

LONDON TALL BUILDINGS SURVEY 2023
SUSTAINABLE SKYLINES

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This report was published by NLA in May 2023. It is an annual publication providing the latest data and analysis on how tall buildings contribute to a denser, more compact and sustainable London. It is part of the year-round NLA Tall Buildings programme, bringing together industry experts and the public to discuss one of the capital's most debated topics.

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FOREWORD

Peter Murray OBE, Co-Founder, NLA

When we started our annual survey of tall buildings in 2014, we selected 20 storeys as our measure of tallness because that was the approximate height of most council-built towers and, thus, a recognisable benchmark for the general public.

At that time, we were keen to get an idea of the scale of development of tall buildings. Mayor Boris Johnson had claimed that his need to deliver 42,000 homes did not mean 'towers will be popping up all over the place'. We thought it did. So we looked at the whole pipeline — those in the planning system and under construction — and managed to count 236, which was surprising to many and caused quite a stir. The Skyline Campaign, backed by the Architects' Journal and The Observer, was set up by Rowan Moore and Barbara Weiss, who took the position that many of the tall buildings planned for London were 'grossly insensitive to their immediate context and appearance on the skyline'.

They suggested that existing planning and political regimes failed to protect the valued qualities of London or to provide a coherent and positive vision for the future. But within a few years, the size of the pipeline had grown to over five hundred, this time with hardly a murmur from the press or even social media. Nevertheless, the doughty Barbara Weiss continued her campaign, and the London Forum of Amenity Societies grumbled away.

For the first few years of the survey, activity focused on the central boroughs and Opportunity Areas, but then we started to see a shift in the number of applications for outer London. Towers arriving in the backyards of suburbia were met with growing resistance as the number of homes targeted by Mayor Sadiq Khan grew to 66,000. Then along came Robert Jenrick, Secretary of State for Housing Communities and Local Government and his preference for 'gentle density'.

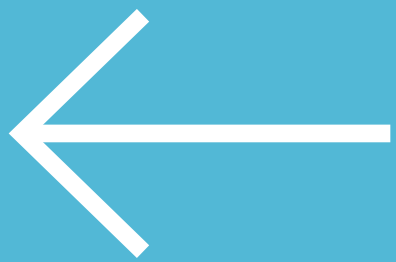
In his response to the draft London Plan in 2020, Jenrick suggested there were areas of London where tall buildings did not reflect local character and directed the Mayor to ensure they were only brought forward in 'appropriate and clearly defined areas, as determined by the boroughs'. The end result is a definition of a tall building that can be as short as six storeys, or 18 metres to the floor level of the top storey, and an assessment of what is tall based on a building's context.

So this year's survey is different to previous ones where the headline has been the size of the pipeline and responds not just to the changes in the London Plan but also to policies and attitudes around sustainability. Today the first question about a tall building proposal tends not to be 'How high is it?' but 'How green is it?'.



The future skyline of the City of London includes three new developments on 55, 70 and 85 Gracechurch Street.

EXECUTIVE SUMMARY



This year's *London Tall Buildings Survey* comes at a time of uncertainty and transition—a subdued residential market, evolving legislation and more stringent environmental and building safety demands are challenging both financial viability and how towers are designed. Over four main sections we explore the trends and the talking points taxing those involved in this building typology and explore evolving solutions and case studies.

The London Plan gives a requirement for Local Plans to define tall buildings. It set a default height of 18 metres to the floor level of the top storey or six storeys as a 'tall building'. The projects presented in this report's showcase follow this definition. The data represent developments of 20+ storeys in the planning system in 2022. For the first time, NLA has worked in partnership with the GLA, providing data from the Planning London Datahub.

Of the developments in planning in 2022:

Most are
20–25
storeys high

66%
are mixed-use

Most are in
East London

20,303
Homes will be provided

DEFINITION

London Boroughs are still drawing up Local Plans—with some adopting the Mayor's definition of a tall building as six storeys or 18 metres to the floor level of the top storey, the same height as in the Building Safety Act, and permitted heights largely negotiated on a site-by-site basis

COMMERCIAL

Commercial schemes are gearing up again after construction costs and interest rate rises slowed development

RESIDENTIAL

New high-rise residential for sale has declined but a shortage of rental property in London is fuelling growth in Build-To-Rent (BTR) in mid-height high-rise

SUSTAINABILITY

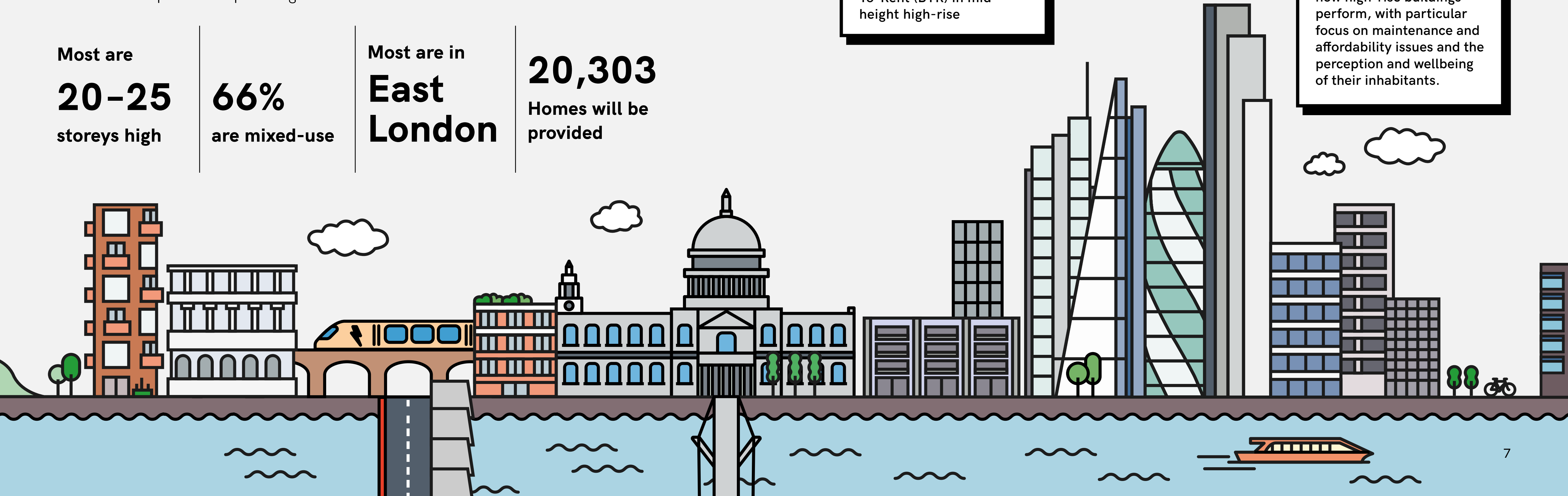
There is a strong argument for the sustainability of tall buildings, based on the idea of a compact city, whereas the amount of embodied carbon could work against them. To achieve a sustainable skyline, progress is being made through performance-based design, retrofit and collaboration between sectors

BUILDING SAFETY

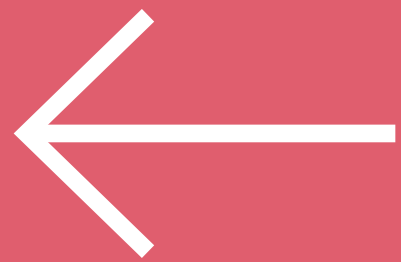
After the Grenfell Tower fire, new building safety legislation is coming in and is welcomed. Even though it has created initial uncertainty, it should ultimately boost public confidence in tall buildings

AFFORDABILITY & WELLBEING

More research is needed to better understand how high-rise buildings perform, with particular focus on maintenance and affordability issues and the perception and wellbeing of their inhabitants.



RISING TO THE CHALLENGE



SETTING THE SCENE FOR HIGH-RISE DEVELOPMENT

Fluctuations in the market and an evolving context for planning are changing the nature of high-rise, as developers turn to Build-To-Rent (BTR) and respond to higher demands for sustainability and wellbeing.

This year's tall building survey finds the sector in a mixed mood. On the one hand the City of London planners are "the busiest they've ever been" dealing with a plethora of proposals for commercial skyscrapers; while residential development is more subdued, thanks to the suppressed housing market across the capital.

But as tall building development flickers into life in some parts of the capital at least, development priorities for planners are shifting. Higher demands of sustainability, including a reduction in carbon footprints, and a focus on wellbeing and continually unfolding building safety legislation, adds up to a challenging time to design and build tall.

As Craig Tabb, director at DP9, notes, "As recently as five years ago, if you were to go to a planning meeting with a borough about almost any building, but particularly a tall building, things like sustainability, carbon lifecycle, fire safety, servicing, and emergency planning would have been very low on the agenda. Now they're front and centre." All are points we pick up later in this essay.

Reconciling these demands while ensuring financial viability is very much a developing science. Critics argue that measured against a yardstick of reduced carbon emissions, towers inevitably struggle — squaring that circle practically defies the laws of physics. Sustainability and wellbeing is another area of tense debate and one of the key themes explored in this report.

Key takeaways

- Commercial schemes are gearing up again after construction costs and interest rate rises slowed development
- New high-rise residential for sale has declined but a shortage of rental property in London is fuelling growth in build-to-rent in mid-height high-rise
- Tall Buildings currently in planning average 20-25 storeys; beyond that height construction gets harder and costs leap

The market

High-rise developers have had to navigate choppy waters and much uncertainty in the past 12 months, and that turbulence looks set to continue in the months ahead.

The economic fallout of price inflation and interest rate rises, has put the brake on London's housing market, stymieing new starts. Many schemes have been rendered unviable by the surge in construction costs.

According to the National House Building Council (NHBC), which provides warranties for 80 per cent of all new homes, figures for new homes registered to move into planning in the final quarter of the year fell in 10 out of 12 UK regions against the previous quarter. London suffered the worst with a 63 per cent drop suggesting there will be further decline in residential site activity in 2023.¹

The rise in interest rates has not only suppressed demand but has made it harder for clients, including housing associations, to borrow money to make their sites viable, notes Roger Holdsworth, partner at Pollard Thomas Edwards.

That said, land values and scarcity of sites mean that developers will continue to build tall. This, despite observations from those interviewed about the growing public scepticism of the value and appeal of towers, which appears to in turn be dampening enthusiasm from the boroughs, who are being a little less vocal about their plans.

Tabb remarks: "There's still an appetite to go upwards because there's a strong economic basis for optimising and pushing density in London. But it's never been easy promoting a tall building."

Stuart McDonald, operations director at Mace, is optimistic. "Despite the challenges in the market, the increase in demand, in particular for green offices spaces, is steadily growing." Mace is working on several high-rise schemes in London—two of them outside London Bridge station. These schemes are student accommodation and the high-profile scheme for the EDGE London Bridge, which claims to be the greenest tall building in the capital. McDonald points to greater surety of supply of raw materials, and more stable tender prices as providing greater market confidence.

The uplift is apparent across the river in the City where Gwyn Richards, planning and development director at the City of London Corporation, reports that both planning applications and construction of tall buildings—defined in the City as those over 75 metres—could not be busier. There have been six consents in the last two years for tall buildings (between 75 metres and 309 metres). In addition, there are two live applications currently, and possibly even another four before the end of 2023, with a couple more at very early discussion stages. "It's a hugely vigorous pipeline at the moment, probably close to the busiest we've ever been. The evidence increasingly suggests there is an under supply of top grade A office space," he explains.

"There's still an appetite to go upwards because there's a strong economic basis for optimising and pushing density in London. But it's never been easy promoting a tall building."

Craig Tabb, director at DP9

Richards also notes a growing trend to retrofit and adapt existing tall buildings as pressure grows to reduce embodied carbon — a point picked up later in this report’s sustainability section.

So, what is being built?

While mortgage rate increases have harmed the for-sale market, rents in London have seen the biggest rise on record. Tenants in the capital saw rent increases of 14.8 per cent during 2022, a figure equating to a leap of an average rent from £1,752 to £2,011 per month, according to a survey published in January by rental specialist Ocaso.² Accordingly, while the construction of pure residential towers for sale, with a portion of affordable housing, has stalled, there is a new wave of high-rise residential blocks taking shape for private rent and co-living.

Stuart Baillie, partner and head of town planning at Knight Frank, who chairs the NLA’s Expert Panel on Tall Buildings, says that the survey’s residential towers and those currently in planning are mainly 20–25 storeys high. Past this height, it gets proportionately more expensive to build and financially extremely risky, because the tower will need to be completed before flats can be occupied, unless there is more than one core. Also, the number of contractors who can build above that height is limited.

Built-To-Rent developer Greystar, which has large-scale rental housing developments in four areas of



50 Fenchurch Street, in the Eastern City Cluster, by Eric Parry Architects for AXA Real Estate Investment Managers UK Ltd, completion year: 2028 © DBOX

London — Greenford in west London, Sailmakers in east London, Nine Elms in central London and Croydon in south London — is committed to high rise. But Gary McLuskey, managing director of global design at Greystar, explains that their development plans expand deeper into the suburbs, where the schemes are more likely to be mid-rise blocks, the usual form in North America.

“We like to design buildings of around 300 apartments. That balances the operational costs with the number of units and makes it more manageable. However, in some instances, we may go higher, sometimes up to 450, and occasionally up to 600 depending on the specifics of the project. So, if we've got a mid-rise building, we can rent the left-hand side of it as the builders are finishing the rest of it. Whereas with a tower, you have to wait until almost the whole thing's complete, which means that you're bringing a lot of apartments to the market all at the same time. With a 600-unit tower that can work fine if it has two separate cores, so each can be released separately.” McLuskey says.

Colin Wilson, head of regeneration Old Kent Road at the London Borough of Southwark, where some 40-storey-plus towers are being built, agrees the financial crisis and construction cost inflation has forced a reassessment of height but as yet no real move away from towers.



Greenford Quay is the UK's first large-scale Build-to-Rent development, by HTA Design for Greystar



Phase 1 buildings will offer 600 homes in Lewisham / New Bermondsey, Phase 1 by Studio Egret West for Renewal Group, completion year: 2026

BUILDING TALL IN A CHANGING MARKET

The London Plan has decreed that boroughs set their own definitions of tall buildings, so how are they responding and what's the impact on developers?

The London Plan 2021 places onus on London's borough to adopt local tall building definitions and identify locations where tall buildings might be appropriate in principle, together with heights deemed suitable for those locations.

However, as those we spoke to told us, many local planners don't have the resource to draw up detailed masterplans, and developers and architects we interviewed expressed concern over the lack of GLA oversight. The reality is that acceptable heights are still being negotiated on a site-by-site basis.

The lack of a firm policy line on height does have some advantages. Having the flexibility to negotiate height can be beneficial for both sides. For example, boroughs can potentially lever more affordable housing into a scheme if developers can go higher to help viabilities.

The London Plan – Policy D9 tall buildings

The London plan gives a requirement for Local Plans to define tall buildings. It set a default height of 18 metres to the floor level of the top storey or six storeys as a 'tall building' but decreed that it was up to local councils to set height limitations that were appropriate for their area and zones setting out where tall buildings would be allowed, as part of local development plans.³ The idea was that local debates would take place when Local Plans were being drawn up, enabling a smoother journey through planning at application stage.

[Find out more here →](#)

Key takeaways

- There is no consistent approach to defining tall buildings
- London Boroughs are still drawing up Local Plans, and are adopting the Mayor's definition of a tall building as six storeys or 18m, the same height as in the Building Safety Act
- Permitted heights for tall buildings are largely negotiated on a site-by-site basis

Steve Jackson, regional director — London at Faithful + Gould, collates publicly available information about the London boroughs’ planning policies. He says that their approach is hugely varied. “Some are very prescriptive about height; others will say a tall building is whatever is in keeping with its surroundings, which is much more what the London Plan says. ”Jackson reports that the average height for those that have defined tall buildings is between 25 and 30 metres (8–10 storeys).

Like Jackson, Knight Frank’s Baillie has also noted the lack of local policy definitions from boroughs. His view is that because the GLA has set the de facto height of a tall building at 18 metres to the floor level of the top storey, it’s harder for boroughs politically to justify setting the definition any higher.

Some boroughs are sticking to definitions that they have had for some time. For example, the London Borough of Brent defines tall buildings thus: “Buildings or structures that are more than 30 metres in height or significantly taller than surrounding development. ”Brent’s Tall Building Strategy goes on to say: “A standard residential storey is about 3 metres, so 30 metres is about 10 storeys high. The Local Plan identifies locations suitable for tall buildings which include tall building zones, town centres and intensification corridors. Opportunities for 10+ storey buildings are in the borough’s Growth Areas where major growth and high density are expected, e.g. Burnt Oak/ Colindale. Wembley, South Kilburn, Staples Corner, Neasden and Alperton. In intensification corridors, town centres outside conservation areas and areas of distinctive

residential character developments of around 15 metres (5 storeys) in height are suitable.”

Harrow’s Local Plan also defers to the Mayor’s definition. Inside the Harrow and Wealdstone Opportunity Area, the definition is 30 metres or 10 storeys. Outside that area there is no definition of a tall building other than that the default definition in the London Plan’s Policy D9, namely 18 metres to the floor level of the top storey or six storeys. The new Harrow Local Plan will provide a local definition, and identify areas potentially suitable for tall buildings — but this was only formally commenced quite recently and is not expected to be adopted until the later part of 2025.

The policies that shape London's tall buildings

By The London Plan team, Greater London Authority

The Mayor's London Plan (adopted March 2021) provides a policy framework for delivering Good Growth through good design. This London Plan is fundamentally about taking a holistic approach and utilising all the levers we have in London to shape our city for the better, built around the needs, health and wellbeing of all Londoners. This is particularly the case for the approach towards tall buildings in the London Plan.

Tall buildings that are of exemplary architectural quality, in the right place, can make a positive contribution to London's cityscape, and many tall buildings have become a valued part of London's identity. However, they can also have detrimental visual, functional and environmental impacts if in inappropriate locations and/or of poor-quality design.

As well as ensuring that local plans are underpinned by robust characterisation studies, the London Plan empowers boroughs to use the analysis of building heights to define what is considered a tall building for their area as well as to identify locations where tall buildings may be an appropriate form of development in principle, subject to meeting the other requirements of the Plan. This should ensure that tall buildings are properly planned as part of an exercise in place-making, informed by a strategy for the future of growth of a place.

Whilst the planning system requires all planning applications to be assessed against the development plan as a whole, the Mayor's tall building policy (D9) will enable public consultation at the plan-making stage on where tall buildings are appropriate and what height is acceptable.

To support London Boroughs, the Mayor has published draft Characterisation and Growth Strategy London Plan Guidance which sets out a process for defining within their development plans what is considered a tall building locally and identifying areas where tall buildings may be appropriate and where they are not. This is available on the GLA's website [here](#). The final guidance will be published later in 2023.

Since adopting the London Plan the Mayor has supported a number of Boroughs in the process of reviewing their Local Plans. A number have already successfully adopted new development plan documents, with many more in train, meaning that new, clear local tall building policies in line with Policy D9 are now becoming commonplace across the capital. Whilst most of the pipeline of existing tall buildings planning permissions were determined prior to this new policy approach, moving forwards this new planned approach will help to provide greater certainty to the local community and developers.

Planning London Datahub

A new source of development data for London

Since launching in 2014, NLA's London Tall Buildings Survey has defined tall buildings as those of 20 storeys or above. Schemes can be at various stages of development, from planning application to construction.

The data presented here refer to the period from 1st January 2022 to 31st December 2022. For this year's Survey, NLA has worked in partnership with the GLA, providing data from the Planning London Datahub launched in November 2020. The data provided here refers to developments identified by site, which contain at least one tall building but may contain more tall buildings in the same application.

The Planning London Datahub is a new dataset of planning application data in London, launched the 16th of November 2020. It is formed by combining the data that applicants provide on planning application forms, with data created and collected throughout the planning process by Planning Authorities. This provides a single dataset of development for London, free for anyone to use.

A collaborative project between all of the Planning Bodies in London as well as their back-office system providers, this is the first dataset of its kind.

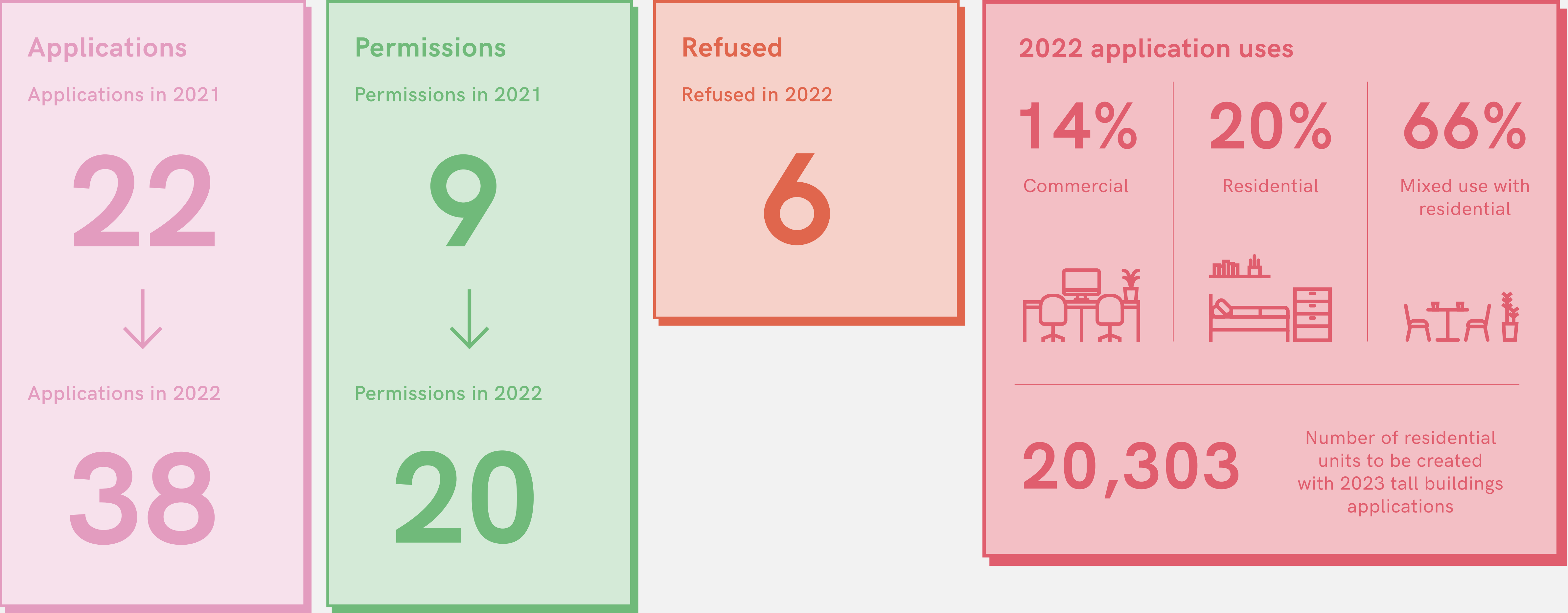
Key differences from other datasets include:

- The data is live, updating hourly for many boroughs
- Multiple new datapoints include using, floorspace and heights of buildings as well as floors as well as all of the datapoints that were in the former London Development Database collected
- The data includes all live applications, and decisions regardless of their status and decision, meaning the same data is available for refused applications as approved

As a Dataservice, the Dataset provides new opportunities for insights into how the city is changing, and also what development hasn't progressed. Enabling a new understanding of the planning system across the city. As an open dataset it is being used by multiple providers to model future capacity needs, monitor risks and drive change to their own business processes.

