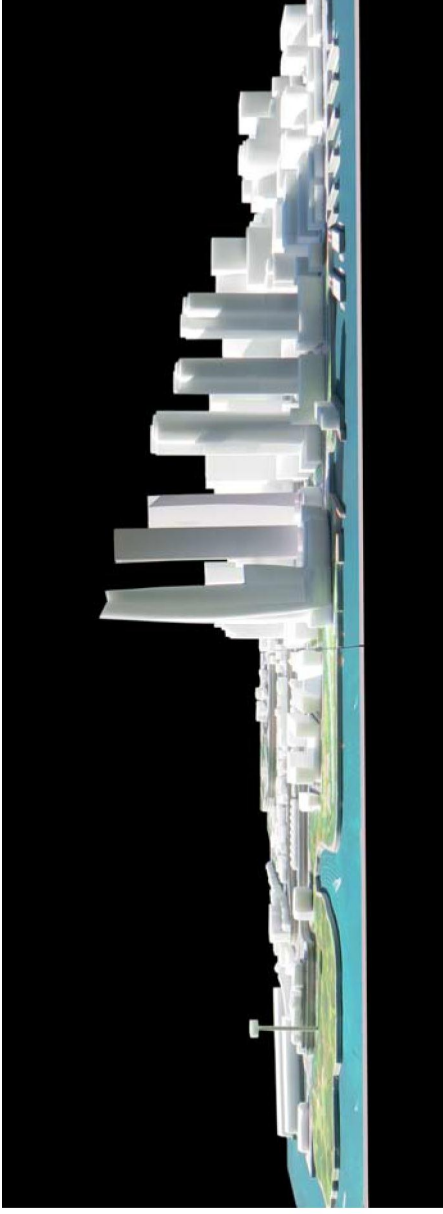


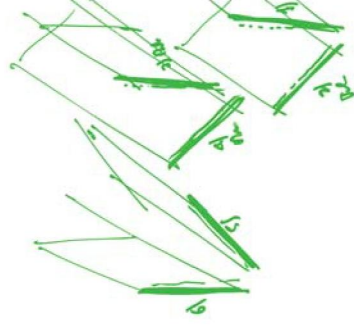
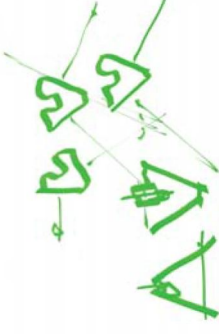
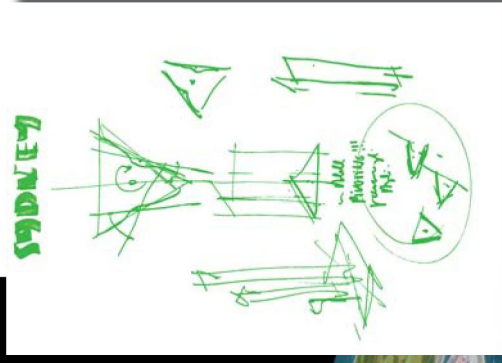
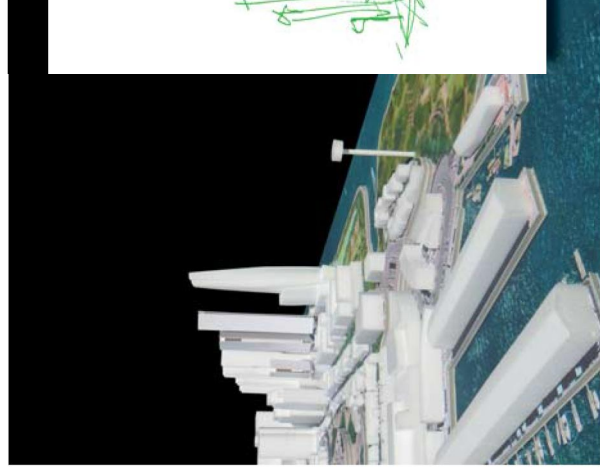
Massing Study Models and Sketches



In planning the ground plane a great deal of attention went into maximising the creation of active spaces within the adjacent public realm. Lobbies, amenity facilities and retail spaces are designed and located in a way that will draw life into the precinct.

The fragmentation of the podium will create visual glimpses and pedestrian pathways between Hickson Park and the commercial district in and to the waterfront in the west.

The impact of service vehicles and parking was minimised by relegating these to the basement.



3.3 Geometry and Alignment

The decision to locate the towers on the southern edge of the site was driven by several factors. Foremost amongst these was a desire to create an engaging formal dialogue with the other proposed buildings in the Barangaroo development and to take maximum advantage of the site's latent qualities as well as those of the surrounding environment.

Sun, wind, and views determine the orientation of the main planes of each single tower. A wind study was undertaken to ensure that the towers did not create areas of discomfort at street level or within the towers themselves.

The southern alignment of the towers allows for the creation of a large park to the north of the site (Hickson Park) which is directly linked with the harbour foreshore and to Hickson Road, consistent with the Concept Plan (Mod 8) layout.

The staggered roof profiles and slim proportions of the three towers creates a dynamic arrangement between the proposed Crown Hotel and the commercial towers.

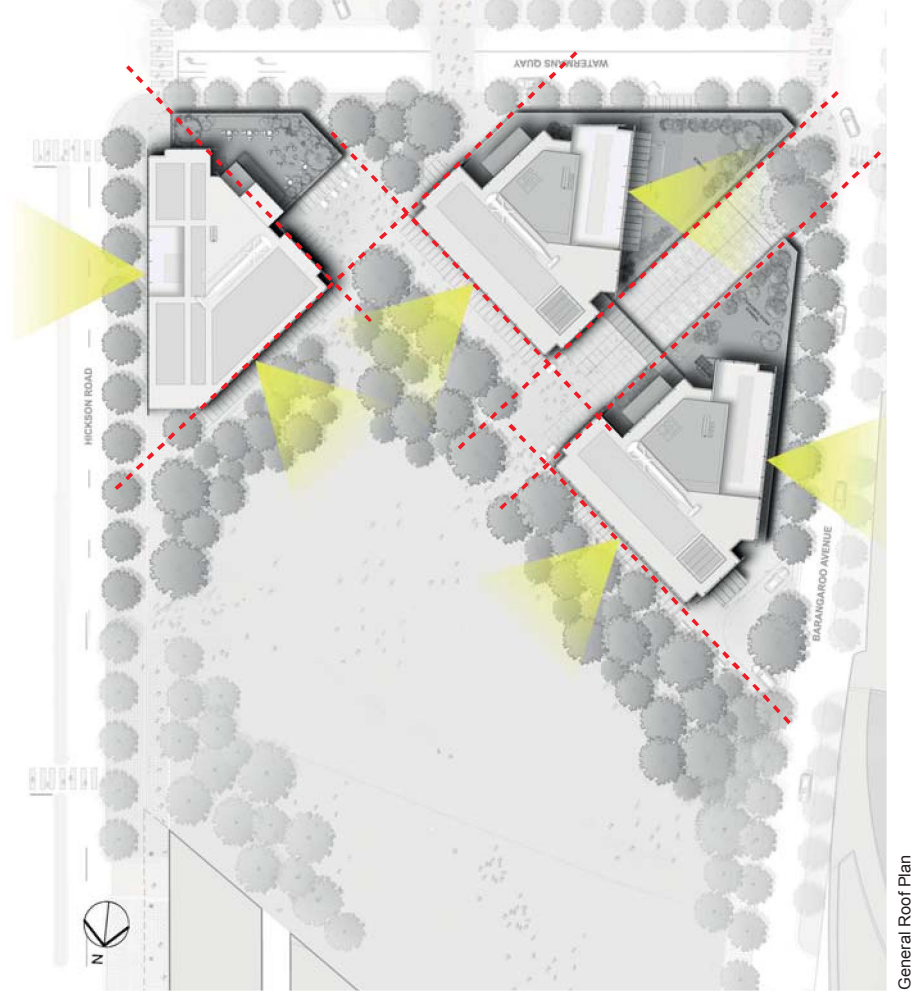
Taking advantage of the triangular shape and the staggered arrangement of the buildings, the alignments between neighbouring façades are orientated to allow for unconstrained views from within the apartments and maintenance of residential privacy.

