

04

The Concept Masterplan

- 4.1 Urban Block layout
- 4.2 Massing Envelope
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- 4.4 Public Realm
- 4.5 Movement Framework
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The Concept Masterplan

This section provides a detailed level of guidance which enables the expression and ultimately the delivery of the primary masterplan components.

The urban design rationale that underpins each component is described, followed by a set of development principles and a description of the provision.

The components include:

- Urban block layout
- Massing envelope
- Architectural form
- Public Realm
- Movement framework
- Land use





BRIDGE END

BRIDGE END

BRIDGE END

Side Street

Crescent Gardens

Communal Gardens

Central Square

Proposed new pedestrian bridge

Main Street

Existing pedestrian bridge

Waterfront Square

Chimney Square

Sirocco Promenade

Central Park

Hilton Tower

BT Tower

Coopers Tower

MAYS MEADOWS

LADAN BANK

ROAD

SHORT STRAND

MOUNTPOTTINGER LINK

CLIVE COURT

ARRAN STREET

4.1 Urban block layout

4.1.1 Approach

The urban block layout determines the size, shape and orientation of each future building within the masterplan, establishing the nature of their relationship to one another and to the broader context. In the process, it gives definition to the movement structure and the arrangement of the public realm with its variety of streets, squares and public spaces.

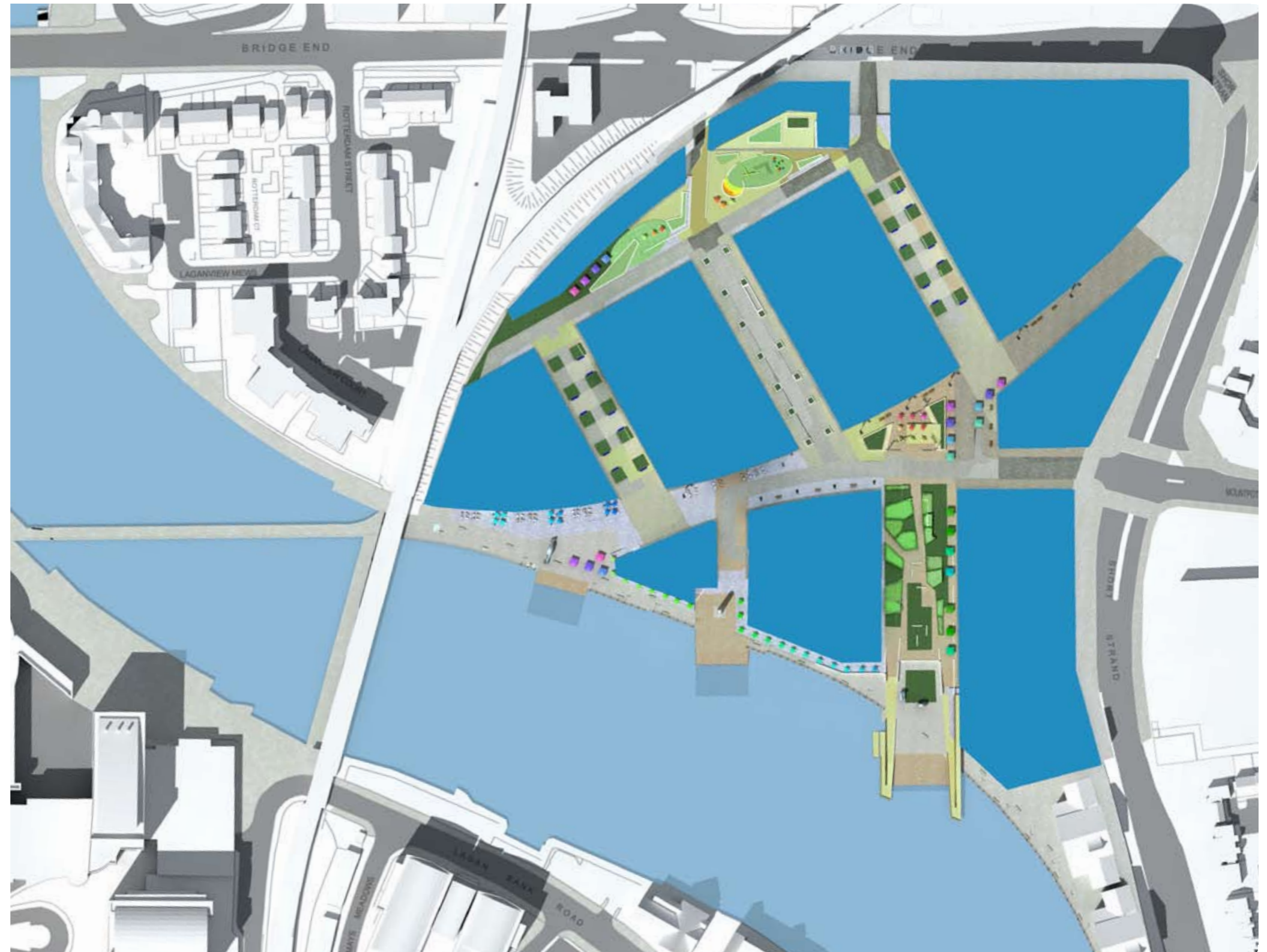
The design of the masterplan has sought to replicate the distinctive characteristics of the City Centre urban grain within a structure which responds to key design imperatives. These include providing a well defined public realm that creates a legible movement hierarchy, accommodating the all important links with the adjacent communities, the riverfront and the City Centre. The basic grid is also modified to meet the constraints posed by the existing railway embankment and is responsive to sunlight penetration and views out to the Lagan.

Within the masterplan, variations of the individual blocks define the significant urban spaces and promote variety in the design of future buildings.

Principles

The urban block layout:

- Reflect the scale and form of the city centre
- Gives strong definition to the public realm
- Creates development blocks of sufficient scale to accommodate long-term development flexibility
- Defines internal courtyards that achieve sufficient levels of privacy with ample outdoor amenity space
- Provides for the establishment of direct and legible movement routes
- Adjusts to the railway embankment
- Allows good sunlight penetration and river views



Block size and layout The Sirocco layout is based on the structure of the traditional city grid.

4.1.2 Urban grain

The traditional Belfast urban block has provided a robust city plan that has successfully accommodated change for over two centuries. It continues to sustain a variety of building types and uses whilst simultaneously presenting the city with a distinctive and walkable urban plan.

A 'figure ground' map of the historic city centre core was prepared to reveal the urban grain - the block size, shape and arrangement. The traditional Belfast urban grain was then replicated in the layout of the Sirocco site, creating a permeable, easily accessible plan that recreates a familiar city centre urban pattern and feel.



City Centre figure ground plan



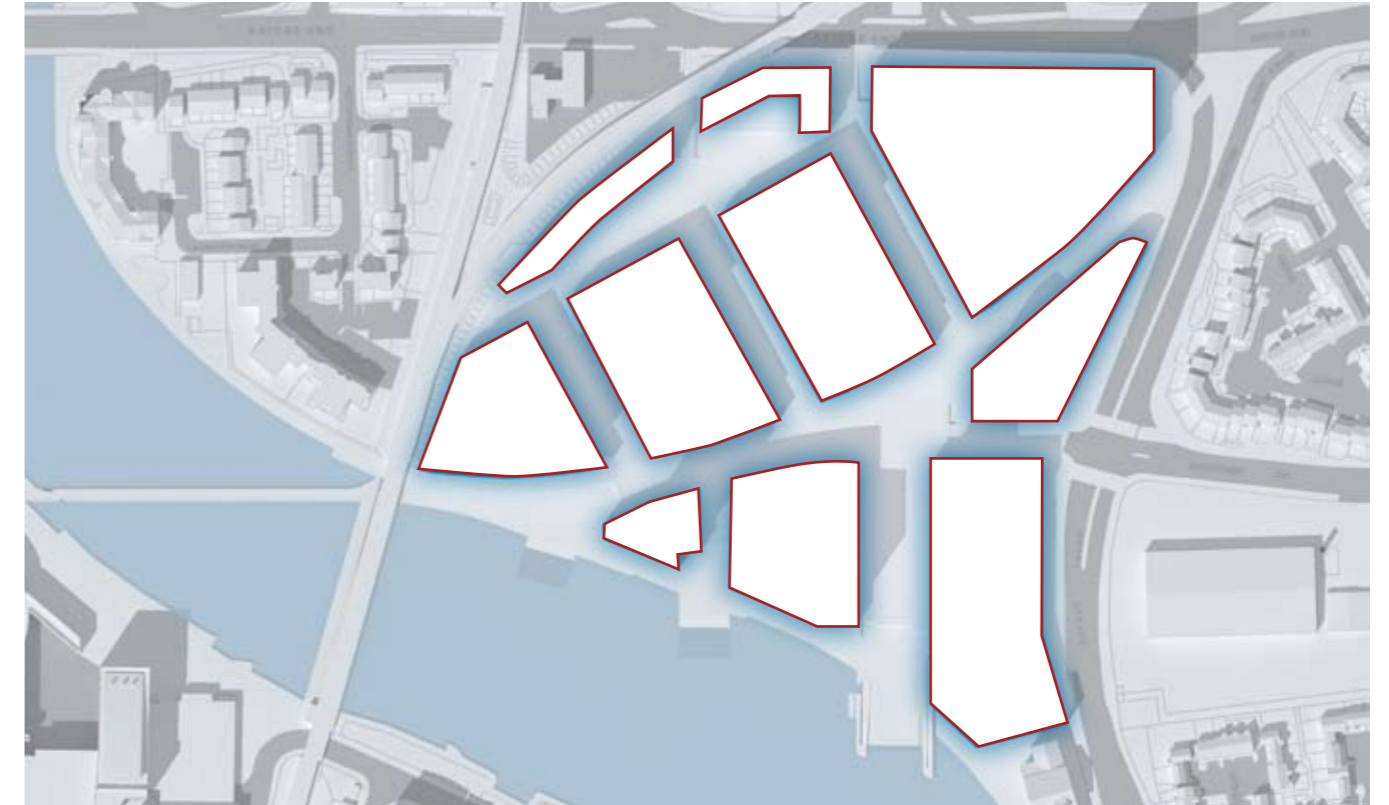
An analysis of the traditional urban grain reveals robust urban blocks. The perimeter blocks create a strong edge to the street.

The Belfast urban grain is applied to the layout for the Sirocco Site, with perimeter development blocks recreating the physical and spatial characteristics of the historic city centre.

4.1.3 Urban structure

Whilst the scale of the blocks has been retained to reflect the traditional grain of the city, their arrangement has been structured to realise a number of important design objectives. These objectives are realised in the following key features of the layout:

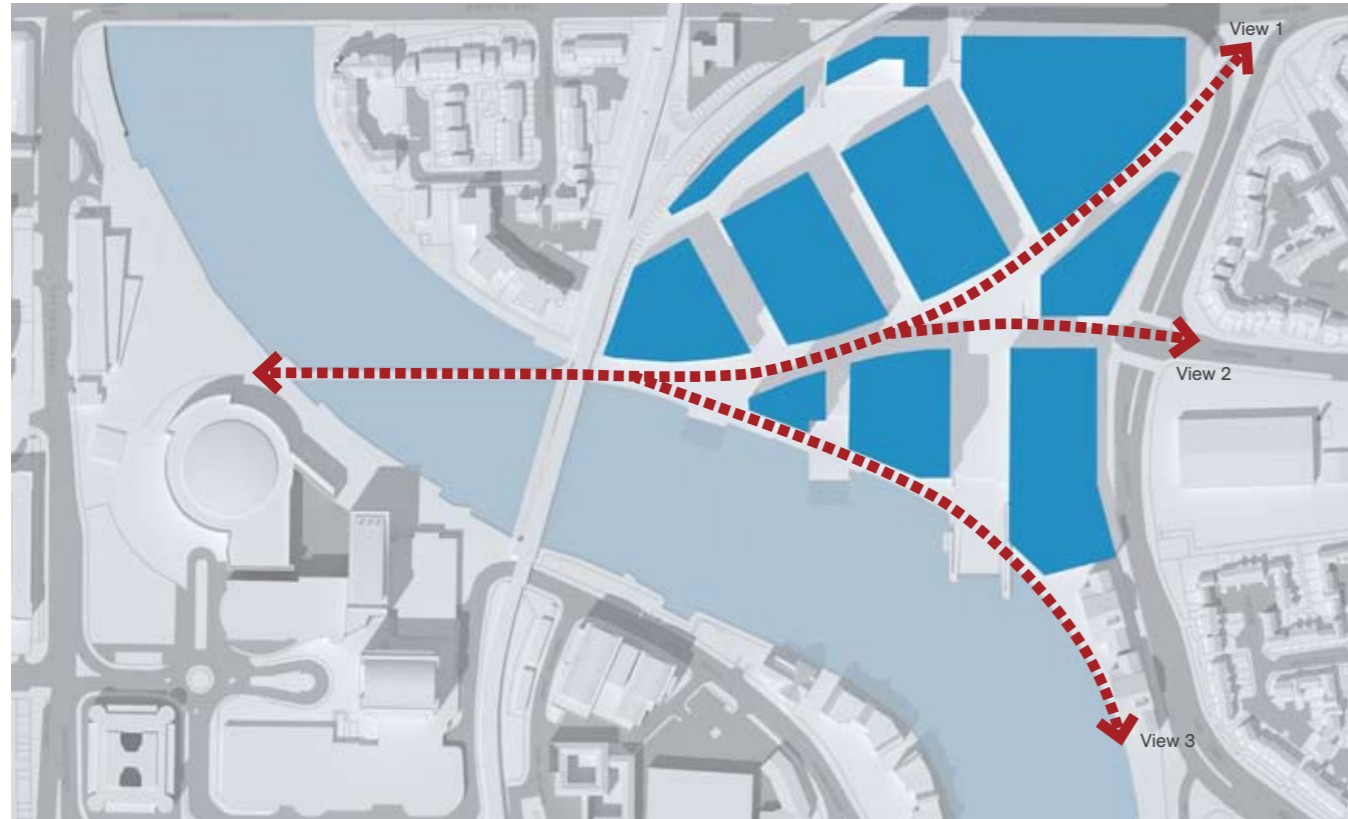
A sense of continuity and enclosure



The masterplan delivers a continuous building line to each block, creating a continuity of frontage which defines and encloses the open spaces and movement network. The layout ensures that buildings directly address the public realm, fostering a sense of ownership and care and creating well-defined places with a distinct identity that are useable and attractive.