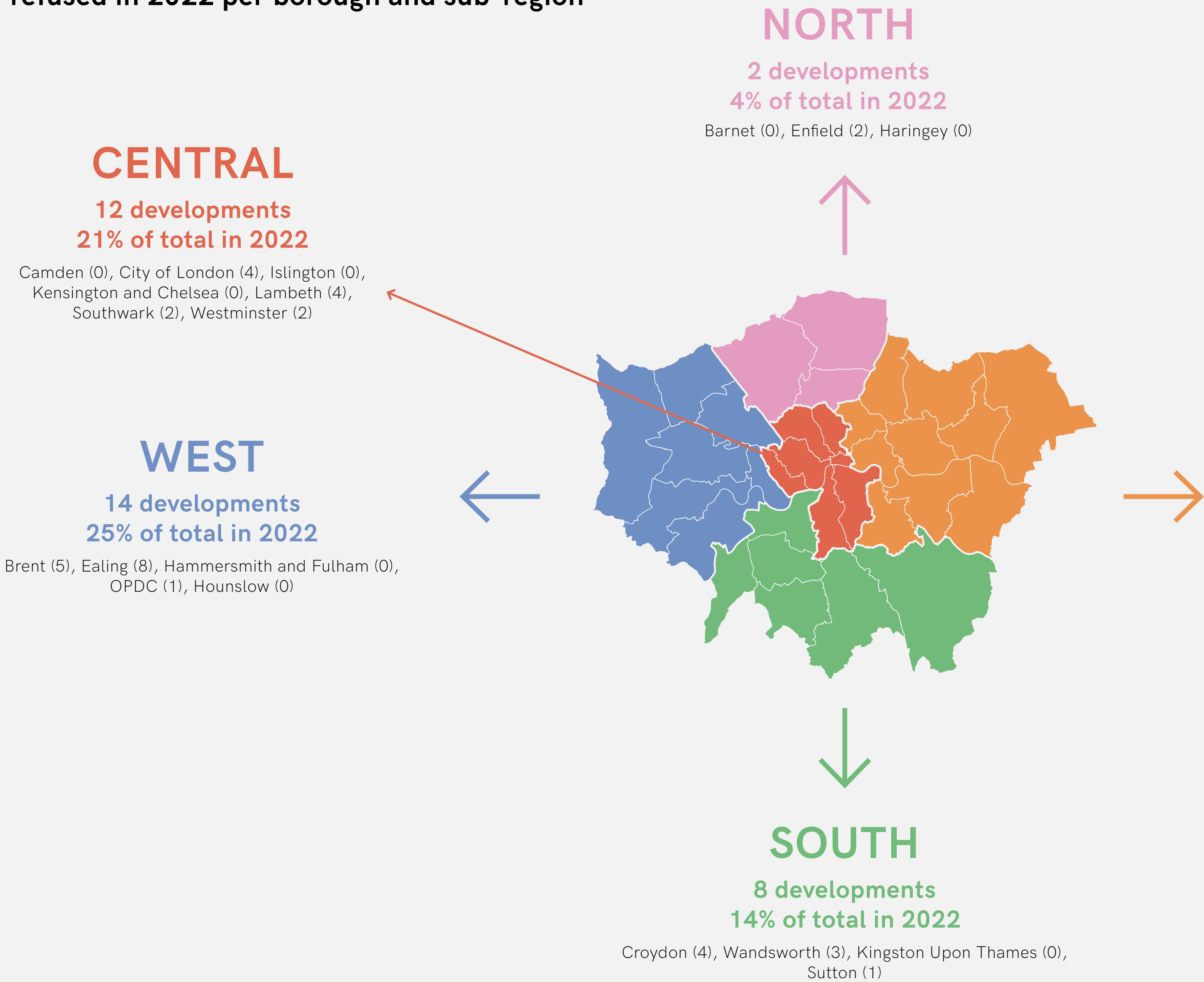
For more information about the Planning London Datahub visit [The Planning London Datahub | London City Hall](#) ↗

Number of applications in the planning system, including permissions granted and application refused in 2022

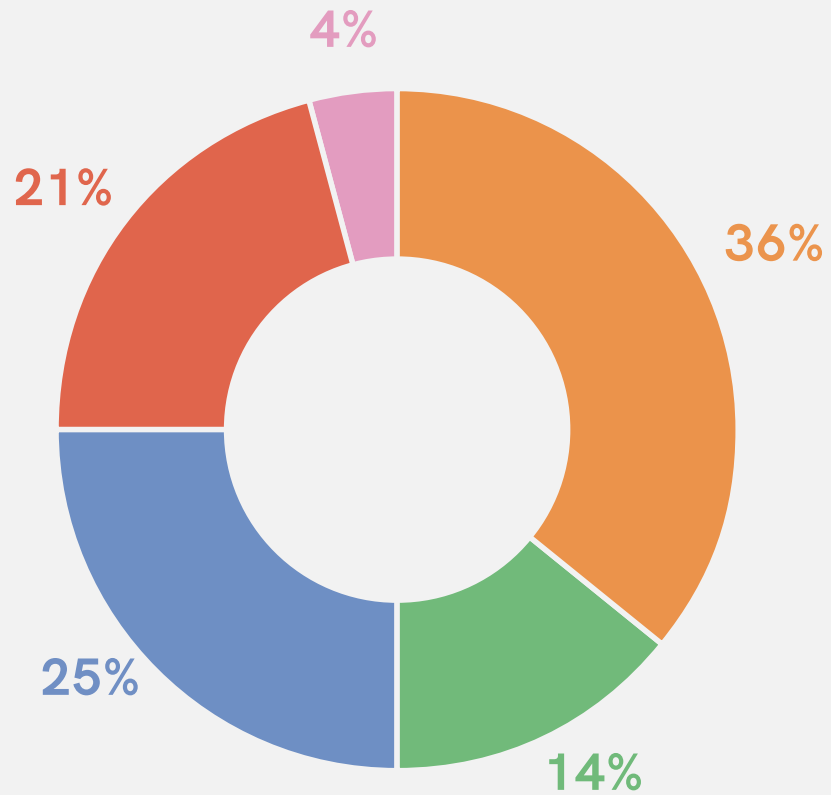


Data refers to the number of applications, which may contain one or more tall building © Planning London Datahub, Greater London Authority, 2023

Number of applications received, under consideration, approved or refused in 2022 per borough and sub-region



Percentage of developments containig one or more tall buildings by region

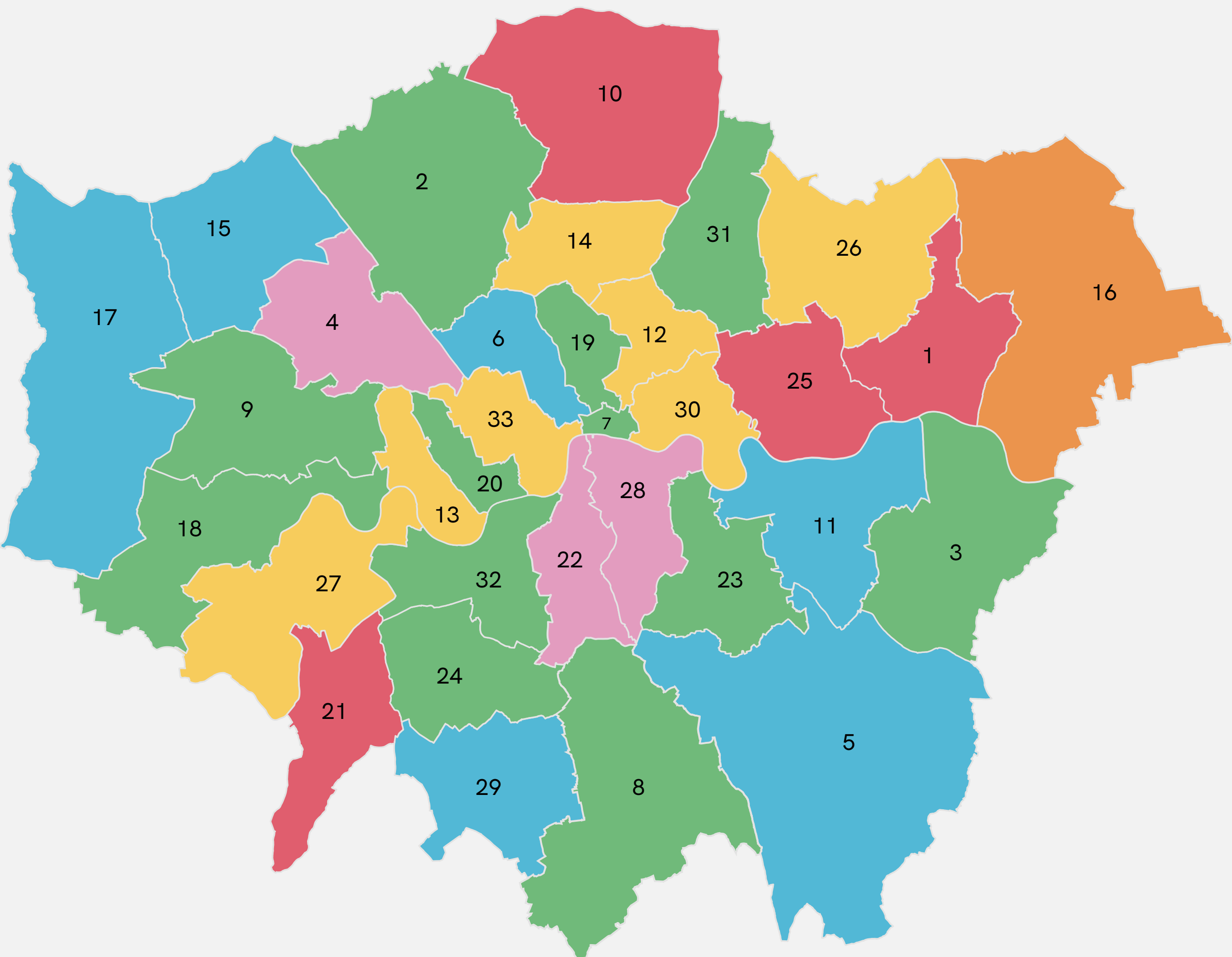


EAST
20 developments
36% of total in 2022
Barking and Dagenham (0), Greenwich (1), Hackney (1), Lewisham (0), Redbridge (3), Tower Hamlets (14), Waltham Forest (0), LLDC (1), Newham (0)

Data refers to the number of developments, which may contain one or more tall building

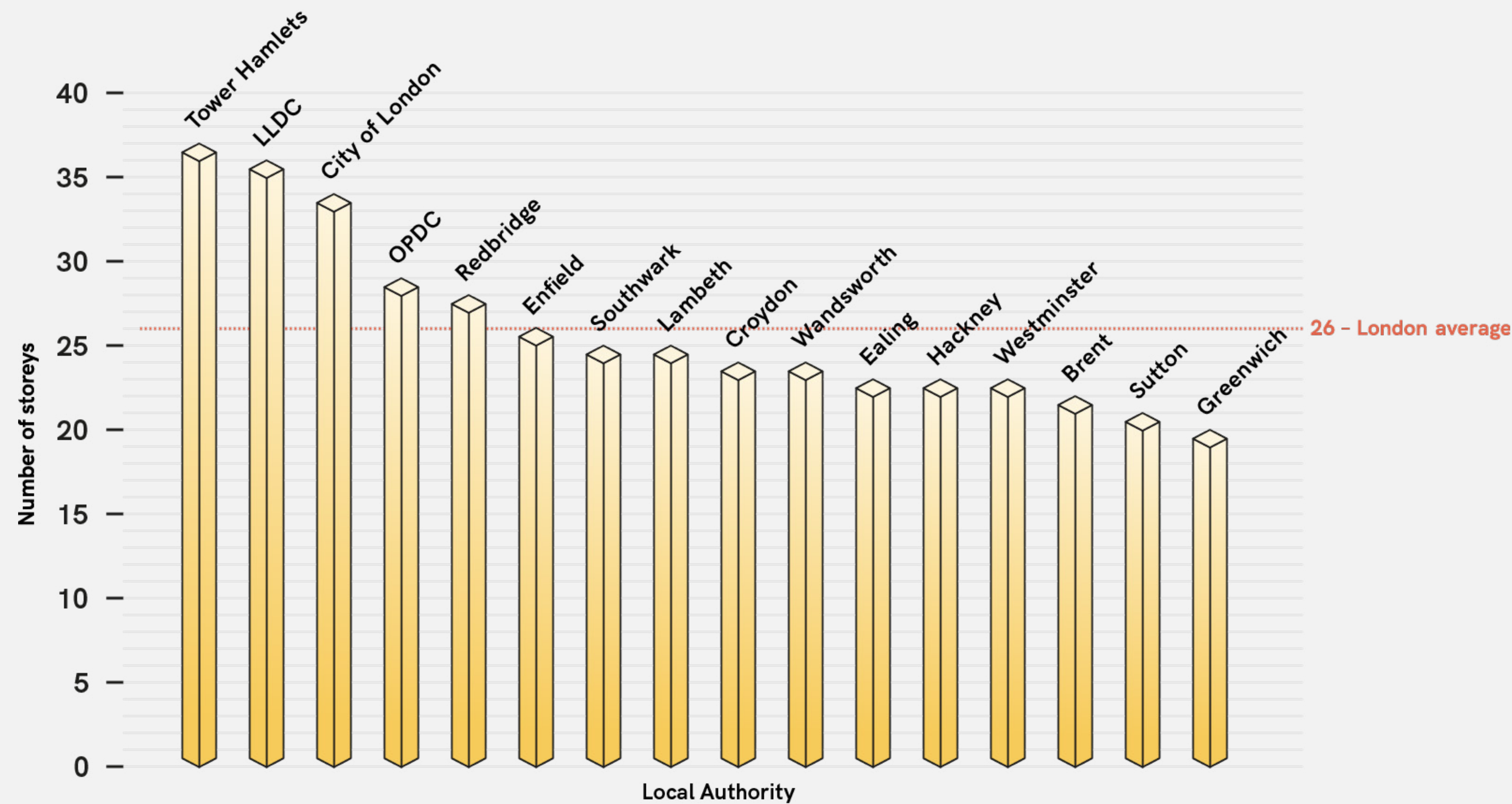
Tall buildings policy across London boroughs

- Tall Buildings Policy pre-dates London Plan (2021)
- Some guidance but no specific adopted or emerging tall buildings policy
- Currently reviewing Local Plan, including emerging tall buildings policy
- Emerging policy with a tall buildings threshold the same as the London Plan
- Emerging policy with a tall buildings threshold higher than the London Plan
- Up to date adopted policy with a tall buildings threshold higher than the London Plan

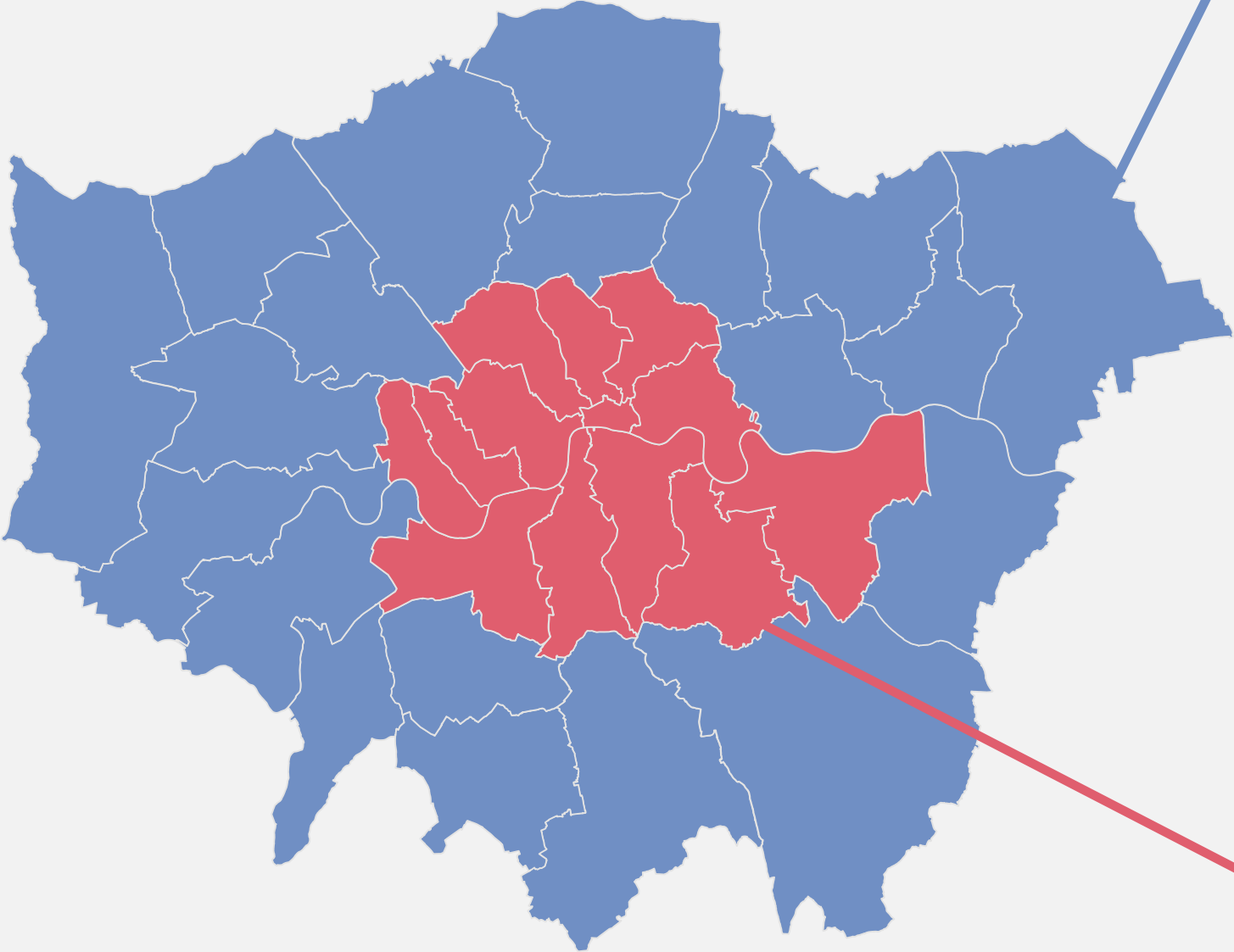
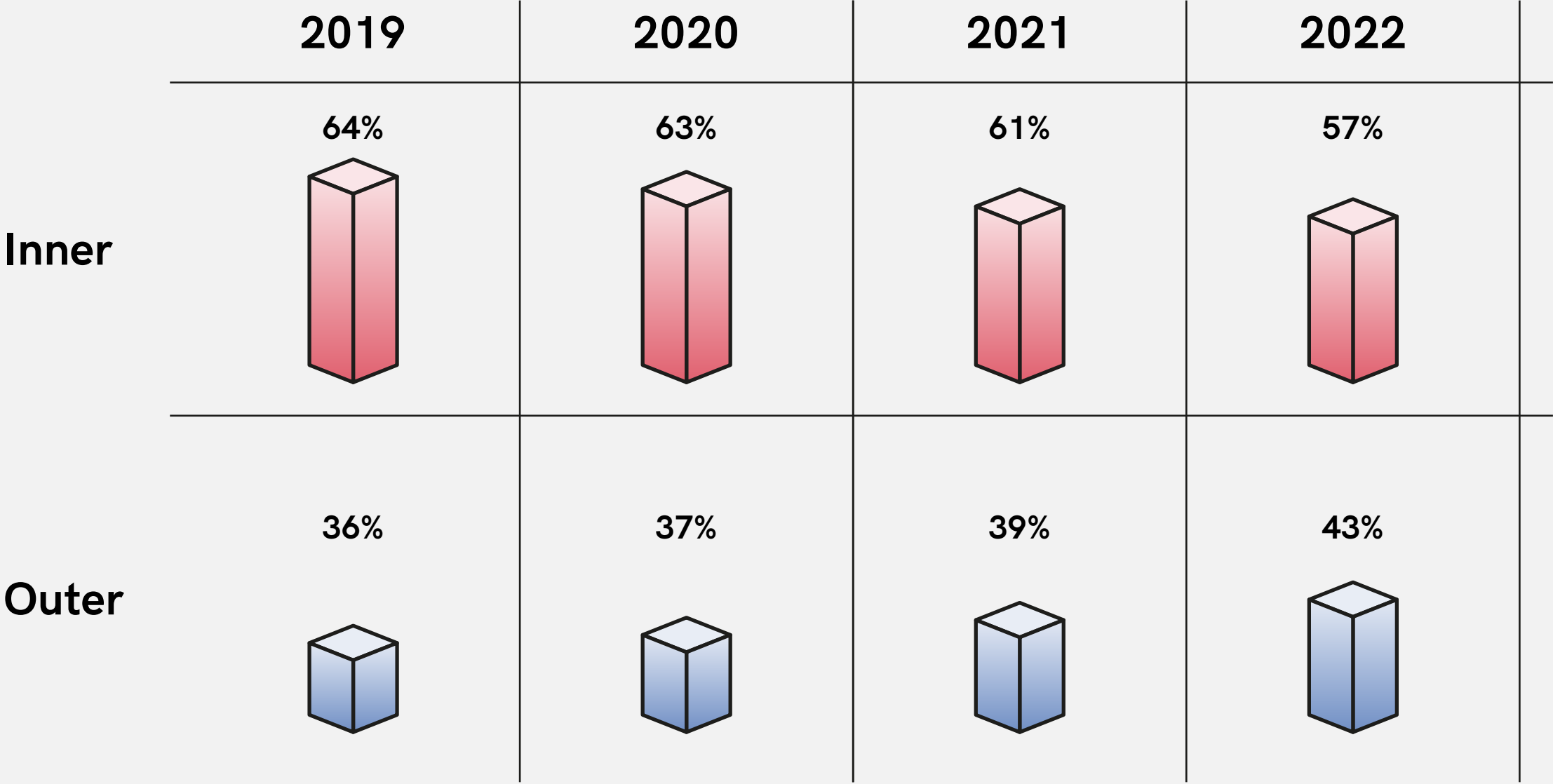


- 1 Barking and Dagenham
- 2 Barnet
- 3 Bexley
- 4 Brent
- 5 Bromley
- 6 Camden
- 7 City of London
- 8 Croydon
- 9 Ealing
- 10 Enfield
- 11 Greenwich
- 12 Hackney
- 13 Hammersmith and Fulham
- 14 Haringey
- 15 Harrow
- 16 Havering
- 17 Hillingdon
- 18 Hounslow
- 19 Islington
- 20 Kensington and Chelsea
- 21 Kingston Upon Thames
- 22 Lambeth
- 23 Lewisham
- 24 Merton
- 25 Newham
- 26 Redbridge
- 27 Richmond Upon Thames
- 28 Southwark
- 29 Sutton
- 30 Tower Hamlets
- 31 Waltham Forest
- 32 Wandsworth
- 33 Westminster

Average number of storeys of developments by Local Authority



Number of applications for developments in inner and outer London boroughs



Outer

43%
of applications

24
Developments

Inner

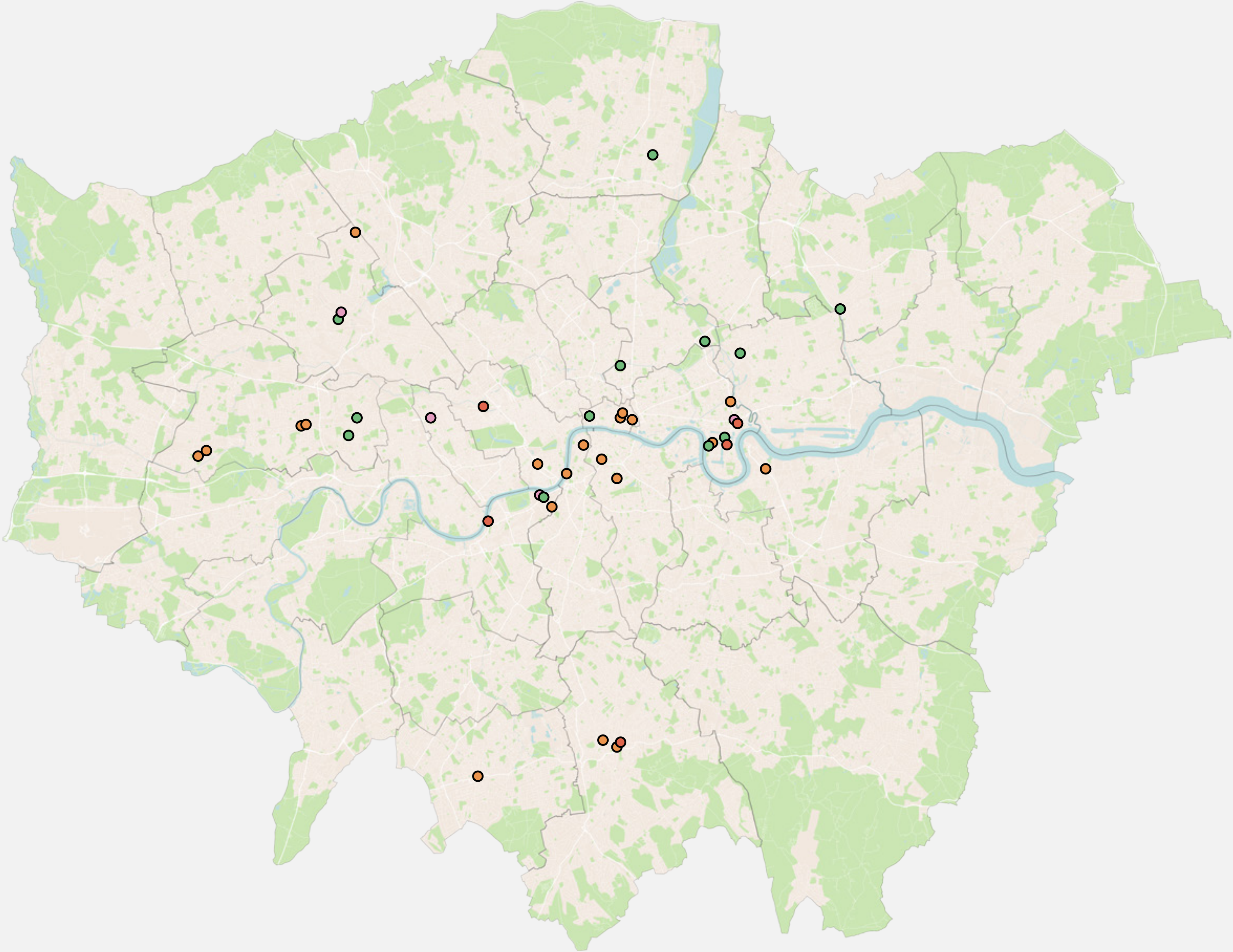
57%
of applications

32
Developments

Data refers to the number of developments, which may contain one or more tall building

Development applications 2022

- Application Received
- Application Under Consideration
- Approved
- Refused



Data refers to the number of developments, which may contain one or more tall building

BUILDING SAFETY AND DESIGN

Following the Grenfell tragedy, new legislations are necessary and welcomed. However second-guessing change to emerging safety legislation and designing within the constraints of the Mayor's Housing Design Guide is proving difficult for those involved in high-rise.

The changes being ushered in by the 2022 Building Safety Act (BSA) have created a great deal of uncertainty for those constructing tall buildings. The 2022 BSA sets out safety requirements for landlords of higher-risk buildings which are at least 18 metres or seven storeys high, with two or more residential units. Though there is no argument in the sector against tighter regulation, there is still concern about how this will play out in practice as much of the secondary legislation has still to appear or come into force.

