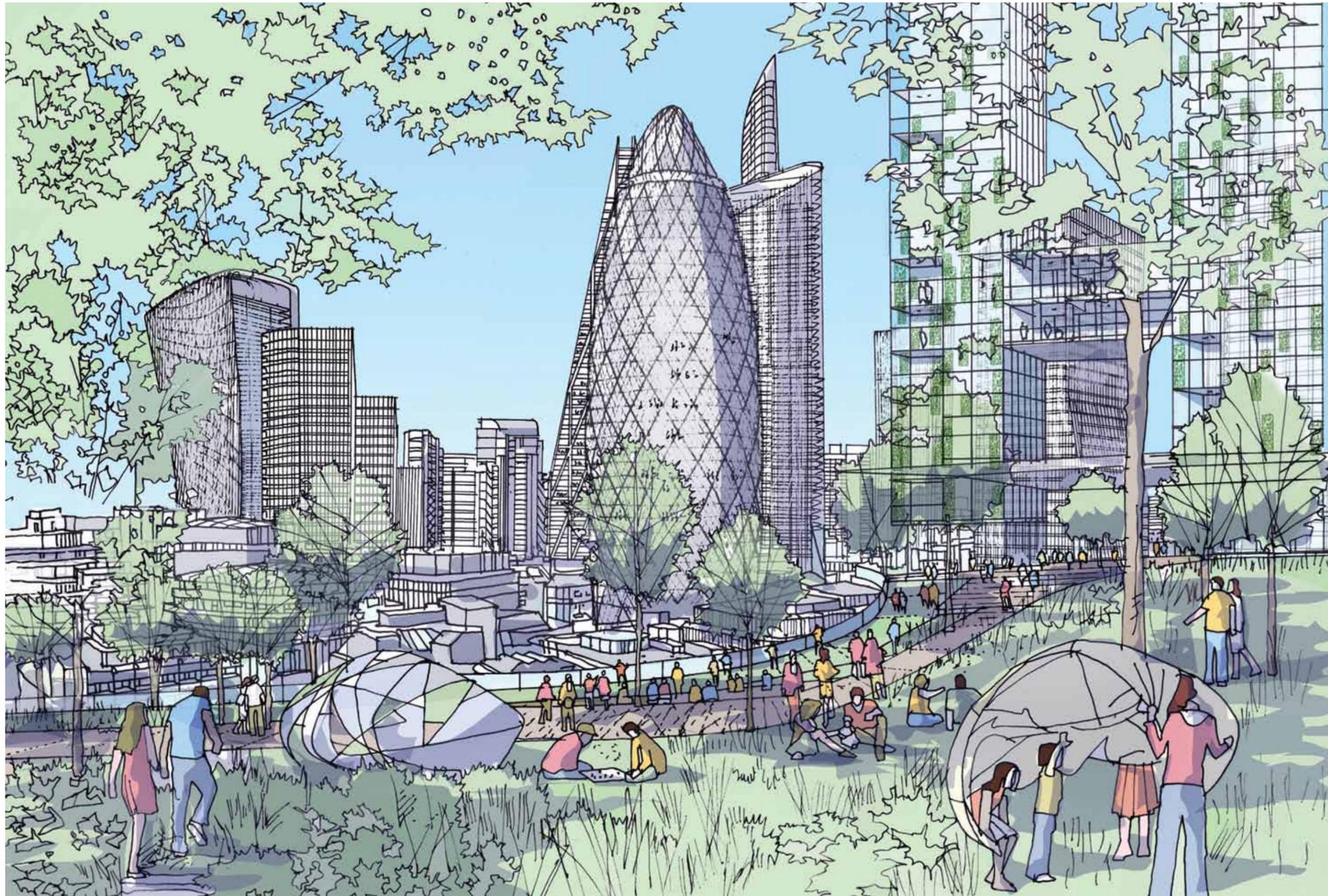


Drivers of change

- 1 **Local wind turbines**
Power is generated from wind turbines which are integrated within the structure of the buildings.
- 2 **Multi-storey timber buildings**
Embodied energy of office design reduced by 20-25% compared to a standard concrete-framed solution.
- 3 **Elevated public realm**
Elevated landscape provides biodiverse natural habitat and reduces environmental impact of the new development.
- 6 **Photo / bioreactive (PBR) facades**
Photobioreactors integrated within the building facades. PBR are transparent containers to facilitate photosynthesis in a controlled environment. Fast growing species such as micro-algae circulate with the water and nutrition through panels, absorbing light and carbon, producing biomass and solar thermal heat.
- 7 **Low carbon concrete**
The embodied carbon of in-situ concrete will be reduced by 20% compared to normal mixes.
- 10 **Servicing the city**
Electric solar-power service vehicles for deliveries and refuse collection.
- 11 **Harvested rain water**
Rainwater harvesting and re-use captures 'unpolluted' storm water and re-uses for non-potable usage.
- 12 **Urban farming**
Residents can cultivate their own food within winter gardens.



- 4 **Low carbon mobility**
Tram and metro stations allow for easy use of public transport through the City at ground level.
- 5 **'CIPS' 2050**
The City Integrated Placemaking Strategy 2050 incorporates the major infrastructure projects of lowering the rail and road system that currently runs into Fenchurch Street and the roads around the Tower of London.
- 8 **Electric car charging**
All car parking spaces will be equipped for electric car charging.
- 9 **St Botolph's Church Plaza**
A vibrant public realm can create a space where people want to be, with the facilities that they need, which can have positive employment and wider economic benefits.
- 13 **High Park**
The vision of a 'garden in the sky' is the centrepiece of the Aldgate Financial Centre. The park will be the lungs of the City and a focal point as the City's latest planned public garden and biodiverse natural habitat.
- 14 **On-site renewable energy**
Photovoltaics will generate 15% of all electrical energy.



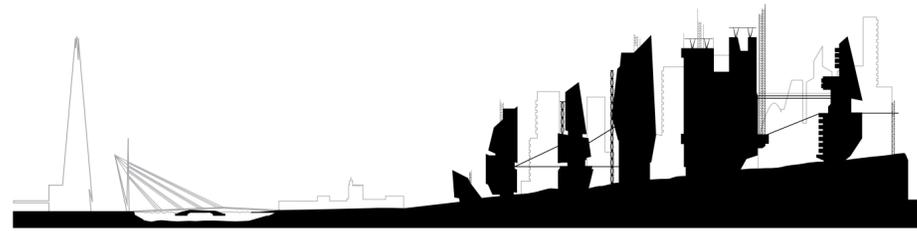
▶ Eastern Cluster from Aldgate 'High Park'

Aldgate is the last area of the City perimeter where it is possible to create a major new world-class financial centre for the City of London. We propose a new Aldgate Financial Centre which will extend from the Tower of London to Broadgate. The new financial centre will provide a new generation of hybrid buildings on a larger scale than anything ever built in the City before.