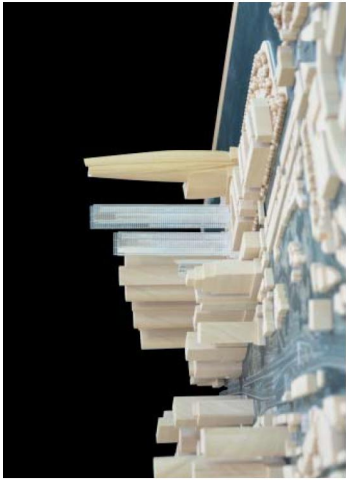
Tower R5 has been positioned on the eastern boundary to give presence and address to the entry of Hickson Road and one of the key axis, Watermans Quay, which leads westward to the harbour. This location also provides continuity of the colonnade which runs north-south along the western side of Hickson Road.

The orthogonal spaces between the buildings will produce well defined open spaces at the ground plane that will be easily navigated by visitors to the precinct.

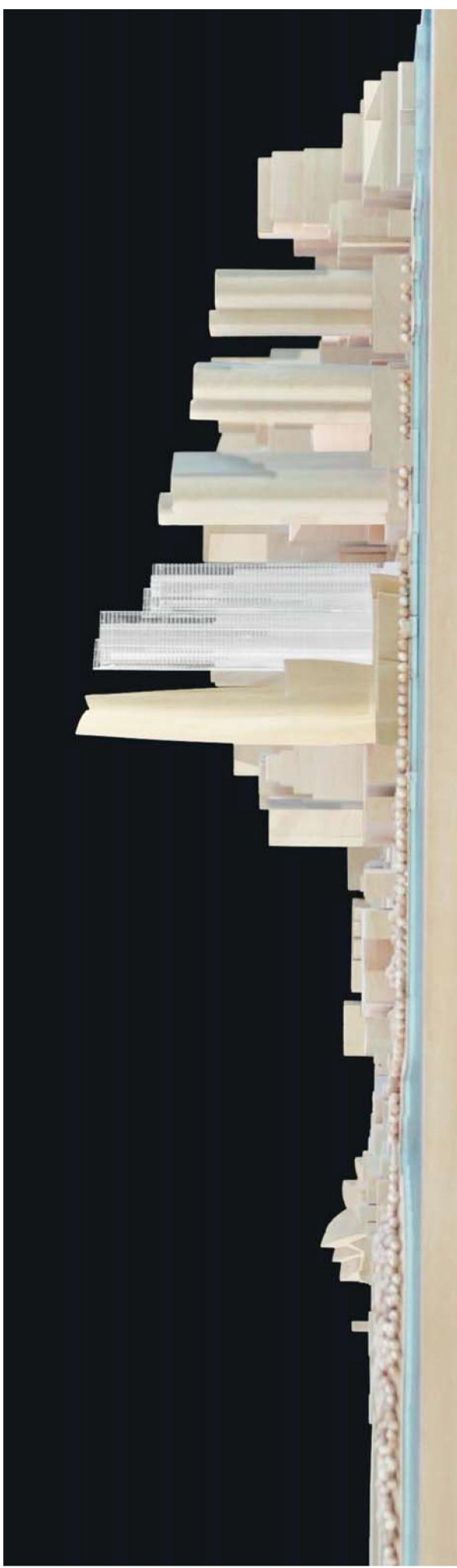
The outer podium façades are aligned to the site boundary in order to define the street edge. The cut through the human scaled podium enhances the porosity of the development and invites visitors to access the precinct.

A glazed covered 'Strada' with restaurants and retail facilities on either side, directly connects Watermans Cove with Hickson Park. All the retail store fronts will have a glazed canopy to protect visitors from the elements. A Plaza along Watermans Quay and in front of the commercial tower entrance leads into Hickson Park and from there to the waterfront and to the Barangaroo Point.





Concept Model Detail Images



Concept Model

3.4 Architectural Elements

The triangular shape of the towers defines two main façades oriented towards the north-east and west in the taller buildings R4A and R4B and to the east and north in the R5. This allows to locate the living spaces of all the apartments to the best orientations, maximising solar access and leaving the south side for the elevator and service core.

Each main facade behaves as an active "crystal facet," building on the building form, which can be modified by a series of fabric roller blinds that can be deployed when in direct sunlight and retract when the shadow prevails.

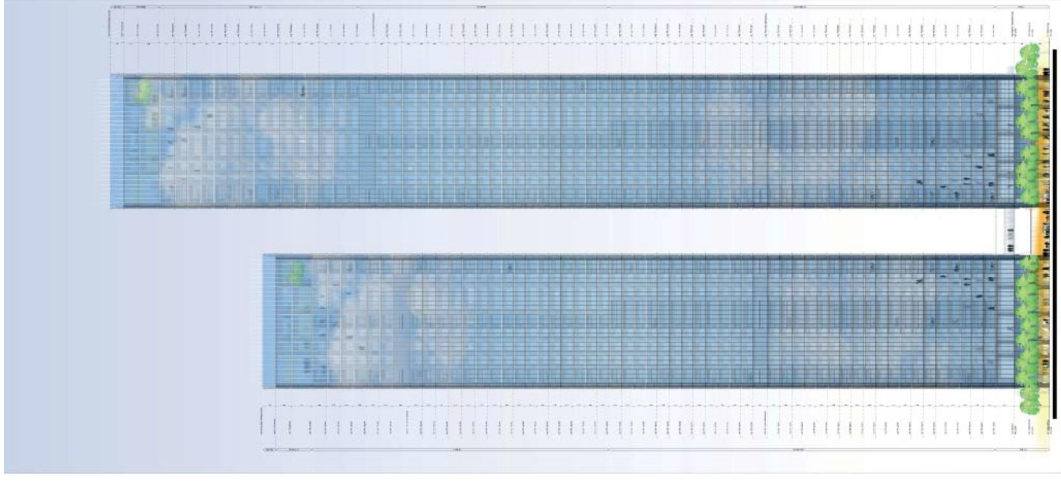
The idea is that each "crystal facet" will act and react differently, depending on its orientation. This gives to the facade a sense of permeability that does not compromise the privacy of the interior spaces. Also at each level a fritted glass/aluminium wind deflector will divert the wind washing the facades and disperse light to enhance the faceting effect.

The crystal facets of each tower extend beyond the enclosed space laterally with a cantilevering wing. A fringe at the roof extends the facades beyond the volume of the tower. At the bottom around the podium the facades will extend to various heights beyond the lowest floor plate creating a skirt.

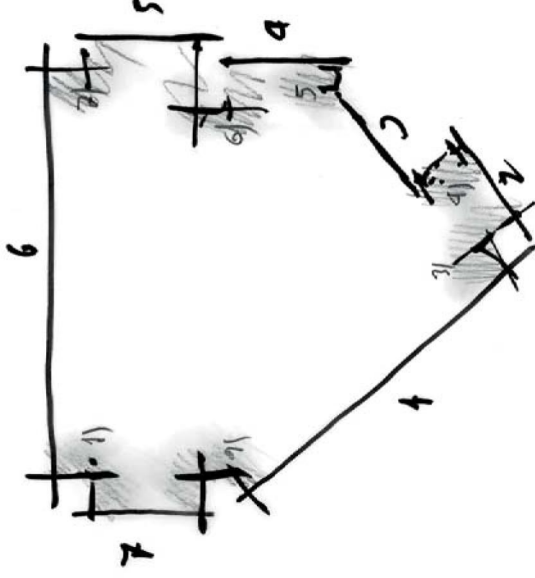
The glass planes of the towers are not connected at the corners, instead between each facade a reveal cut out of the volume will create a shadow that will enhance the flying effect of the glass planes.