One such aspect is schemes being signed off at three 'gateways'. The first—to check fire safety design at

planning—has already come into force, but the two others—to sign off fire safety design before construction starts and to sign off that the building has been constructed as designed, pre-occupation—are not expected to start before October 2023. For the industry, there is a concern that a lack of resources within the new Building Safety Regulator will lead to delays in this process, and how this will translate into practice.

One issue that has been clarified recently, however, is the need to include a second staircase for residential buildings over 30 metres or 10 storeys. At the time of writing, this was out for consultation from the Department for Levelling Up, Housing and Communities (DLUHC), but it was mandated in February by the Mayor—which has forced some developers and designers back to the drawing board.⁴

It's been a controversial move in that some professional bodies like the RIBA want to see second staircases made a requirement in buildings at the lower height of 18 metres or seven storeys. The architects' body said that lowering the threshold would "harmonise standards with the wider regulatory environment", pointing out that Scotland has had the 18-metre rule for four years. National Fire Chiefs

Key takeaways

- New building safety legislation is coming in and is welcomed. Even though it has created initial uncertainty, it should boost public confidence in tall buildings
- The Mayor has mandated two staircases for residential buildings over 30 metres or 10 storeys—government is consulting on this requirement
- Concerns that the two-staircase rule coupled with other London Design Guide requirements could make tall buildings unviable and stifle design creativity unless there is a degree of leeway from planning departments
- Clashes of requirements in different parts of the Building Regulations are adding to design complications and need to be addressed by DLUHC

Council (NFCC) is also in this camp and called on the government back in December 2022 to require all new residential buildings over 18 metres, or seven storeys high, to have more than one fire escape staircase. The London Fire Brigade (LFB) is supporting the two-staircase rule for the higher threshold of 30 metres.

Some developers have already been opting for second staircases—as is the norm in North America. What’s proved difficult has been working without clear guidance and constantly second-guessing future thinking. There is a degree of disappointment that scissor-designed staircases—in which two staircases located within one stairwell enclosure provide two separate paths for climbing or descending—are not being accepted by UK fire authorities. Proponents say that this arrangement—widely used in North America—provides an efficient use of space, especially for those towers with small footprints. But authorities argue that smoke ingress would affect both stairs at the same time. Equally, having two stairs in close proximity offers little benefit, as a shared lobby could prevent access to both if it became smoke-logged.

Providing two separate stairwells, coupled with the design requirements set out in the London Plan for flats to have a dual aspect, will impact viability. Housing developer Berkeley has said it will no longer focus on tower schemes and build more low-rise developments in future if the government’s proposed ban on single staircases in blocks above 30 metres goes ahead.⁵ However, others say that adding an extra staircase is not a huge change, and may be compensated for by planners

allowing an extra storey.

As well as the need for apartments to be dual aspect as set out in the London Housing Design Guide, there is also frustration about an overly rigid application of other recommendations it contains, including no more than eight units per floor per core. Designers say that such a lack of flexibility is stifling design creativity and, in certain cases, restricting north-facing single aspect units where a view over the Thames or a significant green space might be a very attractive outlook.

A further difficulty is that building regulations too often clash with each other, which adds to the near impossible feat of ticking all the growing number of boxes. For example, experts warn that the need for dual aspects, in order to provide cross ventilation, makes for more complicated shapes, reduces energy efficiency and increases carbon emissions.

Rory Bergin, partner at HTA, who heads up the Building Sustainable Futures team, believes that the requirement for dual aspects is not based on the technical reality of high-density living, where many occupants cannot open both windows to get a through breeze at the higher storeys because of high wind speeds and the analysis we carry out on overheating ignores cross-ventilation.

Designers also point out that there are a number of parts of the Building Regulations that no longer work together—like reconciling Part O, which is intended to prevent overheating by allowing windows to open, with

acoustic design, for example.

Some boroughs allow more latitude in design codes, acknowledging how challenging it can be to accommodate dual aspect apartments, which adds costs as designs become more complicated. Wilson says Southwark aspires to 100 per cent dual aspect, but allows a degree of flexibility with a net result of achieving 60-70 per cent in dual aspect configuration.

Architects and developers would like to see other boroughs also providing more leeway, especially for different tenures and typologies. For example, McLuskey says that design guidance specifying eight apartments per core does not work for the rental market, where there is a concierge and more amenity spaces. "If people enter the building through different entrances, it means the community management team don't get to meet everyone who lives in the building. Also, to use amenity space would entail residents leaving one core, going into the street and then coming in again through a different entrance. So, we don't object to the approach of eight flats per core because we are trying to grab more floor space, but because it is detrimental to the resident experience."

Bergin agrees that managed buildings such as Built-To-Rent and co-living, where there is increasingly more space given over to communal activities, do not need to be forced to into an eight-units-per-core strait jacket. "The concern among policymakers regarding anti-social behaviour disappear when you have a highly managed building", he says.



College Road, a high rise residential modular development in East Croydon, will provide 817 co-living homes by HTA for Tide Construction, completion year: 2023 © HTADesign

CAN TOWERS BE SUSTAINABLE?

Planning requirements and developers ESG agenda, are driving greater demands for more sustainable buildings. But with their high intensity embodied carbon structures, the debate is raging as to whether towers can genuinely be sustainable. In this section we examine both sides of the argument and explore other ways towers will need to evolve to make them sustainable and healthy places to live and work.

The compact city

Are tall buildings inherently sustainable by virtue of their efficient use of land and also reduce London's carbon footprint by supporting public transport and other vital neighbourhood infrastructure?

Like most major UK cities, London has set out ambitious carbon reduction targets and is aiming to be net zero by 2030. The route map for this includes a 40 per cent reduction in the total heat demand from buildings and the installation of 2.2 million heat pumps in London by 2030. It also demands 460,000 buildings connected to district heating networks by 2030 and a 27 per cent reduction in car vehicle km travelled by 2030.

How tall buildings contribute to achieving this goal is fiercely debated. Some would argue that tall buildings cannot be truly sustainable because of the high intensity of embodied carbon resulting from heavy steel and concrete structures. However, proponents claim towers are much more sustainable over time because of their efficient land use, compared to much lower density housing. The way towers are insulated, heated and managed is centralised, making them more energy efficient and effective. And they have better access to services and transport serving large numbers of people, which is good for sustainability.

The London Plan espouses the idea of a compact city, arguing that if London is to accommodate a near two million population increase to 10.8 million by 2041 it

Key takeaways

→ There is a strong argument for the tall buildings, based on the idea of the compact city — one of the key strands of the London Plan to meet increased population with efficient land use

means creating places of higher density in appropriate locations to get more out of limited land, encouraging a mix of land uses, and co-locating different uses to provide communities with a wider range of services and amenities.

The Plan points out that “High-density, mixed-use places support the clustering effect of businesses known as ‘agglomeration’, maximising job opportunities. They provide a critical mass of people to support the investment required to build the schools, health services, public transport and other infrastructure that neighbourhoods need to work. They are places where local amenities are within walking and cycling distance, and public transport options are available for longer trips, supporting good health, allowing strong communities to develop, and boosting the success of local businesses.”

It continues: “Making the best use of land means directing growth towards the most accessible and well-connected places, making the most efficient use of the existing and future public transport, walking and cycling networks. Integrating land use and transport in this way is essential not only to achieving the Mayor’s target for 80 per cent of all journeys to be made by walking, cycling and public transport, but also to creating vibrant and active places and ensuring a compact and well-functioning city.”

Though it does not explicitly set out the need for building towers to achieve this objective, there was a firmly held view amongst many interviewees that incorporating towers in the high-density mix provided the means to deliver on this ethos.



7 Brannan Street in Canary Wharf - by Glenn Howells Architects for F1 Student Development Company Ltd, completion year: 2029

Alfredo Caraballo, partner at Allies and Morrison, is one of those who takes the view that the debate around sustainability should not be just related to carbon but should encompass social and economic sustainability and what tall buildings can do for the city at large. “If cities are investing in transport infrastructure, then to pay for the transport infrastructure that benefits the whole of the city, you want to have the highest density possible around it to make the best use of resources.” He says that more emphasis also must be placed on longevity. Allies and Morrison itself has opted for long-life brick facades at the Keybridge Estate in Vauxhall including on the tall residential tower.

Colin Wilson, head of regeneration Old Kent Road at the London Borough of Southwark, concurs, pointing out that “those who live in a tower on the Old Kent road, next to 10 bus routes, and potentially in the future a Tube stations, are taking up proportionately a smaller part of the Earth's resources because they're taking up only a small bit of land.”

“So yes, being sustainable involves counting embodied carbon, but there is also the carbon footprint issue. In terms of use of resources, how do you compare living in a flat in Canada Water to living in a detached house with a garden where you're taking a half a hectare, and you have to drive everywhere?”



Keybridge Estate in Vauxhall, a residential tower / Keybridge Estate by Allies and Morrison for Mount Anvil, BT Property, completion year: 2022 © Allies and Morrison

EMBODIED CARBON, RETROFIT AND NEW MATERIALS

Weighing up the carbon embodied in building materials needed for a building's construction is a prime consideration at planning which could lead to more building on top of existing structures.

One of the most noticeable changes in planning policy of late is there is now a great deal more scrutiny on embodied carbon in planning applications. GLA planning policy requires that whole life-cycle carbon (WLC) emissions (those resulting from the materials, construction and the use of a building over its entire life, including its demolition and disposal) are set out in the application to help give a true picture of a building's carbon impact on the environment.

The very nature of high-rise buildings, which require heavy structures to keep them standing and prevent them from swaying, means that embodied carbon is not easy to reduce. The impact of this is that it adds weight to reducing heights, or keeping an existing building and

refurbishing it. Set against this, however, is that a new building might be able to reduce energy costs over its lifetime more effectively than an upgrade would allow.

The debate is complex, with valid arguments on both sides. Much is riding on the decision of the Secretary of State for Levelling Up, Michael Gove, to call in Marks & Spencer's plans to demolish its flagship 92-year-old building on 458 Oxford Street and replace it with a modern retail and office complex. In a surprise move, Gove stepped in after Westminster Council gave its approval. In 2021 Gove rejected the development of the proposed Tulip tourist attraction designed by Foster + Partners over concerns about embodied carbon and the quality of its design.

The subject of whole-life carbon assessment allowing comparison between the various options is still evolving and more consistency of approach is needed. In March, Members of the City of London's Planning and Transportation Committee adopted a new planning advice note on whole life carbon optioneering after a lengthy consultation. The new guidance, the Whole Life-Cycle Carbon Optioneering Planning Advice Note, requires developers and their design teams to submit specific

Key takeaways

- The amount of embodied carbon is increasingly considered in planning decisions, and could count against tall buildings which need heavy steel or concrete structures — both energy-intensive materials
- Performance-based design, with where the engineering is not based on codes but on performance objectives, and designing with the minimum quantity of materials could be the way forward — as could the greater use of CLT either as a hybrid or with dampers
- The use of recycled components and PV's embedded into facades could boost the sustainability of the building fabric in future and help deliver net zero or energy positive buildings

information about the comparative carbon impact of a range of alternatives for proposals at pre-application stage. The note says that the review should consider refurbishing existing buildings rather than demolishing and replacing them.

The City is seeing a growing trend to retrofit rather than demolish—including schemes that will add new storeys to existing towers. This is not a totally new phenomenon: South Bank Tower (formerly King's Reach Tower), designed by Richard Seifert in the early 1970s was extended by 10 storeys reaching 41 floors in 2015.

The desire to be ultra-sustainable is not just about adhering to policies. Corporations are keen to brandish excellent ESG credentials, particularly in office developments, to meet lenders' requirements and attract the best talent—and reducing embodied carbon plays to that. As Southwark's Colin Wilson remarks, "There's a growing confluence of public policy and market desire."

One 17-storey project flexing its re-use credentials is 30 South Colonnade, in Canary Wharf where YY London is refurbishing the European headquarters of Thomson Reuters and adding three new floors. Designed by architect Buckley Gray Yeoman for Quadrant and Oaktree Capital, with Victoria Asset Management, the project features a new high-performance facade—with a distinctive Y shaped design that gifts the project its name. The proposals will reduce the overall energy demand of the building by 62 per cent, and avoiding demolition is estimated to save 10,260 tonnes of carbon dioxide.



South Bank tower, retrofit of the King's Reach tower by KPF for CIT © KPF

Choice of materials

The embodied carbon in concrete and steel structures accounts for a high proportion of the embodied carbon in any building—and more so as height increases where heavier structures are needed.

As part of the debate, cross laminated timber as a sustainable structural building material has its advocates.

The Edge London Bridge, being built by Mace, will use cross-laminated timber (CLT) on the first four floors in a pioneering engineering arrangement. Designed by Pilbrow & Partners, the 396,000 sq ft building comprises 27 floors of commercial office space with the lowest four floors formed from a timber structure and CLT slabs to provide impressive amenity spaces incorporating a 300-person auditorium.

Edge London Bridge is set to become the city's most sustainable office tower and Mace's first construction project with a contractual embodied carbon target. Its energy consumption is due to exceed the operational intensity targets for new-build offices set out in the RIBA 2030 Climate Challenge and is targeting "Paris Proof" occupation for its tenants—aligning with 2050 goals. Mace's Stuart McDonald says the contractor is looking to "push the boundaries on embodied carbon and deliver a greater impact of positive influence on operational carbon."

There's no sense, however, that CLT as a structural material



The Edge London Bridge with a timber structure and using CLT on the first four floors, by Pilbrow & Partners for EDGE, completion year: 2026

is taking off to any great extent for tall buildings in London. It arouses too much nervousness amongst insurers, building control officials and fire chiefs, even though CLT is used in tall buildings in other parts of the world.

Ender Ozkan, vice president Europe at RWDI, says CLT starts becoming too flexible above a height of 50 to 70 meters. Using it for higher buildings requires huge timber columns which eat into floor space. He suggests a way around that would be to consider combining CLT with a damper to stabilise the structure instead. He would like to see more focus on “performance-based design”, where the engineering is based not on codes but on performance objectives, and designing with the minimum quantity of materials to achieve that performance. But he concedes this concept is not something the industry is yet comfortable with.

Another factor to consider is that from 2025, the Future Homes Standard will require carbon emissions produced by new homes to be 75-80 per cent lower than those built to current standards. Homes will need to be ‘zero carbon ready’, with no retrofit work required to benefit from the decarbonisation of the electricity grid and the electrification of heating. Fossil fuel heating (such as gas boilers) will be banned in new homes, with an expected shift to reliance on heat pumps and heat network, itself not always that easy. Somewhat surprisingly, and disappointingly, some of those interviewed said they were involved with projects that were still fitting gas boilers, which are due to be banned for new buildings by 2025.

Ozkan continues: “Tall buildings will have to work harder than other building typologies to get to net zero. It will require some really innovative approaches and innovative materials—building skins that adapt to the climate—with natural ventilation and energy capture from sun. And also long life and recyclable components, which makes embodied carbon no longer such an issue.”

One example of using pioneering energy generating facades and a hybrid timber structure is Atlassian Central, a 41-storey tower in Sydney, Australia. The scheme is expected to be completed by the end of 2025 and will be the tallest commercial hybrid timber building in the world. Atlassian Central is formed of an internal timber structure supported by a steel and concrete mega-frame. The building is 36 per cent timber by volume—significantly reducing its embodied carbon. The project targets 50 per cent less embodied carbon in construction compared to its benchmark (through design as well as material procurement), and 50 per cent less energy consumption than a new conventionally operated building. Operating on 100 per cent renewable energy from day one, it will include solar panels built into the facade to generate green power on-site.

Clearly, and for the many reasons touched on here, there is still some way to go on the sustainability path for high-rise buildings. Regulation, insurance, inherent conservatism and cost are all proving to be impediments. The construction of towers is one of evolution rather than revolution. In future, we could see photovoltaics on cladding panels but that’s not happening yet. Offsite

“Tall buildings will have to work harder than other building typologies to get to net zero. It will require some really innovative approaches and innovative materials—building skins that adapt to the climate—with natural ventilation and energy capture from sun. And also long life and recyclable components, which makes embodied carbon no longer such an issue.”

Ender Ozkan, vice president Europe, RWDI



Atlassian Central in Sydney is formed of an internal timber structure supported by a steel and concrete megaframe by SHoP and BVN for Atlassian, completion year: 2025

construction, while popular for some building elements, particularly in commercial buildings, is not gaining huge traction as a full modular offsite process in residential, despite the sustainability benefits it can bring, like reducing waste on site and speed of construction.

The world's tallest modular building, the 135m-tall Ten Degrees Croydon, in South London, remains novel. The project, built by Tide Construction and Vision Modular Systems and designed by HTA, for Greystar consists of 546 homes in a pair of 38- and 44-storey towers. The redevelopment of the former Essex House at 100a George Street opposite East Croydon station demonstrates the role that offsite manufacture can have in accelerating housing delivery. It was built using over 1,500 modules, reducing local disruption and improving the fabric performance to achieve 43 kWh/m²/yr. in regulated energy. The building is funded as a joint venture between Greystar and Henderson Park and operated by Greystar.

Generally Mace's Stuart McDonald highlights the use of reusable steel, and low carbon reusable concrete cassettes (developed by Mace with structural engineer AKTII, amongst others with funding from Innovate UK) as an exciting development. The factory-made cassettes are fully demountable which allows for the precast unit to be reused in other subsequent structures which promote a truly circular economy in the built environment. However, like others, he expects to see adaptation of existing structures, such as replacing the facade but keeping the structure, to become the norm.

So, can we build net zero tall buildings when their impact is measured over their lifetime? "I think it's very difficult to know at the moment," says Roger Holdsworth, partner at Pollard Thomas Edwards. "I don't think there has yet been enough study of embodied carbon in tall towers and comparing it with other forms of construction or building type."

REDUCING CARBON EMISSIONS IN LARGE SCALE DEVELOPMENT

There are seven key lessons to designing a net zero development at scale, according to AHMM's head of sustainability and building performance Dr Craig Robertson and senior building performance architect Dr Simon Hatherley. The pair set out these lessons in *Delivering net zero in use: a guide for architects*.⁶

The guide's central theme is that the design process needs to be much more collaborative and iterative in all disciplines—particularly engineering. The guidance, published in November 2022 and made available to all professionals working in the built environment, is the major output from a collaborative Knowledge Transfer Partnership between AHMM and UCL's Bartlett Institute for Environmental Design and Engineering. It proposes reframing design and procurement processes to place more focus on carbon, and uses Canada Water Zone F as a case study.

This high-density, mixed-use development was designed for British Land and received planning permission in summer of 2022.

Delivering net zero in use: a guide for architects draws upon existing industry guidance and methodologies such as RICS' Whole life carbon assessment for the built environment, and looks into the component parts—'up front', 'operational' and 'lifetime' carbon, as well as offsets.

Writing in CIBSE Journal⁷ in February, Robertson and Hatherley say that the first rule is the need to integrate iterative, performance-based modelling across the design team.

Project teams need to set clear and ambitious targets, and that consultant appointments must recognise the significant shift in working practice that zero carbon buildings need. This should be reflected in scope, time and, ultimately, fees.

Other lessons are: one, that clear communication of the scale of ambition is essential from the outset of a project; two, that early contractor engagement can bring new options to the design process and opportunities for subcontractor engagement; and

three, that team coordination is more important than ever.

The capability of the design team to support the client aspiration was essential for delivering carbon reductions on this project, say the guide's authors. This, in their view, "may require wider upskilling of the industry to deliver zero carbon buildings as a matter of course."

SOCIAL SUSTAINABILITY AND WELLBEING

Sustainability means considering the wider social aspects of building tall.

If tall buildings are to be truly sustainable places where people want to live, they need to promote the idea of community and a sense of wellbeing and be affordable to maintain for those that live in them. But as towers proliferate, there is concern from experts that these issues are not being properly addressed and London could be storing up problems for the future.

The need to access outdoor space, such as balconies and shared public realm, has long been recognised and was reinforced during the pandemic – as was the need for co-working space. But while existing communities are often engaged meaningfully at concept stage, their feedback and engagement needs to follow through to research once the development is built.

Matt Morgan, director at the Quality of Life Foundation, a charity set up to make health and wellbeing central to the way homes and communities are created and cared for, is one of those calling for a more evidence-based

assessment of the merits or otherwise of living at height.

Says Morgan: “Density and height is regarded with suspicion by certain parts of the housing sector regard. I think that's a partly a hangover from previous eras when things went wrong for whatever reason, and also a suspicion that they’re built purely to line the pockets of developers rather than benefit the local community. More work is needed to really establish the living experience.”

Meanwhile, a new report from four leading lights of the social housing sector calls for more research into high-rise living. Its authors are June Barnes, former CEO of East Thames Housing Association, Andrew Beharrell, senior adviser and former senior partner at Pollard Thomas Edwards (PTE), Dickon Robinson, former development director at Peabody and LSE distinguished policy fellow, Kath Scanlon.

What is the future of high-rise housing? Examining the long-term social and financial impacts of residential towers makes a series of recommendations for government, local authorities, developers and housing providers.⁸ First, ensure leaseholders’ rights and responsibilities are

Key takeaways

→ More research is needed to better understand how high-rise buildings perform, with particular focus on maintenance and affordability issues and the wellbeing of their inhabitants.



Hale Wharf, a residential development in Haringey by Allies and Morrison for Muse Developments, Canal and River Trust, completion year: 2021 © Tim Crocker



2 Redman Place by RSHP for Lendlease, completion year: 2019 © Morley von Sternberg

protected and understood; second, that the high-rise towers are built as good quality housing for the long term; and third, that high-density living comes with adequate social infrastructure, including public open space.

The report calls for more information to be made available to buyers of high-rise housing about the likely costs of managing and maintaining their homes over their lifetimes. They point out that high-rise housing for households on moderate incomes can be highly problematic because of the need to meet increasing maintenance costs to keep the towers in good repair.

“The post-Grenfell experience has shown that many leaseholders are struggling to meet repair costs, and such challenges are likely to continue as buildings age. If tall buildings therefore fall into disrepair, then government—whether local or central—may be forced to step in.”

The report also suggests more research and investment into making new towers easier and more cost effective to maintain for both leaseholders and freeholders.

The report, launched in February 2023, argues that it is important that housing is built to last and can be modified to meet changing needs over time.

It includes new research carried out by Kath Scanlon on the experience of those living in high-density housing in terms of service and charges, and an analysis showing that those living in the poorest neighbours had the worst access to open space.

The results of the survey, which included high-density homes more generally, found that many leaseholders in recent urban apartment schemes are dissatisfied with service charges and management performance and do not understand what the charges cover or how they are calculated. Some feel frustrated and powerless, others simply resigned.

What is the future of high-rise housing? says that there is evidence of widely differing open-space provision, from generous (Queen Elizabeth Park stands out), to minimal (Nine Elms) to non-existent (many of the stand-alone towers). Andrew Beharrell, the author of the open space chapter says, “This begs some important questions about how much we really value open space and whether open space planning policies are being sacrificed to achieve housing growth targets.”

He points out that the idea that every citizen should have ready access to green open space is enshrined in the National Planning Policy Framework (NPPF), the London Plan, and the Local Plans of every London borough. The report provides guidance on the recommended minimum size of different types of green open space (from local pocket parks to large regional ones) and their distance from people’s homes.

Beharrell says: “The amount of open space in each London borough varies widely, the least well provided being Islington with 8 sqm per person, and the best being Bromley with 259 sqm per person. Tower Hamlets, the borough with the greatest number of tall buildings

“The post-Grenfell experience has shown that many leaseholders are struggling to meet repair costs, and such challenges are likely to continue as buildings age. If tall buildings therefore fall into disrepair, then government—whether local or central—may be forced to step in.”

What is the future of high-rise housing? Examining the long-term social and financial impacts of residential towers

(according to previous NLA surveys), has 17 sqm per person. Studies also show a correlation between London's poorest boroughs and open space: for example, 39 per cent of people in Tower Hamlets live in poverty, compared to 15 per cent in Bromley."

He concludes: "It may be that delivering additional numbers of homes justifies a reduction in access to open space or it may be that we need to rethink the prevalence of high-rise housing or even demand a mitigation strategy in respect of current pipeline projects. In any event, we need better evidence on which to base such decisions."

The issue over amenities and public space was also raised during a recent NLA round table discussion. Agnieszka Zimnicka, Regeneration Manager — Place at London Borough of Tower Hamlets pointed out that, in Tower Hamlets greenery and open space have been lost in the processes of housing estate regeneration programmes. The proposed housing densities vary from three to over fifteen times higher than of the existing estates they replace.⁹ Inevitably these new schemes include tall buildings, however the quantity of publicly accessible spaces, at best, remains at the previous level. The borough has recently adopted the High-Density Living guidance aimed at changing the way tall buildings and their surroundings are designed in order to make them more people friendly and improve quality of life.

Clearly that is also an issue for high density more generally. The importance of open space to Londoners was powerfully demonstrated during lock down — and that experience

cannot be forgotten. Though GLA housing policy sets out open space requirements, these can fall down the priority list in any negotiations over housing provision.

CONCLUSIONS AND NEXT STEPS

If we are to make real progress in delivering sustainable tall buildings, where are the gaps and next steps for the industry to lead?

Housing targets, land values and the needs of Grade A offices will continue to provide an appetite for tall buildings. However, building costs and market volatility are having a significant impact, and we can expect to see a fall in housing numbers in the coming year and an accompanying decline in affordable homes built as well.