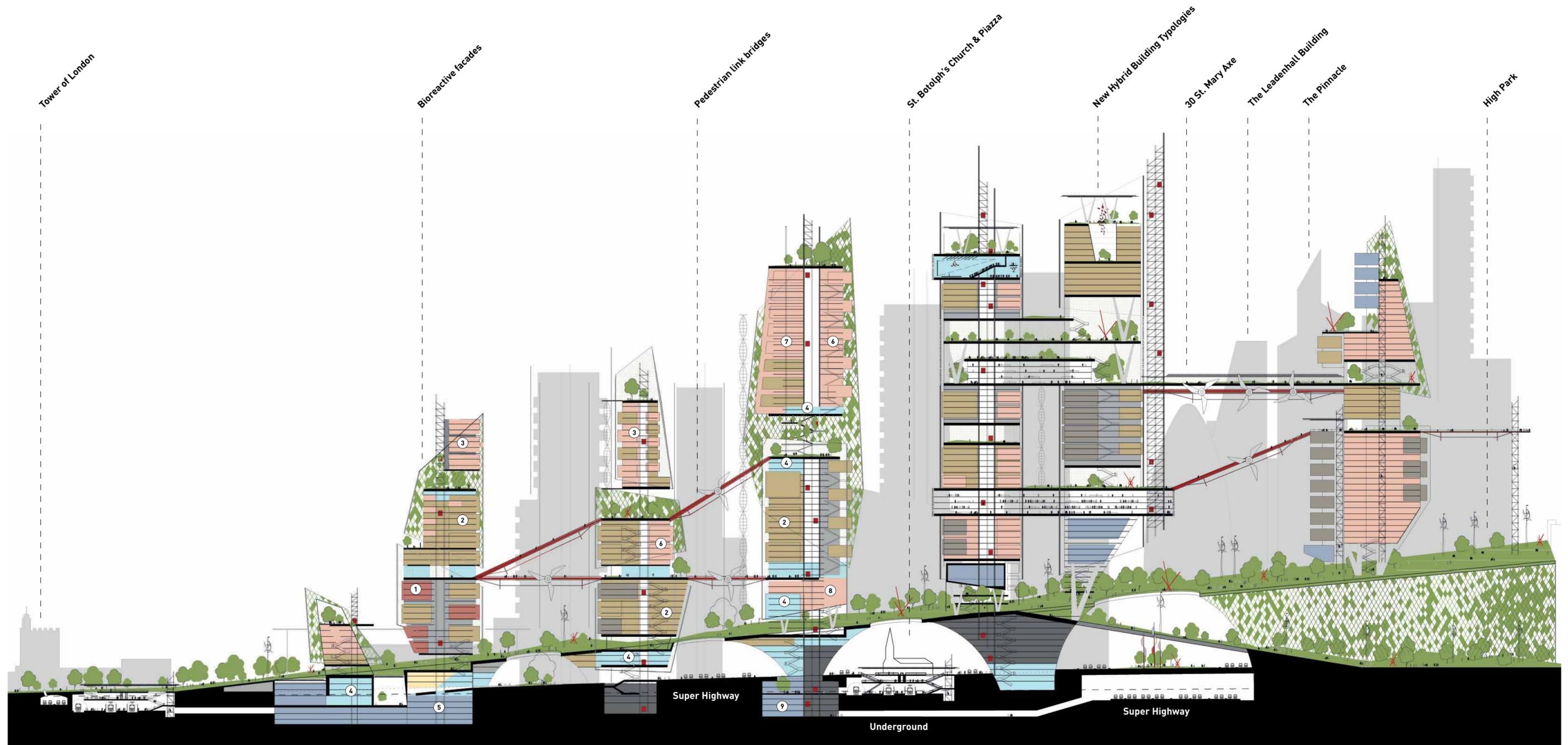
These buildings will not just be offices and trading floors, but will comprise a mix of uses including residential, hotels, retail, education and research. Aldgate Financial Centre will enhance the quality of life of the people who live and work there. A new landscaped "high park" will be elevated over the buildings providing a green spaces for both City workers and residents. George Dance's St. Botolph's Church will be a focal point, set in a new urban piazza.



▶ St Botolph's piazza



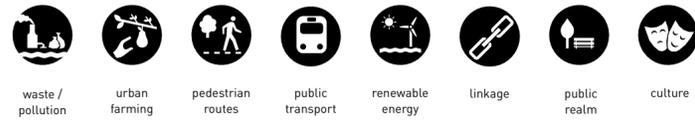
Site Section



Section through Aldgate 'High Park'

- | | |
|-------------------------|----------------------|
| ① Research & technology | ⑥ Residential |
| ② Offices | ⑦ Hotel |
| ③ Live / work | ⑧ Affordable housing |
| ④ Retail | ⑨ Conference centre |
| ⑤ Research labs | |