The objective will be to clearly delineate the glass crystal facades through the design of these notches. To respond to the varying requirements for privacy around the building the opacity of these notch elements will correspondingly be varied.

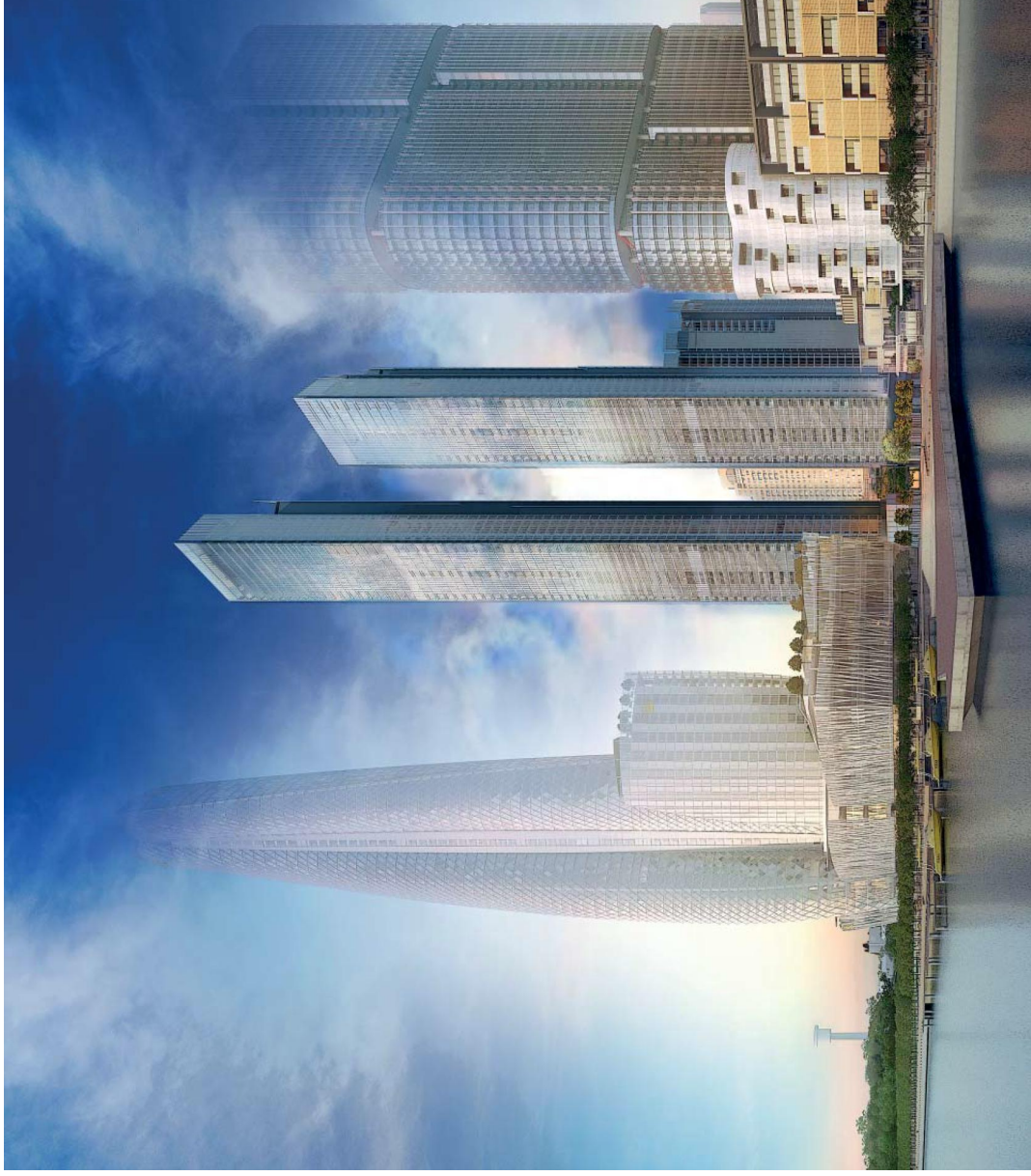
The solid material used on the notches will also be utilised into the opaque portions of the podium facade.



Park (North) Elevation



Concept Sketch showing Crystal Facets and Shadow Notches



Concept Render

The main façades are made of a breathing glass double skin. All the glass is clear, non-tinted low iron.

In front of the living room a semi outdoor-terrace will occupy the space in between the outer glass layer and the inner sliding door. This space, called the “wintergarden” will allow the occupants to experience the Sydney climate even at the highest levels of the tower, whilst providing protection from the extremes. An operable glass panel can slide down, maximizing the aperture of the facade to allow the fresh air into this space.

At the lower levels where the wind is not an issue the outer facade of the terraces will have bigger apertures.

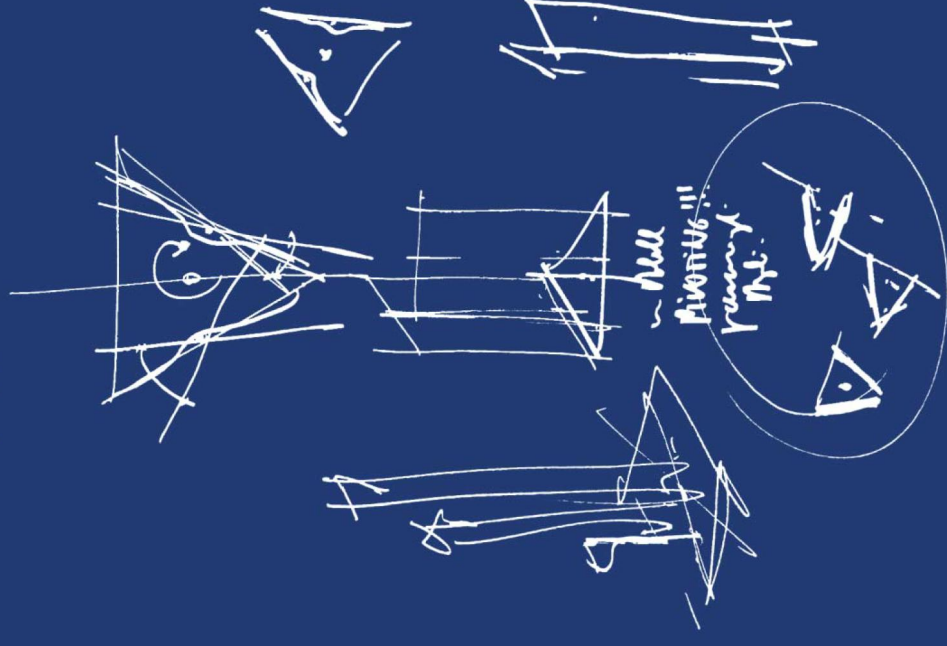
A fabric roller blind will protect the wintergarden from the sun and the heat. These elements will activate the facade plane.

In front of the bedrooms the double skin becomes narrower and the breathing facade will be made of an outer glass panel, separated by a vented cavity that accommodates the roller blind from an interior double glass panel that spans from floor to ceiling.