With viabilities in residential squeezed by inflationary hikes and changes to regulations including the need for two staircases for buildings over 30 metres, there is a feeling in the sector that something has to give. It could be a reduction in the percentage of affordable housing, or it could be even higher densities, which in turn requires more amenities. There is a sense too that uncertainties over requirements to meet new building safety regulations will settle down and become business as usual and won't present a barrier to building tall. They should also help boost public confidence in tall buildings too.

As London grows upwards, there is rising acknowledgement that more research and debate is needed concerning the environmental impact and the wellbeing of residents. While the experience of living in towers is only beginning to enter the debating chamber, the discussions over environmental sustainability and the contribution towers can make to London's net zero ambitions are getting louder.

From an energy perspective, it won't be easy for tall buildings to meet net zero requirements both in terms of their operation or their embodied carbon, without an acceleration in the pace of innovation. Clients have been turning to offsetting to ensure their new developments are carbon neutral. However, their efficient use of land, and the fact that towers tend to be built around transport hubs, provide strong counterarguments to the problem of their high embodied carbon content. The call to look at sustainability through a wider lens of economic and social sustainability also has strong merit.

But the confluence of policy and market sentiment, with occupants clamouring for strong ESG credentials, will inevitably mean that in the commercial sector we can

expect to see adaptation and retrofit in the ascendancy.

As was also noted at the recent NLA tall building round table, planning policies do not provide enough flexibility to encourage exemplary design. The situation is not helped by clashing requirements in regulations which are making it harder for developers and architects to do their job.

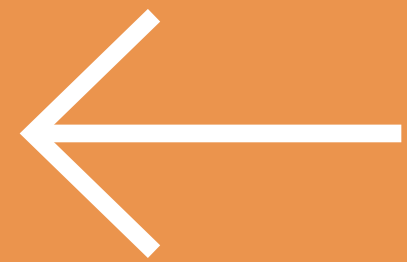
There seems to be a general feeling that there should be less 'dictating' and more oversight in terms of a London strategy for sighting tall buildings. Adding to the challenge is the ad hoc nature of many borough planning departments—caused, to be fair, by their lack of resources required to draw up local masterplans and smooth the path towards more straight-forward planning permissions. It remains to be seen whether the development of Local Plans which define height ambitions and locations for tall buildings happens at in the way the GLA is hoping for.

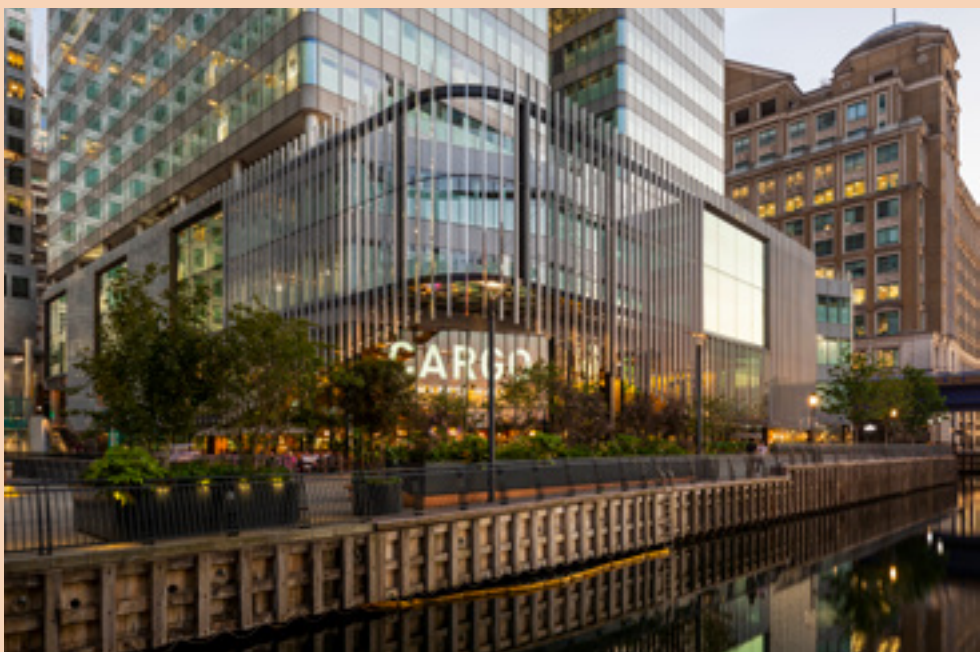
London will continue to build tall. The typology often provides the only way of meeting the required densities in housing to meet targets. The debate is then between planners and developers about what is acceptable – and this we all know has to be about more than housing numbers. Safety and the environment are now high on the agenda as they should be. Can amenities, longevity, cost of maintenance and general wellbeing move front and centre next? At the very least, more research into this area to provide the foundation for serious and well informed debate is long overdue.



100 Leadenhall by Skidmore, Owings & Merrill (SOM) for Lai Sun Development, completion year: 2027 © SOM_Cityscape_large

VIEWPOINTS





Future tall buildings need to do more with less – here’s how

Luke Askwith,
Senior associate, Gensler



The future of density in London

Karen Cook, Co-Founder, Spice Design



Delivering affordable and sustainable tall buildings

Tina John, Creative and Architectural Design Manager, Pocket Living



How digital tools can help with defining what tall is

Claire Locke, Commercial Director, VU.CITY

Future tall buildings need to do more with less – here's how

by Luke Askwith, Senior associate, Gensler

The conversation around embodied carbon has gained incredible momentum in recent years. With new buildings now producing less operational carbon, the impact of embodied carbon has become a greater part of the overall sustainability picture—a shift that is reflected in the ambitious targets set by the RIBA, LETI and many others.

This presents a design challenge for tall buildings in particular; they typically require more structure, have deeper basements and a larger surface area (and therefore more façade) per square metre than low-rise buildings. As an essential part of our urban fabric, it's clear that future tall buildings need to do more, using less. But how can this be done?

At Gensler, we firmly believe that low embodied carbon design is the future of architecture—as a large, global architecture and design firm, we have a wealth of projects, experience, and original research to draw upon to push the boundaries with low embodied carbon design. Here are three ways we've been putting that knowledge into practice.

Retain more, build less

In London, there's almost always something that can be

retained on any site. Even if we can't repurpose a whole building or its superstructure, we can usually reuse elements of its substructure or basement, and there are almost always materials from existing structures that can be creatively integrated into any new proposal.

Cargo in Canary Wharf is a good example of this. We radically transformed this dated office building into a new 'front door' for Canary Wharf through a vibrant new mixed-use ground floor experience. This bold intervention in the base of the building meant that the upper levels could be largely retained with only minor updates.

Keep it lightweight

Structural elements like large trusses and beams have a high carbon cost – reducing structural spans can make a huge difference to the embodied carbon of a tall building. Understanding future tenants and how spaces will be occupied is vital to optimising layouts for minimised structural spans, whilst planning for future flexibility. At Gensler, we've found that around 25 per cent of the embodied carbon in a typical office building is a result of the basement and foundations. Minimising new basement construction can not only reduce embodied carbon but



Gensler's London office

decrease construction costs and improve speed to market too.

The key here is to ensure that these principles are part of the design from the very beginning. For a project with Landsec in London, we started with a focus on a low carbon structural layout from day one. This enabled us to achieve the complex form of the building in a highly efficient way, aiming to achieve LETI's 2030 embodied carbon target of 350kgCO₂e/m².

Reduce your impact

It's important to use renewable and lower carbon materials wherever possible. Timber is a structural material that does not require the energy-intensive production processes of steel or concrete. It also has the advantage of storing carbon as it grows. While it's not possible to substitute all structure for timber in tall buildings, it's worth considering CLT floor slabs as an alternative to concrete.

For Gensler's London office, in addition to working with an existing building, we used CLT wherever we could to lower the carbon impact of new construction. Not only did this serve a valuable environmental function but it also contributed to the unique aesthetic of the space.

Low embodied carbon design is the future of architecture. This will bring with it its own challenges but also opportunities to think differently about how we can construct tall buildings for a more sustainable future.



Cargo in Canary Wharf

The future of density in London

Karen Cook, Co-Founder, Spice Design

London is an amazing city in which to live, to study, to work, to meet interesting people. Its economic success helps the national levelling up agenda. Threatening its vitality are its high cost of living and inadequate housing supply. Key workers, young professionals and families are priced out of neighbourhoods where they might have grown up, destabilizing communities.

Land is a valuable commodity in London. Demand exceeds supply. Spreading horizontally, green belt or not, is no answer; most of the qualities we look for are more easily—perhaps only—achieved through higher population density.

What population density would help to support those desirable qualities? London's most populous boroughs are, by no coincidence, its most popular. Tower Hamlets, Islington, and Kensington and Chelsea count approximately 10-12,000 inhabitants per square kilometre, while London as a whole only 4,500. Compare those figures to Paris, four to five times denser, averaging 22,000 across the entire city, even outside the Périphérique ring road. Some popular neighbourhoods reach 44,000. Paris achieves that density despite zoning regulations limiting building heights to 28m, which is fairly well utilized across much of the city with many buildings eight or ten storeys. Not needing higher density, Paris has nonetheless recently inserted new towers marking key gateways to the city along the ring

road, connected by a new tramline and sponsoring the regeneration of defunct industrial zones.

London would benefit from a higher population density that would support walkable neighbourhoods, with reasonably priced homes and services. Denser neighbourhoods would start to give a chance to emerging local entrepreneurs who need more customers to compete with ubiquitous brands found in "Anywhere High Street". London has a good public transportation network. Available land surrounding stations should be catalogued on a database so that private developers can consider opportunities to insert new homes. Planning policy needs to be streamlined to encourage development, recognizing the challenges brought by climate change and high construction costs.

It's a design challenge as well as an economic crisis. London has large Conservation Areas which are well below 28 metres, but no one would advocate replacing the heritage assets that are emotionally linked to history, providing character and continuity. In historic areas, adding a floor to a two or three-storey terrace house originally designed as a single-family house benefits the owner but does little to contribute to density or modern living standards. Inserting tall buildings of at least twelve to fifteen storeys at public transportation nodes is necessary to create more homes designed for actual

demographics while supporting desired services and amenities.

In suburban London, where people are isolated, why not replace detached housing built before climate change regulations with well-designed zero-carbon apartment blocks distributed around green parks and connected by a public transport network? An example is the Boulogne-Billancourt Rives de Seine master plan built in a Paris suburb averaging 20,000 people per square kilometre. A recent development on the former Renault automobile factory site, with closely-knit housing of five to ten storeys surrounding a new park, offices buffering the highway, a quirky tall building by Jean Nouvel, an island in the Seine River with another park with sports facilities and a multi-purpose venue designed by Shigeru Ban in collaboration with Jean Le Lay hosting concerts, exhibitions and shows.

Back in London and looking ahead, we need to re-focus the debate on tall buildings around how population density can contribute to making healthy sustainable communities across the capital.



22 Bishopsgate by PLP Architecture for AXA IM Alts

Delivering affordable and sustainable tall buildings

by Tina John, Creative and Architectural Design Manager, Pocket Living

London is at a critical break-point in its urban growth, the last year has seen a significant decline in the fruition of planning schemes particularly with tall buildings and we are no closer to meeting the affordable housing targets. The short supply of materials and labour along with procurement and supply chain issues have all been compounded by the energy crisis, leading to an economic downturn with some of the slowest growth rates that have a direct impact on the viability of schemes.

The industry needs to work towards more innovative methods of delivering schemes through modern methods of construction and material exploration that can reduced embodied carbon and provide some stability in pricing. Alongside this, the Local Authorities need to re-think how planning schemes are assessed and review viabilities with market trends in mind. These are unprecedented times for the development sector and focus should lie on the deliverability of schemes that regenerate brownfield sites and provide densification in a polycentric city. This doesn't necessarily mean we focus on tall buildings but consider a more balanced skyline to achieve the housing shortfalls.

Well-designed tall buildings in the appropriate locations can contribute positively to the growth and regeneration of an areas, alongside delivering much needed housing. However, without clear policy direction we are running the

risk of London developing a monotonous skyline with less articulated buildings that are under 18m in height to the floor level of the top storey or over 50m.

On Pocket Living schemes where tall buildings have been designed, we ensure that these respond to the site and its context, provide a distinct skyline, and constructively contribute to the wider planning concerns of infrastructure and land use, while reducing urban sprawl. The design of these buildings is firmly focused on providing sustainable communities and reducing carbon emissions. High quality design is embedded into our ethos and our schemes deliver good places for people to live. While a building may vary in height people experience it at ground level and we make certain that the public realm is safe-guarded and creates a sense of place for its residents. The carefully curated pallet of materials and well-designed façade ensures that our buildings stand the test of time and provides our residents with great homes that are filled with light and provide excellent outlooks.

A key aspect we also focus on is the longevity of these buildings, through regular up-keep and maintenance. A big deterrent for people living in tall buildings especially in the current economic climate are the surmounting service charges, which we try and minimise especially keeping in mind the affordability of our first-time buyers. We have



Mapleton Crescent in Wandsworth

developed a materials passport to help us investigate the sustainable credentials and the lifecycle of the products we use in our flats that is part of our buyer's pack.

To Pocket Living, tall buildings are not about height but an opportunity to provide good neighbourhoods, positive place-making and above all much needed affordable housing.



Addiscombe Grove in Croydon

How digital tools can help with defining what tall is

Claire Locke, Commercial Director, VU.CITY

The United Nations estimates that by 2050, 75 per cent of the world's population will live in cities; that's an additional 2.5 billion people. This increase in population will undoubtedly put more pressure on resources, infrastructure, services and housing. Cities can expand and sprawl, however, there is already a shortage of land in many urban areas. Going up instead of out might alleviate some of these pressures, but it's crucial to understand and define what "tall" is and how taller buildings might impact the surrounding area.

In order to define what "tall" is, it's important to understand existing context and height trends across a borough or city. However, this is not the only consideration for decision makers. City planners need to review other factors such as visual impacts, the effect on the micro-climate such as wind patterns, population density and many more. Digital tools such as 3D visualisation, GIS, BIM, and Machine Learning are beginning to help shape these decisions and provide accurate data to define what "tall" is, and which locations are suitable for such buildings.

3D visualisation tools, such as VU.CITY, can be used to create immersive simulations of buildings and their surroundings. This can help city planners and architects to picture how tall buildings will fit into the existing and future city context, understand

potential visual impacts, and assess compatibility with the surrounding built environment.

3D visualisation can also provide decision makers with a powerful tool for understanding the impact of proposed tall buildings on the local community. By providing realistic visualisations and simulations this type of technology not only helps decision makers understand the impact of change, but it helps them communicate ideas and options to the public in a way which is immediately understood. In doing this 3D digital models can help to ensure that new developments and tall buildings are compatible with the surrounding built environment and also meet the needs of the community.

3D technology and the use of it in planning is growing at pace and the Government's digital planning agenda supports the use of immersive 3D technology. The London Plan 2021 promotes the use of 3D modelling to identify tall building locations, as well as use of such technology where possible to inform plan-making, decision-taking and public engagement.

GIS technology allows city planners to spatially map and analyse different sets of data such as topography, opportunities, constraints, and transportation networks.



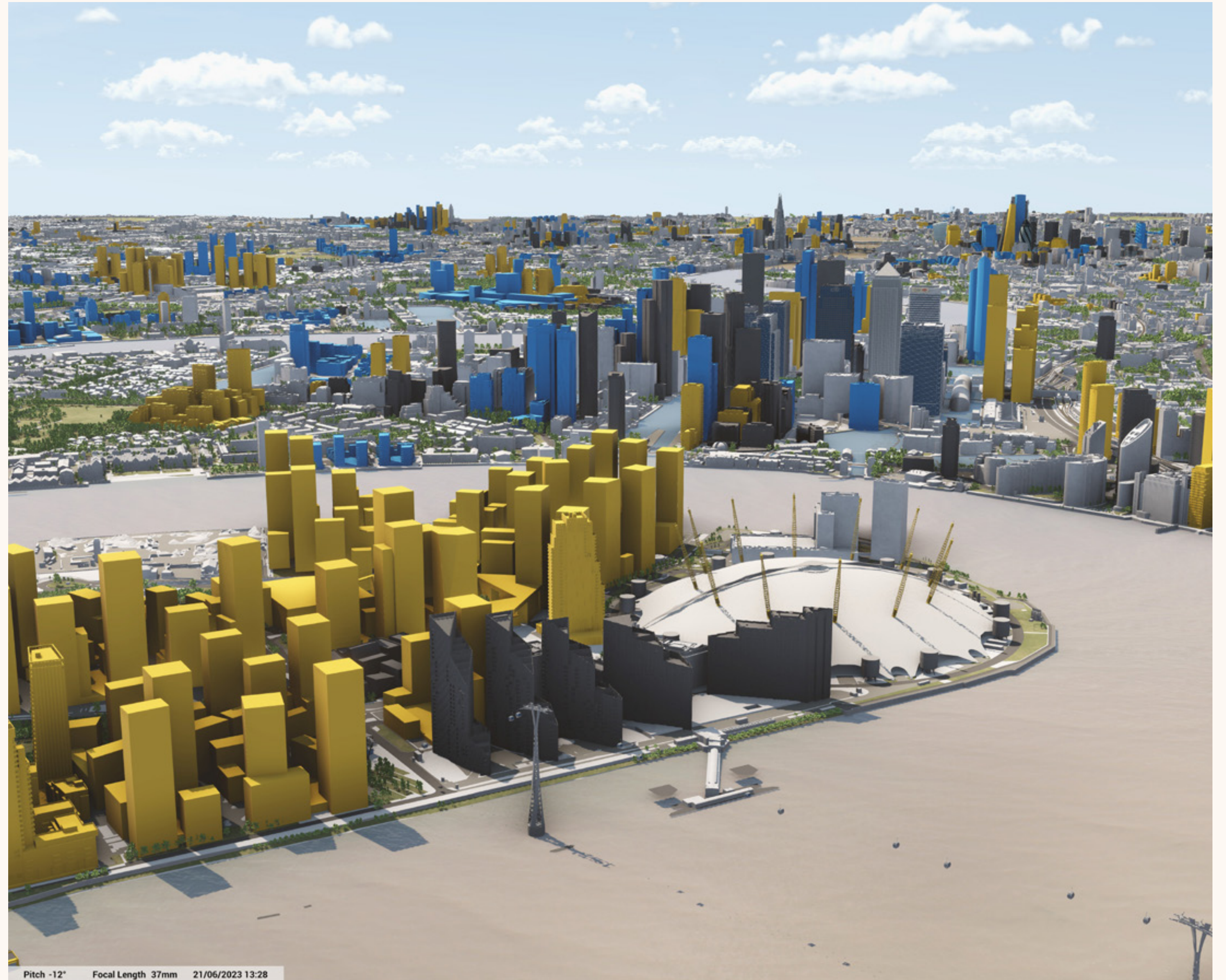
The City Eastern Cluster as seen on VU.CITY

Being able to have a clear view of ambitions for an area is critical in sensitively selecting which areas might be appropriate for taller buildings in the future.

BIM are digital tools that allow architects and engineers to create 3D models of buildings and simulate their performance. BIM can help to design tall buildings that are sustainable and energy-efficient, taking into account factors such as solar orientation and wind patterns.

Machine learning algorithms can be used to analyse large datasets to identify patterns and make predictions. For example, machine learning can be used to predict the impact of tall buildings on traffic flow, or how a proposal might affect how we travel through the public realm or to identify areas where tall buildings are most likely to be successful.

By using digital tools such as 3D visualisation, GIS, BIM and Machine Learning, city planners can make more informed decisions about the location and design of tall buildings. This can help to ensure that tall buildings are integrated into the surrounding city context in a way that is sustainable, efficient, and visually appealing.



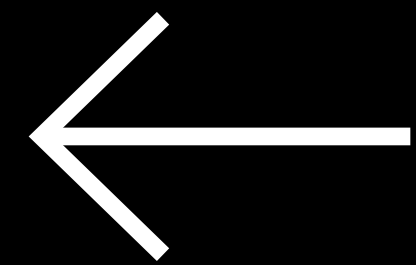
Greenwich Peninsula as seen on VU.CITY

PROJECT SHOWCASE

The projects presented in this section represent a wide range of schemes submitted to NLA through an open call. Schemes are either in planning, have planning permission, are under construction or are built. Most projects are based in London but we also present some international case studies.

On this edition of the NLA London Tall Buildings Survey we also include buildings which are under 20 storeys, to reflect GLA's new policy in the London Plan, which defines tall buildings as those of 6 storeys or 18 metres in height to the floor level of the top storey, depending on the surrounding context.

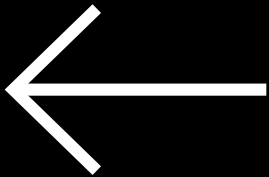
PTAL: Public Transport Accessibility Levels: PTAL is a measure of connectivity by public transport of a place, used in planning processes in London (the London Plan, and by TfL for example). It covers walk access time and service availability. Each area is graded between 0 and 6b, where the highest value represents the best connectivity.



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50 Fenchurch street	Grand central apartments	Abbey place	One north quay	Hale wharf	Coda
40 Leadenhall	Hylo	2 Redman place	One park drive	The rockery at the hyde	Edith summerskill
8 Bishopsgate	Keybridge	302 stratford high street	The arc	West Hendon	Middlesex business
22 Bishopsgate	One bishopsgate plaza	2 Trafalgar way	The rowe	SOUTH	Television centre
8-13 Casson square	Plot A1 canada water	Aberfeldy village	Travelodge		White city place
99 City road	Powerhouse	Blackhorse point	Trocoll house		INTERNATIONAL
85 Gracechurch street	Rudolf place	Bow common	YY London	Apex nine elms	
330 gray’s inn road	Urbanest city	Cashmere wharf		College road	
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5-9 Rockingham street	Vinegard yard	Evergreen point		Queen’s quarter	Kyobashi
20 Ropemaker street	Waterloo hub	Huntingdon estate			
Building 1 bankside yards west		Manor road			
Colechurch house		New Bermondsey			
Elephant park east grove		Newfoundland			
Featherstone building		Novello house			

CENTRAL



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216 – 220 BLACKFRIARS ROAD

20 Blackfriars Rd, London SE1 8NW | Status: **Planning granted** | Number of storeys: **22** | Height: **91m** | Completion date: **2026** | Types of uses: **76.5% Office, 1.4% Public House, 0.4% Community use, 1% Charity office, 20.7% Almshouses** | PTAL: **6B**

Client: Southwark Charities | Architect: Fathom Architects | Planning Consultant: Turley | Landscape Consultant: MRG Studio | M&E Consultant: Long and Partners | Transport Consultant: TTP

Environmental performance:

- **Proposed Almshouses designed to Passivhaus standard**
- **Aiming for BREEAM Outstanding.**
- **37.78% CO2 emissions reduction beyond Building Regulations Part L**

"For the past decade, my mission has been to continue the work of our founder, Edward Edwards, by providing the elderly and needy with safe, independent living. Our residents are our priority and a key challenge has been offering our residents safe and secure accommodation during the development. This can now be offered in the newly completed Almshouses at United St. Saviour's on Southwark Park Road, Bermondsey, so they can remain in the borough until our development is ready".

Chris Wilson, Clerk to the Trustees of Southwark Charities

For over 250 years, Southwark Charities has provided charitable housing on their Blackfriars Road site, for those in need, hardship or distress. The Charity intends to continue to fulfil its historic mission by providing new modern homes for the 21st century.

Southwark Charities' Almshouses provide accommodation for older people of limited means, who have been resident in the borough for at least five years, enabling them to live safely and independently for as long as possible, for an extremely modest maintenance charge, making them truly affordable.

The current Almshouses on the site were built in 1973 and have reached the end of their life. The proposed development includes the redevelopment of the site to comprise a 22-storey office building, facing Blackfriars Road, and a separate 15-storey Almshouse building looking onto a new garden next to Chancel Street.

The Prince William Henry pub (a fixture since 1785) will be relocated on the north west corner, with outside seating facing Blackfriars Road (the new public house will be double the size of the current space).

A feature of the proposed development will be a charitable hub, with accessible community facilities for residents and others in the locality, plus a new, enlarged, on-site Prince William Henry public house. Attractively landscaped gardens, roof terraces and public footpaths will further enhance the scheme, along with a new east-west pedestrian link in the form of "Edwards' Walk", in recognition of Edward Edwards, the philanthropist who established the Almshouses here.

It is intended that the building achieves BREEAM Outstanding accreditation. A key feature of the development will be the sustainability credentials with excess heat generated by the offices being used to heat the Almshouses.

The delivery of the new Almshouses will be achieved by the development of around 220,000 sq ft of high-quality flexible office space within the 22-storey element of the development fronting onto Blackfriars Road. The Almshouses which share a party wall with the offices will overlook a new amenity space fronting the quieter Nicholson and Chancel Streets.