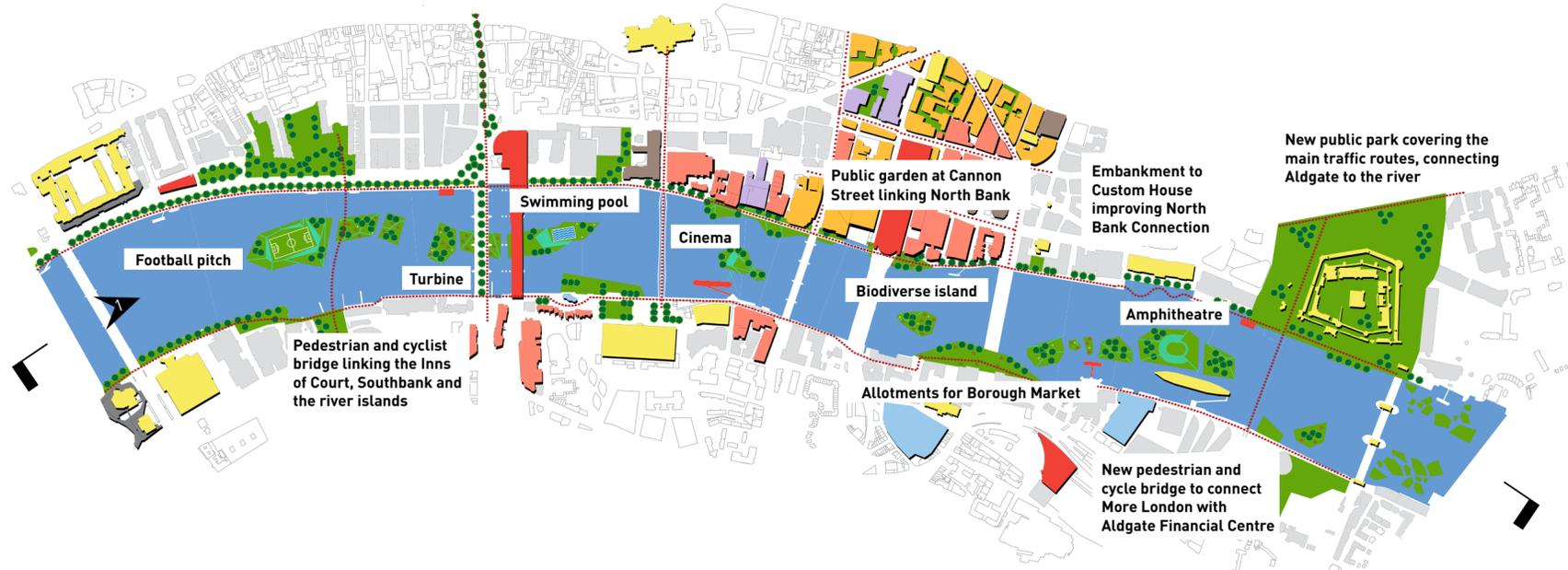
Thames River Park



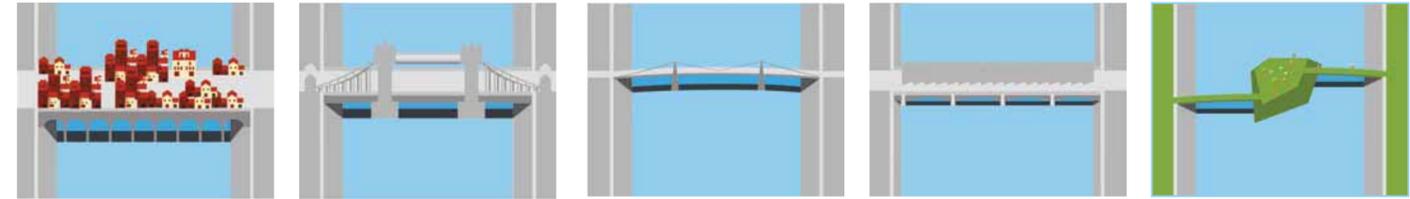
We imagine the River Thames will become a valuable recreation and energy resource for the City. An enhanced river walkway stretching from the Inns of Court in the west to the Tower of London in the east will become a major thoroughfare for City workers, residents and tourists. Green islands and new pedestrian and cycle bridges will connect the City to Southwark. People will be able to enjoy clean water and fresh air in the City's new river park.

Masterplan

- Tube & rail stations
- Pocket parks
- Office space
- Residential
- Culture
- Mixed-use
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- Hotels
- ▶ Image reference
- └ Section markers



Crossing the Thames



London Bridge, 1200
The first living bridge

Tower Bridge, 1894
The first opening bridge

Millennium Bridge, 2000
The first pedestrian bridge

Blackfriars Bridge, 2012
The first station bridge

Island Bridge, 2050
The first island bridge

Island Typologies

Garden island

The islands will be recreational spaces where people can relax in eco-gardens, play sports, attend concerts and enjoy the spectacular surroundings of the river prospect.

Sustainable island

Water harvesting innovations make it possible to capture water from unconventional sources. By 2050 improved water treatment technologies along with increasing demand will make water recycling an increasingly important option.

Purification island

The islands will be used as filters to collect debris and flotsam and to keep the river clean for fish to live, as well as being recreational spaces for people to relax.

Island bridge

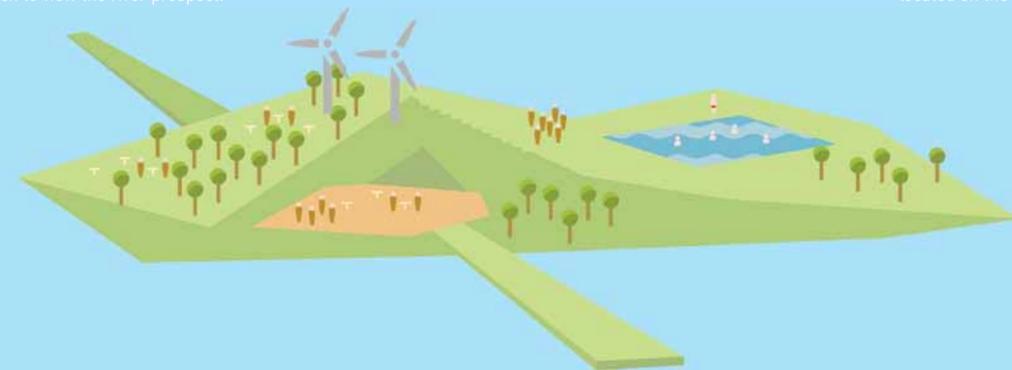
Pedestrian and cycle crossings will link the City with Southwark. The islands will be attractive platforms from which to view the river prospect.

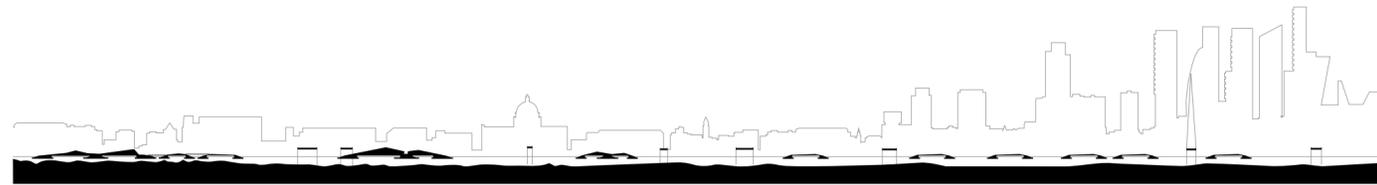
Swimming pool island

Floating pools will take water directly from the river and filter the water for swimming purposes.

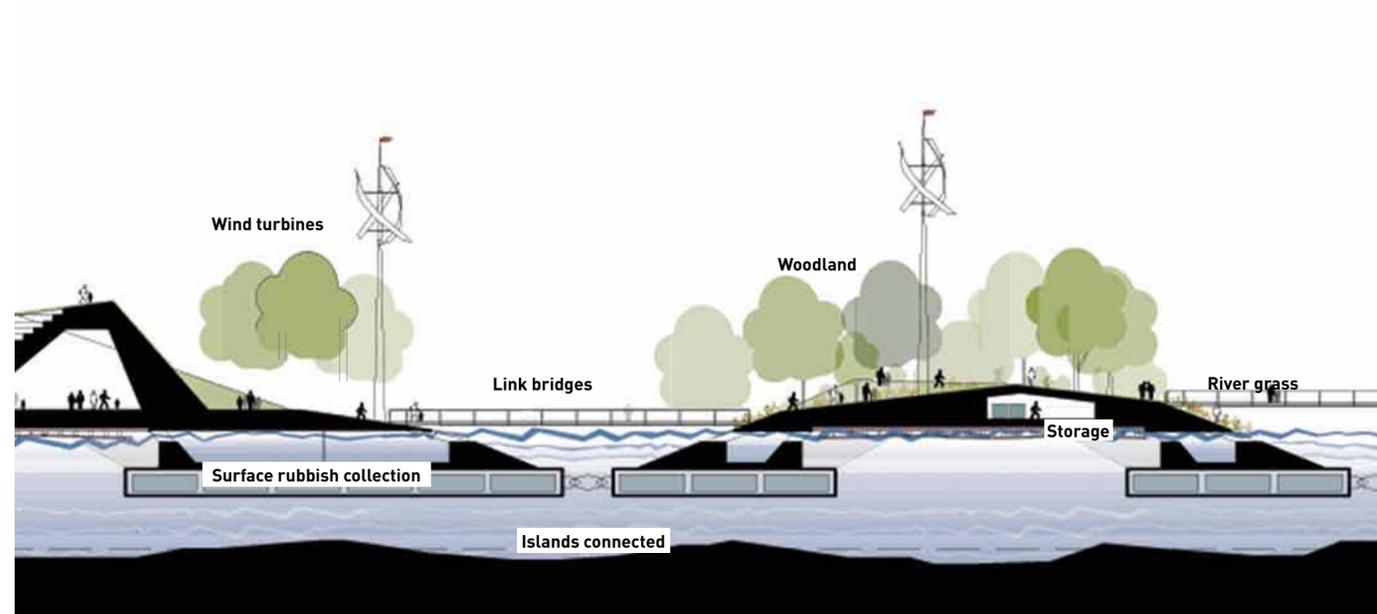
Eco-island

Eco-habitats will attract nesting birds, bats and other species. Wind turbines and photovoltaic cells can be located on the islands to provide energy for the City.

