25.3 **Regina Road tall buildings zone**

25.3.1 Following a careful review of the townscape attributes and constraints of the Regina Road area, the emerging site allocation has been identified as potentially being appropriate for tall buildings. These can be see in context of the area's townscape setting in Fig 242.

25.3.2 The boundary of the emerging site allocation itself has been taken as the boundary of the potentially appropriate zone for tall buildings.

25.3.3 Care will need to be taken to ensure the design of any new forms of development which includes tall buildings takes proper account of and responds positively to local townscape considerations.

Fig 242 Townscape analysis plan informing tall building boundary

26 THORNTON HEATH POND

26.1 Appreciation of context

26.1.1 Thornton Heath Pond is a local centre on the A23 London Road axis between Norbury and Croydon.

26.1.2 The centre is not shown to be a particularly suitable location for higher density development, however it is not shown to be very sensitive to tall buildings either.

26.1.3 The centre congregates at the Thornton Heath Pond Roundabout and regeneration opportunities are coming forward around this roundabout junction.

26.1.4 Beyond the Local Centre to the north on the west of the London Road, a number of large office buildings have clustered. Although this area has a coarse urban grain and some taller buildings, it is not considered suitable to support higher densities and therefore tall buildings are not considered appropriate here.

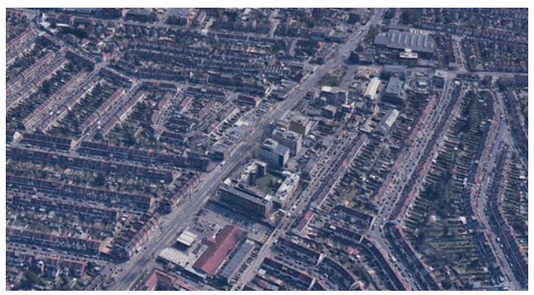


Fig 243 Axo aerial view

Is this area appropriate for tall buildings?	**NO**
Definition of tall building* in Thornton Heath Pond: *threshold above which a building will be considered tall	21 metres measured from the ground to the top of the building