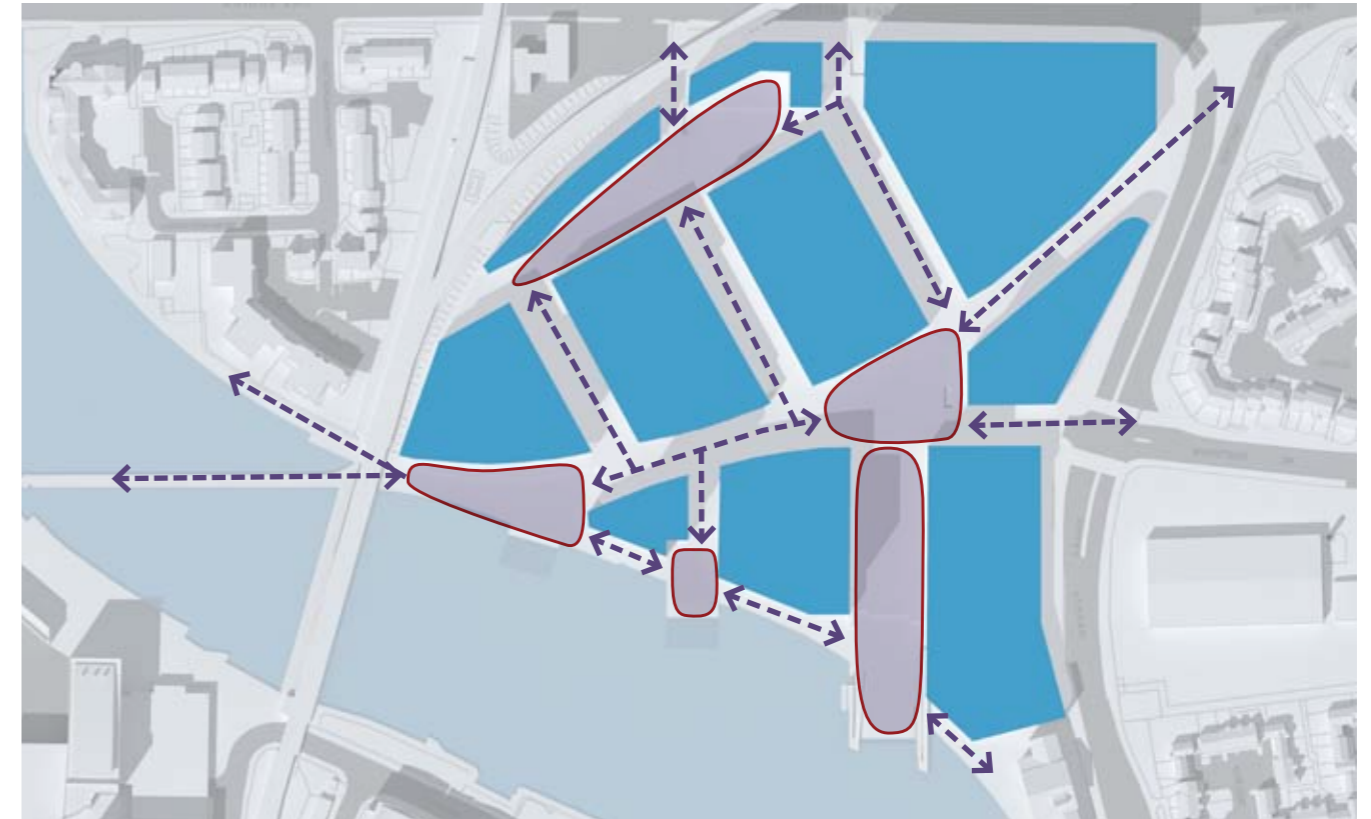
Creating a legible movement hierarchy



The urban block layout serves to create a comprehensible image which is easy to understand, promoting legibility through recognisable routes, intersections and landmarks that help people find their way around. In particular, the primary link through the Sirocco site benefits from a clear sense of orientation which is afforded by sight lines of established Belfast landmarks. The urban form of the development further reinforces the visual and physical permeability with a legible hierarchy of movement routes.



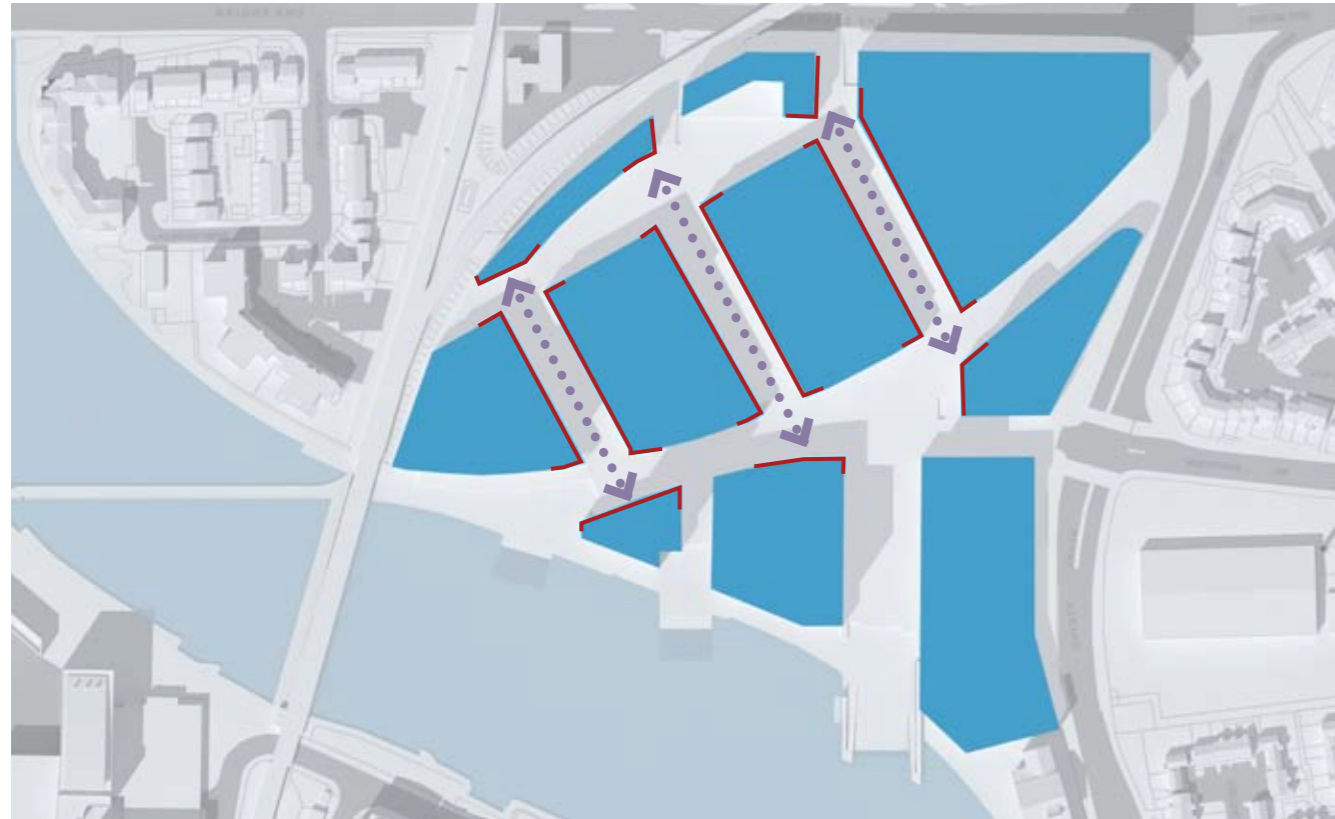
Building a network of new city spaces



A sense of place is dependant on the design of the public realm and its contribution to an area's character and identity. The masterplan responds to this design imperative by fashioning public spaces and routes that are attractive, safe and highly effective, helping to create a distinctive urban quarter. The urban block layout is key to achieving this, creating a permeable pedestrian realm and giving shape to a diverse and distinctive range of new, interconnected parks and squares.



Defining neighbourhood streets



A shift in the grid helps to develop a unique identity for the internal streets. Primarily residential in character, the views in and out of these spaces are framed by apartment blocks thereby fostering a strong sense of enclosure and helping to promote a sense of community. Their alignment further benefits the microclimate, providing building frontages which are aligned within 30 degrees of due south to improve daylight penetration and simultaneously offering a layout which shelters the streets and mitigates the impact of prevailing winds.



Bringing the river into the site



The urban block layout serves to enhance the relationship with the unique landscape context and develop visual and physical connection with the river. In contrast to the neighbourhood streets, the generously sized waterfront spaces are open to the river. They serve to frame the views and vistas of the Lagan from deep within the site and give structure a series of distinctive riverside spaces.



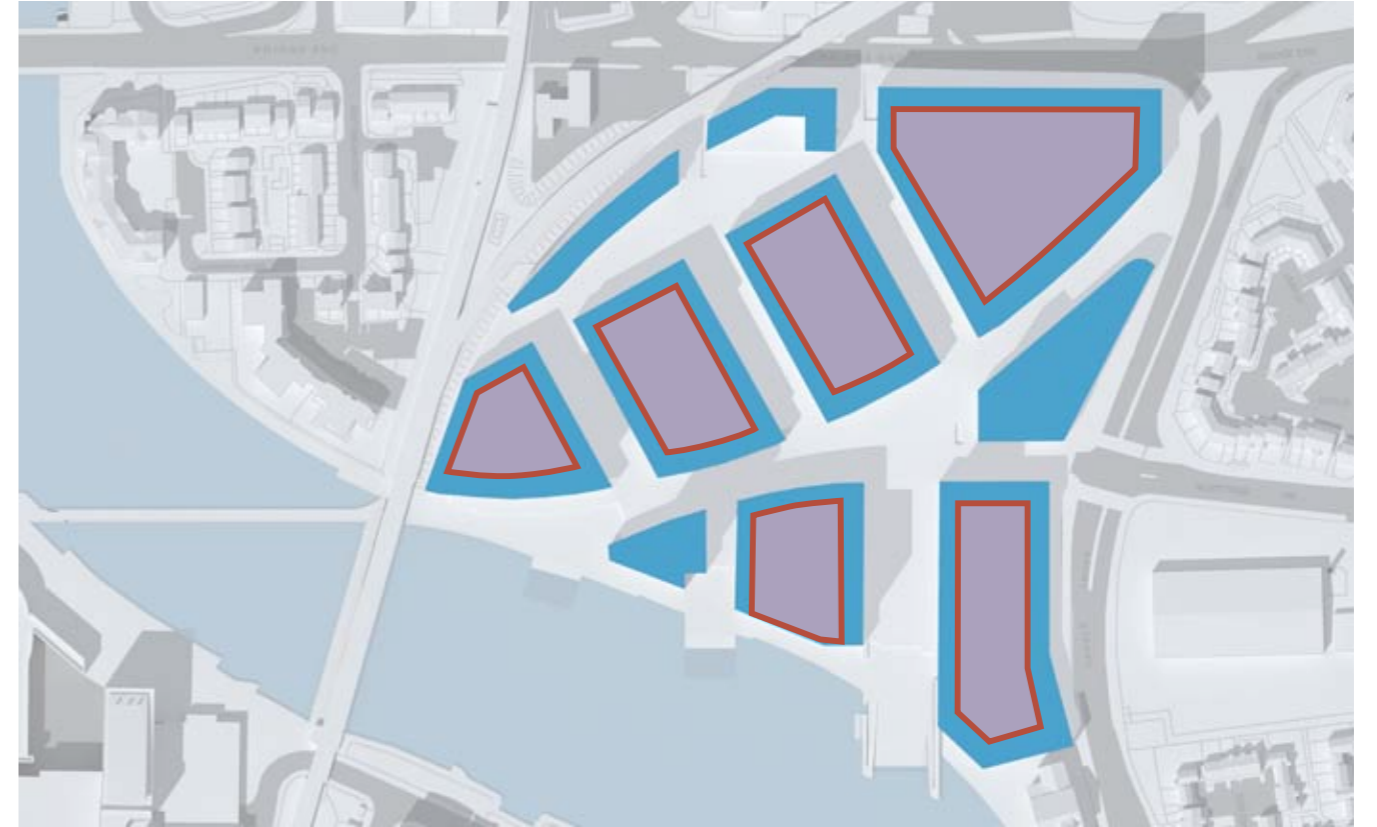
Sheltering the site



Both the view of the railway viaducts and its associated noise pollution are effectively screened from the site by the urban block layout. Careful architectural detailing will ensure that the buildings alongside the railway line are insulated from the noise and are orientated with a southerly aspect facing the park onto which they in front.