© Fathom Architects

50 FENCHURCH STREET

50 Fenchurch Street, London EC3M 3JY | Status: Planning granted | Number of storeys: 36 | Height: 149m | Completion date: 2028 | Types of use: 93% Office, 1% Retail, 1% Public (excluding external public roof garden area), 5% Livery Company

Client: AXA Real Estate Investment Managers UK Ltd | Architect & Principal Designer: Eric Parry Architects | Landscape Architect: Bradley-Hole Schoenaich Landscape | Services & Structural Engineer: Arup | Facade Engineer: FMDC | Development Delivery Partner: YardNine | Project Manager: Third London Wall | Townscape & Visual Impact Assessment: Tavenor Consultancy | Development Manager: Capital Real Estate Partners LLP | Town Planning Consultant: Gerald Eve LLP | Cost Consultant: Core Five LLP

Environmental performance:

- **Vertical urban greening to mitigate air, noise pollution and improve biodiversity**
- **Targeting a 50% reduction in upfront carbon compared to City Towers in the last decade.**
- **Targeted accreditations include BREEAM: Outstanding. BCO - A combination of 2019/2022 criteria. WELL Platinum enabled targeted. NABRES 5*. UKGBC Net Zero. EPC A. WIRED SCORE: Platinum. LETI: LETI D.**

"The commission to redevelop a site of this scale and significance is special in any city but in the historic heart of the City of London it presents a once-in-a-generation opportunity. The design journey of this urban proposition has been one of the most remarkable alignments between commerce, culture and the public realm that I have experienced."

Eric Parry, Principal, Eric Parry Architects

AXA IM Alts, acting on behalf of clients, has exchanged contracts to acquire a long leasehold interest over 50 Fenchurch Street in the City of London from The Clothworkers' Company. Designed by Eric Parry Architects, 50 Fenchurch Street will be part of the next generation of buildings helping to realise the City of London's goal for a greener, more environmentally sustainable Square Mile.

The building will offer a flexible approach to space coupled with state-of-the-art technology and amenities, presenting the latest features aimed at enhancing occupier health and enjoyment. Level 10 of the new tower offers a 360-degree public realm experience. It is accessed via two public lifts at street level, allowing visitors to arrive at a generous terrace with spectacular views over London. A double-height winter garden is designed for public to access throughout the year.

Plans include a new livery hall for The Clothworkers' Company (which has been located on the site for almost 500 years) along with the conservation of the Tower of All Hallows Staining and Lambe's Chapel Crypt, two historic listed buildings currently on the site, which will form part of extensive new public realm at ground level which has been designed to improve access routes for pedestrians through the City.

YardNine will act as development delivery partner for the project with construction due to start in 2024 and delivery targeted for the 500th anniversary of The Clothworkers' Company in 2028.



40 LEADENHALL

40 Leadenhall Street, London EC3A 2AD | Status: **Under construction** | Number of storeys: **34** | Height: **154m** | Completion date: **2023** | Types of use: **80% Office, 11% Retail and Hospitality, 9% Amenity space** | PTAL: **6b**

Client: M&G | Architect: Make Architects | Structural, MEP, Fire: WSP | Facades, Wind, Acoustic, Transport: Arup | Development Manager: Nuveen | Contractor: Mace | Project Manager: Avison Young | Cost consultant: Arcadis | Planning: DP9 | Vertical transportation: D2E | Landscape: HED

Environmental performance:

- Targeted accreditations include BREEAM ‘Excellent’, NABERS 5 Star, and ‘Platinum’ WELL, WiredScore and SmartScore ratings.
- Integrated water sourced heat pumps, electric heating and hot water.
- Decentralised plant strategy with air supply, allowing efficient and flexible control of ventilation.

"We're proud to be shaping not only London's skyline but also the future of the workplace with 40 Leadenhall. Our design combines extensive amenity and social spaces, heritage assets, and a rational approach to produce a timeless and elegant addition to the City."

Ken Shuttleworth, Founding Director,
Make Architects

40 Leadenhall is one of the biggest schemes to ever receive planning permission in the City of London. Located in the City's insurance district, it will accommodate up to 10,000 people upon completion. The building responds to its surrounding context while making its own confident statement within London's famous skyline. It also respects its historic surroundings, protecting views to St Paul's Cathedral and integrates the restoration of the Grade II-listed 19-21 Billiter Street.

These contextual challenges are reconciled with a rational yet striking 34-storey tower design that recalls the classic North American skyscrapers of the early 20th century. The building consists of several stepped blocks which terrace down from the City cluster south towards the river and the Tower of London. It steps back on Leadenhall Street to respect views along Fleet Street and the ceremonial route to St Paul's.

Inside, a wide variety of floorplates will cater for different office tenants, while retail frontages will activate the street level. A double-height entrance lobby also creates a welcoming arrival experience.

The result is a well-thought-out confluence of architecture, townscape and commercial need – one that celebrates the history of London's insurance district and will make a substantial impact on the future of the city.



8 BISHOPSGATE

8 Bishopsgate, London, EC2N 4BQ

Status: **Under Construction**

Number of storeys: **50**

Height: **203m**

Completion date: **2023**

Types of use: **98% Office, 1% Public Space, 1% Retail**

- **EPC 'A' rating and BREEAM 'Outstanding' design certification**
- **30% less structural embodied carbon compared with other London tall building benchmarks**

8 Bishopsgate tower is a new development in the heart of the City that will create 913,000 sq ft gross area including workspace, occupier amenity, street-level retail, and a public viewing gallery on the 50th floor. The stepped form of the double skinned tower provides extensive accessible terraces and will add to the area's dramatic contemporary architecture.

Client: Mitsubishi Estate London Limited
Architect: WilkinsonEyre
Main Contractor: Lendlease
Developer: Stanhope PLC



22 BISHOPSGATE

22 Bishopsgate, City of London, London, EC2N 4BQ

Status: **Built**

Number of storeys: **61**

Height: **278m**

Completion date: **2020**

Types of use: **Office, Indoor amenity space: social food hub, cycle park, fitness centre, wellbeing retreat, public viewing gallery**

- **The largest project by floor area in the UK to be registered for WELL certification**
- **Acheiving BREEAM Excellent rating**

As the tallest tower in the City of London standing at 278m tall, 22 Bishopsgate was designed to house a vertical village. Carrier was commissioned to supply a high-efficiency air conditioning system with centrifugal chillers, capable of delivering 16MW of cooling to provide occupants with outstanding indoor comfort.

Owner and developer: AXA IM - Real Assets, on behalf of clients
Architect: PLP
Engineering consultancy partner: WSP
Development partner: Lipton Rogers Developments
Construction company: Multiplex
Cooling/AC partner: Carrier
Installer of chillers: Michael J Lonsdale



8-13 CASSON SQUARE

Casson Sq, London SE1

Status: **Built**

Number of storeys: **32**

Height: **105m**

Completion date: **2020**

Types of use: **87% Residential, 8%**

Retail, 3% London Underground

Percentage of housing tenure:

33% affordable accommodation

- **Four-star rating under the BRE Code for Sustainable Homes**
- **Sustainability performance approaching zero carbon**
- **Potable water consumption of less than 105 litres/person/day**

8-13 Casson Square is a 32-storey hybrid building set within Michael Squires Southbank Place Masterplan. The building provides 301 mixed-tenure homes above retail units and a new London Underground ticket hall serving Waterloo Station. From a complex brief and programme, this project challenges the typology for high-rise living in London.

Client: Braeburn Estates Limited Partnership
Architect: Patel Taylor
Landscape Architect: Townshend Landscape Architects
Structural Engineer: WSP
M&E engineer: Hoare Lea
Fire Engineer: AECOM
Facade Engineer: Thornton Tomassetti
Quantity Surveyor: Canary Wharf Contractors
Contractor: Canary Wharf Contractors
Interior Designer: Darling Associates
Access: REEF Associates
Lighting Designer: Speirs + Major Associates
Acoustic Consultant: Sandy Brown Associates



© Peter Cook

99 CITY ROAD

99 City Rd, London EC1Y 1AX

Status: **Proposed**

Number of storeys: **Ground + 34**

Height: **153.215m**

Completion date: **2027**

Types of use: **95% Office, 5% Retail, Lobbies, Community**

PTAL: **6a and 6b**

- **Targeting embodied carbon <600kgCO₂/m²**
- **Retention over 50% of the building's existing structure**
- **Targeting a reduction of 35% of the operational carbon over Part L**

The aspirational BREEAM Outstanding scheme for 99 City Road, of circa 64,873 sqm, propose a 35-storey commercial office building. The community focused ground floor design increases exterior public realm space by 274% and comprises 21,500 sq ft of publicly accessible space. The building's folded terracotta facade, inspired by the local area, will limit unwanted solar exposure and promote access to daylight. The design follows a "fabric first" approach using climate-based passive design to reduce the operational energy demand.

Client : Endurance Land LLP
Architect: Kohn Pedersen Fox Associates (KPF)
Structural Engineer: AKT II
Project Manager: Avison Young
Planning Consultant: DP9 Ltd
Public Realm Consultant: Publica
MEP Consultant: Atelier Ten
Community Engagement: Kanda
Sustainability Consultant: Twin & Earth
Transport Consultant: Steer



© Endurance Land

85 GRACECHURCH STREET

85 Gracechurch St, London
EC3V 0AA
Status: **Proposed**
Number of storeys: **33**
Height: **138m**
Types of use: **94% Office, 2% Retail, 2% Public hall, 2% Heritage garden & Cultural space**
PTAL: **6b**

- Targeting to meet or exceed all GLA and City of London sustainability requirements
- The all-electric building includes efficient mechanical systems, urban greening across the building, openable windows for natural ventilation

A proposal for a mixed-use office tower at 85 Gracechurch Street in the City of London. This includes plans to rejuvenate the adjacent Leadenhall Market with a large civic public hall at ground level, a publicly accessible heritage garden, and 35,000 sqm (GIA) of flexible Grade A office space.

Client: Hertshten Properties Limited
Architect: Woods Bagot
Strategic Advisors: Shaw Corporation
Planning Consultants: DP9
Environmental Consultants: Trium Environmental



330 GRAY'S INN ROAD

330 Grays Inn Rd, London
WC1X 8DA
Status: **Planning Granted**
Number of storeys: **15**
Height: **51m**
Completion date: **2027**
Types of use: **100% Hotel**
PTAL: **6b**

- Heat pumps on the roof and a heat recovery network to exceed London Plan CO2 savings target, providing a saving of 40% overall & targets Operational Carbon at 105 kWh/m2/y
- Whole Life Carbon assessment: Embodied Carbon (A1-A5, B1-B5, C1-C4) targets 971 kgCO2e/m2

Part of a wider masterplan, the proposal for a new hotel creates a set of buildings that includes the retention of the original hospital building — as a flexible public event and dining space, with a ground floor café and reception — and a new hotel building with a delicate footprint, whilst sympathetically responding to the surrounding context. The new elements are designed across two volumes, each faced with a profiled glazed terracotta cladding.

Client: Groveworld
Architect: Allford Hall Monaghan Morris
Structural & Civil Engineer: WSP
M&E / Sustainability Engineer: XCO2 Energy
Fire Engineer: OFR Consultants
Acoustic Consultant: Hann Tucker Associates
Planning Consultant: Gerald Eve
Townscape and Heritage: The Townscape Consultancy



100 LEADENHALL STREET

100 Leadenhall Street, London EC3A 3DH

Status: **Planning granted**

Number of storeys: **57**

Height: **260m**

Completion date: **2027**

Types of use: **81.8% Office, 4.5% Retail, 1.9% Public space, 11.8% Ancillary**

PTAL: **6b**

- **Targeting to achieve net-zero operational carbon**
- **The project aims to align with RIBA 2030 and LETI 2030 targets**

Designed to respect London’s historic and contemporary urban context, the distinctive elegant tapered form preserves key historic views. When complete it is anticipated that it will be among the first skyscrapers in the UK to achieve net-zero operational carbon.

Client: Lai Sun Development
Architecture & Landscape Design, Structural Engineering: Skidmore, Owings & Merrill (SOM)
Geotechnical Engineer: Arup
MEP, Environmental, Facade, Acoustics and Fire Consultant: WSP
Planning Consultant: DP9
Cost Consultant: Core Five
Accessibility: Access=Design
Daylight/Sunlight: Gordon Ingram Associates
Townscape & Heritage: Tavernor Consultancy
Wind Testing/Pedestrian Comfort: RWDI



© SOM

5-9 ROCKINGHAM STREET & 2-4 TIVERTON STREET

7 Rockingham St, Elephant and Castle, London SE1 6PF

Status: **Proposed**

Number of storeys: **24**

Height: **70m**

Completion date: **2024**

Types of use: **99% Student accommodation, 1% Class E**

PTAL: **6b**

- **Energy strategy to maximises on-site carbon emission reduction over Part L**
- **Targeting BREEAM Excellent**

The project will revitalise vacant brownfield land to deliver a purpose built 24-storey tower comprising 244 student bedspaces with associated internal amenity spaces and ground floor flexible commercial/retail (Class E) unit. The proposals will also bring back into use the adjacent railway arches, providing additional commercial space and a re-activated pedestrian route and public realm, linking in with the activation of railway arches along the Low Line in Southwark.

Client: Alumno Group
Architect: Maccleanor Lavington
M&E / Sustainability Engineer: Silcock Dawson & Partners
Planning Consultant: Turley
Heritage Consultant: Montagu Evans



20 AND 22 ROPEMAKER STREET

20 – 22 Ropemaker Street, Islington,
London EC2Y 9AR

Status: **Under construction**

Number of storeys: **27**

Height: **110m**

Completion date: **2023**

Types of use: **98% Office, 2% Retail**

PTAL: **6b**

- **BREEAM 'Outstanding' 2018 (design)**
- **Aiming to achieve WELL V2 Platinum certification**
- **Use of a BRE materials procurement plan, resulting in a 26.6% responsible procurement core**
- **Priority to products with EPD (Environmental Product Declarations)**

20 and 22 Ropemaker is bringing more than 42,000 sqm of office space to Islington, plus premium retail. The dynamic 27-storey structure integrates within the area's existing urban grain and creates a bookend for the emerging cluster of towers around CityPoint and the Elizabeth Line entrance. The building has a strong vertical rhythm and steps up to 110m at its peak, with a range of floorplates that can accommodate different-sized businesses.

Client Representative: Old Park Lane Management Ltd
Architect: Make Ltd
Townshend Landscape Architects AO56
Structural Engineer: Waterman Group
Services Engineer: Hilson Moran
Development Manager: CO-RE
Quantity Surveyor and Employers Agent: WT Partnership
Principal Designer: WT Partnership
Main Contractor: Skanska
Approved Inspector: SWECO



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BUILDING 1, BANKSIDE YARDS WEST

245 Blackfriars Road, Southwark,
London SE1 9UL

Status: **Planning granted**

Number of storeys: **18**

Height: **70m**

Completion date: **2025**

Types of use: **97% Office, 3% Retail**

PTAL: **6b**

- **Targeting BREEAM 'Excellent' with an ambition to achieve 'Outstanding'**
- **Targeting Urban Greening Factor 50% higher than required - exceeding GLA standards**
- **Targeting NABERS 5*, WELL 'Platinum' and EPC A ratings**

With over 80,000 sq ft of office space, Building 1, Bankside Yards West will be an all-electric destination workplace that prioritises amenity—for both tenants and the public—on the South Bank. The riverfront elevation features seven double-height terraces on alternating corners, framed by diagonal members which transfer loads to the centre of the north elevation, simultaneously increasing the efficiency of the structural system and lowering embodied carbon. The ground floor is also set back.

Client: Native Land
Architect: Make Architects
Structural Engineer: AKT II
Facade Engineer: Thornton Tomasetti
Fire Engineer: Jensen Hughes
Building Services Engineers and Sustainability Consultants: Sweco
Planning Consultant: DP9
Project Manager: GTMS
Landscape Architect: Gillespies



© Millar Hare

COLECHURCH HOUSE

1 London Bridge Walk, London SE1 2SS

Status: **Planning granted**

Number of storeys: **22**

Height: **104m**

Types of use: **Office, Retail, Restaurant/café, Gym, Theatre, Cycle parking, Servicing, Refuse and plant areas, Public realm**

PTAL: **6b**

- **On-site green energy generation comprising extensive photovoltaic panels**

Colechurch House is a 22-storey building that will transform the wider area. It removes an outdated building that has reached the end of its life. Colechurch House introduces a mixed-use development, providing offices, shops, a restaurant and performance spaces. A new footbridge connects the site with the station, enhancing the pedestrian experience, while opening up historic vistas to Southwark Cathedral. A key element of the scheme is the public park that runs under the entire building, activating the wider area.

Client: CIT
Architect: Foster + Partners
Structural Engineer: AKT II



ELEPHANT PARK EAST GROVE MP4 - H11A

Bricklayers Arms / New Kent Road, London SE1 4AN

Status: **Built**

Number of storeys: **19**

Height: **66m**

Completion date: **2022**

Types of use: **93.5% Residential, 6.5% Retail, Commercial**

PTAL: **6b**

- **On-site carbon emissions reduction target of 70%**
- **Targeting 'Very Good' BREEAM rating for the non-residential spaces and Code for Sustainable Homes Level 4 for the dwellings**

The development delivers retail, commercial and residential lobby at ground level and new homes above, centred around a landscaped podium at first floor. It comprises of 2, 11 and 12-storey buildings to the South and a 19-storey building to the North. Distributed across the three buildings are 222 new homes, all of which comply with or exceed the London Plan internal space standards and have private amenity space. The Affordable homes are also designed to Southwark's exemplary residential stand.

Client: Lendlease
Architect: HTA Design
Structure and Civils Engineers: Robert Bird Group
MEPH Engineers: TUV : SUD
Acoustic Engineers: Sandy Brown
Facade Engineer: Wintech
Landscape Design: Randle Siddeley
Microclimate: RWDI
Fire Consultants: OFR Consultants
BREEAM & CfSH Assessment: HTA Design



FEATHERSTONE BUILDING

66 City Rd, London EC1Y 1BD
Status: **Built**
Number of storeys: **11**
Height: **44m**
Completion date: **2022**
Types of use: **95% Office, 5% Retail**
PTAL: **6b**

- **BREEAM Outstanding, WELL Ready and LEED Certified**
- **Carbon Reduction (15%) through material development and specification (Pre-cast concrete facade, GRC / composite prefab) to meet Derwent London Sustainability Policy**

This project incorporates the demolition of two existing buildings located on the corner of City Road and along Featherstone Street. The redevelopment of the site will provide new high-quality office accommodation, ground floor retail and co-working hub. The multi-use nature of the building responds to the high demand for office space of varying sizes in the Old Street area, which has been termed 'Tech City' and is a burgeoning commercial hub of international significance.

Client: Derwent London
Architect: Morris+Company
Structural Engineer: Heyne Tillett Steel
Services Engineer: WSP
Cost Consultant: Exigere
Planning Consultant: DP9
Façade Consultant: Eckersley O'Callaghan
BREEAM Consultant: WSP
Fire Specialist: WSP
Approved Inspector: BRCS
Waste Strategy: TTA
Main contractor: SKANSKA
Executive Architect: Veretec



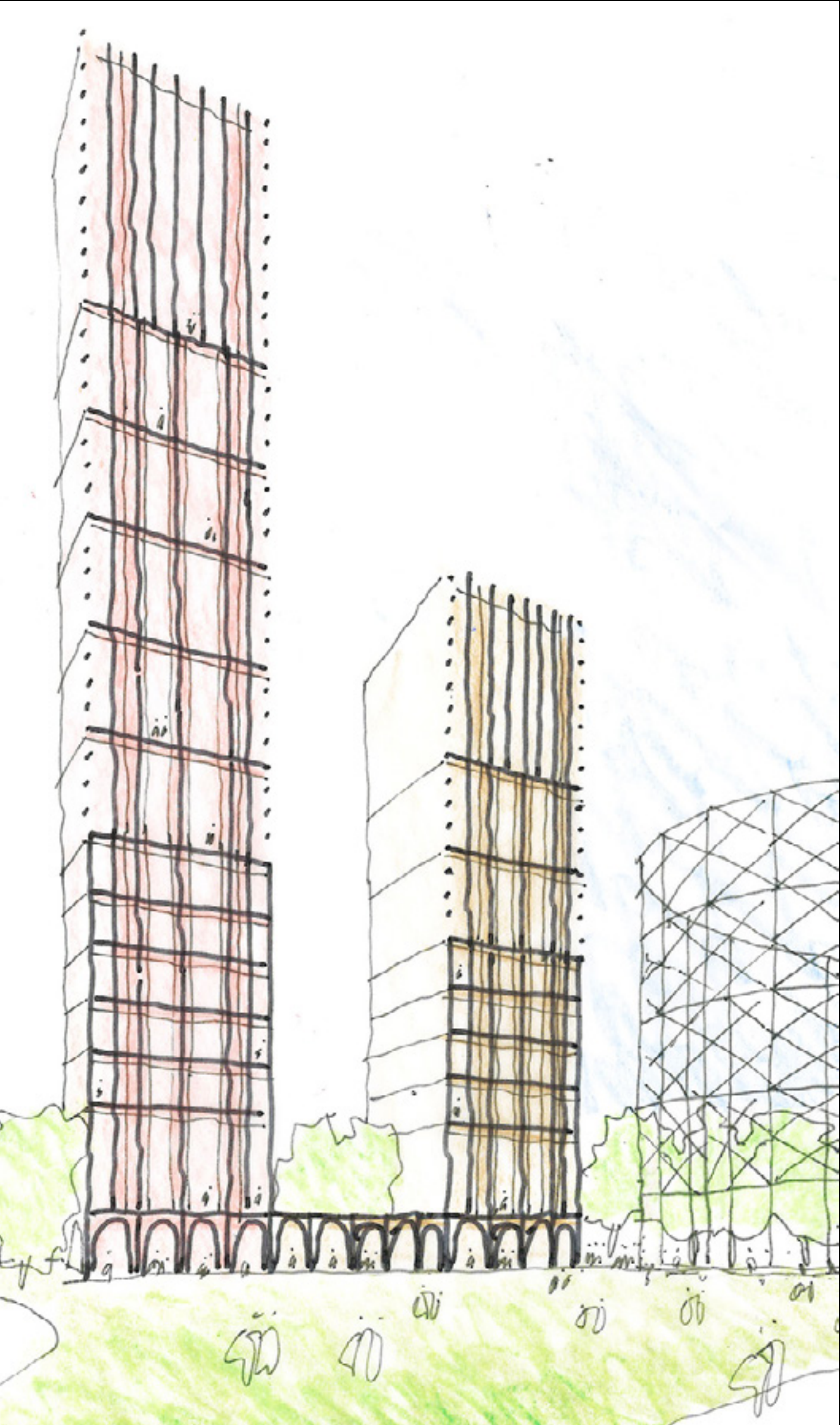
© Jack Hobhouse

GASWORKS

Old Kent Rd, London
Status: **Proposed**
Number of storeys: **40**
Height: **150m**
Completion date: **2030**
Types of use: **99% Residential, 1% Commercial**

A public park and residential development on the former gasworks site within the London Borough of Southwark Old Kent Road Area Action Plan. The project provides circa. 700 new dwellings across two residential blocks (circa. 30-50 storeys), connected by a lifted first floor courtyard garden. The architecture references the adjacent Grade II-listed Gasholder within the park. A unitised façade system is proposed to reduce embodied carbon and improve thermal performance. The scheme sits above a disused gasholder and reuse of the below-ground retaining wall will significantly reduce the environmental impact of building a new basement.

Client: Avanton
Architect: Farrells
Planning Consultant: Boyer



GRAND CENTRAL APARTMENTS

69 Coopers Ln, London NW1 1HD

Status: **Under Construction**

Number of storeys: **29**

Height: **96m**

Completion date: **2023**

Types of use: **97% Residential, 3% Commercial**

PTAL: **6b**

- Following the London Plan energy hierarchy
- Targeting a 53.7% Carbon Dioxide emissions reduction of Building Regulations Part L

Residential tall building developed by LBS Properties and designed by Stiff + Trevillion Architects, comprising of 68 homes and a ground floor café. The scheme forms part of the wider Central Somers Town development for LB Camden. The tall building is located in a sensitive position, with heritage assets and open space affected by the development; through high quality design, shaped by a positive DRP process, and based on the wider benefits delivered by the masterplan, the proposals were supported by the LPA.

Client: LBS Properties
Architect: Stiff + Trevillion
Planning Consultant: Turley



© Stiff + Trevillion

HYLO

105 Bunhill Row, London EC1Y 8LZ

Status: **Built**

Number of storeys: **30**

Height: **106m**

Completion date: **2021**

Types of use: **89.9% Office, 6.1% Residential, 4% Retail**

PTAL: **6b**

- The retained structure saved over 2,500 tonnes of CO2
- Use of GGBS within the concrete mix as a cement replacement product to further reduce embodied carbon

HYLO is a pioneering extended retrofit tall building. It reconfigures, adapts, and extends a tired run down 1960's building creating 13 extra floors on top of the original 16-storey tower and doubling the height of its 3-storey podium by enhancing and reusing the existing RC frame, basement, and foundations. Now completed the project provides increased quality office space including affordable workspace, shared amenity facilities, landscaped terraces plus improved public realm with retail and social housing provision.

Client: Finsbury Tower Estates Limited
Architect: HCL architects
Structural Engineer: AKT II
Services Engineer: RHB
Quantity Surveyor: Arcadis
Employers Agent: Arcadis
Cladding Consultant: WSP
Lighting Consultant: EQ2
Vertical Transport Consultant: D2E
Landscape Consultant: Churchman Thornhill Finch
Contractor: Mace



© GrantSmith

KEYBRIDGE

76 S Lambeth Rd, London SW8 1QU

Status: **Built**

Number of storeys: **36**

Height: **125m**

Completion date: **2022**

Types of use: **80% Residential, 15% Education, 5% Commercial and Retail**

PTAL: **6b**

- **Achieving BREEAM Very Good rating and Code for Sustainable Homes 'Level 4'**

Keybridge is the landmark redevelopment of the former BT Telephone Exchange site on South Lambeth Road, providing 598 new homes, over an acre of public landscape, and 9,000 sqm of commercial/retail space. A rich mix of building typologies carve out a series of fluid public and private spaces; mansion blocks, towers, terraces, maisonettes, a school and even 'houses' on rooftops. The three towers form a family with the tallest rising to 36 storeys in distinct steps in response to its context.