Fig 244 Area of search

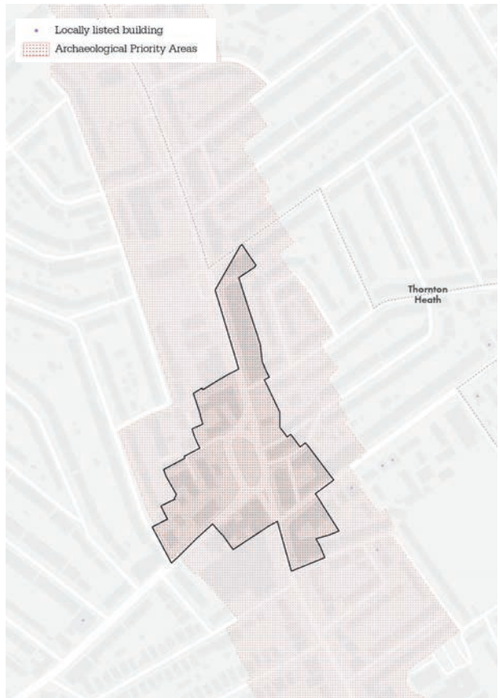


Fig 245 Heritage assets

Fig 246 Figure ground, urban grain

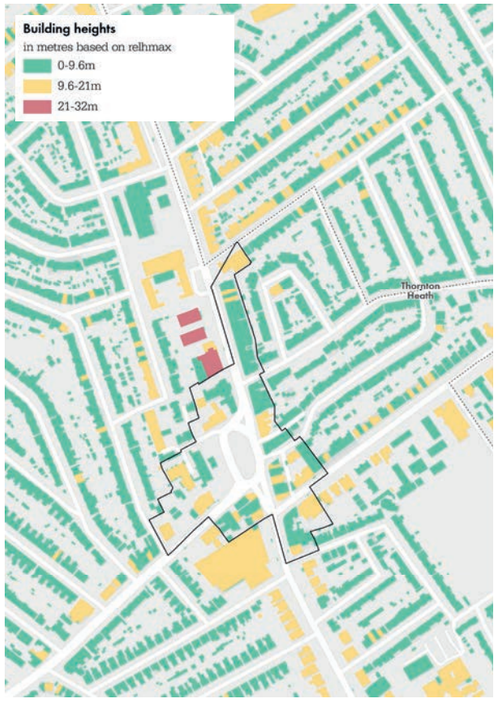


Fig 247 Existing building heights

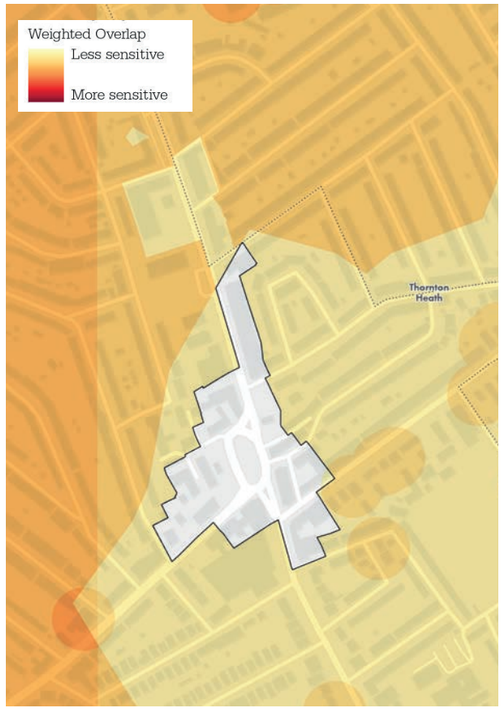


Fig 248 Weighted sensitivity

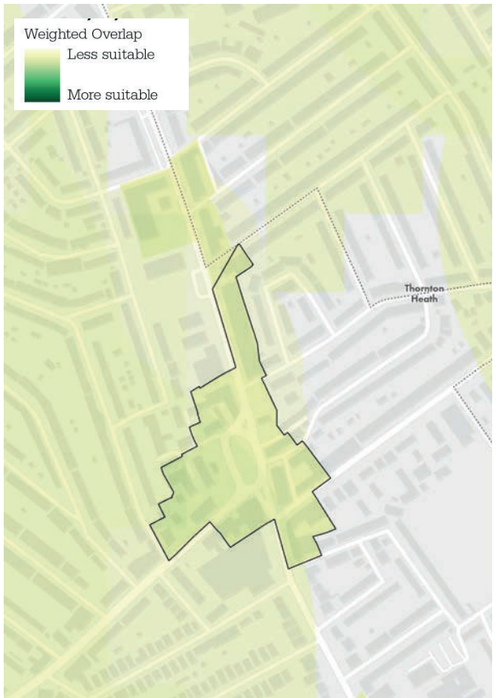


Fig 249 Weighted suitability

TALL BUILDINGS GUIDANCE

27 DESIGN GUIDANCE

27.1 Tall buildings: Considering context

27.1.1 This section of the report sets out guidance for the planning and design of tall buildings. It builds on the guidance already set out in the London Plan Policy D9 on Tall Buildings, which should be referred to in the first instance.

27.1.2 Having established appropriate locations for taller buildings based on the analysis of suitability and sensitivity, applications for sites within these areas are encouraged to demonstrate how alternative options for equally dense yet lower or medium-rise forms of development were considered as part of the design process before arriving at proposals for tall buildings.

27.1.3 Prospective tall building applications would typically either relate to small yet highly constrained town centre sites or otherwise they would form part of larger regeneration sites where the wider benefits of development would be significant and can be demonstrated. All proposals for tall buildings in Croydon must:

- Present a clear townscape merit and justification for their height which ought to be proportional to their role and function in the immediate and broader context.
- Integrate taller elements within larger blocks with varied massing which can mediate between the scale of proposed developments and existing buildings.
- Seek to retain or improve the cross-sectional profile and character of existing streets.
- Reinforce the spatial hierarchy of the town centre and wider context by aiding legibility and way finding, particularly in relation to the arrival to the town by rail.

27.1.4 If proposals comprise clusters of tall buildings (i.e. three or more tall buildings within close proximity) then it is encouraged that these be designed with varied heights to provide visual interest across the existing skyline. In such instances, it is advantageous to position the apex of proposed building heights closer to the centre and lower building heights towards the periphery of the cluster.

27.1.5 Proposals for tall buildings should evidence how they respond sensitively to the local character through visual impact testing of linear views of landmarks; panoramic views; townscape and landscape features; and approach road views. This can be achieved through Zones of Theoretical Visibility Testing (ZTV), Accurate Visual Representations (AVR) and Verified Views Analyses (VVA).