Private amenity space and internal courtyards



The layout creates a series of courtyards within the larger development blocks. The dimensions of the blocks ensure that a generously sized space is created. The courtyards are scaled and orientated in order to achieve good daylight penetration.



4.1.4 Provision

The urban block layout defines three key components of the Concept Masterplan: the development blocks, the streets and public spaces and the private internal courtyards. These components are shown on separate drawings. The dimensions have been designed to reflect the traditional Belfast urban block pattern, to deliver a fine urban environment, to ensure maximum light penetration into the blocks and to deliver a permeable urban form.

Development blocks

The layout includes a mix of perimeter blocks, “U” blocks, and stand alone blocks. Their dimensions are sufficient to support future building and use flexibility, and to define streets and spaces, but are not so large as to inhibit permeability of the street network.

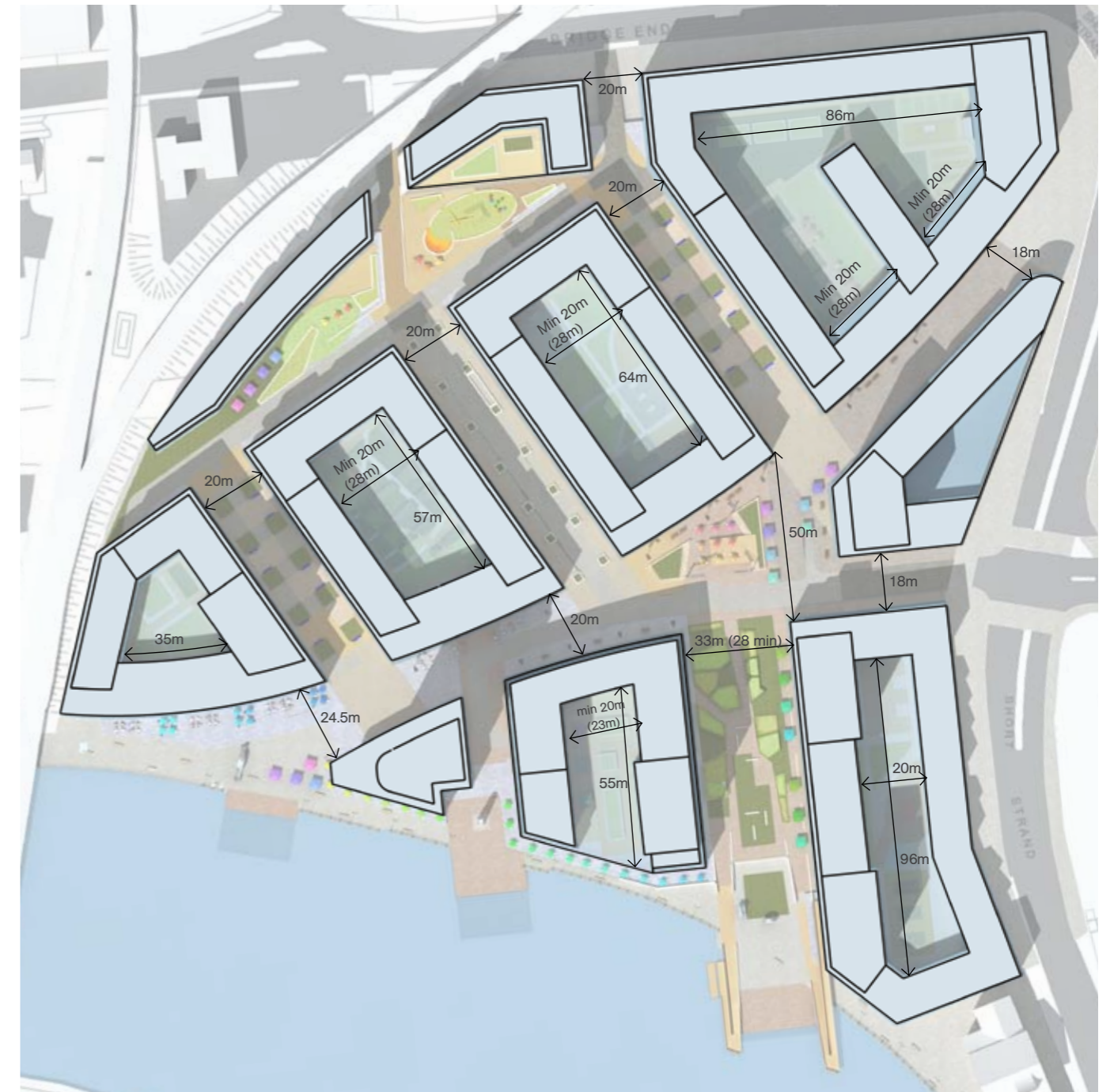


Development block layout

City streets and spaces and internal courtyards

Streets are positioned to allow generous provision of pedestrian space combined with vehicle movement and parking, and also trees and street furniture. They also provide good daylight penetration. The 20 meter street widths are within the maximum that allows people on opposite sides to recognise each other, thus fostering social cohesion. The 20 meter width also provides internal privacy for the apartments.

Internal courtyards are of sufficient size to allow sunlight penetration to the garden level apartments. Internal privacy is maintained by a minimum distance between apartments of 20 meters. They will be attractively landscaped to encourage communal use by residents.



City streets and spaces and internal courtyards

4.2 Massing envelope

4.2.1 Approach

The 'massing envelope' prescribes the limit of the built form of the development by defining the location of building set-backs and determining the maximum permissible building height.

In the process, it creates the physical form of the new neighbourhood: the shape of the buildings determines the shape and feel of the city spaces and sculpts the city skyline. The massing envelope gives the outline, while the architecture of individual buildings will articulate the concept.

The massing envelope has been carefully structured to achieve a number of important objectives. It ensures that all the streets will display coherent, consistent proportions and it responds to micro-climatic considerations such as daylight, wind and acoustics. The massing envelope also ensures that the larger sized urban spaces and the wide expanse of the riverfront are addressed by appropriately scaled buildings and it identifies the significant view corridors and the position of landmark buildings.

Principles

The massing envelope will:

- Define the appropriate extent of development.
- Ensure the physical manifestation of the design concept and its spatial structure.
- Create harmonious proportions to streets and open spaces.
- Define the location and extent of key landmark elements
- Ensure appropriate daylight penetration to both the urban spaces and the internal courtyards.
- Mitigate against any adverse impact of wind and noise upon the environment



4.2.2 Building height and city spaces

Following an analysis of city centre streets, the Sirocco street proportions were informed by the desire to recreate the sense of urban enclosure and scale of the best parts of the Belfast city centre, whilst also being driven by the need to allow good levels of sunlight into the area, particularly to the public realm.



City Centre section indicator



City centre section A - A

City centre section B - B

The cross sections below demonstrate how similar spatial characteristics of the city are emulated by the Sirocco masterplan. However, these spatial characteristics have been carefully modulated in response to a number of important criteria, as described over the following pages.