Client: Mount Anvil, BT Property
Architect: Allies and Morrison
Structural Engineer/M&E: Waterman
Other: Fourpoint Architects
Landscape: Townshend Landscape Architects
Quantity Surveyor: Sense
Planning: GL Hearn
Executive architect: Stockwool and Fourpoint Architects
QS: Sense



© Tim Crocker

ONE BISHOPSGATE PLAZA

140 Bishopsgate, London EC2M 4HX

Status: **Under Construction**

Number of storeys: **43**

Height: **135m**

Completion date: **2021**

Types of use: **56% Hotel, 39% Residential, 1% Office, 2% Other retail/restaurants**

PTAL: **6b**

- **BREEAM Excellent.**
- **Use of off-site pre-fabrication**

The 43-storey tower comprises London's first Pan Pacific Hotel and provides 5 star wellness, 237 guestrooms, meeting and events spaces and a 380 seat triple height ballroom/conference facility. 160 private residences occupy the upper levels of the main tower building. Animated by landscaping and high class retail, restaurants and cafes within a renovated Devonshire House, the new Bishopsgate Plaza will become a vibrant heart in the city.

Client: UOL / Pan Pacific Hotel Group
Architect: PLP Architecture, Yabu Pushelberg / MSMR Architects
Main Contractor: Lendlease



PLOT A1, CANADA WATER

Surrey Quays Shopping Centre,
Redriff Rd, London SE16 7LL

Status: **Under Construction**

Number of storeys: **35**

Height: **123m**

Completion date: **2024**

Types of use: **51% Residential,
3% Retail, 46% Office**

PTAL: **6b**

- **CO2 emissions 35% lower than current regulations**
- **Achieving a WiredScore Office rating of platinum**
- **Targeting to achieve Outstanding on BREEAM 2014 standards**

In its prominent location within the masterplan, A1 consists of a carefully crafted composition of elements responding to both its immediate and metropolitan context. Adjacent to Canada Water station, the hybrid building has shops at ground level and a low-rise podium of warehouse-like flexible workspace, appearing as three distinct complementary buildings. Above this the 35-storeys of housing employs a varied palette of colour and materials to suggest a tripartite tower, with elements of differing heights.

Client: British Land
Architect: Allies and Morrison
Structural Engineer: AKT II
Residential Interior Architect: Conran and Partners
M&E / Sustainability Engineer: Whitecode/Sweco
Landscape Architect: Townshend Landscape Architects
Acoustic Engineer: Sandy Brown
Planning Consultant: DP9 Ltd
Computer generated images: 90Ninety / Cityscape /
Allies and Morrison



© Allies and Morrison

POWERHOUSE

71 Burnaby St, London SW10 0NS

Status: **Under Construction**

Number of storeys: **13**

Height: **83m**

Completion date: **2024**

Types of use: **Residential, Retail,
Commercial Office, GP Surgery,
Restaurant**

Percentage of housing tenure: **77%
Private Sale & 23% Shared Ownership**

PTAL: **4**

- **Achieving BREEAM refurbishment – Good**

The Lots Road Power Station is the last of the city's three power stations to be redeveloped. The envelope of the Power Station has been fully restored and repaired to house 260 residential addresses orientated around a new central atrium. The ground floor consists of a range of uses including new commercial space, community facilities and a restaurant. The new construction has brought the building up to date whilst the historic fabric has been fully restored to ensure comfortable modern living in historic surroundings.

Masterplan: Farrells
Developer: Hutchinson & Partners Limited
Contractor: JRL
Services Engineer: AECOM
Structural Engineer: Buro Happold
Landscape Architect: Randle Siddeley



RUDOLF PLACE, MILES STREET

Miles Street, Vauxhall, London
SW8 1RP

Status: **Built**
Number of storeys: **37**
Height: **130m**

Completion date: **2021**
Types of use: **75% Student accommodation, 25% Office**

The scheme incorporates Vega, a 37-storey student accommodation scheme with 842 bedrooms and a 6 storey office block Miles Yard. The office block also features a rooftop multi use games area which will be accessible to local residents as well as students. It has transformed the current closed-off and railed site frontage into an open, accessible and welcoming entrance plaza. The café on the ground floor creates an active and vibrant frontage on Miles Street, delivering a new place for local residents.

Developer: Downing Construction
Architect: TP Bennett
Facade Sub-Contractor: Dane Architectural Systems
Curtain Walling, windows, door system supplier: Schueco UK Ltd



URBANEST CITY

39 Vine St, London W1B 4EE

Status: **Built**
Number of storeys: **15**
Height: **45m**
Completion date: **2021**
Types of use: **63% Student Residential, 30% Commercial, 4% Incubator Workspace, 3% Exhibition Space, Café**
PTAL: **6b**

- **Achieving BREEAM 'Excellent' and WiredScore 'Gold', 100% Renewable Energy & EPC Rating B**
- **Re-use of the existing basement structure of the former buildings on the site and areas of existing foundations**

Winner of the 2022 City building of the year, Urbanest City is a new mixed-use building combining 656-bed high-quality student housing with 11 floors of office space, a café and a public exhibition space, all seamlessly knitted together on a constrained site. This 11-storey building creates a distinctive new profile in the heart of the City of London and was jointly designed and delivered for client Urbanest by Hopkins Architects and Apt.

Client: Urbanest UK Ltd
Architects: Apt, Hopkins Architects (Planning)
Structural Engineers: Robert Bird Group
Main Contractor: Balfour Beatty
Planning: Gerald Eve
Landscape: Townshend
MEP: mtt
Project Manager: Tower 8
Cost Consultant: Cast
Fire Engineer: Sweco



© Will Scott

VAUXHALL CROSS ISLAND

Nine Elms Ln, London

Status: **On Hold**

Number of storeys: **53**

Height: **185m**

Types of use: **38% Hotel, 23% Residential, 16% Office, 1% Retail, 22% Technical/Plant**

PTAL: **6b**

- **An energy strategy developed following the GLA energy hierarchy**
- **Achieving a 37% reduction in CO2 emissions on-site for the domestic elements, and 24% reduction in CO2 emissions on-site for the non-domestic elements**
- **Targeting a Very Good BREEAM rating**

The design responds to Lambeth Council’s aspirations for a district centre for Vauxhall by creating a vibrant new public square, and accommodates TfL’s existing plans to provide greater accessibility and safety for all. This project will generate approximately 2,000 new jobs in the borough within a mixed-use design that includes two towers of 53 and 42 storeys, (at 185.55m and 151.15m) a new public square, homes, offices, shops and a hotel; providing vital civic space, amenities and employment for the growing Vauxhall community.

Site Owner and Developer: VCI Property Holding Limited
Architect: Zaha Hadid Architects
Engineer: Buro Happold
Development Manager: Great Marlborough Estates
Development Consultant: Dais



© Render by Slash cube courtesy of Zaha Hadid Architects

VINEGAR YARD

78 St Thomas St, London SE1 3QX

Status: **Planning Granted**

Number of storeys: **20**

Height: **97m**

Completion date: **2028**

Types of use: **Office, Affordable workspace, R&D or Medical**

PTAL: **6a**

- **Targeting a BREEAM Outstanding and WELL Building Institute Gold standard with Platinum Fit-out**
- **Aiming a 27% reduction in embodied carbon against the GLA Benchmark**
- **Targeting embodied carbon below 800 kgCO2e/m2**

A life-sciences led, mixed-use development that will lead the new SC1 Life Science and Innovation District at London Bridge, deliver significant public realm improvements, and meet ambitious full lifecycle carbon targets. The twenty-storey building is designed to accommodate flexible medical and R&D use, alongside retail, commercial, and affordable workspace. As part of the development, an existing warehouse is being retrofitted for community use to provide ground floor retail and a first-floor space that can be used for events and exhibitions.

Client: CIT Group
Architect: Kohn Pedersen Fox Associates (KPF)
Structural Engineer: AKT II
MEP: Sweco
Landscape Design: Spacehub
Sustainability Consultant: Trium Environmental Consulting
Quantity Surveyor: Arcadis
Planning: Montagu Evans



© Miller Hare

WATERLOO HUB

54 Kennington Road, Lambeth,
London SE1 7BJ

Status: **Planning granted**

Number of storeys: **14**

Height: **43m**

Completion date: **2025**

Types of use: **95% Hotel,**
95% Coworking

PTAL: **6b**

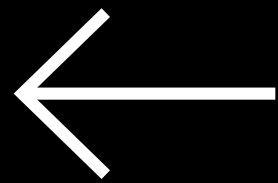
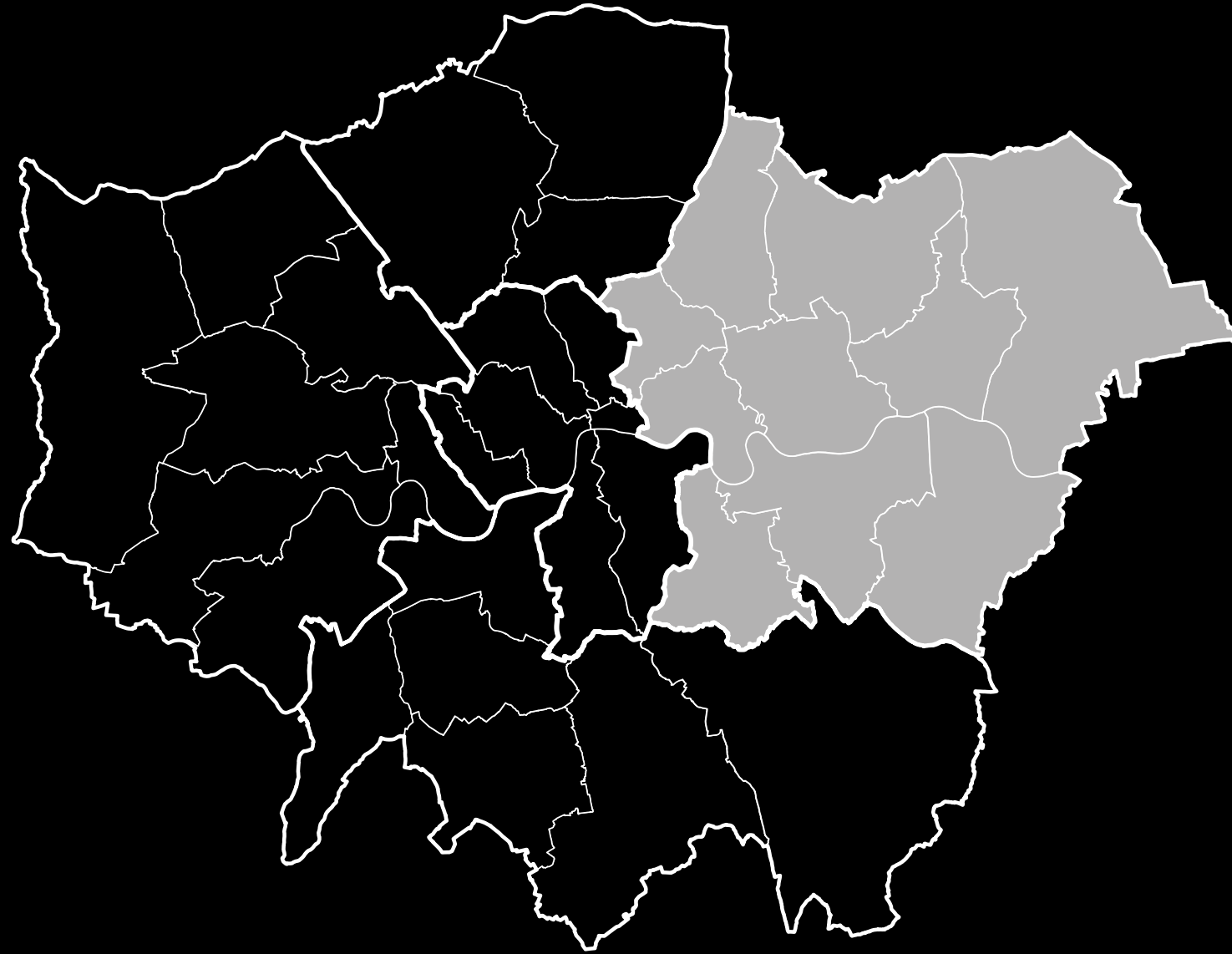
- Including an array of geothermal bore holes
- Retaining the existing hotel on site
- Targeting BREEAM Excellent

Waterloo Hub will revitalise a prominent intersection site opposite the Imperial War Museum. The 14-storey tower will reduce carbon emissions 66% over building regulations, revitalise an urban community and provide net biodiversity gain on the site. Through recovering heat from the air, water & earth, a substantial roof PV array and going all electric, this development will significantly reduce energy demand from the grid.

Client: Palm Holdings
Architect: Studio Moren
Structural Engineer: Heyne Tillet Steel
Transport Engineer: TTP Consulting
Planning Consultant: ROK Planning / DP9
Landscape Architect: Phil Allen Design
Services, Fire, Acoustics, Air Quality & Sustainability Consultants: Elementa Consulting
Heritage, Townscape and Archaeology Consultants: Icen Projects
Verified Views: AVR London
Community Engagement: Local Dialogue
Daylight & Sunlight Consultant: Point2 Surveyors
Microclimate Consultant: Urban Microclimate Limited
Arboricultural Consultant: Hayden's Arboricultural Consultants
Ecology Consultant: Arbtech Consulting
Project Manager and Quantity Surveyor: Zeal Projects



EAST



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7 BRANNAN STREET, WOOD WHARF

Lutomer House Business Centre, 100 Preston's Rd, London E14 9QH | Status: Proposed | Number of storeys: 46 | Height: 146m | Completion date: 2029 | Types of use: 95% Student, 5% Retail | PTAL: 6a

Client: F1 Student Development Company Ltd | Architect: Howells | Structural Engineer: Waterman Group | Fire Engineer: Arup | M&E / Sustainability Engineer: Chapmanbdsp | Cost Consultant: Alinea | Cladding Consultant: WSP | Planning Consultant: DP9 Ltd | EIA Consultant: BDP | Environmental Consultant: Elementa | Landscape Architect: HTA | Acoustic Engineer: Sandy Brown | Ecology Consultant: Greengage | Facade & Mainenance Access: REEF | Lighting Designer: Studio Fractal

- Environmental performance:
- **Aiming to exceed the 45% reduction in CO2 emissions**
 - **Estimated upfront embodied carbon of the development: 636 kgCO2e/m2**
 - **Estimated buildings space heating demand: 12.4 kWh/m2/year - which exceeds Passivhaus standard**
 - **Zero emissions from combustion on-site**

"F1 Wood Wharf is a new 912 room student accommodation development that contributes to the ongoing evolution of Canary Wharf as a Metropolitan Centre, and as a 15-minute City. This slender, elegant landmark tower has a clear identity that underpins the wider vision for Wood Wharf, whilst being designed to offer exemplary, affordable, high quality student amenity and accommodation and to be a truly sustainable building with a commitment to the health and well-being of the students and the environment."

David Henderson, Partner,
Howells

7 Brannan Street is a purpose-built development that will introduce student accommodation into the emerging Wood Wharf district in Canary Wharf. It forms part of the third phase of Wood Wharf that will deliver new housing, public open space, retail entertainment and all the necessary amenities required for a neighbourhood to thrive.

The project will be a distinctive landmark tower containing 912 student bedrooms across a range of types and sizes to the different needs of residents. Each floor of accommodation has free access to the various communal amenity spaces located as 'events' at the top middle and base of the building.

The tower incorporates a south facing rooftop terrace which has panoramic views over London, and a tenth-floor amenity provision facing toward the Blackwall Basin. The interior spaces are focused on the wellbeing of occupants, with biophilic living, environmental comfort and sustainability at the forefront of the intended design.

The ground floor provision includes vibrant and inviting spaces shared between students and retail. These spaces have views out over the water and connect to a landscaped public realm which steps down to a basin side promenade.



ABBEY PLACE

115 Felixstowe Rd, Abbey Wood, London SE2 9QQ | Status: **Built** | Number of storeys: **21** | Height: **70m** |
Completion date: **2023** | Types of use: **95.5% Residential, 4% Commercial space, 0.5% Plant/ancillary uses** | PTAL: **5**

Client: Hub | Architect: shedkm | Executive Architect: LRA Retinue | Contractor: JJ Rhatigan | Forward Funded: CBRE Affordable Housing | Funding Partner: Bridges
Fund Management | MEP: Skelly & Couch | Structures: Elliot Wood Partnership | Landscape Designers: BCA Landscape | Acoustic Consultant: Ramboll Environment

Environmental performance:

- **Use of PV cells on rooftops**
- **Heating and hot water infrastructure to be connected to an existing district heating scheme**

"Abbey Place is a great example of a HUB project, located in an affordable regeneration area and close to new transport infrastructure. We attracted funding from the GLA to help unlock the site, by delivering 70% affordable housing, and started on-site during the pandemic. By working with our excellent partners, we have been able to deliver an outstanding scheme, creating a thriving new community and really helping to transform this area."

Tom Valente, Senior Development Manager at HUB

Abbey Place aims to establish a bold set-piece of high-quality buildings in conjunction with the new Abbey Wood Elizabeth Line station and the regeneration of Thamesmead estate, providing over 70 per cent affordable housing.

The scheme, designed by shedkm for HUB, includes 245 residential apartments across two,

13 and 21-storey towers linked by a shared residents' podium garden — 173 shared ownership apartments in the east block & 72 private rented apartments in the west block, rooftop amenity amidst the skyframes on each block, 882 sqm of flexible commercial space and 2,126 sqm public amenity. Homes range from one to three bedrooms and have been designed to maximise the use of space and the site's east and west locale.

Abbey Place will create a benchmark for the ongoing rejuvenation of an historic residential community and a landmark development representing high standard living. The buildings will create a new sense of place at the heart of Abbey Wood. Using a palette of bold, robust and economic materials, the character of the proposed scheme reinforces the notion of a cluster of new buildings. Working with the constraints of a compact yet well connected site, Abbey Place will become a marker for Abbey Wood as a great place to live, shop, work and relax.



© shedkm

2 REDMAN PLACE

2 Redman Pl, London E20 1JQ

Status: **Built**

Number of storeys: **10**

Height: **46m**

Completion date: **2019**

Types of use: **98.6% Workspace; 1.4% Retail**

PTAL: **6b**

- **Closed Cavity Façade (CCF) system implemented**
- **BREEAM score of 94%: BREEAM Outstanding and WELL Core & Shell Gold**

2 Redman Place at International Quarter London is a functional, exemplar office building illustrating how sustainable development can enhance occupant, community, and planetary health—today and in the future. Its workspaces are serviced by 100 per cent fresh air, which ensures optimum air quality and comfort for employees. An intelligent facade system regulates internal temperatures and open, easily accessible, light-filled staircases encourage active movement.

Client: Lendlease
Architect: RSHP
Landscape Architect: Gustafson Porter Brown
Structural Engineer: Arup
Project Manager: Gardiner & Theobald LLP
Quantity Surveyor: Arcadis IBI Group
M&E Engineer: NDY
Sustainability Consultant: Buro Happold
Services Engineer: Normay Disney & Young (NDY)
Cost Consultant: Arcadis
Contractor: LLC
Planning Consultant: Quod
Development Manager: LLD
Fire Consultant: The Fire Surgery



© Morley von Sternberg

302-312 STRATFORD HIGH STREET

302-312 Stratford High Street,
Newham London E15 1AJ

Status: **Planning granted**

Number of storeys: **25**

Height: **82m**

Completion date: **2025**

Types of use: **94% Student accommodation, 5% Office, 1% Community pub**

PTAL: **6b**

- **Achieving BREEAM Excellent rating**
- **60% CO2 emission reduction on-site**
- **For the foundations, half of the concrete was replaced with GGBS**
- **Biodiversity net gain of over 150%**

This 25-storey mixed-use tower in East London includes workspace for creatives and small start-ups and a community pub run by Made Up Collective in addition to the student homes for Queen Mary University of London. The site is an island bounded by infrastructure—two roads, the Channelsea River and a number of London underground and overground lines. The plan shape creates a highly sculpted form, the light on each facet contrasting with that on the next.

Client: Dominvs Group / Queen Mary University of London / Made Up Collective
Architect: Henley Halebrown
Landscape Architect: JCLA
Structural Engineer: Meinhardt
Planning Consultant: Knight Frank
MEP: Meinhardt
Façade Consultant, Fire Consultant: Arup
Townscape Consultant: Tavernors
Sustainability Consultant: Elementa



2 TRAFALGAR WAY

Trafalgar Way, London E14

Status: **Planning Granted**

Number of storeys: **46**

Height: **137m**

Completion date: **2025**

Types of use: **79% Student Accommodation, 14% Residential, 6% Commercial/Workspace, 2% Retail**

PTAL: **6a**

- Targeting Passivhaus certification
- Targeting BREEAM Outstanding
- Projected to produce 80% less energy per occupant than comparable student accommodation developments

2 Trafalgar Way is set to be the largest Passivhaus student accommodation scheme in Europe. The development is a student residential-led mixed-use scheme, with three towers of 28, 36 and 46 storeys providing 1,672 student beds and 80 residential apartments. A four-storey podium includes 41,000 sq ft commercial office space, ancillary residential, indoor soft play space and retail.

Client: Urbanest UK Ltd
Architect: Apt
Structural Engineers: Walsh
Planning Consultant: Gerald Eve
Main Contractor: Midgard Ltd
Façade Contractor: KFK international
Planning Consultant: Gerald Eve
Landscape: LDA Design
MEP: MTT
EIA: Trium Environmental
Townscape: Richard Coleman Citydesigner
Passivhaus: Henriksen Studio
Passivhaus Certifier: MosArt
Façade Consultant: FMDC
Project Manager: Rider Levitt Bucknall



© Asymetrica

ABERFELDY VILLAGE

55A Aberfeldy St, Aberfeldy Village, London E14 0NU

Status: **Proposed**

Number of storeys: **11**

Height: **40m**

Completion date: **2025**

Types of use: **Plot F: 7% Retail, 93% Residential | Plot I: 100% Residential | Plot H: 8% Retail, 92% Residential**

PTAL: **3 - 4**

- Use of Passivhaus principles to address fuel poverty
- Use of in0house digital carbon tool kits to calculate the embodied and operational carbon

Aberfeldy Village is a residential-led mixed-use project. Morris+Company is working collaboratively alongside the wider masterplan team (Levitt Bernstein, ZCD Architects, LDA Design) to deliver four individual plots across Phase A of the masterplan, comprising a new high street, retail spaces, parks, 277 mixed-tenure homes and associated community facilities. With a special focus on youth engagement the team engaged extensively with the community and existing residents throughout the design process. For this submission we will look at Plots F, H1/H2 and I.

Client: Ecoworld/Poplar Harca
Masterplan Architect: Levitt Bernstein
Architect: Morris+Company
Landscape Architect: LDA Design
Engineer: Meinhardt
Planning Consultant: DP9 Ltd
Consultation Architect: ZCD Architects
Fire Consultant: Elementa
Transport/Waste: Velocity
BREEAM: Greengage
Cost Consultant: Circle
Daylight Sunlight: GIA



© Blackpoint

BLACKHORSE POINT

Longfield Avenue Walthamstow,
London E17 7BD

Status: **Under Construction**

Number of storeys: **21**

Height: **69m**

Completion date: **2023**

Types of use: **93% Residential,
7% Commercial**

PTAL: **4**

- **On-site renewable energy technologies, including PV**
- **Significant carbon savings, over Building Regulations**
- **Scheme connects to a masterplan-wide district heating network**

A mixed-use development of 350 homes within a distinct urban block, with commercial uses at street level and residential buildings above. To the southwest the Masterplan anticipates a cluster of taller buildings including our tallest block. A retrained architectural character of elegant brickwork articulated as an appropriately proportioned grid with a five storey 'crown'. The plan narrows the silhouette of certain gables whilst strengthening others, accentuating the building in the wider townscape, whilst recognising the importance of its human-scale.

Client & Developer: Barratt London
Client: TfL
Architect: RM_A
Developer: Barratt London
Housing Association: L&Q
Contractor: Barratt London



© AVR London

BOW COMMON

Bow Common Gas Works, Bow
Common Lane, London E3 4BH

Status: **Under construction**

Number of storeys: **19**

Height: **61m**

Completion date: **2024**

Types of use: **91% Residential,
9% Flexible Use**

PTAL: **2-6a across the site**

- **The development repurposes 120 Bow Common Lane, a 1930s office and laboratory building from the site's former use as a Gasworks**
- **Aiming a 52 % reduction in regulated carbon emissions**

Bow Common, a short walk from Mile End, develops a brownfield site into a transformational public place offering multi-generational and recreational opportunities for the community amongst living, working, learning and playing. Rising up to 19 storeys, the first residential phase of Bow Common earmarks pedestrian routes into the refurbished 120 Bow Common Lane yard and new park, spaces central to the masterplan and sensitively designed to extend the rich ecological features of adjacent parks.