4.0

DESIGN PROPOSAL

SYDNEY



4.1 Design Development

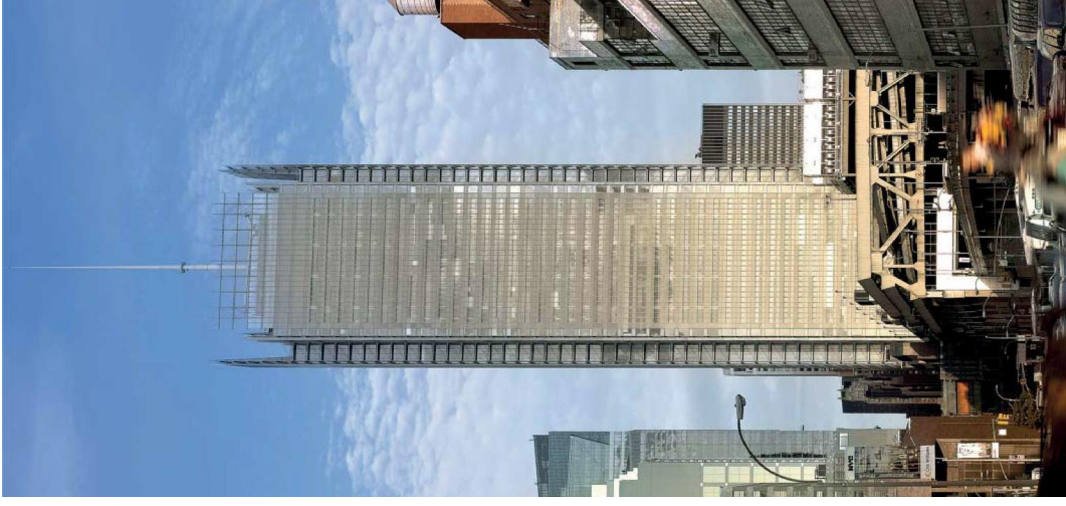
From the concept of the 'crystals' grew RPBW's desire to use glass of high transparency, that would create dynamic facades that interplay with the Sydney environment and provide a mutable picture of city living. In this way the towers become distinctly residential, assuming the character of inhabited spaces that is lacking in commercial towers.

The glass faceted towers play with the light and the vibrations of the water from the harbour. It was inevitable to think about a crystal reflecting these extraordinary environmental conditions. The residential use of the towers has driven the profile of the towers linear and straight for an efficient and rational use of the floor plate. As previously described the triangular shape allows the usable spaces to be located facing the prime orientations that overlook the Harbour Bridge and the Opera House and west to the Blue Mountains to benefit from the best sun and breeze conditions.

The tower concept has been developed by RPBW many times in the past and each time in a different way. One of the earlier projects, the Maison Hermès in Tokyo has a very linear form. It expresses its transparency like a magic lantern with specially designed glass blocks for the facade. These glass blocks divide the interior from the exterior defining the boundary between day and night, light and transparency.

On the Aurora Place project in Sydney a more free building shape, the terracotta knits the building into the historic Macquarie streetscape and the kinetic glass louvre facade provides a mutable picture of city living.

The New York Times building has a basic shape, simple and primary, clad with a double skin composed of 186,000 ceramic rods that act as a sunscreen. This allows the building to adapt to the colours of the atmosphere: bluish after a shower, shimmering red at sunset.