Sirocco section indicator

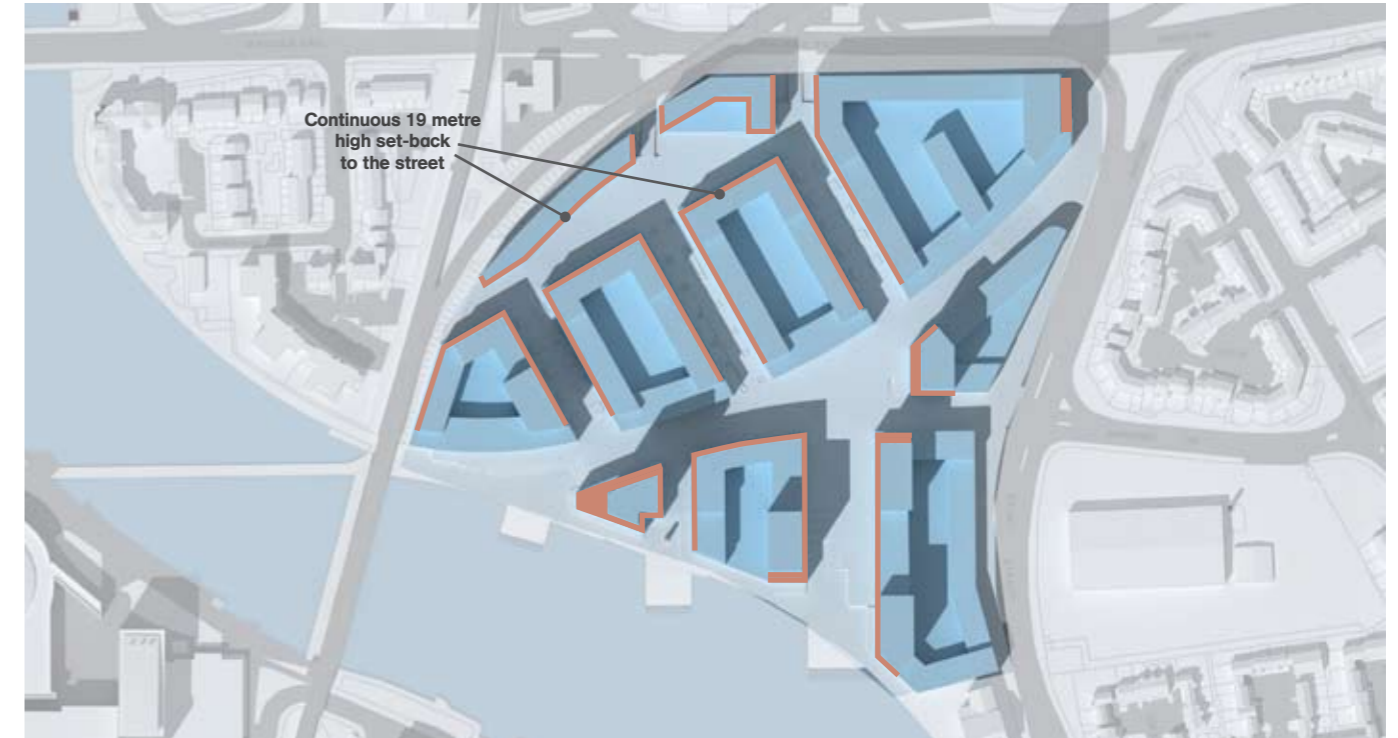


Sirocco street sections C - C

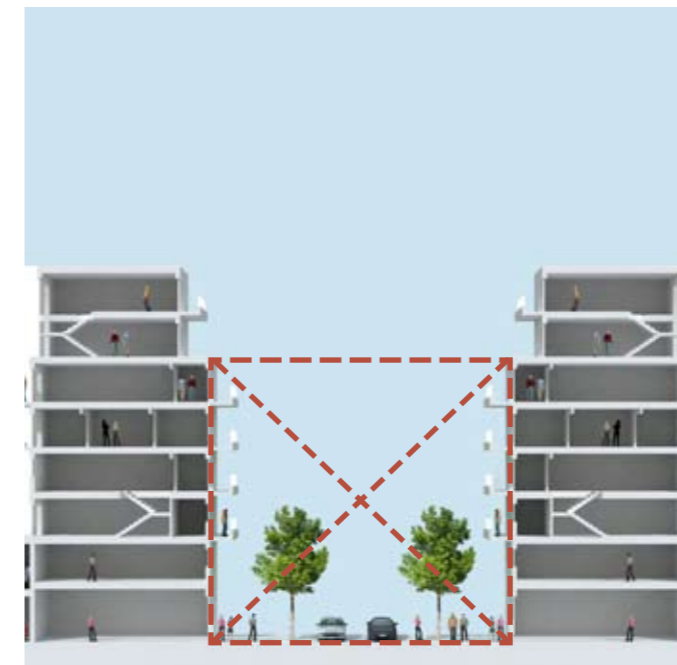
Sirocco street sections D - D

Continuous set-back at 19 metre height

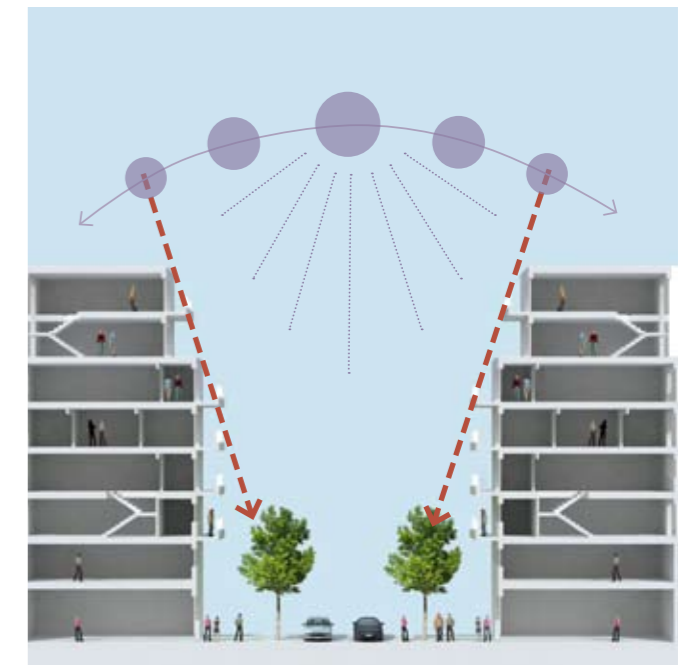
A consistent set-back to the street at a height of 19 metres from the pavement level will be applied to all buildings which are taller than six storeys.



The continuous setback creates a consistent, harmonious 1:1 proportion to the streets giving them an appropriate human scale. It also achieves a more elegant profile to the elevations and allows for greater variety in architectural expression. The setback additionally benefits the micro-climatic environment. The setback further assists in mitigating against downdrafts from taller buildings and facilitates better daylight penetration to both the buildings and the street.



Cross-section demonstrating the 1:1 proportions of a Sirocco street



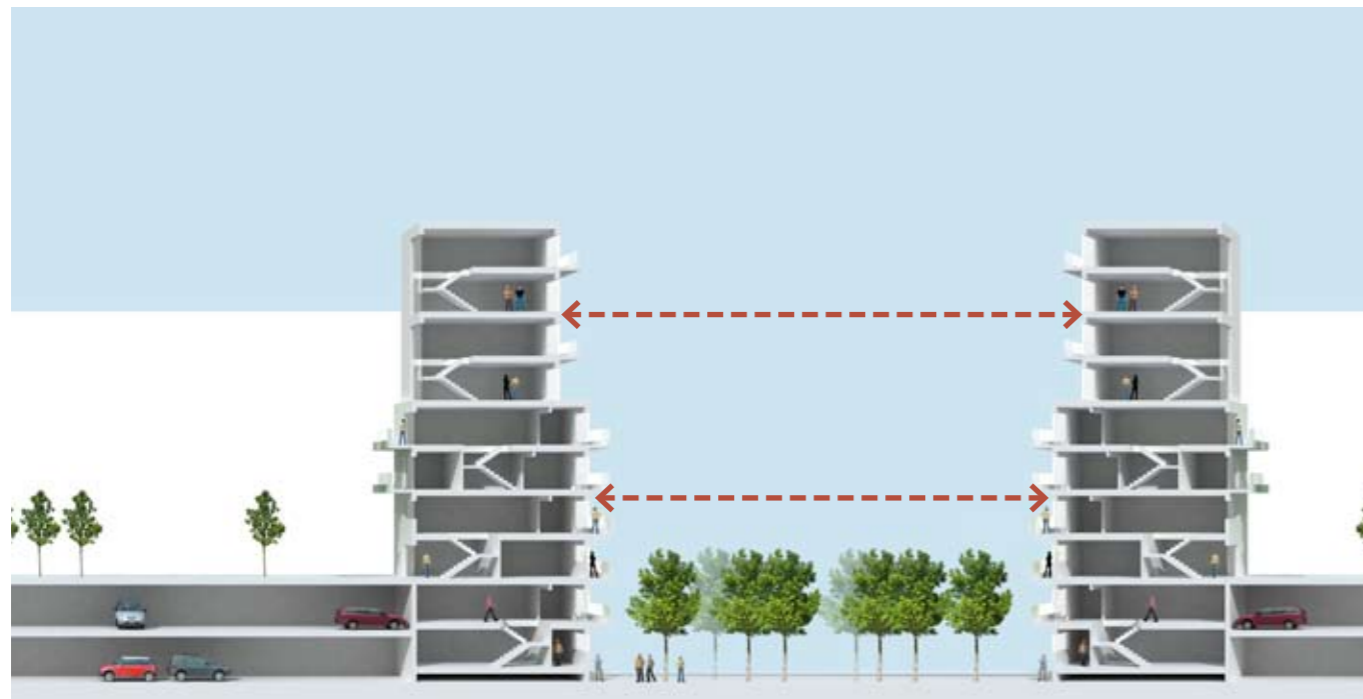
Cross-section demonstrating the impact of the set-back on the micro-climate.

Building massing in response to the scale of open spaces

Building heights have been determined in response to the vision for achieving a city centre character and population density to support a range of services, while also framing the streets and public spaces.



Both the crescent park to the north and the central park on the Lagan are contained by buildings which create a vertical scale that responds to the horizontal scale of the space. The buildings give definition to the space and facilitate overlooking of the parks, thereby promoting a sense of safety to these public spaces. The size of the parks ensures appropriate daylight penetration, as demonstrated in the studies in Appendix C.



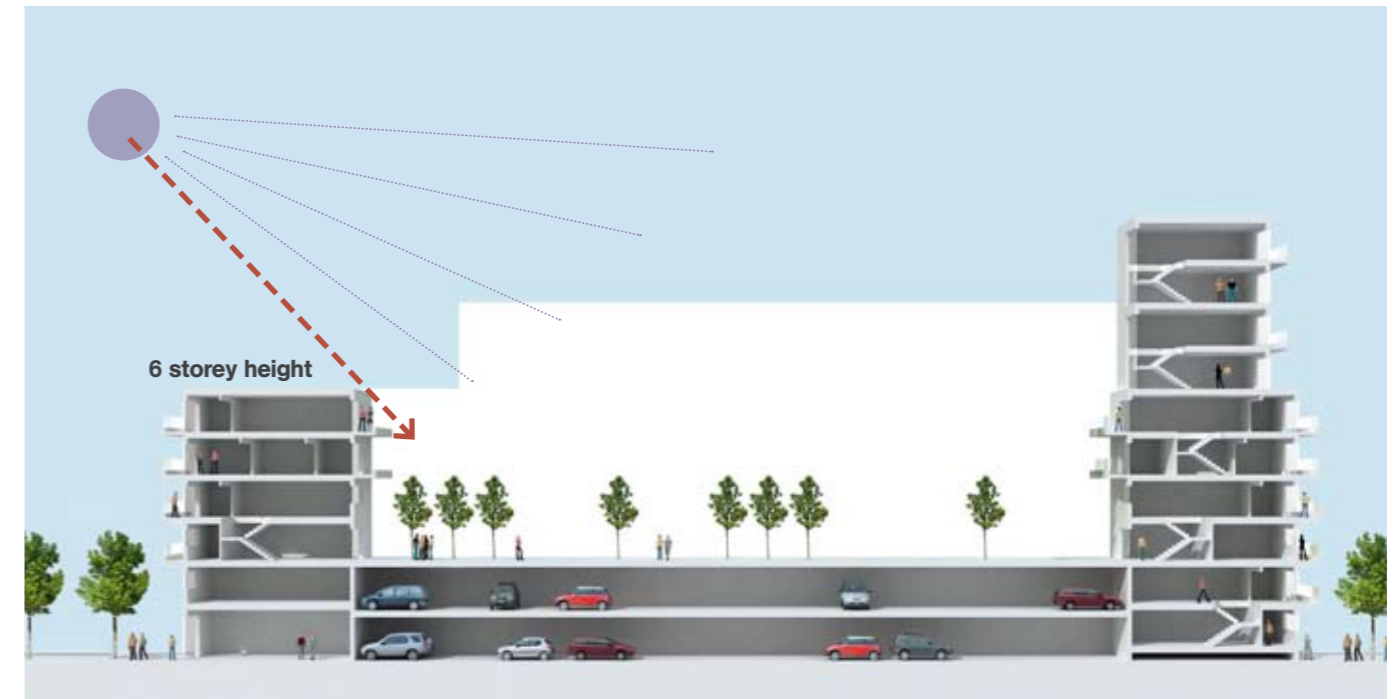
Cross section demonstrating building height in relation to the wider space of the Crescent Park

Lower heights to maximise daylight penetration to the internal courtyardst

Lower building heights are promoted on the southern edge of the development blocks in order to ensure that good levels of sunlight are received by the internal courtyards and the dwellings that contain them.



The lower building heights on respective southern elevations increases the number of homes that will have views towards the river, whilst simultaneously improving the daylight penetration. Raised internal courtyards over the parking levels further improve the amount of sunlight which the communal spaces receive, as demonstrated in the section below.



Typical longitudinal section of a development block demonstrating the positive impact on daylight penetration of the raised courtyards and the lower southern elevation

4.2.3 Landmark Buildings and the City skyline

Cities and their skylines are constantly evolving, particularly during times of economic prosperity. Tall buildings, when appropriately located and beautifully designed, make positive contributions to the effective functioning and aesthetics of the city. They act as beacons of regeneration, signifying economic confidence, and can stimulate further investment in the immediate and wider context.

Tall buildings also make highly efficient use of urban land and, when sited within close range to an efficient public transport infrastructure, allow for the reduction on the dependence of the private car while reducing the need to accommodate 'on-site' parking.

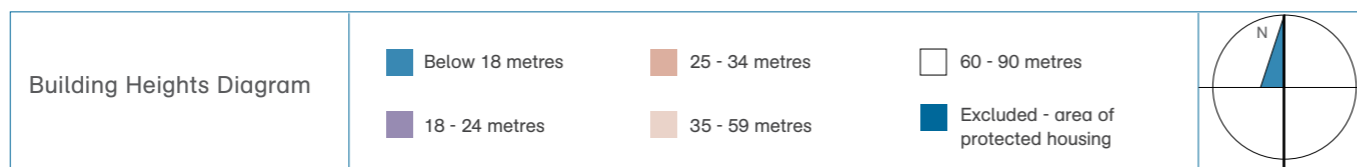
They can contribute to the public realm in a number of ways, particularly by containing active uses within the lower floors, and by designing carefully at the point where the building meets the ground and merges with the public realm.

Public access to top or upper floors, with for example restaurants and viewing terraces, offer popular visitor destinations and enable the views afforded by tall buildings to be enjoyed by all.

Belfast tall building cluster

Current best practice on the siting of tall buildings favours clusters of tall buildings in strategic locations. These clusters can fulfil a role in marking key urban centres and other important aspects of the city – for example waterfront areas – to assist people in negotiating large conurbations.