Client: St James
Architect: Studio Egret West
Engineer: PTA
Planning Consultant: Quod
Transport Consultant: Icen
Environmental: Temple



CASHMERE WHARF AT LONDON DOCK

Vaughan Way, London E1W, UK

Status: **Built**

Number of storeys: **27**

Height: **91m**

Completion date: **2022**

Types of use: **99.6% Residential,
0.4% Commercial**

- **Commercial units achieve a BREEAM rating of Very Good**
- **All dwellings achieve a code for sustainable homes level 4**
- **Aiming to generate 50.1% savings in CO2 emissions, 29.9 % savings in unregulated emissions and use 26% less water per person compared to similar developments**

Cashmere Wharf is a visible marker for the transformational changes taking place at London Dock. In a city like London, mediating tall building heights and protected views can be challenging. This freestanding crystalline tower is designed in reverence to the wider context of the city, sitting comfortably within the views from London Bridge and the Tower of London. The building participates in the wider regeneration of East London and provides a complete framework for living.

Client: St George City
Architect: Patel Taylor
Structural Engineer: Waterman Group
MEP: DSSR
Planning Consultant: Quod
Project Manager: St George City
Interior Designer: Broadway Malyan



© Hutton&Crow

CUBA STREET

41 Cuba St, London E14 8LB

Status: **Planning Granted**

Number of storeys: **51**

Height: **171m**

Completion date: **2026**

Types of use: **Residential, F&B,
Residents gym and amenity use,
Public park**

PTAL: **4**

- **Achieves BREEAM Excellent**
- **Operational CO2 – 5.46kgCO2e/m2yr**
- **Water <61 litres/person/day**

The Cuba Street development provides a unique opportunity to respond to Canary Wharf’s rich and distinct context with a view to providing a highly sustainable, high quality residential offer, set against a new public park. 421 units of both private and affordable residential dwellings are housed within a singular building, including a flexible unit at ground floor for public use. The design of the development responds to its wider context as part of Isle of Dogs Opportunity Area.

Client: Ballymore
Architect: Morris+Company
Structural Engineer: WSP / Walsh
MEP & Fire: Hoare Lea
Landscape Architect: Spacehub
Cost Consultant: Gardiner & Theobald / Aecom



© SecchiSmith

EVERGREEN POINT AT TWELVETREES PARK

67 Stephenson St, London E16 4SA
Status: **Under Construction**
Number of storeys: **33**
Height: **107m**
Completion date: **2025**
Types of use: **100% Residential**
PTAL: **6a**

Located on one of the GLA's largest sites, the masterplan for TwelveTrees Park transforms 10.6 hectares of brownfield land into a connected, green and diverse East London district. When complete the development will provide over 3,810 homes in a range of tenures alongside commercial space, a science academy and a community centre set within significant landscaped open space. The project also delivers local infrastructure upgrades including a new entrance and public plaza for West Ham Station and two pedestrian bridges.

Client: Berkeley Homes
Architect: Patel Taylor
Engineers: WSP/PB
Contractor: Berkeley Homes
M&E / Sustainability Engineer: MTT



HUNTINGDON ESTATE

258A Bethnal Grn Rd, London E2 0AA
Status: **Planning Granted**
Number of storeys: **10**
Height: **40m**
Completion date: **2025**
Types of use: **72% Office, 4% Retail**
PTAL: **6a**

- Targeting BREEAM Outstanding, WELL Platinum, WIRED Platinum, and NABERS 5 Star
- The total cumulative regulated carbon saving and carbon offsetting is presently set to achieve 48% (15% BeLean, 33% BeGreen)
- Achieving an Urban Greening Factor of 0.3

Huntingdon estate is a ten-storey creative workspace building in the heart of London's East End, on a unique site within a conservation area. The proposal includes the demolition of existing industrial floorspace and redevelopment of site to provide a high-quality building, flexible office space, ground floor retail, food and drink, and affordable workspace.

Client: Blue Coast Capital
Architect and Lead Designer: Morris+Company
Structural Engineer-AKT-II
Cost Consultant: Alinea Consulting LLP
Planning Consultant: DP9
Townscape and Heritage: KM Heritage
Public Engagement: Kanda Consulting
Façade Consultant: Eckersley O'Callaghan
Services Engineer: Scotch & Partners
BREEAM Consultant: Scotch & Partners
Workplace Strategy Consultant: KKS Strategy
Environmental Impact assessor: Waterman
Infrastructure & Env LTD
Landscape Design: Macgregor Smith



MANOR ROAD

63 Barking Rd, London E16 4HB

Status: **Planning Granted**

Number of storeys: **33**

Height: **112m**

Completion date: **2024**

Types of use: **90% Residential,
10% Office/Retail**

- Rainwater harvesting combined with storm water management using Smart Weather tracking control to provide passive irrigation to the podium landscape
- Biosolar Photovoltaics to increase efficiency of PVs and biodiversity
- Fully electric heat generation strategy proposed
- Achieving projected carbon emission savings of 64%

300 Manor Road is a new residential led masterplan, delivering up to 804 new homes across seven buildings, 50 per cent of which will be affordable tenure. Phase 1 includes a 33-storey tower set within public realm that forms the start of a new linear park connecting to Canning Town station. The tower is clad in glazed terracotta in diminishing shades of blue, referencing the change in scale of surrounding built forms and distance from which the tower is observed.

Client: English Cities Fund
Architect: EPR Architects
Landscape Architect: Churchman Thornhill Finch
Landscape Architects Limited
Structural Engineer: AKT II
Developer: English Cities Fund
Planning Consultant: Longboard Consulting
Project Manager: Buro Four



© EPR Architects

NEW BERMONDSEY, PHASE 1

Land to the North of Surrey Canal
Road, Orion Business Centre ,
Lewisham, London SE14 5RT

Status: **Proposed**

Number of storeys: **32**

Height: **114m**

Completion date: **2026**

Types of use: **94% Residential,
6% Commercial**

PTAL: **Currently rating of PTAL 1b and
will increase to 3**

- Aiming to achieve a BREEAM Excellent rating for the commercial areas within the podium
- Connecting to the existing SELCHP district heating network

Located in the most northern tip of the London Borough of Lewisham, South London, our design is anchored by a unique, multi-layered landscape inspired by the existing network of railway viaducts and embankments that give character to this area. Phase 1 will offer 600 homes over three triangular towers, beneath which sits a sculpted podium; this contains a range of uses including a new auditorium and cafe. Incorporating a mixture of play spaces and quieter areas, expansive communal gardens unfold.

Client: Renewal Group
Architect & Landscape Architect: Studio Egret West
Engineer: ARUP
Planning Consultant: Carney Sweeney
Transport Consultant: i-Transport



NEWFOUNDLAND

130 Tower Hamlets Rd, London E7 9DB

Status: **Built**

Number of storeys: **62**

Height: **218m**

Completion date: **2021**

Types of use: **90% Residential, 1.5% Restaurant, 0.1% Retail, 2.4% Residential Amenity, 6% Cycle parking/ BoH areas**

PTAL: **6b**

- **Using offsite construction where possible**
- **Steel structural elements fully recyclable in the future**

Newfoundland is a new high quality residential landmark for London and a special place to live at Canary Wharf. The 62-storey high tower is sited on axis at the western end of middle dock and on the river edge marking the gateway to the Canary Wharf estate. It comprises 636 apartments, residents' amenity areas that include internal and external communal spaces, gym, children's play spaces, restaurant, café, and retail units at ground level.

Client: Canary Wharf Group
Concept Architect: HCL Architects
Executive Architect: Adamson Associates
Structural Engineer: WSP
Services Engineer: Hoare Lea
Fire Consultant: Arup
Cladding Consultant: WSP
Lighting Consultant: MBLD
Vertical Transport Consultant: Hilson Moran
Landscape Consultant: Townshend
Contractor: Canary Wharf Contractors



© Denis Gilbert

NOVELLO HOUSE

Bridport Place, London N1 5FS

Status: **Built**

Number of storeys: **11**

Height: **36m**

Completion date: **2022**

Types of use: **100% Residential**

PTAL: **4**

- **32 sqm of photovoltaic panels on the roof**

Novello House provides 32 high quality homes for Metropolitan Thames Valley Housing with 10 per cent wheelchair accessible apartments. FBM's design strategy reinforces and defines the street frontage, extending the adjacent building lines to form a corner with an active ground floor. Given the small site footprint (427 sqm), we maximised the number of homes by increasing the building height to 11 stories. Striking views across the canal and the city are made possible by the building height, an added amenity for residents.

Developer Client: Metropolitan Thames Valley Housing
Architect: Fraser Brown Mackenna Architects
Contractor: Henry Construction
Planning Authority: London Borough of Hackney
Planning Consultant: Wildstone Planning



© Tim Crocker

ONE CROWN PLACE

19 Sun Street, Hackney, London EC2A 2FJ
Status: **Built**
Number of storeys: **33**
Height: **137m**
Completion date: **2021**
Types of use: **51.2% Residential, 1.5% Retail, 33.4% Office, 4.1% Hotel, 9.8% other**
PTAL: **6b**

- Targeting BREEAM Excellent for offices, BREEAM Very Good for retail
- Targeted 25% reduction in CO2 emissions for operational energy
- Estimates 40% reduction in water demand via low flow rate fittings and grey water recycling

One Crown Place is a true 'city within a city block'. The scheme is activated on all sides by a diverse range of uses, including retail, boutique hotel, office space and residential. Maximising permeability was a priority. At the centre of the site, a new courtyard creates a focus and provides access to the residences, external dining space for the hotel, and amenities for office workers and members of the public.

Client: AlloyMtd
Architect: Kohn Pedersen Fox (KPF)
Structural and civil engineer: AKT II
Development Manager: CBRE
Contractor: Mace
Steelwork contractor: Severfield



© TMNikonian

ONE NORTH QUAY

Hertsmere Rd, London E14
Status: **Proposed**
Number of storeys: **23**
Height: **??**
Completion date: **2026**
Types of use: **100% Life Sciences**
PTAL: **6a**

- Adopting NABERS UK Design for Performance approach
- Targeting a BREEAM rating of Excellent, with an aspiration for Outstanding for the laboratory and office areas

One North Quay will be Europe's largest and most technologically advanced commercial health and life sciences lab designed to support interdisciplinary collaboration, set ambitious sustainability targets and become a beacon for Canary Wharf. A stack of 'neighbourhoods' will be created in a community-focussed design, with interconnecting communal spaces that eliminate barriers and promote social interaction. This arrangement also provides flexibility in tenant scale. The exterior embraces the area's industrial heritage, with the ground floor open to the public.

Client: Canary Wharf Group and Kadans Science Partner
Architect: Kohn Pedersen Fox Associates (KPF)
Landscape Architect: Gillespies
Structural engineer: Ramboll
Planning Consultant: Quod
Quantity Surveyor: Alinea consulting
Contractor: Canary Wharf Group
Planning consultant: Quod
M&E consultant: Buro Happold
Quantity surveyor: Alinea Consulting
CDM adviser: Total CDM
Lighting consultant: MBLD
Main contractor: Canary Wharf Group



© Kjaern for KPF

ONE PARK DRIVE

One Park Drive, Canary Wharf, 1 Old Street Yard, London E14 9GG

Status: **Built**

Number of storeys: **58**

Height: **215m**

Completion date: **2022**

Types of use: **90% Residential, 10% Leisure**

PTAL: **6a**

- **Achieving Code for Sustainable Homes (CfSH) Level 4**
- **Achieving BREEAM Excellent for the ground floor**
- **Recycled aggregates and cement replacements, and recycled steel**

Set against the Canary Wharf cluster, the cylindrical form of One Park Drive distinguishes the new building from its existing, orthogonal neighbours. The 58-storey tower provides almost 500 apartments, with three residential typologies that offset and rotate to create the distinctive geometry and connect with the waterfront setting. Residents' amenities are provided across the first floor, with public retail at ground level. The appearance is a spiral of large bay windows, each offering a generous vista.

Client: Canary Wharf Group
Design Architect: Herzog & de Meuron
Executive Architect: Adamson Associates
Structural Engineer: AKT II



© AKT II

THE ARC

225 City Rd, London EC1V 1JT

Status: **Under Construction**

Number of storeys: **22**

Height: **80m**

Completion date: **2023**

Types of use: **36% Residential, 61% Office, 3% Retail, 1% Fitness use**

PTAL: **6a**

- **Proposes a 35% carbon improvement over Part L**

The Arc is an office-led mixed-use building in East London delivering new retail opportunities, office floorspace, 100 new homes, landscaped roof terraces, and a new area of public realm on City Road. Levels one to six comprise of 145,000 sq ft of office floorspace. Above the office, at level seven, the building steps back to form a slender element which contains the residential accommodation. The setback also generates a large landscaped roof terrace with an accompanying residents lounge.

Client: Ghelamco
Architect: Allford Hall Monaghan Morris
Landscape Architect: Quartet Design
Structural Engineer: Whitby Wood
Contractor: Henry Construction Projects
M&E Engineer: DSA
Sustainability Consultant: EB7
Interior Designer (Lobby): Massive Design / Claridge Architects
Interior Designer (Residential Areas): Bowler James Brindley / Claridge Architects



© V1

THE ROWE

60 Whitechapel High St, London E1 7QX

Status: **Under Construction**

Number of storeys: **12**

Height: **49m**

Completion date: **2022**

Types of use: **97% Office, 3% Retail**

PTAL: **6b**

- **Retaining the facade reduced overall emissions by 5kgCO2e/m2 GIA when compared to a completely new building**
- **Achieving BREEAM Excellent, WELLV2 Gold (Shell & Core), WIRED & SMART Score Platinum**

The Rowe, located opposite the Whitechapel Gallery, adds to the existing six-storey building an equal volume above. Tension between old and new is highlighted by an inhabited gap, marked out by a playful piece of public art visible from street level, which forms one of several external spaces, including a multi-use terrace at roof level. At ground floor level there is a generous reception area with a café open to the public and cycle facilities providing space for 300 bikes.

Client: Frasers Property
Architect: Allford Hall Monaghan Morris
Landscape Architect: Grants Associates
Structural Engineer: Robert Bird Group
Contractor: BAM
Services and M&E Engineer: Sweco
Sustainability Consultant: Sweco
Building Services: Hoare Lea
Project Manager: Burnley Wilson Fish



© Timothy Soar

TRAVELODGE LONDON DOCKLANDS CENTRAL

1 Oregano Drive, London E14 2AE

Status: **Built**

Number of storeys: **19**

Height: **58m**

Completion date: **2022**

Types of use: **100% Hotel**

PTAL: **4**

- **Achieving BREEAM Excellent (81.2%), an EPC A rating**
- **A 28% reduction in carbon emissions against Building Regulations Part L2A and 61% carbon reduction in comparison with the GLA London Plan SAP10**
- **1,300 sqm of landscaping and biodiversity net gain; above GLA standards**

The nearly-net-zero design of this 19-storey hotel in the East India Docks area, the most sustainable in the brand's portfolio, addresses the diminishing heritage of London's Docklands, responding to the site's original use as a dock. Metal crane structures, boat construction, dock walls and local architecture all influenced the design development. The choice of a tower responds to the immediate Docklands context, with a tripartite form and restrained palette of materials, textures and colours.

Developer: Tarragon (Joint venture between the Mill Lane Estates & Marick Real Estate)
Architect: Studio Moren
Structural Engineer: Robert Bird Group
MEP & BREEAM: Hydrock
Main Contractor: John Sisk & Sons
Brand: Travelodge



© Studio Moren

TROCOLL HOUSE

Station Parade, Barking IG11 8TU

Status: **Under Construction**

Number of storeys: **28**

Height: **97m**

Completion date: **2025**

Types of use: **Residential, Commercial, Re-provision of existing pub**

PTAL: **6b**

A transformative development occupying a strategic site directly adjacent to Barking Station, Trocoll House will create a new gateway to Barking, provide the borough with new secure housing and help regenerate the town centre. 198 build-to-rent apartments, 35% of which are affordable-providing good quality rental accommodation and affordable housing for both local people and young professionals looking to move into the area.

Client: BeFirst
Architect: Farrells
Structural Engineer: Manhire
Services Engineer: CPW
Planning Consultant: Savills
Contractor: Henry Construction Projects Limited
MEP, QS & Employers Agent: CPW
Landscape: QDL



YY LONDON

30 South Colonnade, London E14 5XH

Status: **Under construction**

Number of storeys: **17**

Height: **76m**

Completion date: **2023**

Types of use: **94% Office, 6% Retail**

PTAL: **6a**

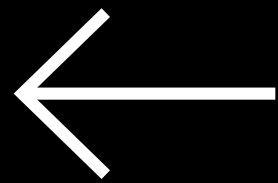
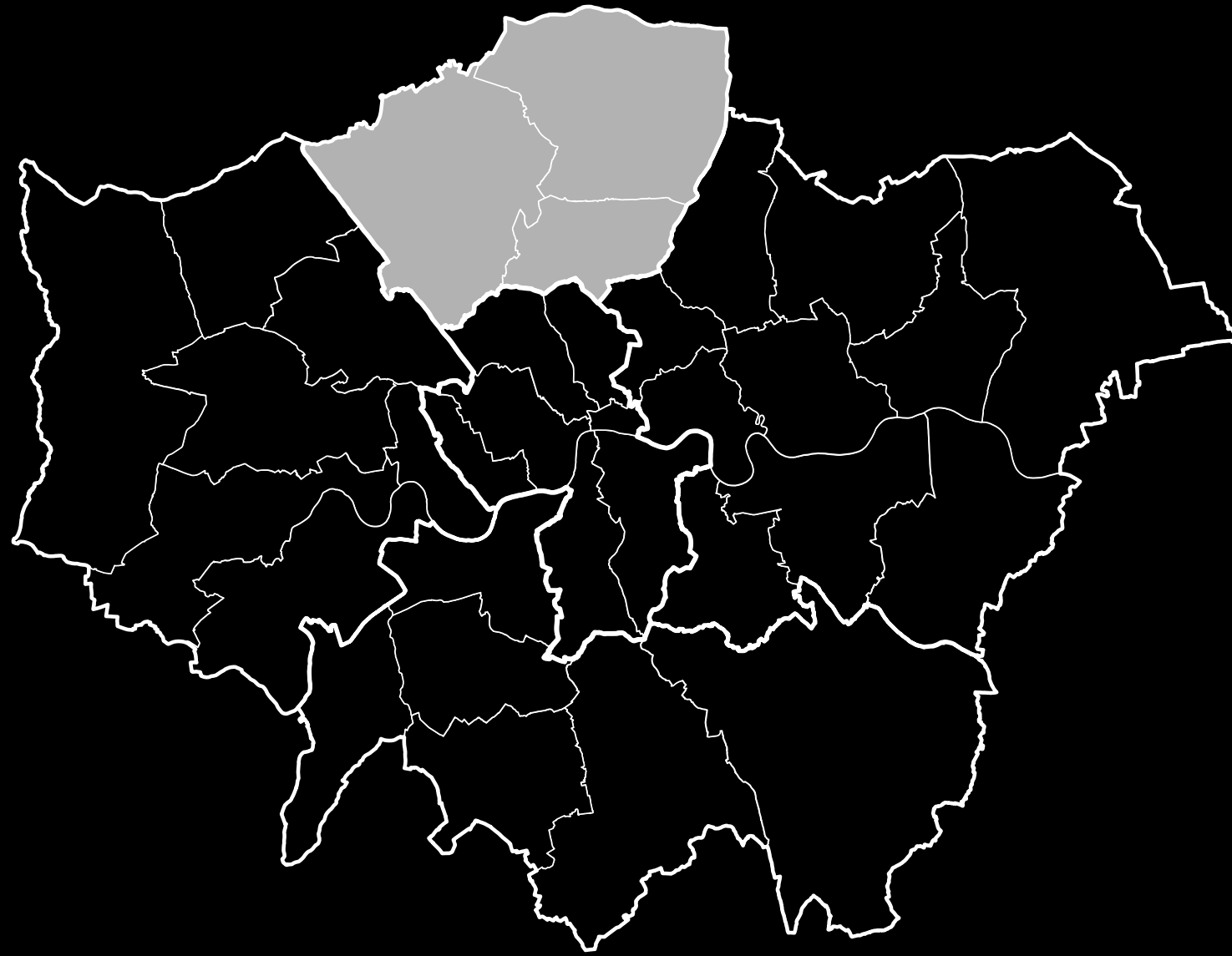
- **Saving an estimated 10,260 tonnes of CO2e by retaining the sub and super-structure**
- **Aiming to reduce the overall energy demand of the building by 62%**

A striking reimagination of 30 South Colonnade, YY London will create an exceptional NIA 414,000 sq ft workplace, focused on the wellbeing and community of its occupants. The proposals will reduce the overall energy demand of the building by 62 per cent, whilst avoiding demolition is estimated to save 10,260 tonnes of CO2e. The new glazed facade provides better daylighting to office floors and greatly improves activation at ground level, bringing a new vibrancy to visitors and passers by.

Client: Oaktree Capital & Quadrant Estates
Architect: Buckley Gray Yeoman
Landscape Architect: Townshend
Structural engineering: Waterman Structures
Main Contractor: Skanska
Services, Fire + Sustainability: Hilson Moran
Quantity surveyor: Arcadis
Project manager: Avison Young
Planning consultant: DP9
Principal Designer: ORSA
Building control: Bureau Veritas
Specialist lighting: GIA Equation



NORTH



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GAS HOLDER SITE - STATION ROAD

Station Road, London N11 1QD

Status: **Planning granted**

Number of storeys: **19**

Height: **68m**

Types of use: **97% residential NIA, 3% Commercial**

PTAL: **4**

Station Road is a new mixed-use scheme on a former gas holder site in Enfield. The development includes the creation of commercial space and 182 new homes. The scheme delivers high-density living in the form of two towers with a series of strategically positioned triple height cut-outs within the upper and mid-level floorplates providing integrated door-step play and communal amenity and new publicly accessible terraced landscape and podium park connecting to the wider community and masterplan.

Client: City and Suburban Homes Ltd
Architect: pH+
Landscape Architect: BJD landscape architects
Structural Engineers: Calcinotto
M&E Engineers, Flood Risk and SUDs Strategy Consultant, Sustainability & BREEAM Consultant, Noise Consultant, Air Quality Assessment Consultant, Energy Consultant, Ecology Consultant, Wind Microclimate Consultant: XCO2 Energy Ltd
Fire Engineers: Clarke Banks
Planning Consultant, Viability Consultant, Health Impact Assessment Consultant, Heritage and Townscape Consultant: Savills
Consultation Consultant: Concilio
Daylight & Sunlight Consultant: eb7
Transport Consultant: TPP
Arboricultural Consultant: RPS Group
Building Control Consultant: Clarke Banks



© nbvstudio

HALE WHARF PHASE ONE

Mill Mead Road, London N17 9FU

Status: **Built**

Number of storeys: **21**

Completion date: **2021**

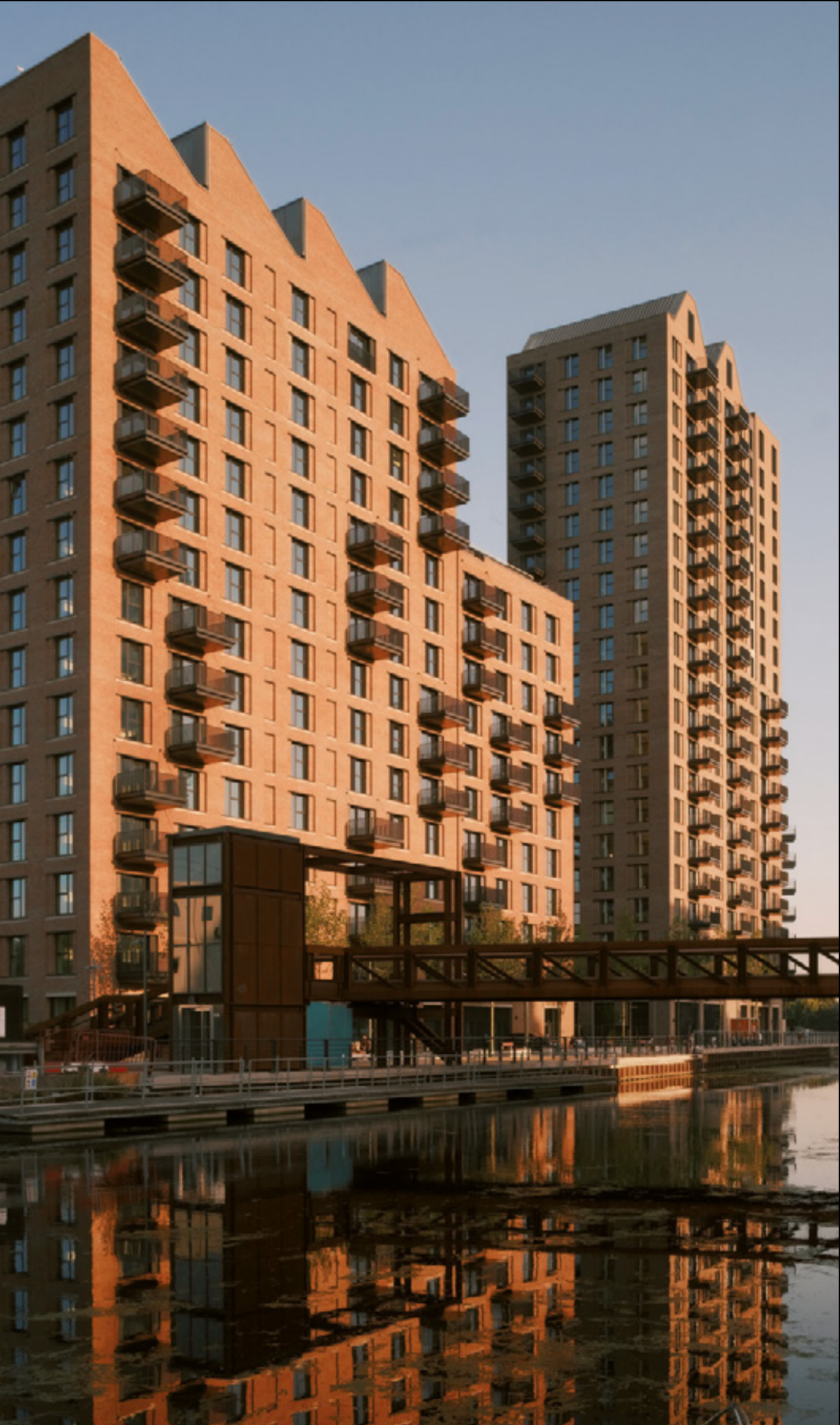
Types of use: **90% Residential, 5% Retail and Hospitality**

- **Aiming to achieve a Code for Sustainable Homes Level 4**
- **Designed with a Passivhaus approach**

PTAL: **4**

Hale Wharf occupies a sliver of land where the urban intensity of Tottenham Hale meets the reservoirs and rivers of the Lee Valley. Phase one of the development provides 249 homes in the two tallest buildings within the Hale Wharf masterplan, rising to 21-storeys and 14-storeys. Influenced by the robust detail of historical waterside buildings, the multi-stock brick envelopes of the pair are punctuated by a repeating rhythm of recessed metal windows and projecting balconies, affording spectacular views of the surrounding greenbelt.