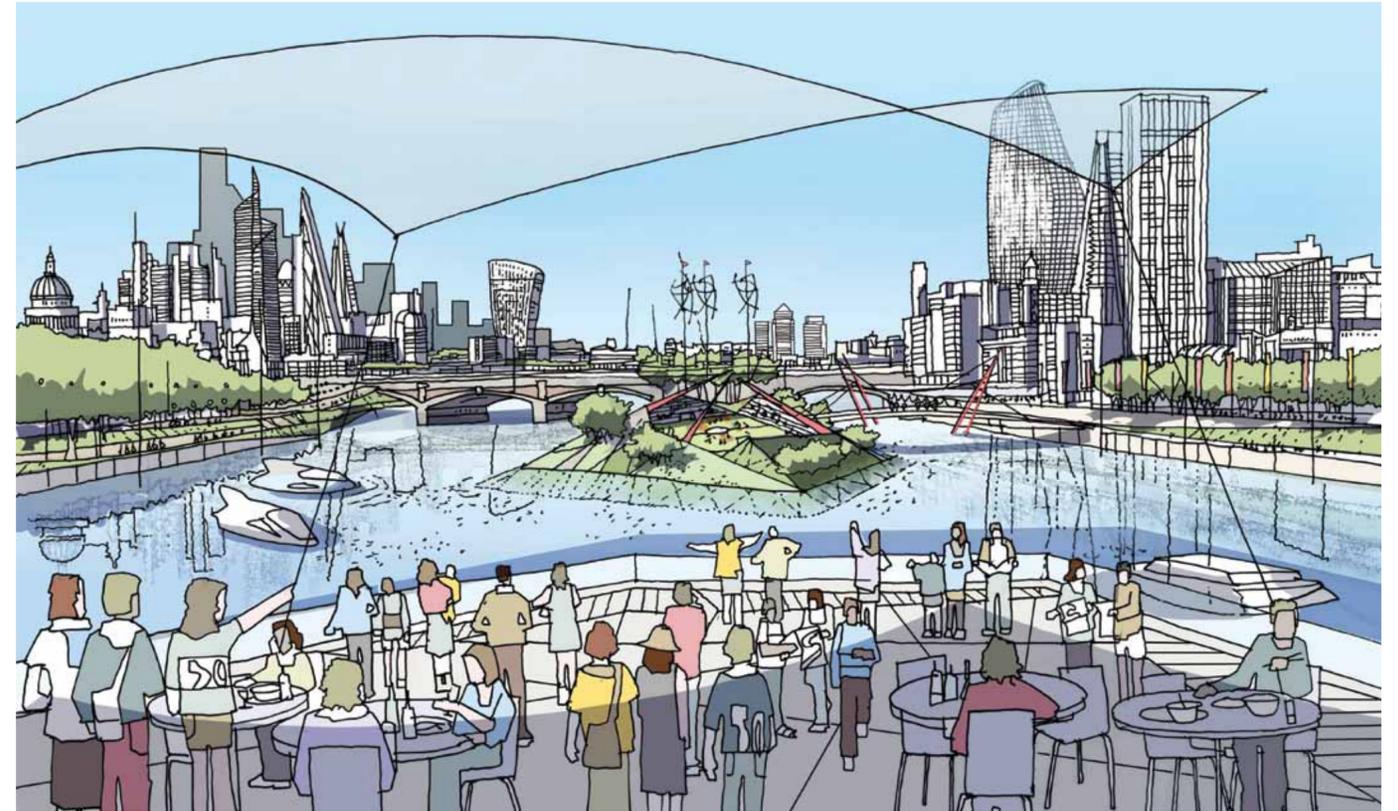




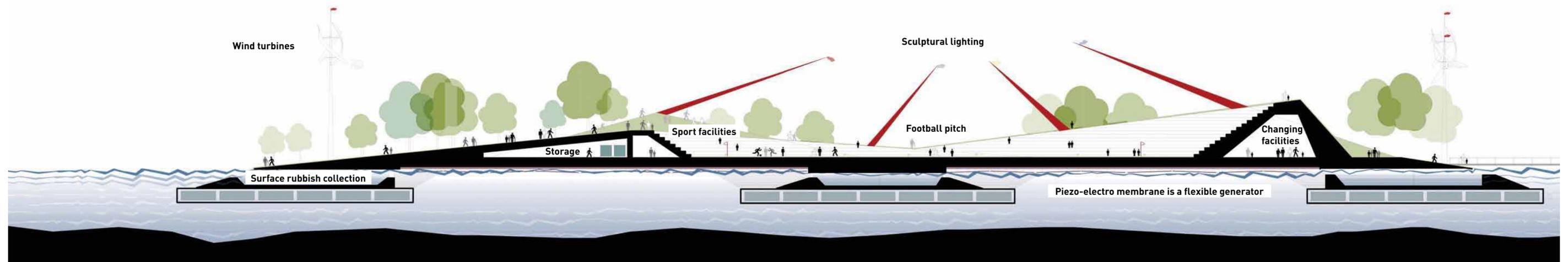
Site Section



Section through River Parks



View towards the City and Blackfriars Bridge



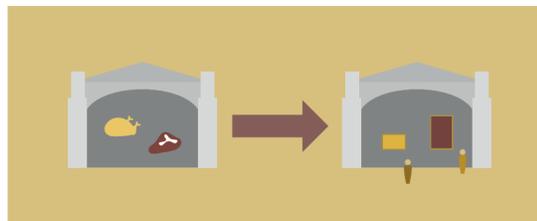
Island detail

Smithfield Cultural Quarter



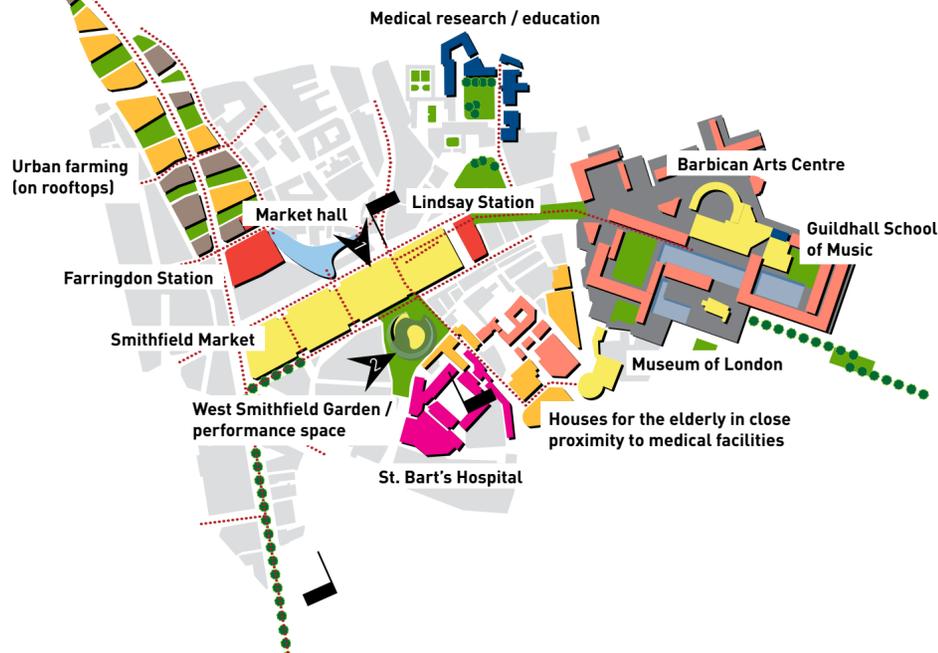
We imagine this area to the north west of the City will become the vibrant Smithfield Cultural Quarter. The combination of excellent transport links and improved connections to the Barbican will make this a desirable destination for living, culture and leisure.

Meat Market to Arts Centre



Masterplan

- Tube & rail stations
 - Pocket parks
 - Office space
 - Education
 - Residential
 - Culture
 - Health
 - Recreation
 - Mixed-use
 - Retail
- Image reference
- Section markers

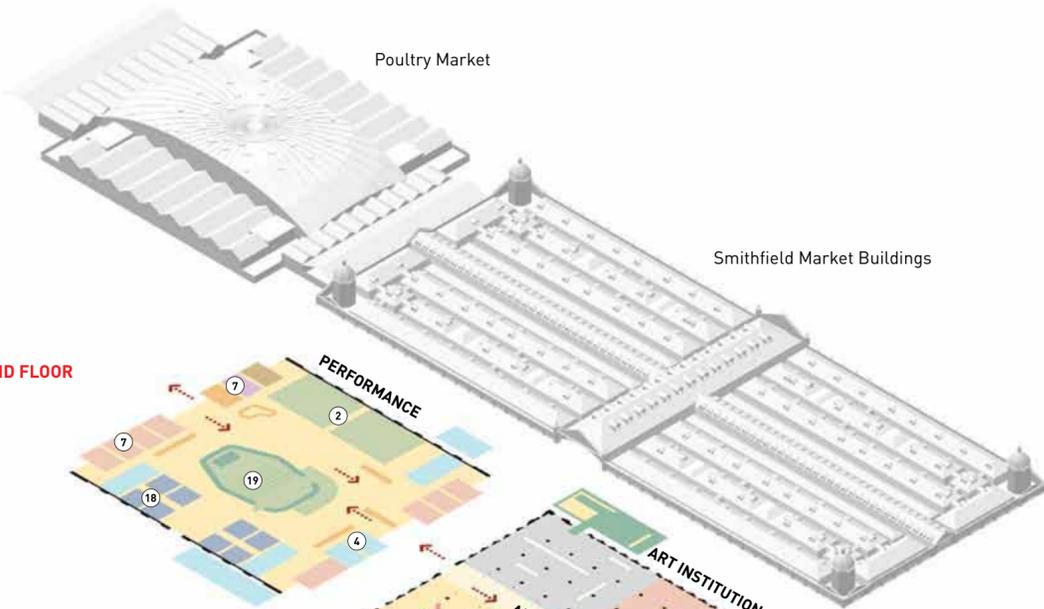


Drivers of change

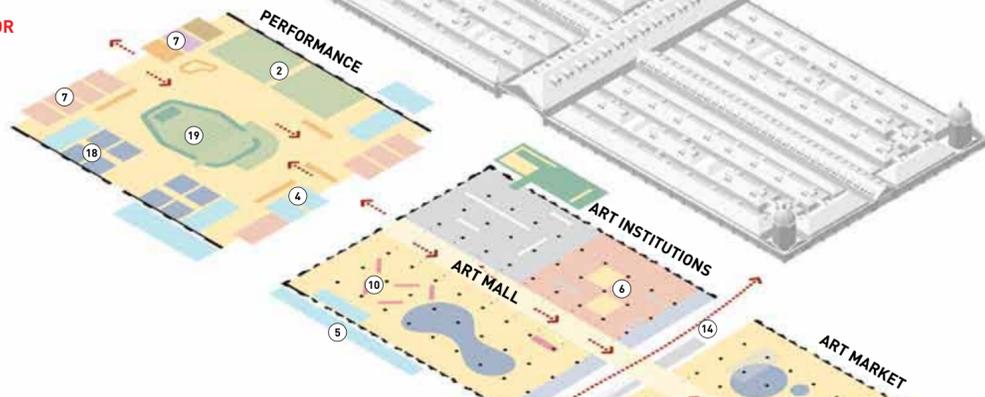
- ① **Community greenhouse**
Food will be grown in community greenhouses and roofs to recognise the importance of locally sourced food.
- ② **Building over the Railway Cuttings**
Office buildings will sit next to leisure and community facilities, urban farms and new pocket parks. Passive solar heating, greater use of daylight, natural ventilation and natural cooling systems can be incorporated cost-effectively in most new buildings.
- ③ **Gateway to City Cultural Quarter**
Crossrail, Underground and Thameslink provide access to the Smithfield Cultural Quarter from within the UK, London and from abroad.
- ④ **Farringdon Business District**
Farringdon will be the new business district in the west side of the City, with major new HQ buildings built within walking distance of Smithfield's transport hub and new cultural quarter.
- ⑤ **St John Street community retail**
Local food outlets will be encouraged into the development to promote locally sourced, seasonal produce.
- ⑥ **Smithfield Market Cultural Hub**
A free, "open to all" cultural hub, where the diverse community of London and beyond can meet, enjoy art events and exchange ideas.
- ⑦ **St Bartholomew's Hospital and houses for the elderly**
An increasing ageing population will benefit both from proximity of dedicated medical services and a vibrant neighbourhood.
- ⑧ **Clerkenwell's 'edible restaurants'**
Fresh food and ingredients will be grown locally on the walls and roofs of buildings, revolutionising the concept of food sustainability and waste management.
- ⑨ **Low carbon mobility**
Tram and metro stations allow for easy use of public transport to the City Core.
- ⑩ **Barbican connections**
New routes into the Barbican will make it more accessible and will link the Barbican Arts Centre to Smithfield to extend the new Cultural Quarter