As the building heights survey below demonstrates, a cluster has already emerged on the western bank with buildings of considerable height, including up to 35 stories, that provide an appropriate urban scale that is

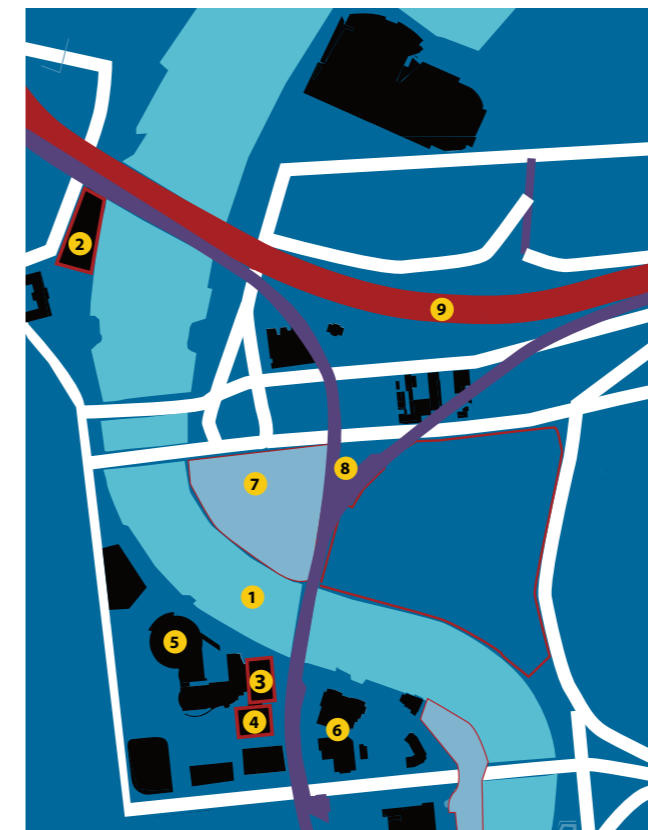


compatible with the scale of the river. The existing high buildings adjacent to the waterside is now beginning to effectively mark the riverside route, forming an intensely urban edge.

The Sirocco masterplan will respond to this emerging cluster of waterfront tall buildings by locating landmark buildings adjacent to the Lagan. An enlarged cluster should help to mark out the expanding urban centre for Belfast, while re-orientating the city towards its river.

Character area

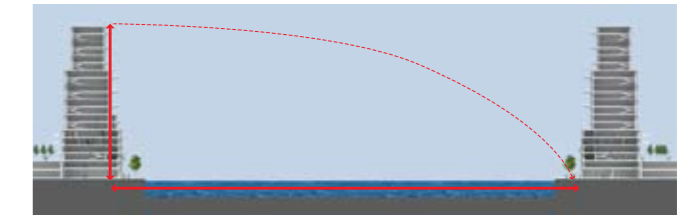
By including tower elements that address the riverfront, the masterplan further ensures that new development addresses the scale of the urban elements of the character area (river, railway viaduct, elevated motorway) as well as reflect the contextual building heights range of 4 – 15 storeys with vertical tower elements that rise between 20 and 35 storeys.



- Sirocco character area - large scale elements and infrastructure**
1. The wide expanse of the River Lagan
 2. 35 storey Obel Tower (under construction)
 3. 20 storey Hilton Tower
 4. 20 storey BT Tower
 5. The Waterfront Hall
 6. Office buildings (6-12 storeys)
 7. Protected housing
 8. Elevated railway
 9. Elevated M3 motorway

Tall buildings and the river

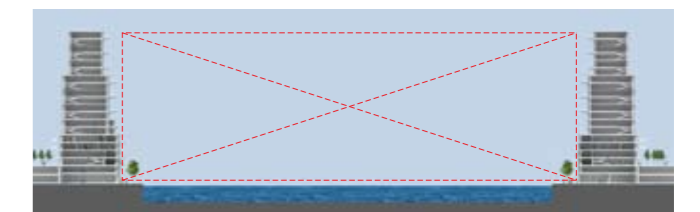
The location strategy for tall buildings also responds to the sheer scale of the river, acknowledging its capacity to accommodate taller buildings. Tall buildings are also acknowledged as helping to define the urban corridor of the waterfront within its City Centre context.



The horizontal scale accommodates the vertical scale of tall buildings



Tall buildings on one side of the Lagan create the impression that the city edge is located on one side of the river



Tall buildings on both sides of the river help to define the river corridor within the City Centre

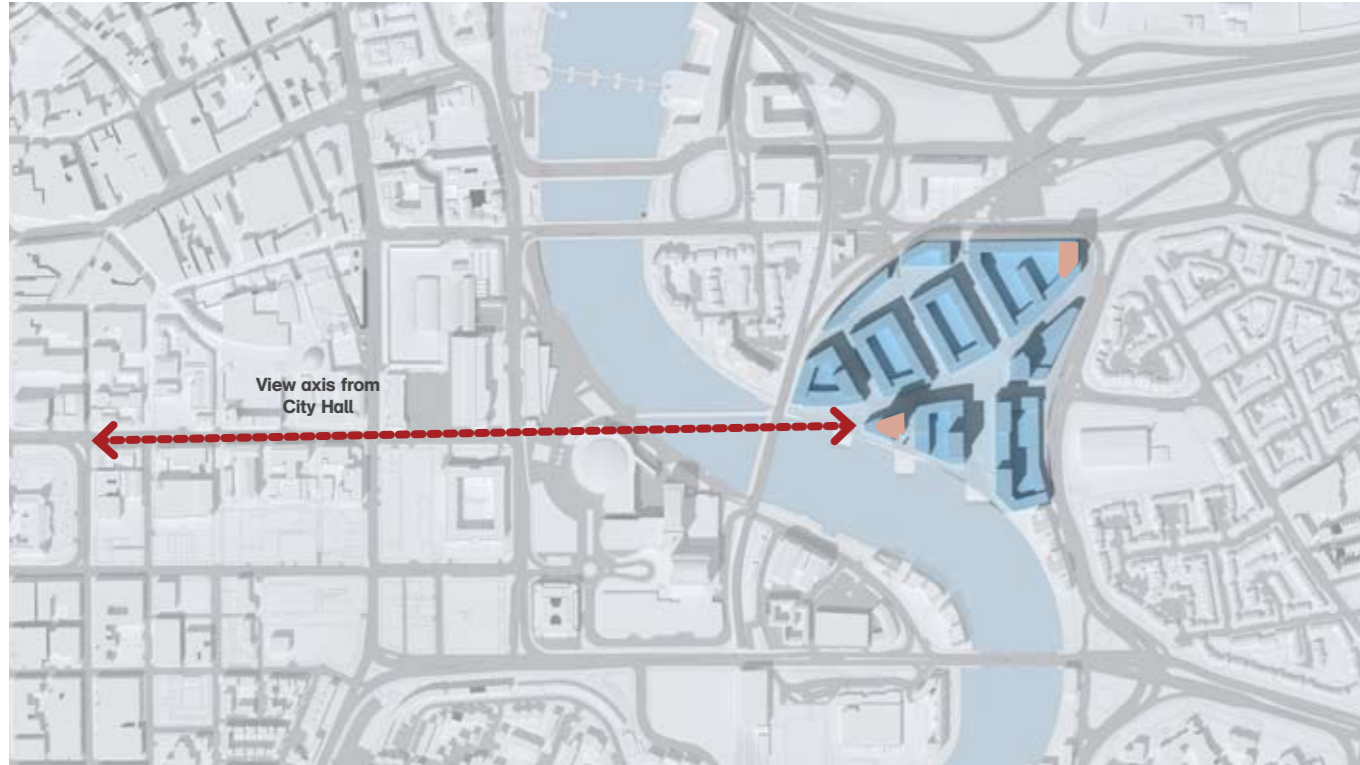
Location strategy

In response to the above design considerations and in order to respond to the imperatives for increased development height and density required by the sites position within the Central Station Accessibility Zone, the location strategy for tall buildings at Sirocco has been structured to meet three objectives:

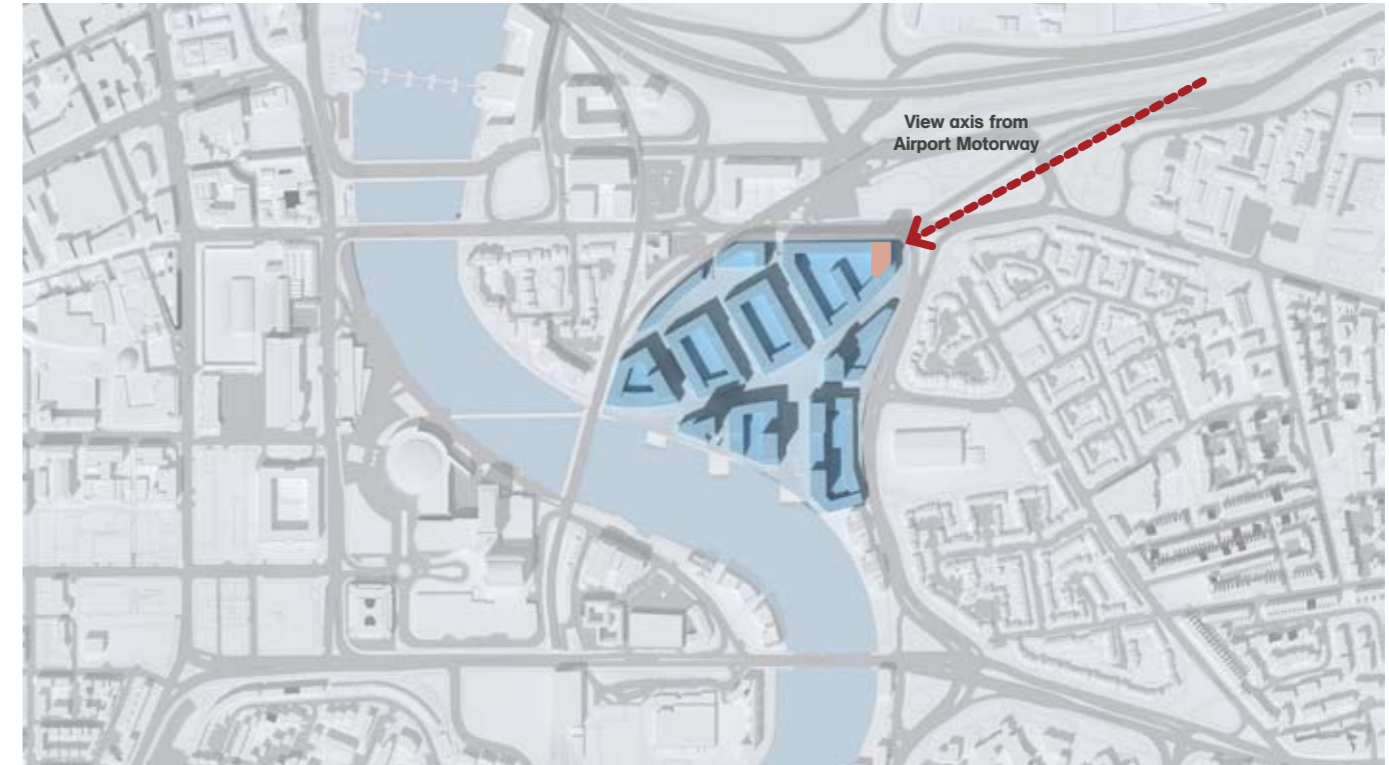
- identification along the Chistester Street axis
- mark the waterfront and curve of the river
- provide identifiable gateway locations

Long range skyline

The tallest buildings are placed where they will enclose or make a positive contribution to long range vistas around the city. These buildings will enrich the skyline and urban character of Belfast as a whole.



A landmark tower is located on the Chichester Street Axis, symbolically reinforcing the extension of the city on the Eastern bank of the Lagan.



A gateway tower is located on the city centre boundary on the primary approach from the east, echoing the gateway Kiln that once stood in the same location as the British Isles tallest structure.