27.1.6 These visualisation techniques can be used to ensure that tall building proposals have taken local heritage assets and historical settings into account and that no harm is done to the local character of the built environment. Such testing is particularly important within Conservation Areas, Local Heritage Areas, Scheduled Monuments, Listed buildings or Locally Listed buildings. In such areas, the choice of construction method and careful selection of materials, colours and outward appearance is key to ensuring that tall buildings reinforce and enrich their historic settings.

27.1.7 When considering the natural environment, proposals for tall buildings should:

- Aim to work with the site topography and limit excavation.
- Assess whether a site is liable to flooding and ensure that the flood risk may be properly managed and mitigated if it is not prohibitively high.
- Seek to protect and enhance the open quality and amenity of the public open spaces, such as parks, and protected green spaces.
- Consider existing ecosystems and demonstrate how the proximity of tall buildings to biodiverse areas supporting animal species would not negatively impact upon their habitats and migration patterns.

27.1.8 Due to the fact that tall buildings will have the greatest impact on Croydon's skyline, it is advised that such proposals should undergo design review by an independent panel. There are a number of aspirational principles which can be adopted to guide the quality and character of future tall buildings in the town as set out in the adjacent graphic.

Serve the locality well
Providing characterful buildings at high density with shared amenities and active frontages framing attractive streets with pockets of carefully conceived green open spaces and play areas.

Tailor to Croydon and the site
Contextually sensitive tall buildings reflect the material character of their surroundings as well as the particular geometries and the three-dimensional constraints that are present on site.

Offer visual intricacy
Through the picturesque arrangement of built form and roof-scape to provide interesting and delightful views from street level and visual connections to nearby buildings - that is, adopt urban design scale thinking.

Tread lightly
By ensuring that the footprint of the building does not occupy the entire site but instead introduces new spaces and passages at ground floor offering connections to and through the site.

Use mediating buildings
Such as shoulder blocks which give visual hierarchy and modulate the overall composition of the massing to provide a transition between the new, taller elements and the scale of existing buildings.

Ensure it is well crafted
Through a high quality of design, construction and detailing which together enhance the outward character and the internal amenity of the new development.

Be multi-layered
Through a careful approach to massing and aesthetic variation of materials - colours and textures. A sense of depth can also be achieved by windows recesses in deep reveals and projecting balconies.

Accommodate internal diversity
Cater for residents by providing a blend of private and affordable housing tenures and a mix of housing sizes for singles, couples, families, young and old - in tandem with non-residential uses.

Fig 250 Guidance for designing tall buildings

27.2 **Tall buildings: High quality design**

27.2.1 Successful tall buildings are those which are integrated well within neighbourhoods, balancing the interests of occupants and providing a good living or working environment, depending on the use, while strengthening the sense of local community. To establish a positive relationship with their surroundings, proposals for tall buildings should:

- Analyse the nearby urban morphology and, where possible, adopt a finer grain of building footprints, ideally through a masterplanning-led approach.
- Provide new or extend existing linkages to roads, pavements and crossings, encouraging active travel.
- Improve permeability through the site and assert pedestrian priority where possible.
- Ensure that the width of footways are proportional to their role in the overall movement network.
- Create new, publicly accessible landscaped open spaces that are well-designed and enhance the outdoor amenity.
- Avoid ill-defined areas that have no clear function.
- Introduce soft-landscaping, tree-planting, sustainable urban drainage and other measures which enhance the natural character of the site whilst providing essential urban greening.
- Ensure that the quality and amenity of adjacent buildings and outdoor spaces are not diminished with regards to privacy, overlooking and overshadowing.
- Offer a mix of uses, particularly at ground level, to animate the street and to encourage wider social and economic interactions.
- Embrace opportunities for contextually informed design innovation.

The top...

27.2.2 Provides opportunities for new inflection points in Croydon's skyline. The extent to which it is iconic or sympathetic to the local character should depend on the role of the tall building in relation to its position and wider context.

- It is preferable that the uppermost floors (which also form part of the top) should be articulated and distinct in material and form to the middle.
- Roof-top telecoms and mechanical equipment (such as plants, BMUs and lift overruns) ought to be integrated and concealed by parapets.
- While publicly accessible viewing platforms are encouraged, outdoor amenity spaces must ensure safety for persons at height and street level.

The middle...