NEW YORK TIMES BUILDING
New York



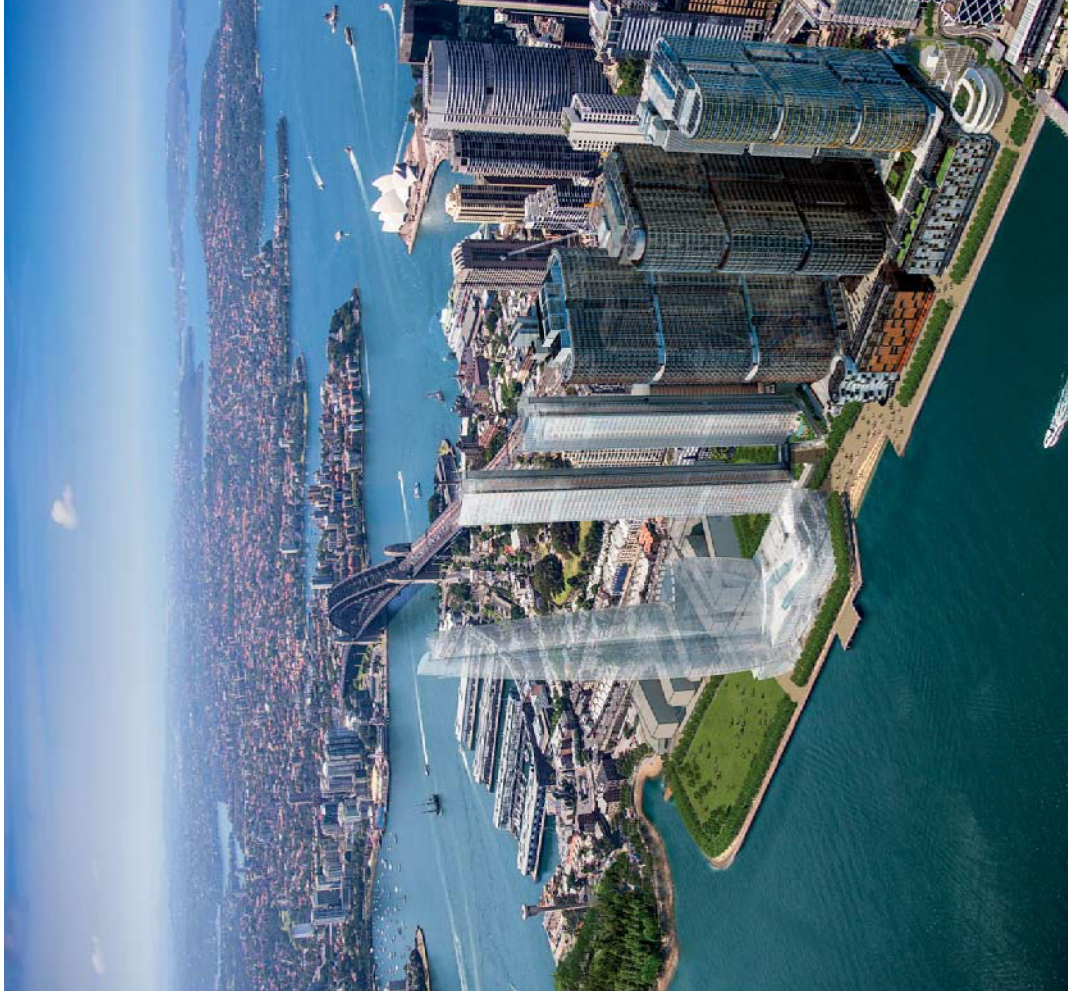
MAISON HERMÈS
Tokyo



AURORA PLACE
New York



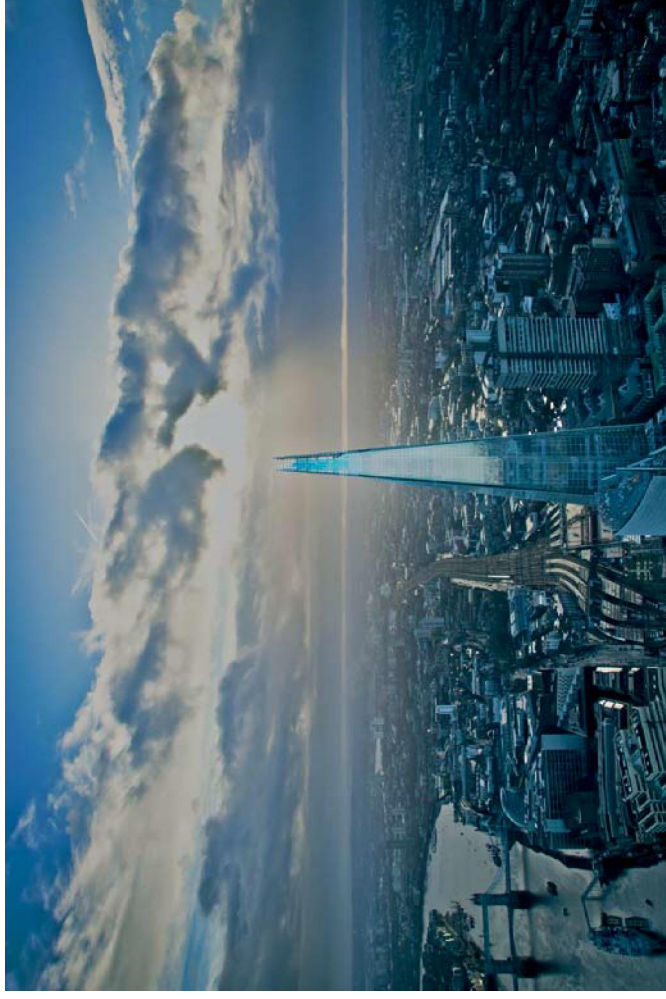
THE SHARD
London



North-East View Over Watermans Cove

At the Shard in London the facades have been tilted slightly upwards due to the geometry and the sheer height. The clear low iron glass reflects the sky and the clouds by assuming its colour. The building is merging into the sky and disappears into it; the slivers arrives at the top and remains open as if they were breathing and dissolving its materiality.

On One Sydney Harbour, the idea of a crystal together with the sense of lightness and transparency informed the first ideas for the project of the three towers.



THE SHARD
London

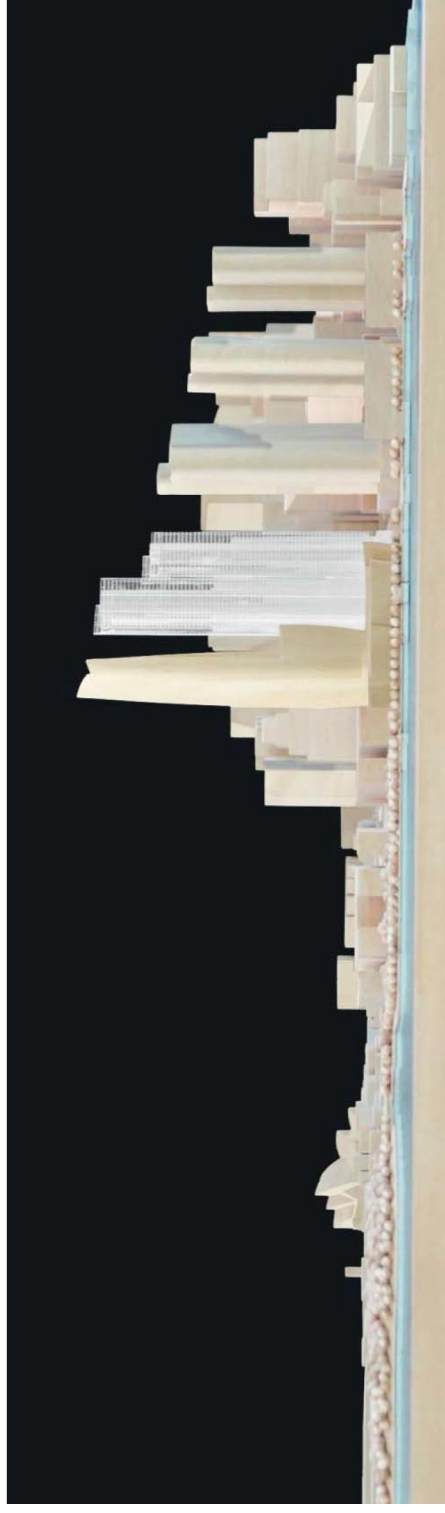
4.2 Building Scale and Massing

The massing of the three residential towers and their associated podiums is the outcome of principles derived from the Built form Principles and Urban Design Controls updated as part of Concept Plan (Mod 8) and as expressed by the indicative masterplan developed by Roger Stirk Harbour + Partners (RSH+P).

R4A is the tallest of the residential towers of One Sydney Harbour, with the towers ascending in height from east to west from R5, R4B, R4A. R4A is separated from R4B to emphasise verticality, while the podiums are built to the edge of the envelope along Watermans Quay and Barangaroo Avenue in keeping with the design guidelines.

The Concept Plan allows for a public park that links the buildings to Central Barangaroo to the north, to the Crown Hotel to the west and to Hickson Road to the east.

The three residential towers are laid out on the fan geometry which is fundamental to the overall master plan and clustered to the southern side of the park to maximise solar access for both the park and the apartments.



Concept Model



RPBW Design in the Context

RPBW has built many models of various scales and materials to study how the composition of three towers could be perceived amongst themselves and within the context of the whole of Barangaroo.

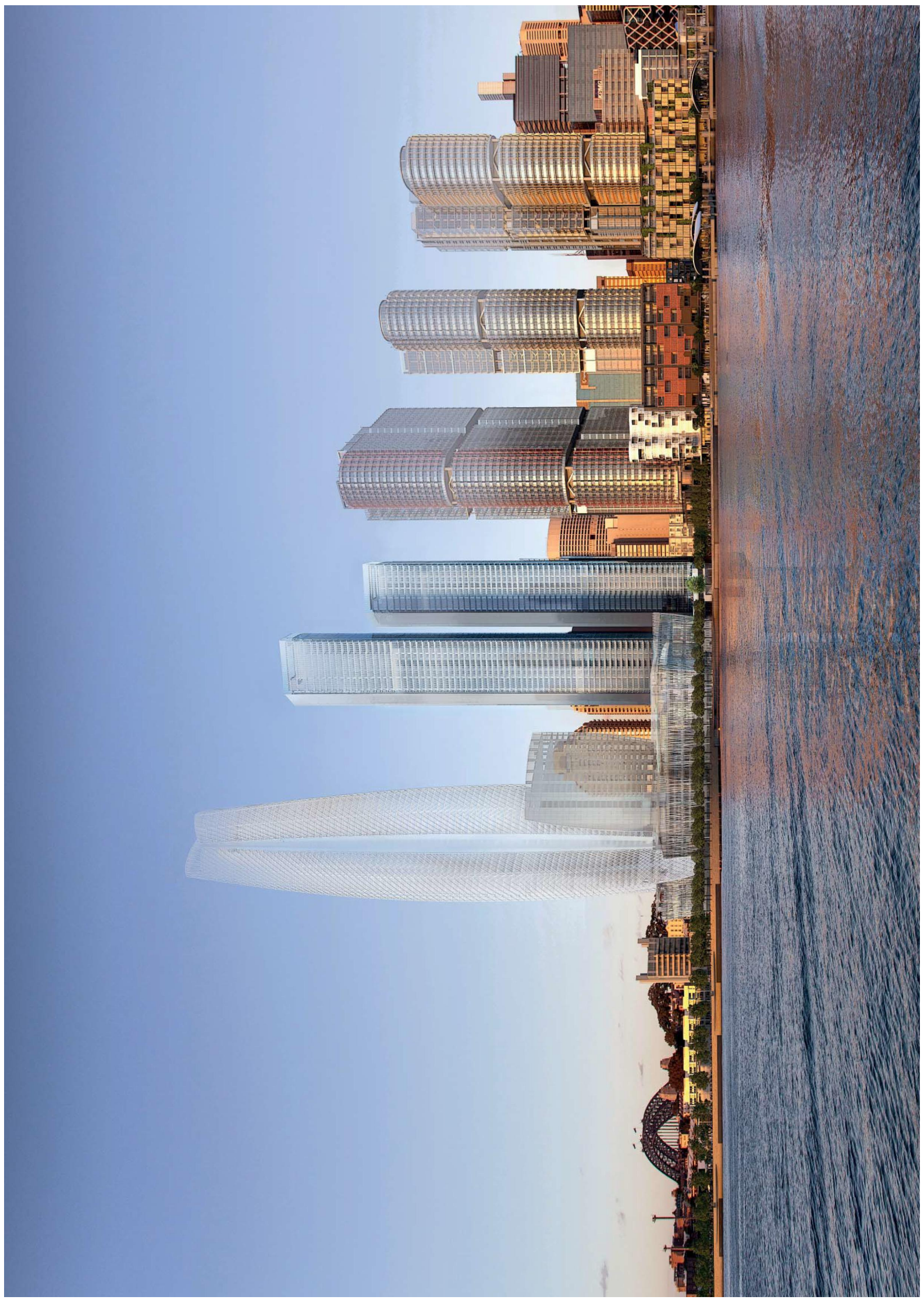
The response to the Concept Plan has been to enhance the urban planning through the introduction of a diagonal pedestrian connection from the corner of Barangaroo Avenue and Watermans Quay into the heart of the park. In addition a triangular Plaza in front of International Tower One at the end of Scotch Row creates a natural direct connection into the park.