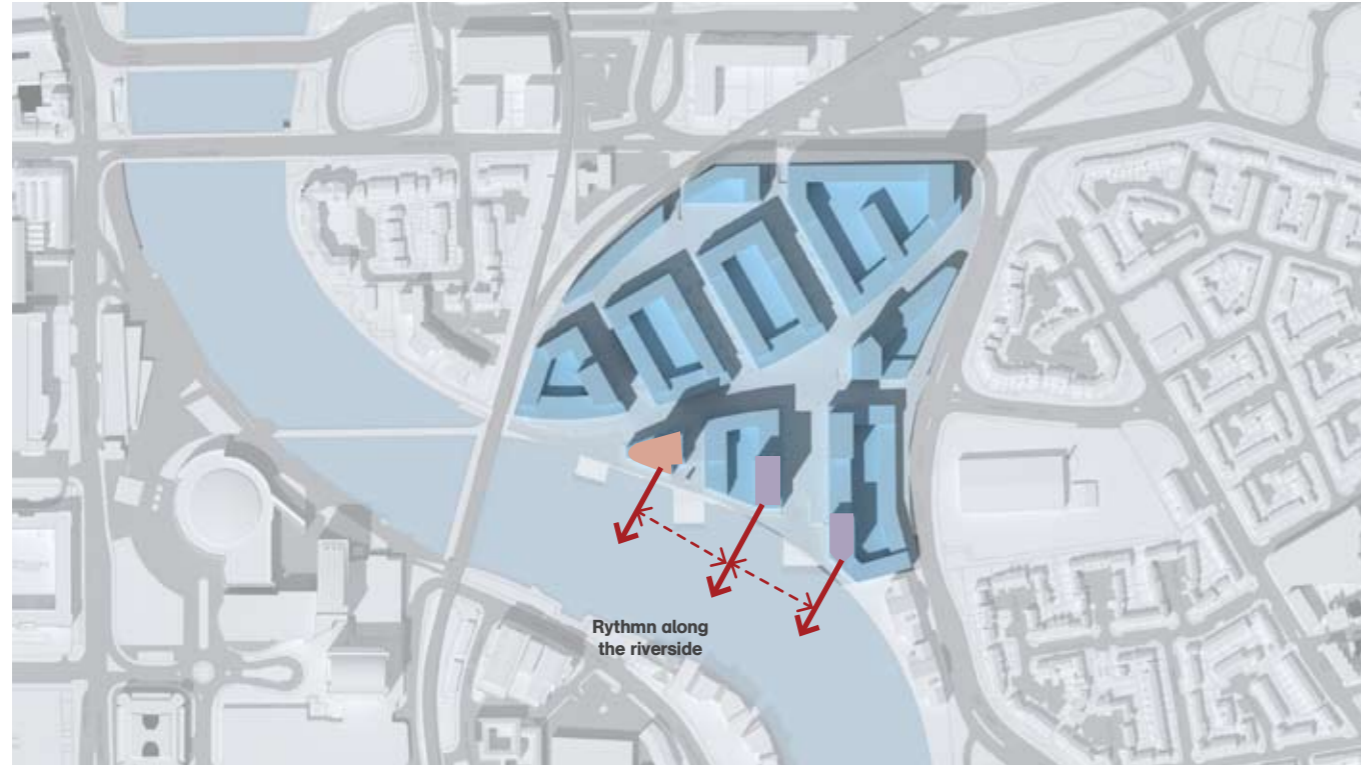
Verified view from in front of the City Hall of the proposed Sirocco development



Verified view from in front of the City Hall of the proposed Sirocco development

Waterfront cluster

Medium sized tall buildings are located where they will contribute to the emerging Riverside Cluster.



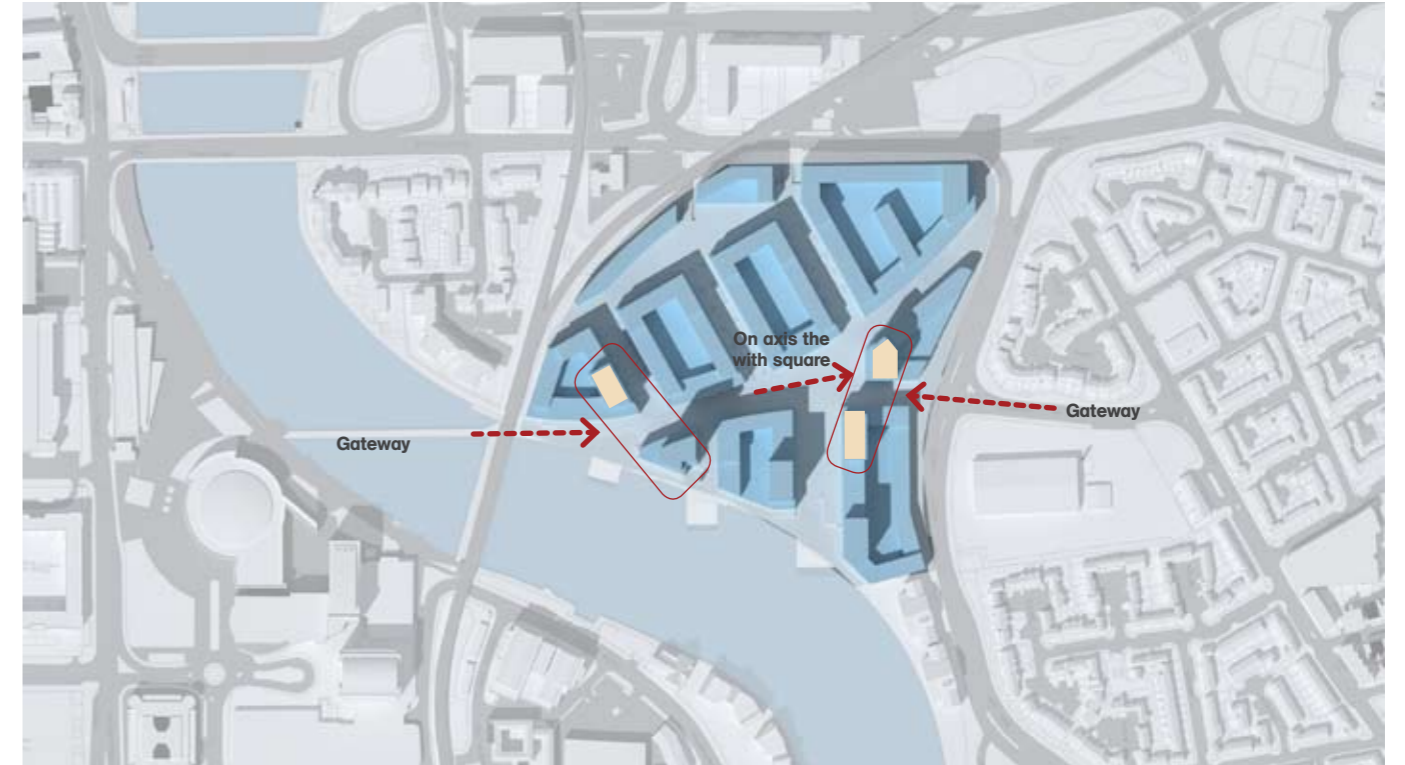
The riverfront towers are comfortably accommodated along the waterfront with their vertical scale counterbalanced by the broad horizontal space of the river. The towers come to reflect the cluster of tall buildings on the western bank, creating an 'equally balanced' city on both sides of this short stretch of the River Lagan.



Verified view from the western end of the Queens Bridge

The urban quarter scale

Relatively tall buildings are placed where they will assist in placemaking and wayfinding at the 'local' scale. These buildings mark the edge of the development or reinforce urban scale at important nodes within the development, for example where public squares are created.



Gateway towers are located to assist with placemaking by framing the views from within and by signifying the threshold of the new neighbourhood on approach. A low rise tower terminates the view along the main street at the proposed central square and addresses the horizontal scale of the space.



Verified eastern view of the city with the Belfast hills in the background

4.2.4 Putting it all together

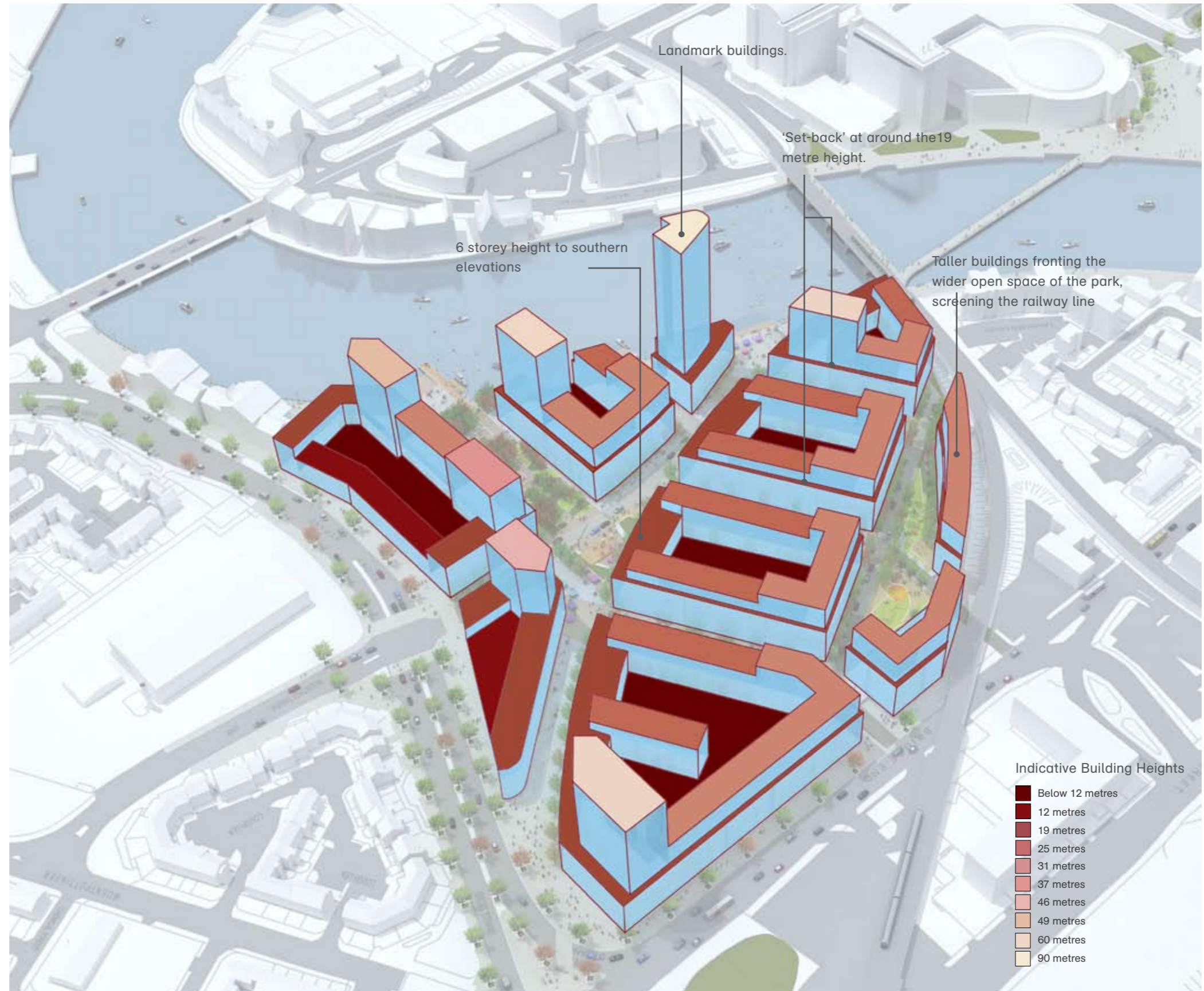
The general storey height ambient has been dictated by the desire to respond to the urban context of the site, its location next to well connected public transport infrastructure, and the need to produce a density and intensity of uses appropriate for a city centre. This relatively consistent 6 - 10 storey height has been carefully punctuated with a series of tall buildings, positioned at strategic gateway locations, adjacent to the waterside and the primary axis at the edge of and within the development.

The final building heights have therefore been determined using the criteria, previously described, which in summary are:

- to create a set-back at a height of 19 meters to develop consistent 1:1 street proportions, create a gentle building profile and maximise daylight penetration;
- to ensure that the vertical scale of buildings responds to the horizontal scale of the squares and parks, thereby fostering a sense of enclosure while allowing good levels of overlooking of the space;
- to limit the heights of southern elevations of development block to around 6 storeys to facilitate better sunlight penetration to the courtyards and to the dwellings that enclose them;
- to structure the urban environment to include appropriately located landmark towers and gateway buildings that address the city skyline, the waterfront cluster and the appropriate urban scale.

When the building heights thus determined are extruded into 3 dimensions, they create a massing envelope which informs the development parameters.

4.2.5 Massing Envelope



4.3 Architectural expression

4.3.1 Approach

The architectural form will emerge as contemporary in both style and approach, yet it will also be required to respond to the best of the built legacy of its city centre context. Each building should be recognised as being part of an overall composition on the site and, to some degree, the city itself. Design will therefore be informed by each building's role within both the Concept Masterplan and, in respect of the taller and riverside buildings in particular, the broader city structure.

To ensure that the Sirocco Waterfront ultimately functions like a city centre extension, with a rich and varied array of architecture, it is expected that the scheme will benefit from the hands of a number of highly skilled architectural practices.

The buildings will be required to give appropriate expression to their specific functions, reflecting an urban quarter that is physically animated with lively and articulated external facades. Special care will also need to be given to how each building touches both the ground and the sky with an 'engaging' ground floor that animates and interacts with the street, and a carefully considered response to the impact of the development on the city skyline.

The masterplan provides criteria for future architectural solutions, but does not pre-empt the detailed design process. Style, materials and detailing should be considered in the context of the specific brief and the development specification for each building, where they can be properly evaluated in the context of the final design.