Smithfield Market Building

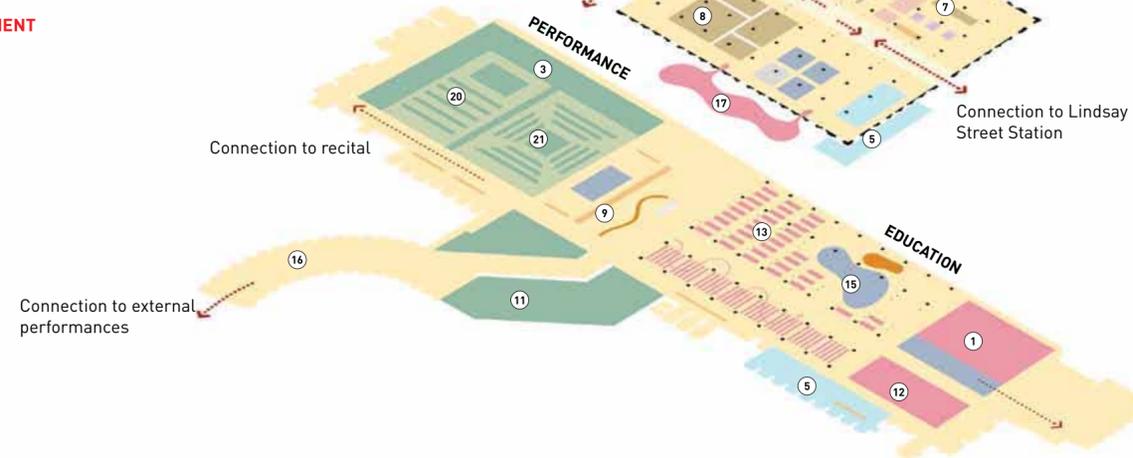
ROOF



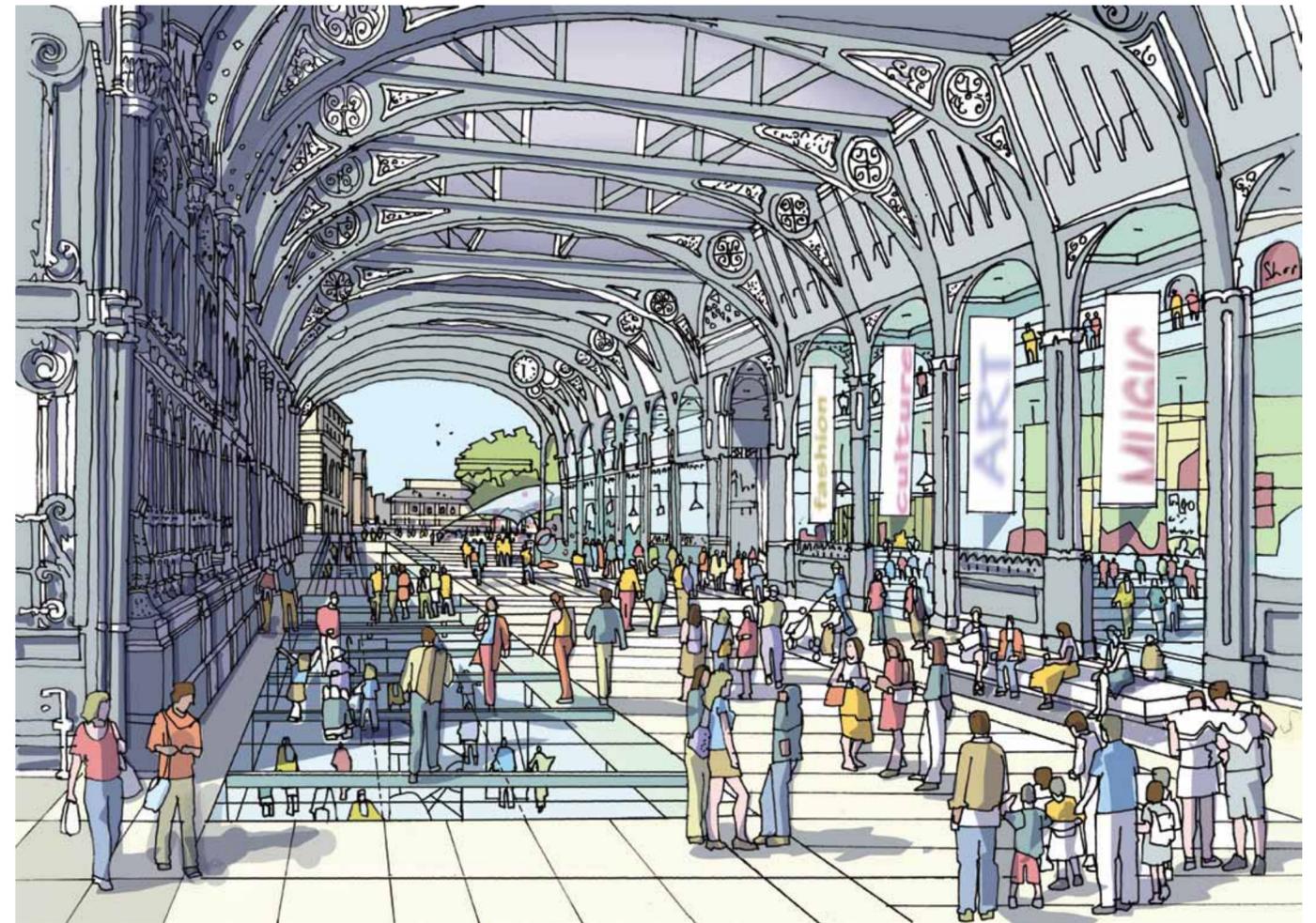
GROUND FLOOR



BASEMENT



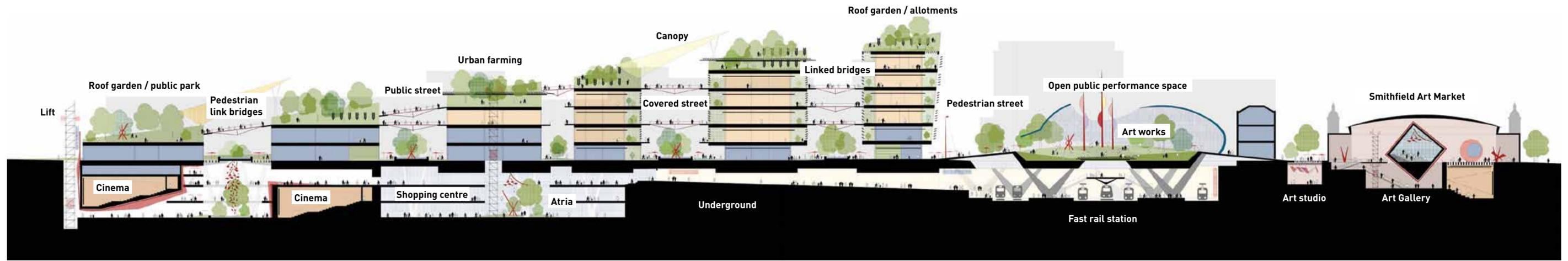
- ① Audio-visual library
- ② Auditoria
- ③ Back of house
- ④ Bar
- ⑤ Café
- ⑥ Conservation studios
- ⑦ Cultural businesses
- ⑧ Emerging artists exhibition galleries / art fair
- ⑨ Foyer / tickets
- ⑩ Galleries of modern art
- ⑪ Internal and external back of house
- ⑫ IT
- ⑬ Library & reading rooms
- ⑭ Lobby
- ⑮ Mediatheque
- ⑯ Performance (external)
- ⑰ Plug-in structures
- ⑱ Practice cells
- ⑲ Recital
- ⑳ Theatre 1
- ㉑ Theatre 2