Client: Muse Developments, Canal and River Trust
Architect: Allies and Morrison
Structural Engineer: Ramboll UK Ltd
M&E: Swiftline
Cost: Core Five
Acoustic: AECOM
Landscape: Landscape Projects
Project Manager: Stace
Main Contractor: McLaren Construction
Interior Design (Block B PRS lobbies): Allies and Morrison
Footbridge: Ramboll with Stephen James Architects



© Tim Crocker

THE ROCKERY AT THE HYDE

Crown Honda, Halfords Autocentre, abd National Tyres Site Hyde Estate Road, London NW9 6JX UK
Status: **Planning granted**
Number of storeys: **24**
Height: **81m**
Completion date: **2027**
Types of use: **95% Residential, 5% Commercial & Community**
PTAL: **3**

- Will provide a 38% savings in regulated carbon emission through a ground source heat loop and photovoltaic panel arrays

The Rockery at the Hyde occupies a prominent frontage minutes from the Brent Reservoir and its parks, an opportunity to deliver an urban grain stitched between developments in the Hyde locality of Hendon. A focus on providing multipurpose social spaces for the community led to distinct terracing public gardens edged with workspace, community and amenities. Octagonal residential blocks step through the gardens and provide architectural variation to the more regimented forms of emerging schemes.

Client: Delta Properties, on behalf of Parkside Investments Limited
Architect & Landscape Architect: Studio Egret West
Engineer: XCO2
Planning Consultant: DP9
Transport Consultant: Caneparo



WEST HENDON PHASE 4, K2 TOWER

Rosefinch Apartments, 7 Shearwater Dr, London NW9 7FW
Status: **Built**
Number of storeys: **21**
Height: **61m**
Completion date: **2022**
Types of use: **100% Residential**
PTAL: **Phase 4 = PTAL 3, approximate location of Block K = PTAL 2**

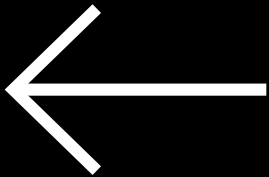
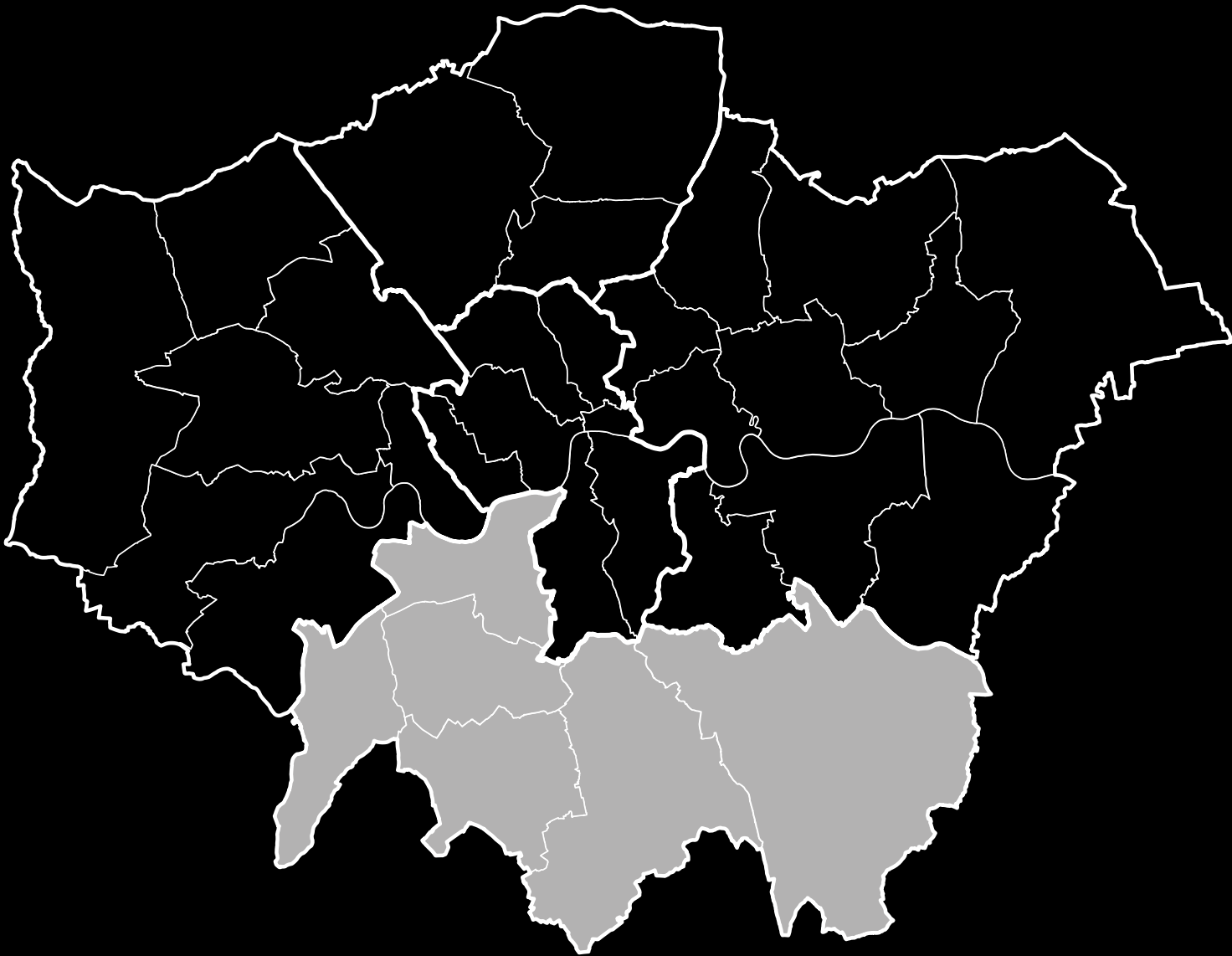
- 46% carbon reduction on Block K2
- The water usage is in line with Part G to ensure no more than 125l/person/day is used

The tower (K2) forms part of the West Hendon Waterside development, it rises to 21 storeys and is one of four towers looking out across the Welsh Harp Reservoir. The main facade, facing southwest, takes the form of a deep brick frame, giving shade and enjoying expansive views over the water. The two side facades are carved to emphasise the continuous vertical balcony recesses, breaking down the overall form. The typical plan is optimised in terms of efficiency, space, light and views.

Client: Barratt London
Architect: Makower Architects
Landscape Architect: Exterior Architecture
Engineer: White Code
Fire Consultant: BB7



SOUTH



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APEX NINE ELMS

Unit 1 IDU New Covent Garden Market, Nine Elms, London SW8 5EL

Status: **Planning Granted**

Number of storeys: **26**

Height: **83m**

Completion date: **2027**

Types of use: **85% Residential, 3% Amenities, 3% Retail, 9% Landlord**

PTAL: **5**

- **Use of prefabricated slabs, walls, and columns**
- **Swapping ordinary Portland cement with GGBS or PFA**

Apex 1 is a 26-storey landmark residential tower containing 201 homes incorporating studio, one, two and three-bedroom apartments. An adjacent two storey steel pavilion contains associated residential amenity and retail space. Apex 1 will be the first completed phase of the redevelopment of the New Covent Garden Market and will set the standard in terms of design, quality, and character for the vibrant new residential neighbourhood.

Client: VINCI St Modwen (NCGM) Ltd
Architect: Glenn Howells Architects
Structures, Civils, Microclimate and Facade Engineering: AKT II & AKT II E
Environmental Services, Sustainability and Fire Engineering: Hydrock
Highways, Transport and Waste Consultants: Caneparo
Landscape Architects and Public Realm Consultants: Outerspace
Cost Consultants: Cumming Group
Planning Consultants: Turley
Project Management: Rider Levett Bucknall
Principal Designer: CHPK



COLLEGE ROAD

5 College Rd, Croydon, London CR0 1PJ

Status: **Under construction**

Number of storeys: **58**

Height: **158m**

Completion date: **2023**

Types of use: **Tower A: 98.5% Residential (co-living), 1.5% Commercial**

Tower B: 97.5% Residential (affordable C3 residential), 2.5% Commercial

PTAL: **6b**

- **Modular techniques**

College Road is a high rise residential modular development in East Croydon. Once completed, it will become the tallest modular building in the Northern Hemisphere and one of the tallest in London. Comprised of two towers, standing at 158m and 110m, respectively, the buildings will provide 817 co-living homes across 50 storeys and 120 affordable homes across 35 storeys. The scheme is being delivered by developer and contractor Tide Construction and its volumetric modular company Vision Modular.

Client: Tide Construction
Architects: HTA Architecture
Engineers: Barrett Mahony Consulting Engineers and MJH Structural Engineers.
Landscape: HTA
Interiors/Communications: HTA



NINE ELMS

Nine Elms Ln, London

Status: **Under Construction**

Number of storeys: **13**

Height: **46m**

Completion date: **2024**

Types of use: **83% C3 Residential, 8% Residential amenities, 9% Ancillary**

PTAL: **1b**

- **Offsite manufactured pre-cast panels optimising air tightness**
- **Low Energy Strategy through connection to district heating**
- **Photovoltaic panels on the roof space**

Nine Elms is a 300 home build-to-rent courtyard housing scheme now on site. Arranged around a resident's courtyard, the project includes shared amenity and mixed-use spaces, that activate the public realm and look onto the pedestrianised linear park alongside. The project consists of four distinct blocks each with a different façade character and was conceived as an 'on plot' collaboration between architects Morris+Company and Gort Scott.

Client: London Square
Masterplan Architect: Allies and Morrison,
Architect (Plot E Lead): Morris+Company
Architect (Plot E2): Gort Scott
Executive Architect: Architectus
Landscape Architect: Camlins
Structural Engineer: HTS
Services Engineer: Aecom
Civil Engineer: CH2M
MEPH Engineer: Sweco
Traffic and Transport Consultant: Steer Davies Gleave
Environmental Consultant: Waterman
Cost Consultant: Gleeds
Contractor: BAM
Planning Consultant: DP9
Development Advisor and Agent: Savills



© Gort Scott

QUEEN'S QUARTER

Taberner House, Park Ln, Croydon

CR9 3JS

Status: **Built**

Number of storeys: **36**

Height: **114m**

Completion date: **2022**

Types of use: **98% Residential, 2% Flexible commercial**

PTAL: **6b**

- **Re-use of existing two storey basement structure**
- **Achieving BREEAM Very Good for the flexible commercial spaces**

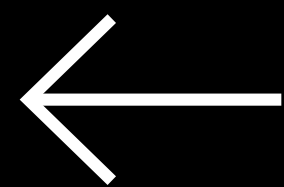
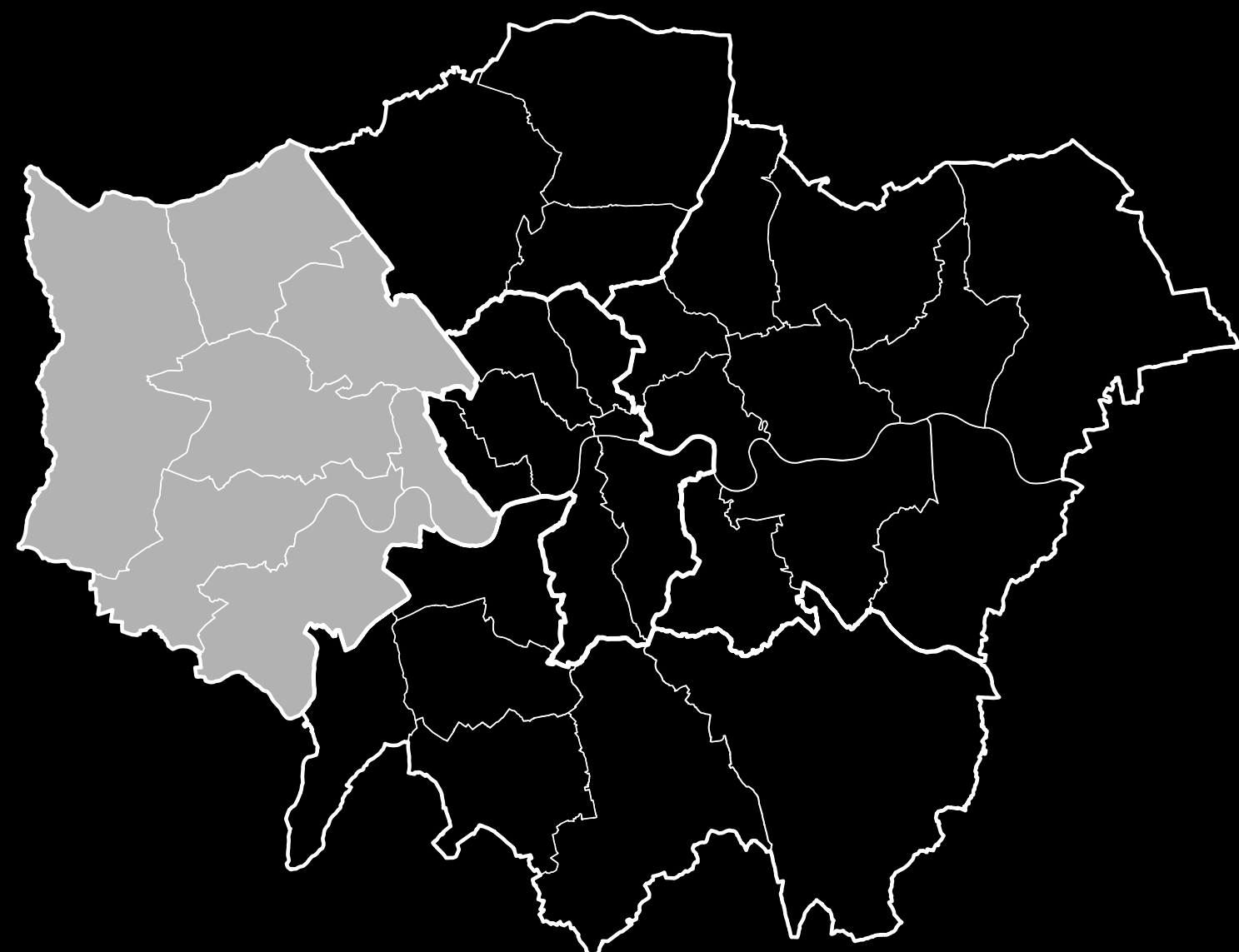
A key regeneration site, located on the former Taberner House site in central Croydon. Queen's Quarter comprises of four blocks: Fold Building - 36 storeys / 114m, Malcom Wicks House - 21 storeys / 67m, Chorus Apartments - 19 storeys / 63m, Bloom House - 13 storeys / 45m. The blocks are centred around The Queen's Gardens—a community-designed public park—and provides space for retail, leisure and cultural activities, as well as bring much-needed new homes and jobs to the area.

Client: Taberner House LLP / Hub Group
Architect: Allford Hall Monaghan Morris
Landscape Architect: Grant Associates
Structural Engineer: Whitby Wood
M&E Consultant DSA
Quantity Surveyor: Gardiner & Theobald LLP
Acoustic Consultant: Cole Jarman
Project Manager: Gardiner & Theobald LLP
Approved Building Inspector: Bureau Veritas
Main Contractor: Henry Construction Projects Limited



© Timothy Soar

WEST



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55 WEST, WEST EALING

32 Drayton Green Rd, London W13 8RY

Status: **Planning Granted**

Number of storeys: **20**

Height: **68**

Completion date: **2023**

Types of use: **95% Residential, 5% Commercial**

PTAL: **4**

- The commercial spaces achieved a **46% improvement in CO2 emissions over Building Regulations Approved Document Part L1A**
- The residential accommodation reached **60% improvement in CO2 emissions over the baseline requirements at Planning stage**

Landmark 20 storey 100 per cent affordable residential tower in West Ealing will provide 144 affordable apartments with split level ground floor amenity, generous roof terrace, private balconies or winter gardens and communal spaces. It was granted approval via an appeal with the inspector praising 'exemplary design.' Built on a brownfield site in a highly sustainable location next to the new West Ealing station, the scheme will deliver high quality public realm and enhance the local townscape, aiding wayfinding around the station.

Clients: Southern Grove, Metropolitan Thames Valley
Architect: DMWR Architects



CODA AT YORK PLACE

Coda Residences, 6 York Pl, London SW11 3JE

Status: **Built**

Number of storeys: **24**

Height: **82m**

Completion date: **2021**

Types of use: **Residential, Retail, Public Space, Culture, Education**

- Achieving a **40.4% reduction compared to the CO2 baseline**
- Achieving a **BREEAM Excellent rating for the RAD building and public café**

York Place is a hybrid building that delivers 299 mixed-tenure homes, new headquarters for the Royal Academy of Dance (RAD) and a significant public realm transformation in Battersea. The project will enhance biodiversity through the retention of mature trees and the creation of a new landscaped public promenade.

Client: Avanton, A2Dominion, Royal Academy of Dance
Architect and Landscape Architect: Patel Taylor
Structural Engineer and Civil Engineer: Waterman Group
M&E / Sustainability Engineer: Hoare Lea
Planning Consultant: RPS Group
Project Manager: Arcadis
Contractor: Midgard
Developer: Avanton



EDITH SUMMERSKILL HOUSE

Clem Attlee Court, Lillie Road, London SW6 7TD

Status: **Planning granted**

Number of storeys: **21**

Height: **72m**

Completion date: **2026**

Types of use: **100% Residential**

PTAL: **4**

- Targeting to achieve a **BREEAM Excellent** rating
- Targeting to achieve a decrease in total CO2 per annum of **61%** over the baseline

Edith Summerskill House is a 21-storey 100 per cent affordable residential tower with 133 homes that aims to elevate the experience of social housing. The design appears to juxtapose two towers one behind the other. This not only makes for a slenderer form but also means that 70% of the apartments are dual aspect. High-rise affordable housing is uncommon. Mindful of this, the design seeks to play down the functional, and to play up the civic and communal character of the building.

Client: Stanhope & London Borough of Hammersmith & Fulham (JV) and Peabody
Architect: Henley Halebrown
Structural Engineer, Services Engineer: Arup
Quantity Surveyor: Deloitte
Planning Consultant: Gerald Eve
Transport Consultant: Vectos
Contractor: Higgins



MIDDLESEX BUSINESS CENTRE, SOUTHALL – PHASE 1

Unit C01b Charles House, Bridge Rd, Southall UB2 4BD

Status: **Proposed**

Number of storeys: **27**

Height: **90m**

Completion date: **2029**

Types of use: **Residential 91%, Hotel 8%, Retail 1%**

PTAL: **3 – 4**

- Aiming to deliver biodiversity net gain and an integrated Sustainable Urban Drainage System (SUDS)
- Compliance with the Building Regulations Part L 2013 Criterion 3

Following the grant of outline planning permission in 2019 for a comprehensive 2083-home mixed-use masterplan that redevelops the former Middlesex Business Centre, Southall, this project comprises the developed design for two of the development plots (Phase 1). Phase 1 of Margarine Works delivers the first 867 new homes, a 180-key hotel and flexible retail floorspace across eight buildings, which range in height between four and 27 storeys, as well as Healum Avenue, a new east-west road that links the wider masterplan.

Client: Montreaux Developments
Architect: Assael Architecture
Planning Consultant: Turley



© assael architecture

TELEVISION CENTRE - PHASE 2

101 Wood Ln, Shepherd's Bush,
London W12 7FA

Status: **Proposed**

Number of storeys: **24**

Height: **85m**

Completion date: **2026**

Types of use: **95% Residential,
5% Office**

PTAL: **6a**

The tower is one of eight plots within the overall Television Centre scheme. The tower is a counterpoint to the predominantly mid-rise scale of the rest of the development. The overall scheme provides employment space, retail, leisure, residential and broadcast facilities.

Client: Stanhope PLC
Architects: AHMM, dRMM, Mikhail Riches,
Maccleanor Lavington, Gillespies
Partners: Mitsui Fudosan UK, AIMCo



WHITE CITY PLACE

89 Wood Ln, Shepherd's Bush,
London W12 7FA

Status: **Built**

Number of storeys: **22**

Height: **111m**

Completion date: **2017**

Types of use: **3% Retail, 95% Office,
2% Other (Amenity)**

PTAL: **6a**

White City Place — Gateway East is one of three buildings comprising the Gateway site at White City Place. In addition to the building, two new public squares, streets and a garden. The design brief is to ensure the building can be adapted to incorporate the needs of life sciences requirements. It will be designed to accommodate a standard office layout with flexibility to add labs if required by the tenants.

Clients: Mitsui Fudosan (UK) Ltd, AIMCo
Architect: Allies and Morrison
Developer: Stanhope
Construction Manager: Lendlease



© Allies and Morrison

INTERNATIONAL



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ATLASSIAN CENTRAL

8-10 Lee Street, Haymarket, Sydney NA
New South Wales 2000 Australia AU

Status: **Under construction**

Number of storeys: **41**

Height: **175m**

Completion date: **2025**

Types of use: **65% Office, 10% Hotel, 8% Retail, 17% Other**

PTAL: **6b**

- The building is 36% timber by volume
- Aiming for 50% less embodied carbon in construction compared to its benchmark, and 50% less energy consumption than a new conventionally operated building
- Targeting a NABERS 5.5-rating and a Green Star 6-rating

Currently on track to be the tallest commercial hybrid timber building in the world when built, Atlassian Central is formed of an internal timber structure supported by a steel and concrete megaframe. The new commercial building will be home to thousands of technology workers when complete in 2025. With a mix of outdoor and indoor spaces, the development will use an energy-efficient approach that features natural ventilation and large planted terraces giving access to nature.

Client: Atlassian
Architects: SHoP, BVN
Structural Design; Façade Design: Eckersley O'Callaghan
Structural Design: TTW
Climate Sustainability and MEP: Transsolar
MEP: LCI Stantec
Developer: Dexus



KYOBASHI, TOKYO

Kyobashi 3-chome Tokyo Chuo-ku
Tokyo 104-0031 Japan

Status: **Planning granted**

Number of storeys: **35**

Height: **180m**

Completion date: **2029**

Types of use: **10% Public & Retail, 70% Office, 20% Hotel & Residential**

PTAL: **6b**

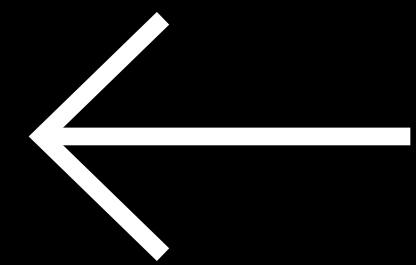
- Aiming to achieve a ZEB (Zero Energy Building) Stage 3 rating for the office portion of the building
- Highest accreditation under the Tokyo Metropolitan Government's building environmental planning system

Designed by Eric Parry Architects, this exciting civic project will deliver a new mixed-use development in central Tokyo with a total floor area of 164,000 sqm. The ambitious project will provide a key access node onto the space above the KK line, an elevated highway, which will be transformed into a 2km long 'highline' green pedestrian space called the Tokyo Sky Corridor and will connect to Kyobashi Station. Construction is scheduled to begin in 2025 and to be completed in 2029.

Client: Kyobashi 3-chome East Area Redevelopment Preparatory Association
Design Architect: Eric Parry Architects
Local Delivery Architect: Nihon Sekkei
CGI Artist: DBOX



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Endnotes

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[Building March 16, 2023](#) ↗

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[Delivering Net Zero in Use: a guide for architects, AHMM and IEDE, November 2022](#) ↗

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[Net zero: lessons from practice, Dr Craig Robertson and Dr Simon Hatherley, AHMM, CIBSE Journal, February 2023](#) ↗

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[What is the future of high-rise housing? Examining the long-term social and financial impacts of residential towers, February 2023](#) ↗

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[Data from Tower Hamlets 'Estate Regeneration Pathway'](#) ↗

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NLA Champions





NLA is London's built environment community; a membership organisation for everyone with an interest in London's built environment. Its purpose is to help make London a better place to live, work and visit. Its mission is to engage with professionals, politicians and the public to deliver positive change in the city.

NLA's activities include events, exhibitions, tours, research, publications, learning, websites and social media, awards and competitions, as well as the London Festival of Architecture taking place each June. NLA's public gallery and event space, the London Centre, is based in the City of London and hosts its London Models.

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