The result of the study of the pedestrian flows through the area lead to the fragmentation of the podiums with deep cuts through the volumes at the bottom of the towers. The tower is brought down to a podium of a pedestrian scale and with the intent of creating the public street-scape.

The northern edge of the development fronts onto the northern park of Barangaroo South, an open space which acts as a focal point for the community and connects Central Barangaroo parkland to Hickson Road.

Adjacent to the intersection of Watermans Quay and Barangaroo Avenue is Watermans Cove, an intimate incursion into Barangaroo South that compliments and enhances the foreshore promenade. Open space areas of Barangaroo South within the vicinity of the three towers include:

1. Hickson Park
2. Watermans Cove
3. Wulugul Walk
4. Scotch Row
5. Shipwrights Walk.



“Looking up, our proposed kinetic facades play with light, alluring from every angle. Unlike flat lifeless tower facades, the brightness of the sky will be captured, retracting the glittering Sydney light, right to the top where the penthouse apartments and gardens merge in the sky”

Renzo Piano Building Workshop



4.3 Ground Floor and Access

The ground floor plan illustrates the activation of the precinct around all three towers in the proposed development. Each edge of the scheme has a significant street presence which allows the interaction with and occupation of the perimeter of the building in a variety of ways.

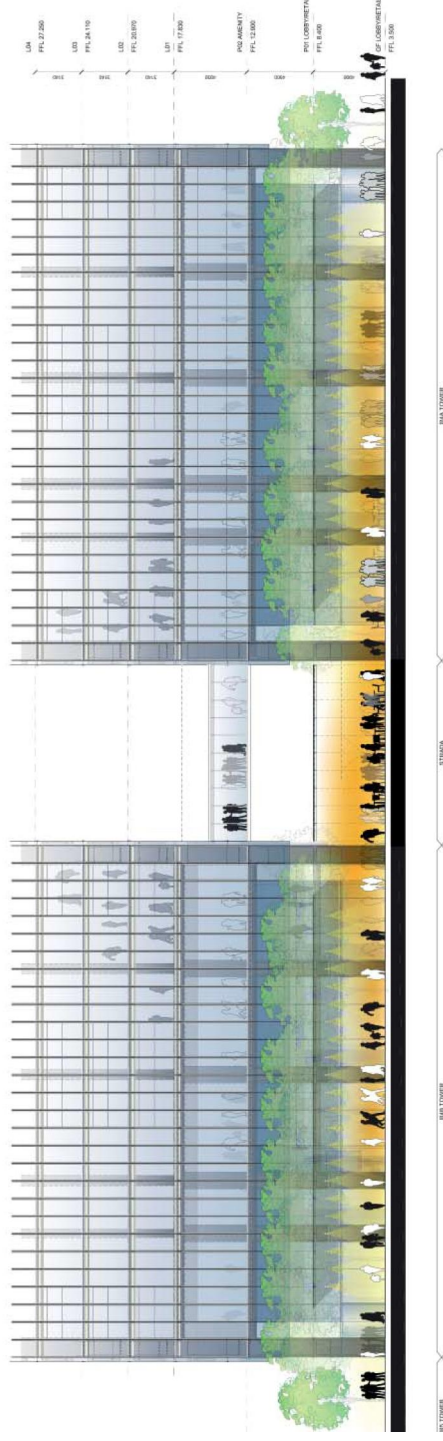
Depending on the time of day, prevailing wind, need for shelter and shade or desire for direct sunlight, there is a place on the ground plane that can cater for that requirement.

The functions on the ground floor are a mix of retail, food and beverage and entry lobbies to each tower. The facade at the ground floor enclosing the different activities can open, allowing an expansion of the cafés and restaurants into the outdoor spaces bordering the park. The Sydney climate gives the opportunity to lose the clear definition between the inside and out.

The streetscape is softened with a line of street trees and on the parkside this vegetated edge merges with the proposed parkland to the north.

A covered pedestrian Strada between the proposed two towers R4A and R4B creates a direct link, both physical and visual, from Watermans Cove to the new park beyond. This gives the retail areas the possibility to expand the seating area into a protected space. This can be completely sheltered from the wind when necessary by closing folding/sliding doors at either end of the covered pedestrian link.

Visual continuity from the adjacent International Tower One entrance is provided by the creation of a Plaza acting as connection to the park between the proposed towers R4B and R5.





Podium Level 00 - Ground Floor Plan

A porte-cochère located off Barangaroo Avenue allows cars to stop directly in front of this entrance. The lobby is a double height space adjacent to a double height retail space on the north-east wing.

At the parkside the tower facade extends down, overlapping the lobby facade to define a protected area in front of it. An additional canopy on this extension deflects the downdraft generated by the R4A tower.

A similar canopy is located at the bottom of the north facade of R4B and at the north-west facade of R5 to protect the path and the outdoor area along the building's park front.

The building wing along the park has in all three towers the lobby to the residences of the tower and retail space with protected outdoor seating area. At the tower R5 the entrance to the Key Worker Housing is located along the colonnade on Hickson Road.

The triangular building shape at the podium is extended towards the south creating a back addition with a lower volume to all three buildings. More retail private outdoor residential spaces and services are in this volume that contribute to frame the street edges.

4.4 Ground Floor Activation

The ground floor has been conceived as a totally permeable space with glazed facades that ensure transparency to the front of the retail activities and lobby entrances of each tower, also providing views to the outside.

Services, fire exit stairs, and the basement access ramp (in building R4B) are a necessity in any building. The approach has been to group these elements as much as possible in order to maximise continuity of all facades.

The rest of the podium is comprised of clear low iron glass storefronts with large operable portions on the retail spaces. The podium facade is articulated in two main families: a more spaciouly framed glazed front corresponding to the wing towards the park and a finer spaced curtain wall that runs along the other sides, including the pedestrian Strada.

The intent is to merge the inside space with the outside and to extend it into the park. The view from the lobbies and retail facing the park should be allowed to extend as much as possible under the canopy of the trees in the park.

The operable glass partition along the retail on the park and along the covered Strada assists in merging the inside with the outside. By opening the storefronts thus allowing less distinction between indoor and outdoor.