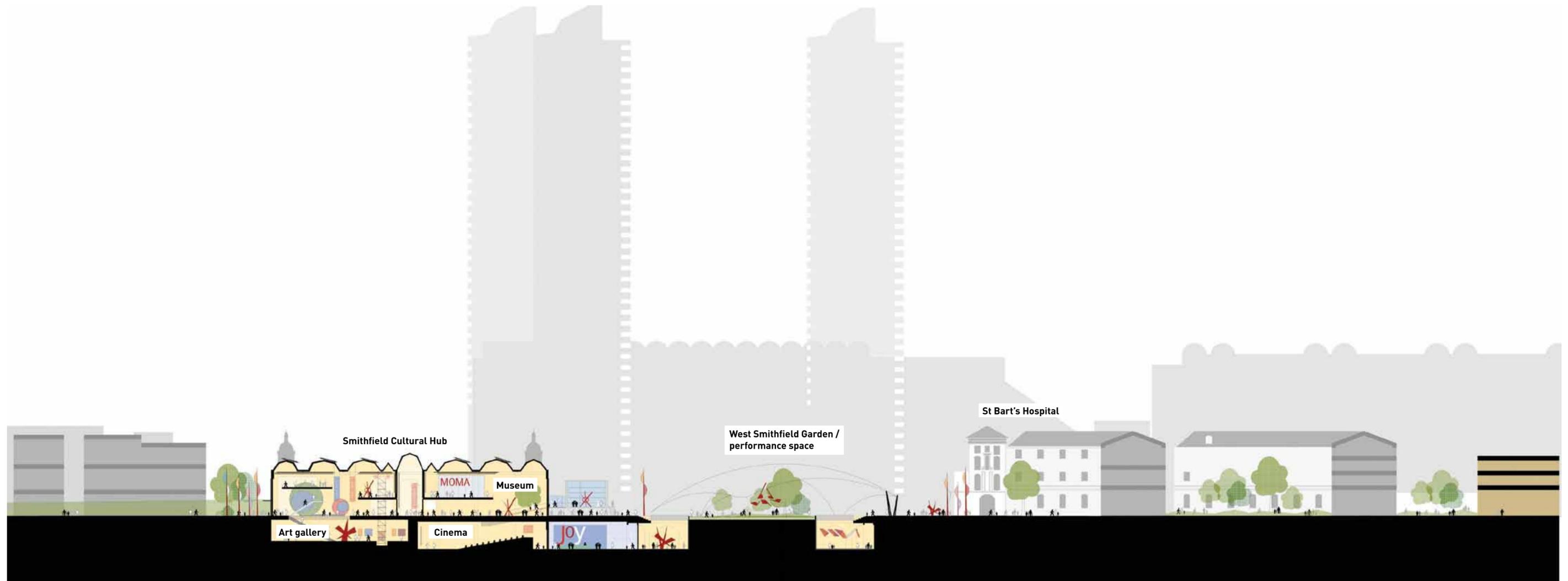
▶ Grand Avenue Smithfield



▶ West Smithfield Park

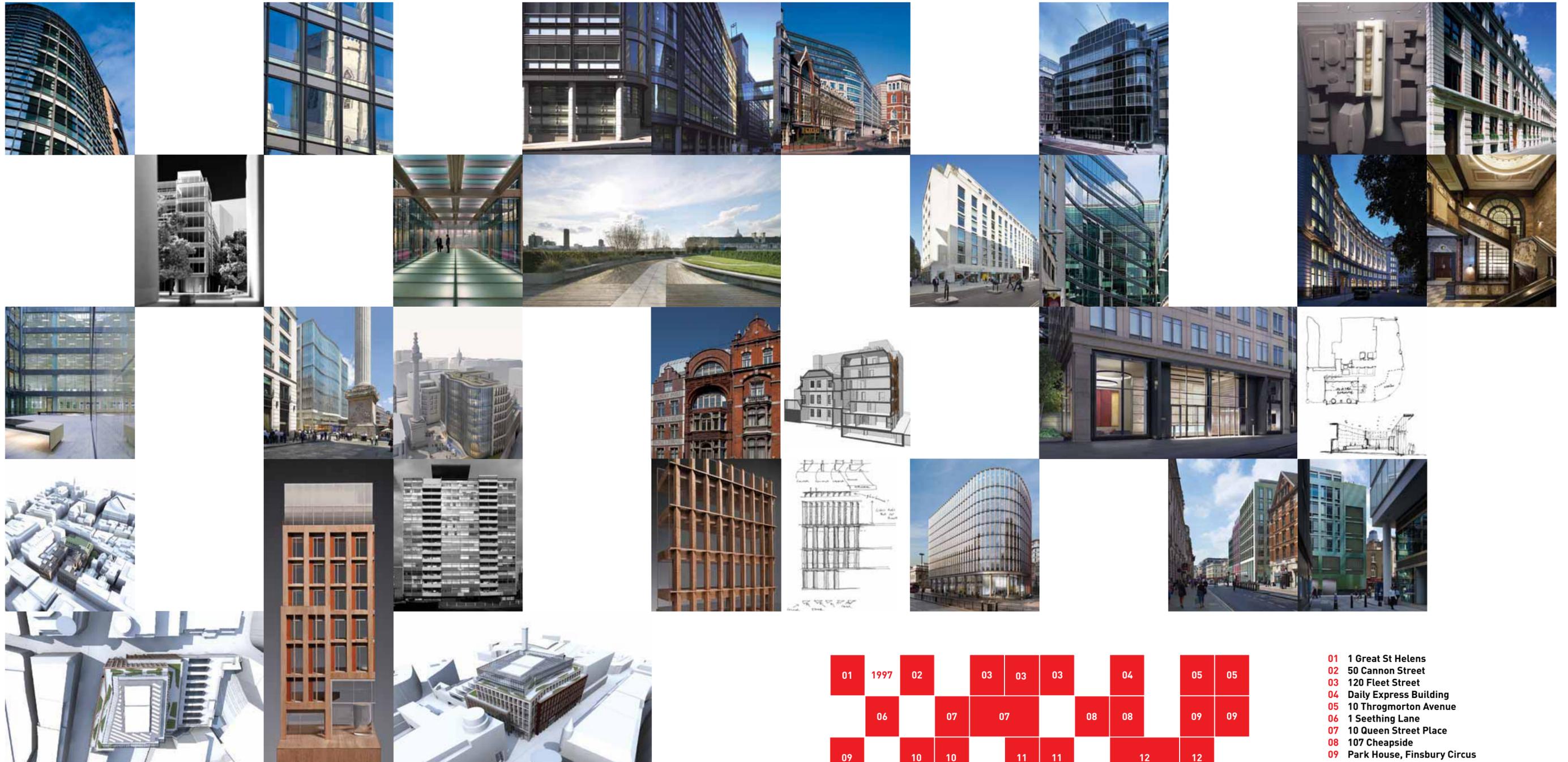


New Farringdon Road buildings



Smithfield Cultural Quarter

JRA in the City



01	1997	02	03	03	03	04	05	05
	06	07	07		08	08	09	09
09	10	10	11	11		12	12	
13		14	15	15	15		16	16
17	17	17	2020					