This approach ensures that the detailed design of each individual building will be fully considered at the point of a detailed planning application where the design can be reviewed in the context of this masterplan document and the specific brief for each building, as well as be subjected to the normal planning evaluation criteria.

Principles

The architectural form will:

- Address the buildings role within the urban structure of both the Concept Masterplan and the City.
- Display distinctive forms of expression including designs produced by a number of highly skilled architects.
- Achieve contemporary and exemplary architecture.
- Develop a contextually sensitive response that acknowledges the architectural form, style and materials palette which typifies Belfast city centre.
- Reflect the need for an active, sociable ground floor.
- Make a positive, memorable contribution to the city skyline.

4.3.2 Provision

High architectural quality is an imperative and plays an integral part in good place making. Scale, form, massing, proportions, as well as choice and detailing of materials, are critical considerations in creating a harmonious and coherent piece of urban planning.

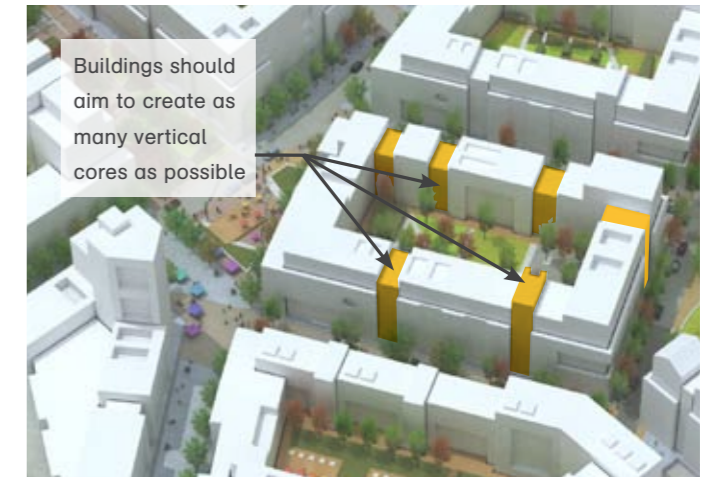
In order to guide the architecture to this effect, guidance for each building includes the requirements of the section and the elevation. The elevation is described according to its three horizontal components: meeting the street, the middle section and touching the sky.

4.3.3 Meeting the Street

The residential ground floor

Every opportunity will be taken to create frontages that are open to the street, particularly on the ground floor where entrances and windows offer the greatest opportunity to interact with and provide natural surveillance over the public realm.

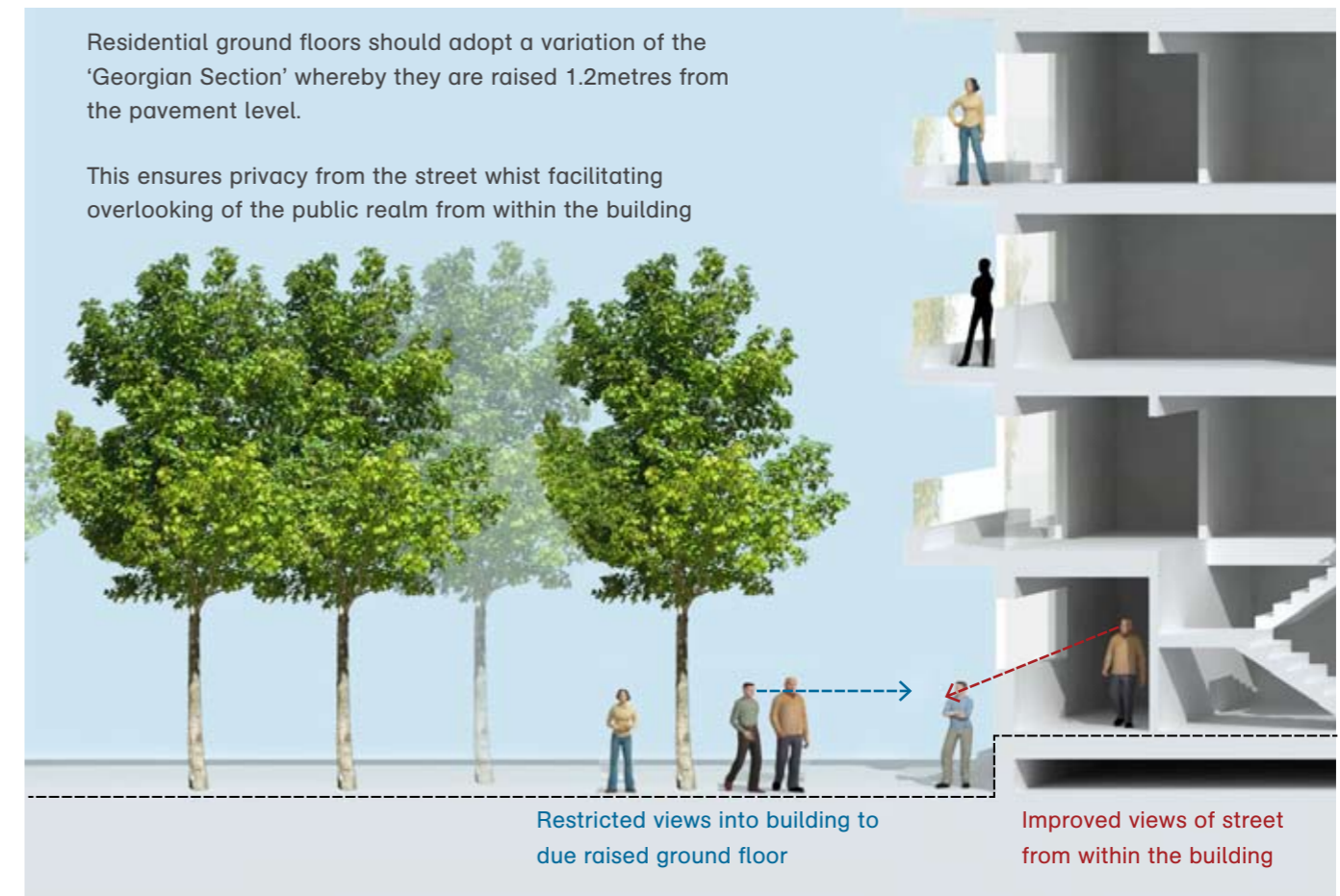
The architectural design of individual blocks within the masterplan will be required to provide as many circulation cores as possible in order to increasing the number of front doors along the street. Circulation cores also help to reduce the apparent scale of the building by establishing a vertical rhythm to the façade.



Circulation cores within urban blocks

Residential ground floors should adopt a variation of the 'Georgian Section' whereby they are raised 1.2metres from the pavement level.

This ensures privacy from the street whilst facilitating overlooking of the public realm from within the building



Ground floor residential section

Landuse activated ground floors

The masterplan has been designed to create a pedestrian environment that is lively, sociable and safe. Moving through the city on foot one experiences two aspects: the distant framed views of the city, river and hills, and the intense, close contact with the uses and activities of the ground floors of the buildings.

The ground floor thus becomes a crucially important component of every building; it is architecture for the 5km/hour mover - matching walking pace. At this scale viewers have a good vantage point and the time to appreciate different activities with the physical proximity to engage.

The following considerations should inform the design of the ground floor:

Interactive

To ensure the Sirocco development delivers a good urban environment, edges and transition zones between buildings and spaces will become home to a wide variety of activities that link the functions within the building to life in the street. The more animated the ground floor is, with a range of uses, and landscape and architectural devices, the more it will invite people to linger and support activities and businesses. Public art, bespoke street furnishing and places to rest awhile are important elements to facilitate interaction that have been encouraged within the masterplan.



Scale and rhythm

Smaller units within the development will provide a wide range of experiences with many points of exchange between the inside and outside, creating life and variation at eye level. Unbroken horizontal ground elevations are to be avoided as they can create a tiring perspective whilst, by contrast, vertical façade rhythms are encouraged as they make a walk more interesting and animating, impacting positively upon the perception of distance.



Transparency

Visual contact between inside and out considerably broadens the range of experiences both in buildings and the urban spaces. Windows and displays should be well lit into the night. There is no place for roller shutters in such an urban context.



Texture & Colour

Good materials, creative use of colour and carefully crafted details will become an inherent attraction for people strolling through the Sirocco Quays development. Such visual texture in the street scene enriches the urban experience and is an integral part of place making.

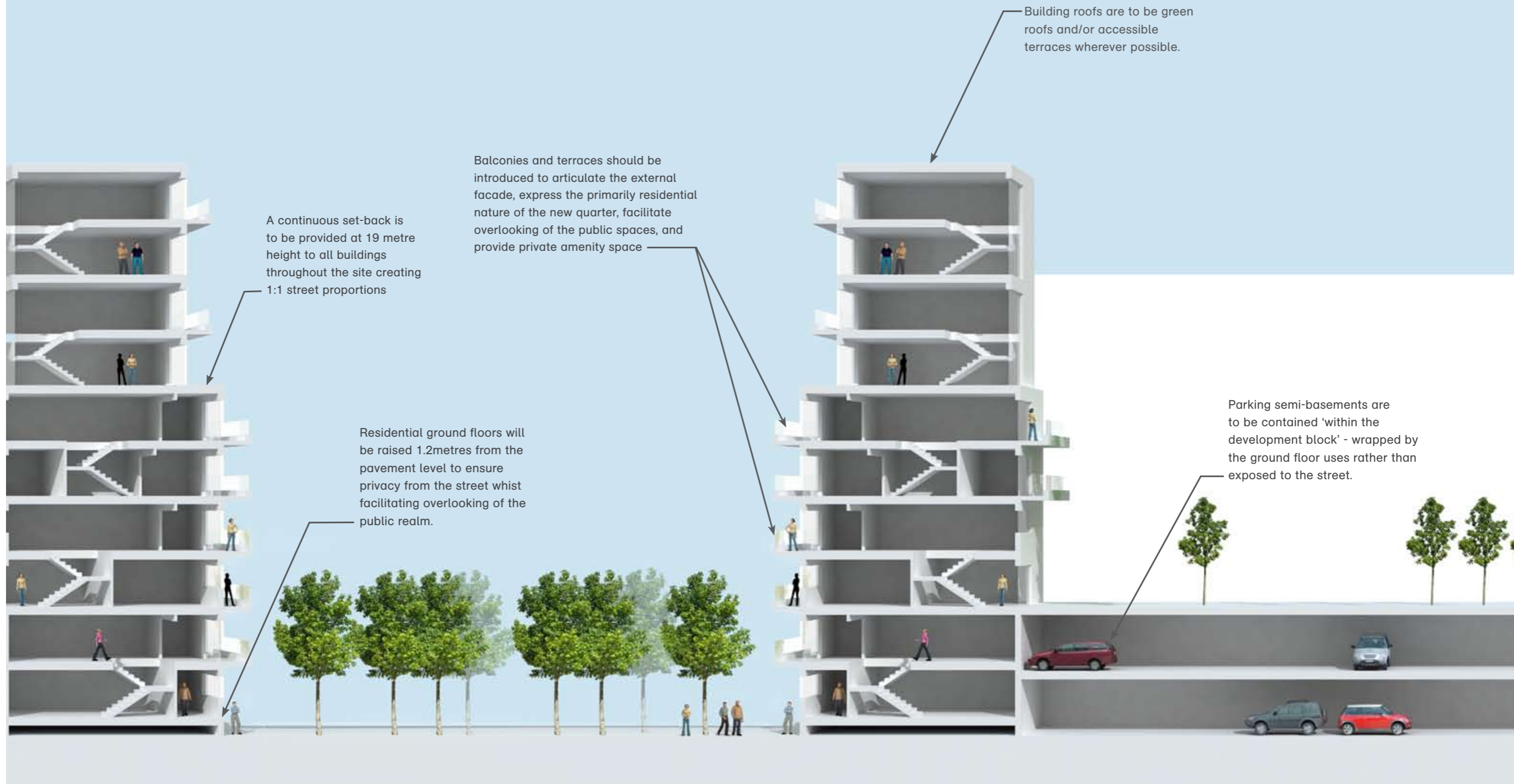


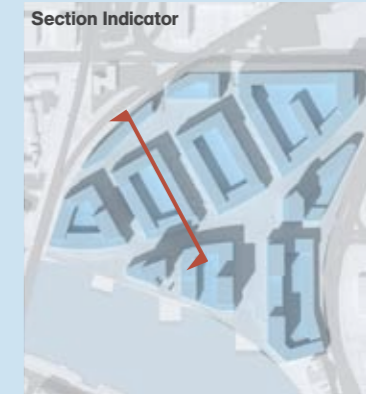
Diversity and Continuity

Functions have a mirror impact on the activity and the attractiveness of the spaces outside. To this end, the masterplan has provided for a rich array of uses to which the detailed architectural design should respond by offering multiple points of exchange and the opportunity for a variety of events and experiences. The architectural will also be required to respect for the building line, particularly at ground level, providing a continuity of experience and creating a spatial coherence to the public realm