Along Hickson Road the extension of the colonnade integrates the new residential precinct with the Stage 1A urban design giving to the pedestrian the sense of continuity of the urban scape up the park.

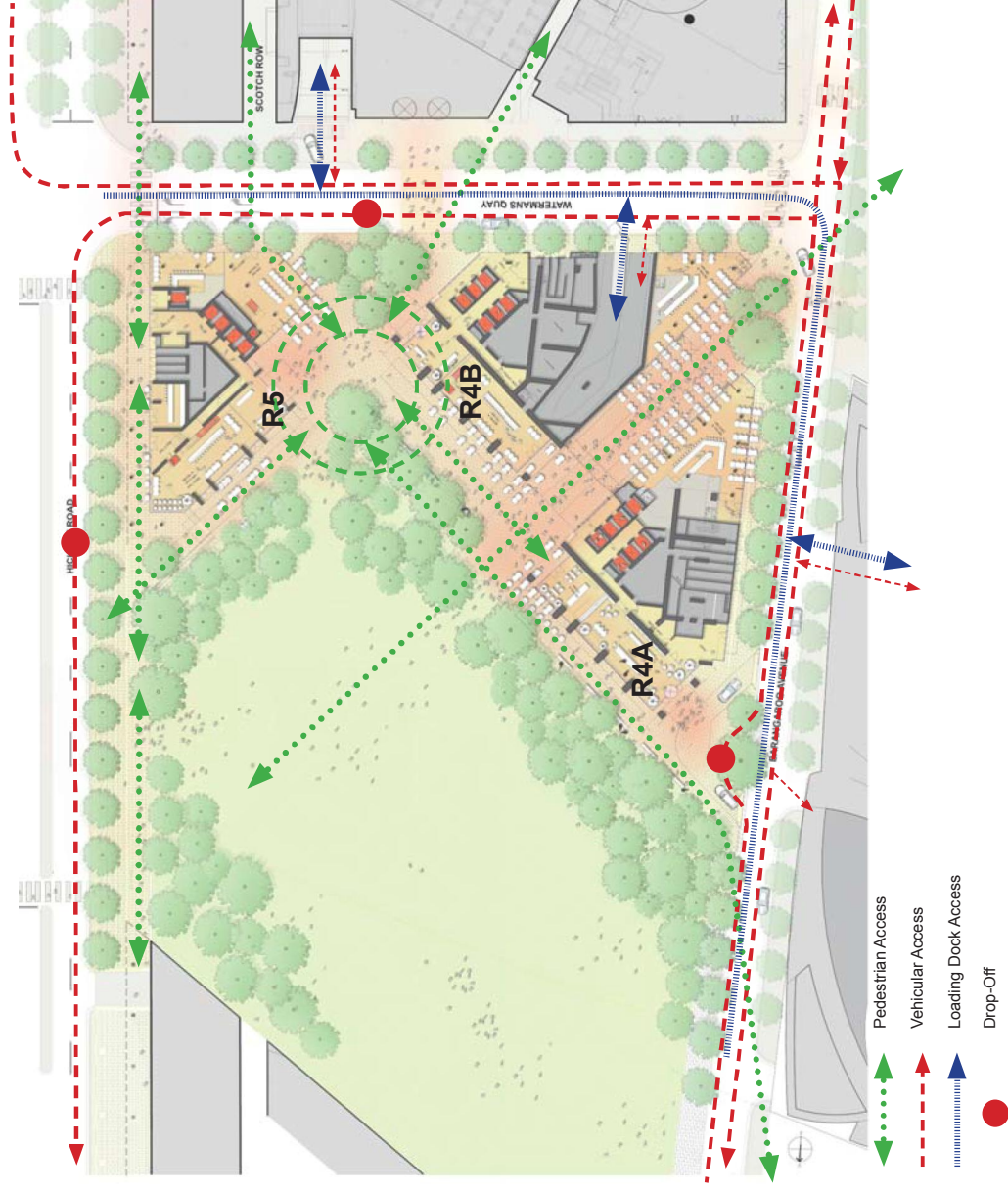


The pedestrian circulation has been a crucial point for the podium fragmentation. The two important breaks in the podiums reflect the pedestrian Strada and the large Plaza to the north of International Tower One.

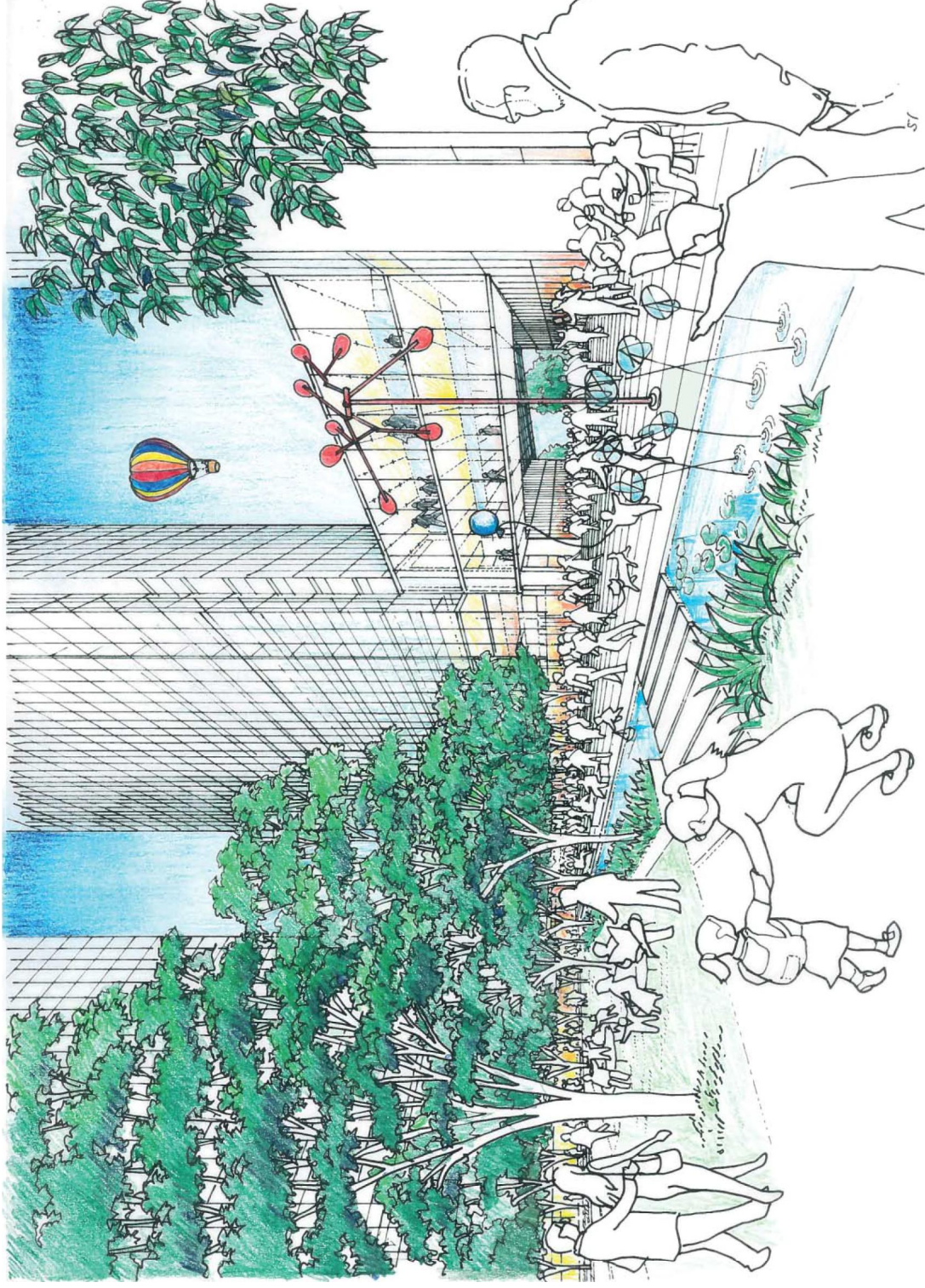
The idea of concentrating the building along the southern edge of the site allows the integration of "urban" pedestrian paths from Watermans Quay that penetrate through the podium volumes into the park.