- 01 1 Great St Helens
- 02 50 Cannon Street
- 03 120 Fleet Street
- 04 Daily Express Building
- 05 10 Throgmorton Avenue
- 06 1 Seething Lane
- 07 10 Queen Street Place
- 08 107 Cheapside
- 09 Park House, Finsbury Circus
- 10 Monument Estate
- 11 184-186 Fleet Street
- 12 199 Bishopsgate
- 13 Mercers' Masterplan
- 14 Great Arthur House
- 15 33 King William Street
- 16 101 Moorgate Crossrail Over Site Development
- 17 Farringdon Crossrail Over Site Development

JRA in the City

Working in the City of London is an important part of JRA's lifeblood. Over 20 years we have assisted our clients to realise value with masterplans, planning consents and appraisals of buildings and sites. We like to think that the additional value we create comes from improving the quality of working space and the amenities around it, as much as a sheer increase in quantity.

We belong to a distinguished lineage of architecture in the City which serves and expresses commercial activities. Ever since Sir Robert Taylor and Sir John Soane adapted classical architecture to meet the rapidly changing needs of the Bank of England as it funded the Napoleonic Wars, many of Britain's best architects from Sir Edwin Lutyens to James Stirling, Richard Rogers, Norman Foster and Eric Parry have contributed to the City's patina of commercially effective buildings in settings that bring variety, surprise and delight — themselves adding value to businesses which depend on human intellectual resources.

This tradition of creating fine buildings with impressive presence in the public realm and interiors tailored to the commercial needs of their time is central to the City's status as the world's leading financial centre. Designing for commerce continues to draw out some of the best architecture from some of the best architects and their skill is the key to providing innovative space in buildings which enhance the City's streetscape.

We bring knowledge and enthusiasm to our projects there. We enjoy the density, the diverse styles, and clearly expressed commercial goals. We also take pleasure in the quirky qualities of the City, the hidden pockets of green space, the narrow alleys with their variety of shops, the scenes that Dickens would have recognised being experienced by people who read legal bundles or analysts' reports more than 19th century novels. We try to capture some of that atmosphere alongside commercial priorities in our buildings.

Analytical Approach

Our own approach is analytical and based on a thorough understanding of how the City works. We understand the planning process, the particular conditions that arise from ancient rights of light and the network of protected views. We also keep up to date with trends in space planning and office layout. We consider all the factors that make a congenial and effective working environment in

an empirical way depending on circumstances. We are then in a position to know what factors we can control and change, and which ones are fixed. Our analysis allows us to synthesise outwardly incompatible conditions, such as minimising distances to windows, providing adequate services such as WCs and lifts, and ensuring that the elevations deliver daylight on the inside and planning aspirations on the outside. As our designs evolve we constantly test them against hypothetical space plans to ensure that they would deliver maximum value for their future users.

Every project in the City is about finding latent value within its context, whether it's maximising the potential of a complex site or rejuvenating an old building. We are working on two very large developments on sites directly above Crossrail stations at Moorgate and Farringdon. We have to liaise with Crossrail's engineers to understand where we can place foundations, span the station and create high quality offices within the permitted development envelope. Our analytical approach is very effective at maximising the quality, value and flexibility of the internal space, but the external appearance is also crucial to the identity and value of the space inside. On Moorgate, for instance, we have broken down the overall mass to respond to the variegated street context, and taken inspiration from the great early 20th century Dutch architect, HP Berlage, who used ceramic tiles as an eye-catching but durable material for urban sites. Careful design of the elevations can enhance a building's position within the market as well as the urban fabric.

Creative Transformation

Refurbishment varies from buildings with real historical merit to ones with negligible architectural quality but where demolition and redevelopment would be uneconomic. In the first category is the magnificent Art Deco Daily Express building on Fleet Street, which we painstakingly restored to its original grandeur. Park House on Finsbury Circus and 107 Cheapside are more typical examples of high quality office design from the beginning and middle of the 20th century. In both cases the facade and certain interior features were worth preserving, but the original office interiors in both were well below contemporary standards. Here the goal was to introduce modern workspace within limited ceiling heights – and in each case we drew on our knowledge of development in the City to argue for a significant increase in floor area.

The striking modernist residential tower of Great Arthur House, centrepiece of the legendary Golden Lane estate, is our latest venture into refurbishing a significant work of historic architecture. Our client, the City Corporation, owns the freehold while its occupants are a mix of tenants and owner occupiers. This gives it different priorities to commercial projects, but the basic skills of understanding the potential of the fabric and adapting it to meet the aspirations of its occupants is the same.

We have also transformed outmoded buildings into first rate space. No 10 Queen Street Place was a Big Bang-era dealing floor leviathan which was obsolete almost as soon as it was finished. By some surgical incisions and additions we turned it into an award-winning office for a leading legal firm.

New Into Old

One of the City's strong points is that it can adapt old to new purposes, in architecture as well as in banking, financial and legal services. We have worked with some of the City's oldest institutions, the Carpenters' and Mercers' Livery Companies, both of which have significant estates as well as their livery halls, which help to form the City's public realm. In these projects we recognise and draw out the contribution their grand Victorian elevations make to their precincts, and find ways of creating rational workspace within them. Together with our building at Great St Helen's, which pioneered the BCO office specification and with a ground floor cafe which helped to animate the previously dead CU Plaza, these projects demonstrate how the public realm can work with private space to commercial advantage.

Our proposals for London 2050, summarised in this brochure, represent ways in which our appreciation and analysis of the City as a living entity might unfold. They take some of our thinking about using the City's pattern of development – and the opportunities it offers – and adapting it to emerging and future needs. These proposals would help to give the City the spatial equipment it needs, alongside parallel developments in law, regulation and IT, that will allow it to remain at the forefront of the world financial centres.

The Team

John Robertson Architects

John Robertson
Joana Cardoso
Vivien Ernst
Angela Jeng
Adrian Kelly
Zemien Lee
David Magyar
Liam O'Grady
Alan Rafter-Phillips
Lauren Saville

Arup

John Turzynski
Tom Foulkes

Urbik

Lee Mallett
Jeremy Melvin

Design Group Seven

Matt White
Elizabeth Owens
Dawit Teklu

British Land

Sarah Cary

Land Securities

Oliver Gardiner

CBRE

Philip Atkins

Illustrations

Adriette Myburgh

Visualisation

Hayes Davidson

**John
Robertson
Architects**

**John Robertson Architects
111 Southwark Street
London SE1 0JF**

020 7633 5100

jra.co.uk