27.2.3 Comprises the main building volume. Its three-dimensional form will affect the micro-climate directly so the design should consider the impact on wind flow, ambient heat, privacy, light and overshadowing. The building envelope should balance the internal programmatic requirements with outward elegance and appearance to and from surrounding buildings, streets and spaces.

- A direct relationship between the typical floor plate(s) and facade composition is desirable.
- A harmonious modulation of elements such as balconies, recesses, and fenestration is desirable.
- The selection of materials and lighting ought to reinforce or enhance the townscape, particularly at night-time.

The base...

27.2.4 Creates a sense of belonging to one's home which is important for the sustained care and longevity of the built fabric. Base design comprises the:

- Building approach: the public realm and entrance should provide a welcoming arrival experience.
- Front of house areas: entrance lobby, circulation and shared spaces should be safe and well lit.
- Communal spaces should be easy to access, inclusive and animate the surrounding streets.
- Back of house areas should be well organised and sufficiently large to accommodate essential functions such as bike storage, bin storage, car parking and refuse collection.

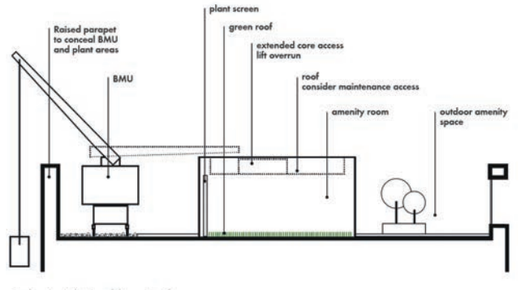


Fig 251 The top: Roof section indicative of the variety of components and uses

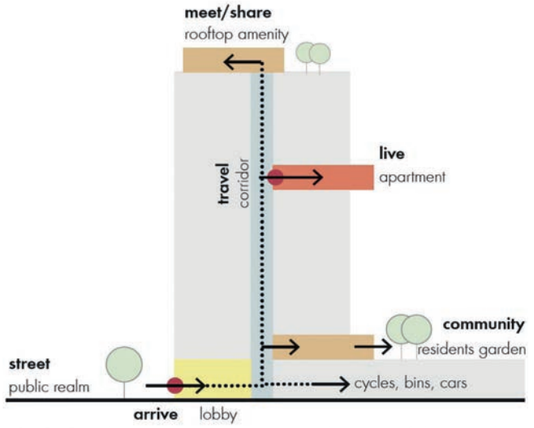


Fig 252 The middle: Cross-section diagram of the tiered functions in a tall building

Fig 253 The base: Welcoming, attractive and clearly defined entrances which relate positively to the surrounding street

27.3 **Tall buildings: Broader issues**

Safety and management

27.3.1 Tall buildings benefit from a clear delineation of what is public and private space. Defensible spaces and active, street-facing frontages at ground floor can provide a sense of enclosure and safety. The security and management regime of communal areas should be set out clearly to ensure the design of an operational use of the building follows policy and best practice guidance. Well-defined prevention, evacuation and response strategies will minimise the threats from fire, flooding, terrorism, and other situational hazards. If terror protection is considered relevant, the use of bollards, planters or low walls along the perimeter are preferable to taller fences.

Sustainability

27.3.2 Tall buildings should be held to a much greater level of design scrutiny than any other building type. At the same time, owing to their cost, scale, complexity and potential impact, tall buildings are required to make considerable and positive social, economic and environmental contributions to their localities. Managing these diverse requirements is challenging yet the benefits of truly sustainable tall buildings are significant. Proposals that integrate early and sustainable design strategies will benefit from significant economies of scale which tall buildings present. Factors to consider include:

- **Longevity:** Many tall buildings only last as long as the facade system they employ. In the case of curtain wall cladding this is limited to 35-50 years, yet the design life of the structure is hundreds of years. The durability of building components (and the ability to replace some elements without compromising others) should be prioritised alongside the potential to recycle components as part of a wider circular economy.
- **Embodied Carbon:** Emissions associated the superstructure of tall buildings may rise with height due to the wind loading requirements.
- Equipment: Energy associated with mechanical apparatus such as lifts increases with height. Tall buildings should seek to limit energy demand with vertical transportation systems.
- **Glazing ratio:** Large amounts of glazing can lead to increasing levels of heat loss and solar heat gain - both of which result in additional energy consumption (and the latter in overheating in residential properties). Glazing levels should seek to satisfy space heating demand, ensuring good daylight levels and limit peak solar gain.
- **Amenity space:** Post-pandemic research indicates that levels of occupant discomfort in mid and high-rise properties mostly stems from the lack of private amenity space. Balconies may become unfeasible (and unused) at greater heights. Winter gardens offer one solution to this issue by providing a 'buffer' space between internal and outside conditions. Greater provision of communal amenity spaces is extremely desirable. Natural building ventilation is desirable, particularly for residential amenity.
- **Externalities:** Tall buildings also risk negatively impacting neighbouring properties, so care should be taken to properly evaluate and mitigate these risks during early design stages. Examples include solar access for daylight and renewable energy systems and build up of pollution.
- **Micro-climate:** Greater exposure to atmospheric conditions in taller buildings (sunlight, lower temperature, wind speeds) can lead to increases in energy demand. As such, the design impacts of tall buildings on environmental indicators is more acute and requires careful consideration.
- **Light pollution:** Care will need to be taken lighting tall buildings, balancing tall building lighting strategies to highlight the building in the townscape and add visual interest to the streetscape with the need to avoid light pollution.

Micro-climate

27.3.3 It is essential to understand the local, climatic context within which a proposed tall building will be situated. A 'micro-climate' is shaped by the interaction between the climate and the built environment. It influences the way tall buildings perform and how end-users experience the urban environment through variations in temperature, humidity, rainfall, wind and other factors.

27.3.4 Examples of severe micro-climatic variations which relate directly to tall building development include:

- **Extreme wind turbulence:** caused by the height and three-dimensional form of a building and its orientation to the prevailing wind direction.
- **The urban heat island effect:** whereby canyon-like developments with large surface areas absorb and reflect sunlight increasing the rate at which urban streets and spaces are heated.

27.3.5 Analyses of the macro and micro-scale climatic conditions for a site should be carried out at the earliest possible stage of the design process to ensure that a scheme can anticipate opportunities and mitigate risks in the way that the local climate interacts with the site.

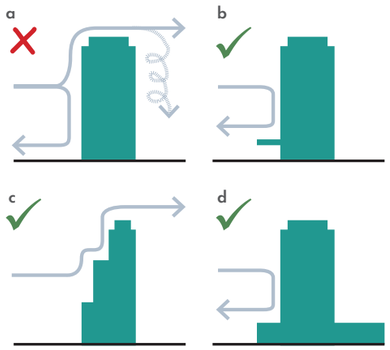
27.3.6 Taking such early initiative will also ensure that effective passive design solutions can be implemented from the outset. This can lead to significant downstream efficiencies in energy demands such as heating and cooling as well as improvements to occupational comfort.

27.3.7 It is advised that the following factors be considered when carrying out a comprehensive micro-climate analysis:

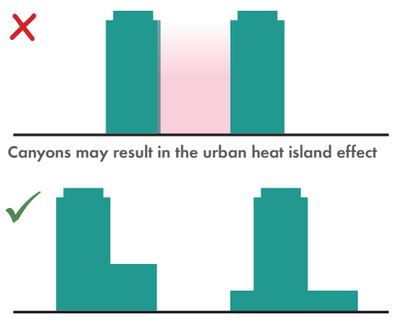
- Solar radiation: evaluate annual levels of direct and indirect solar radiation in comparison to cloud cover. Can frequency of solar during winter months facilitate an effective passive-solar design

to aid heating demand? Or does cloud cover prevent this? Assess the seasonal daylight available to outdoor amenity spaces and sunlight penetration into the building and its effect on occupant comfort and thermal performance.

- **Temperature:** review annual peak high/low and average temperature by month. Consider the annual variation in temperature and any notable stress points from extreme high/low events.
- **Wind:** assess the direction and speed of prevailing winds and model its impact in relation to private amenities and public realm areas surrounding the building.
- **Noise:** consider the potential noise levels created by air movement, building use or operational machinery to maximise the enjoyment of internal and open spaces around the building.
- **Air movement:** model the building envelope and its effect on air movement. Consider massing options which encourage the effective dispersion of pollutants, but avoid adversely affecting street-level conditions.
- **Climate change:** develop adaptation strategies based on Climate Model Predictions for the UK. Climate mitigation measures should be identified and designed into the building as integral features from the outset to avoid retrofitting.



Canopies (b), setbacks (c) and podia (d) can mitigate wake and downwash effects of excessive wind (a)



Canyons may result in the urban heat island effect

Setbacks and wider street can mitigate the excessive heat

Fig 254 Environmental factors

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