The park side will have a more relaxed promenade system and the open spaces will allow for a zone where Sydneysiders will be able to stay and enjoy the sun, the breeze, and the fresh air, away from the street traffic. The retail fronts activate the transition space from the busy urban life to the more quiet park atmosphere.

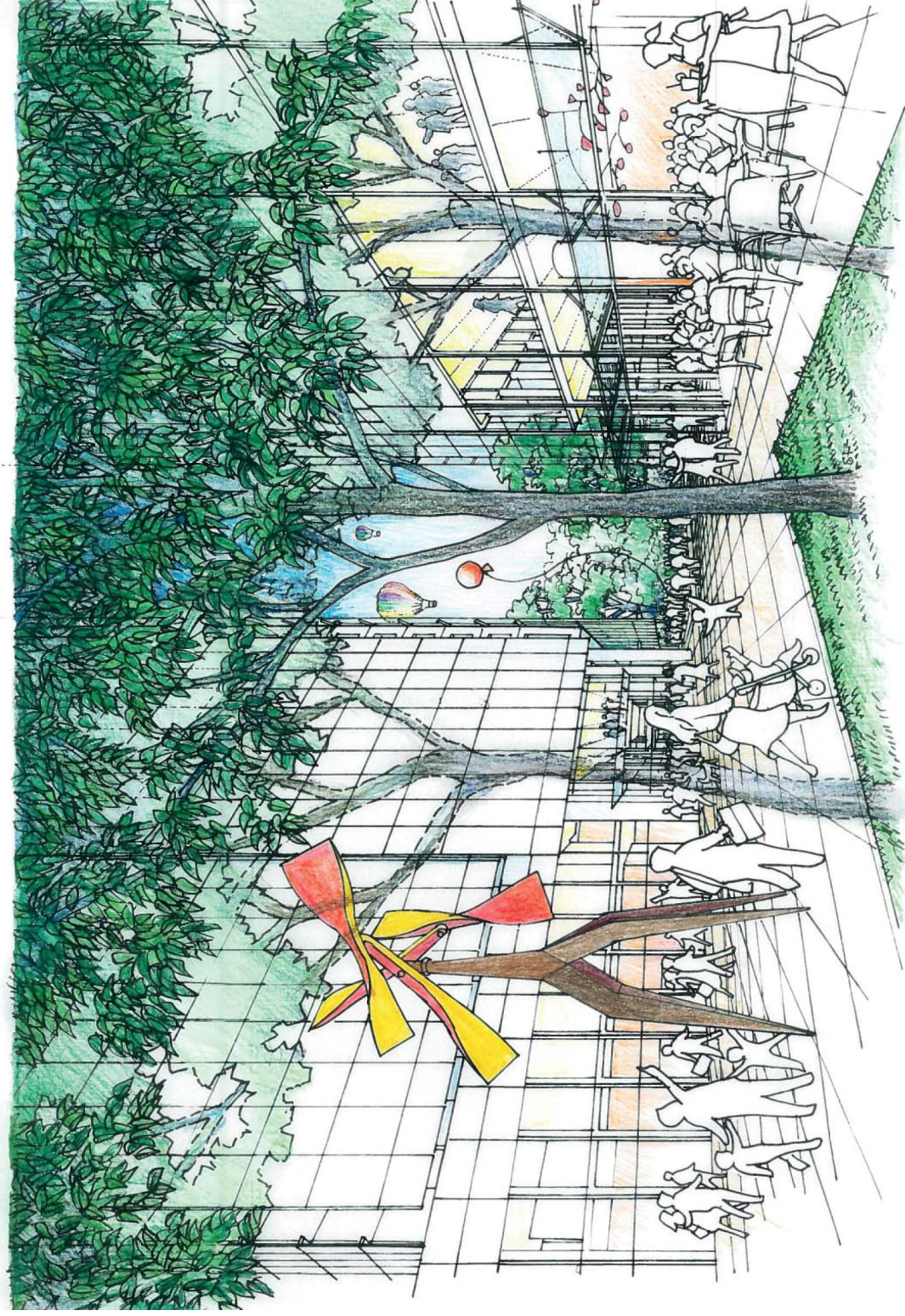
The vehicular access will be around the three sides of the precinct (south, east and west) with a drop off on each street and the main parking and loading dock access concentrated in one single location on Watermans Quay.



Pedestrian and Vehicular Access Diagram



Early Concept Perspective Sketch showing the Linking Bridge between R4A and R4B



Early Concept Perspective Sketch of the Entrance to the Park from Watermans Quay

4.5 Building Lobbies

There are four residential lobbies associated with the One Sydney Harbour buildings. Each lobby has been located to offer a clearly stated address and amenity for the residents and visitors. The two taller towers are serviced by two lift banks splitting the buildings into low rise and high rise lift cores to minimise wait times. The smaller R5 has a single bank of lifts serving the whole building.

Tower R4A Lobby – Barangaroo Avenue

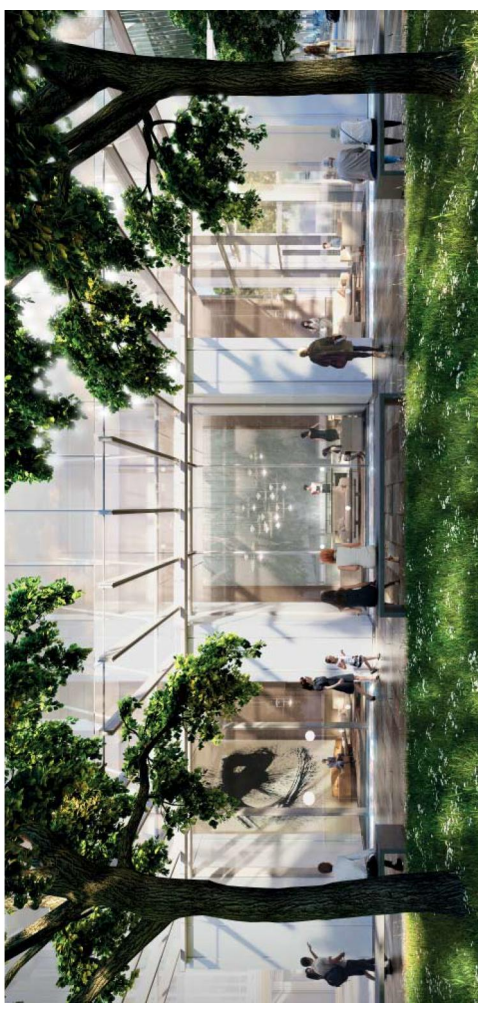
The lobby to R4A is located approximately midway along the block and has the provision of a porte-cochère off the road to facilitate pickup and drop off of residents. This location provides the western entry into Hickson Park and its associated amenity. This lobby runs parallel with the southern flank of the park and the line of the apartments over.

Tower R4B Lobby – Watermans Quay

The lobby to R4B is located off a triangulated Plaza shared with R4B, this Plaza is formed by the intersection of the park with the these two towers and the connection across Watermans Quay to the mixed use development of Stage 1A and International Tower One in particular. This lobby faces into the middle of Hickson Park and represents the north-east corner of the R4B podium.



R4A Entrance Concept Render



R4A Lobby Facade Concept Render