4.3.4 The Sirocco section

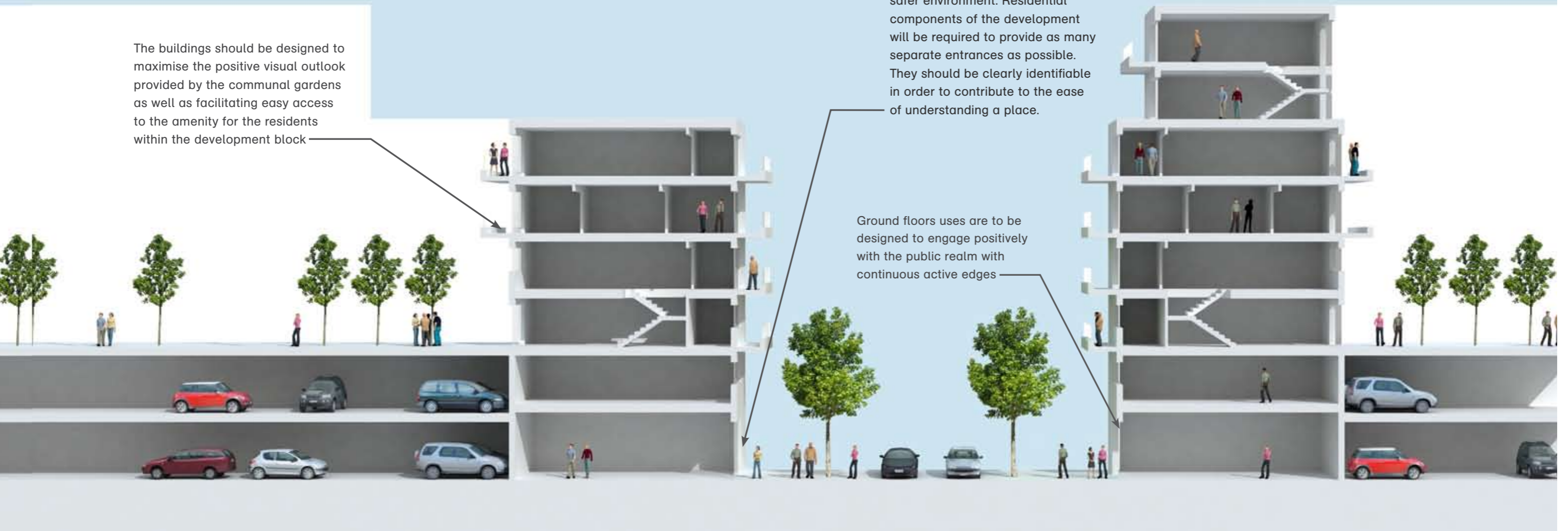




The buildings should be designed to maximise the positive visual outlook provided by the communal gardens as well as facilitating easy access to the amenity for the residents within the development block

Front doors are where people move between public and private space and create activity on the street as well as fostering a safer environment. Residential components of the development will be required to provide as many separate entrances as possible. They should be clearly identifiable in order to contribute to the ease of understanding a place.

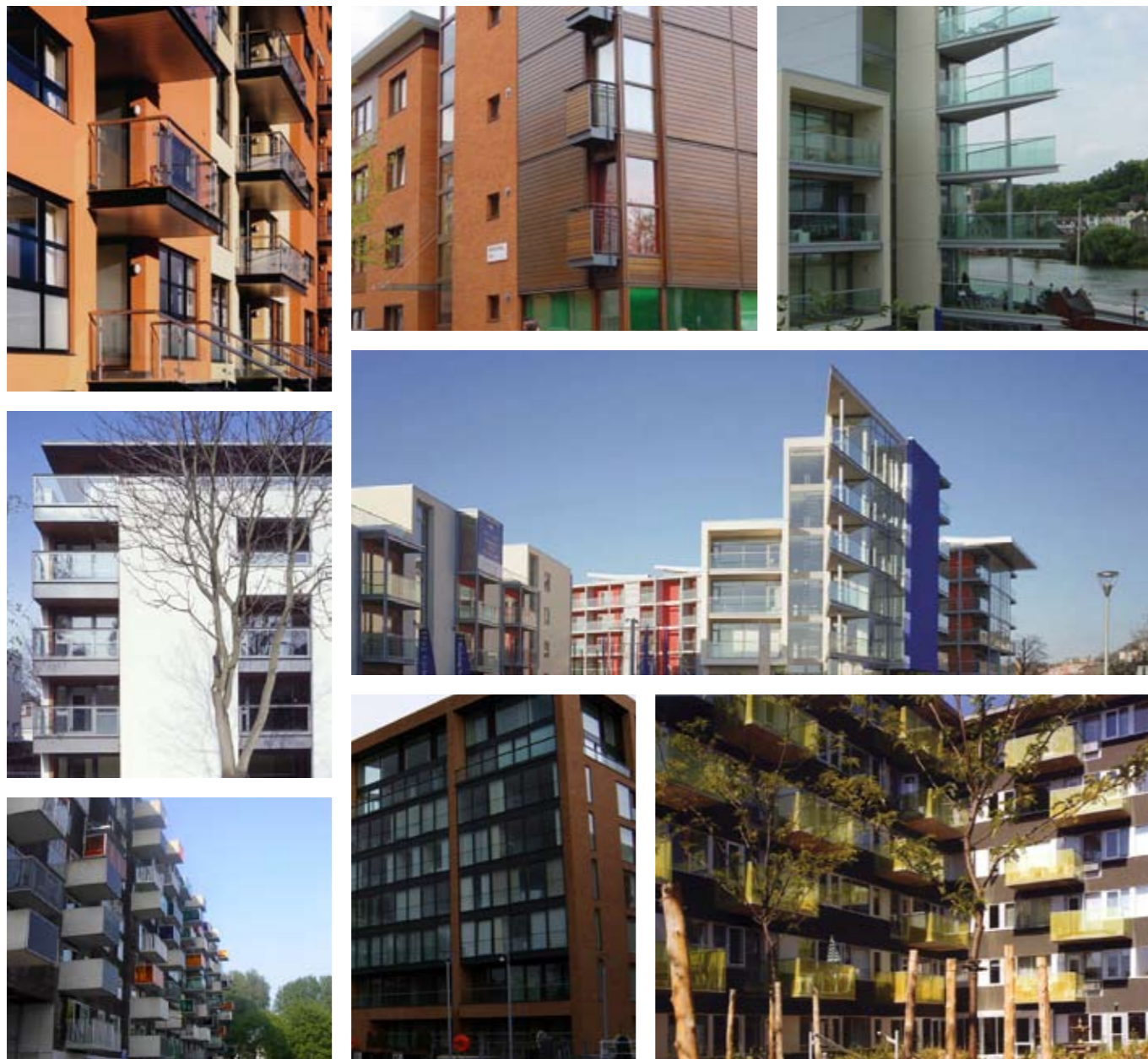
Ground floor uses are to be designed to engage positively with the public realm with continuous active edges



4.3.4 The Middle Section

The middle section of each building is most clearly visible from a distance of 15-20 meters away; short range views such as from across the street. The façade and massing should be designed with a consideration for the sense of scale and proportion that is perceived from these distances.

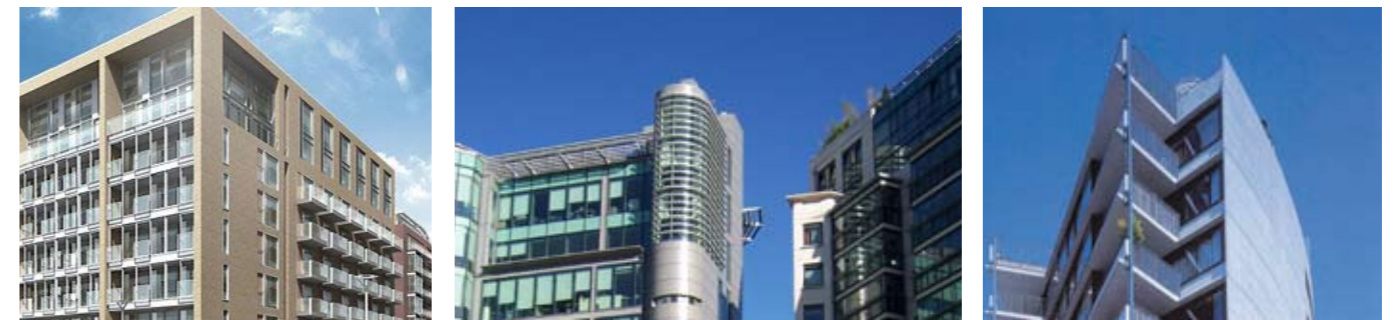
Apartment blocks should have a rhythmic pattern of accommodation that is expressed externally to provide visual animation and delight to the street scene while deconstructing the horizontality of the block. Projections such as balconies and setbacks will help to articulate the block and introduce a sense of texture and human scale, as well as providing private open space for residents.



4.3.5 Touching the sky

The top section of the building is only ever experienced as a middle or long range view. From a height of 19 metres, there is a continuous setback to all buildings across the masterplan, designed to create a gentle and more varied building profile. The top section invites architectural expression that allows for a sense of 'lightness' in selection of materials and design including the possibility of an increase in openings and windows.

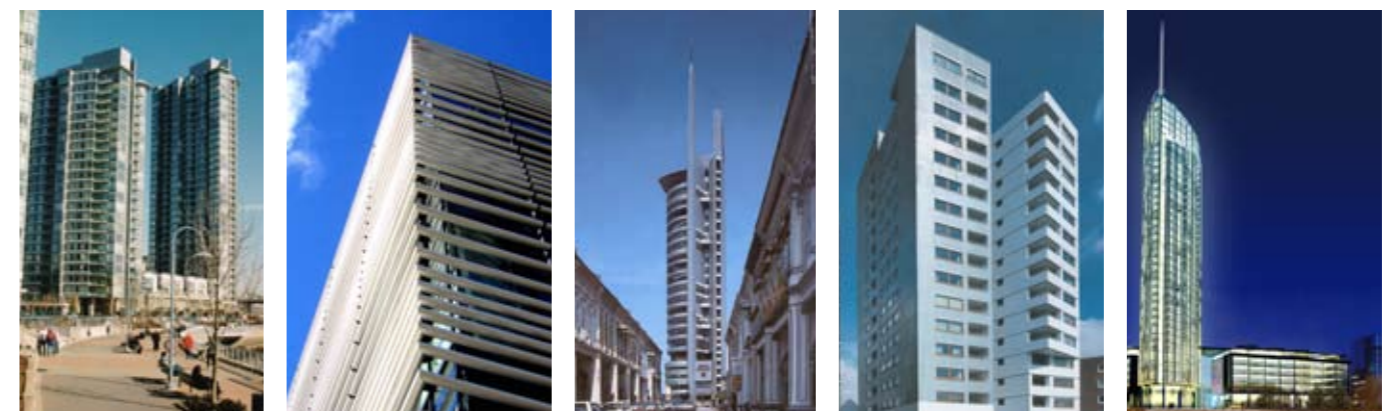
Mechanical equipment should be integrated into the building design to prevent visual clutter on the roof. Green roofs should be introduced wherever possible and amenity space should be provided by the introduction of balconies and terraces.



4.3.6 Landmark buildings

These help to create a legible urban quarter but also contribute to the image of the place. They should be of the highest calibre of architecture, while successfully integrating with their surroundings, including appropriate consideration and respect for local heritage. They must also engage positively with and contribute to the public realm through particular attention being paid to how the building arrives at ground level. Sustainability is a paramount consideration in the design of landmark buildings.

Towers must achieve a slender, elegant and articulated profile that demonstrably minimises the mass of the building. They should evoke a sculptural quality while being designed with consideration to being part of a wider 'composition' within the site and the City. Towers must have a presence that is simple, strong and memorable. High quality, extremely well detailed materials must be used to reinforce the buildings landmark status.



4.3.7 Strengthening local identity

Distinctive places have their own character and atmosphere, created by a variety of architectural styles that give them a sense of richness and diversity.

The architecture of the Sirocco Quays development will help to develop a strong local identity through:

- ensuring diversity, resulting from a range of individual designs by different architects
- drawing on local traditions of built form, materials and craftsmanship
- promoting contemporary architecture that is responsive to its role within the masterplan and which engages positively with the public realm



Illustrative watercolour render of the Sirocco Quays Masterplan, representing the varied architectural responses to different development blocks