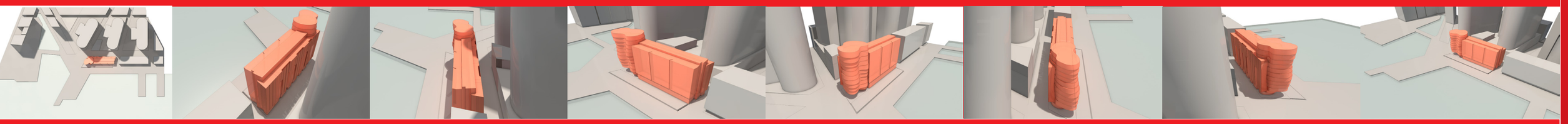

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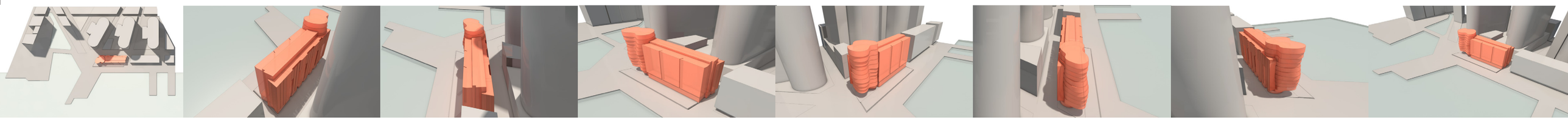
Barangaroo Residential - R8

Lend Lease

NOVEMBER 2012



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Barangaroo Residential - R8

Lend Lease

NOVEMBER 2012

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1

Introduction

Introduction

This report supports a Project Application (MP11_0002) submitted to the Minister for Planning pursuant to Part 3A of the Environmental Planning and Assessment Act 1979 (EP&A Act). The Application seeks approval for construction of two residential flat buildings (known as Buildings R8 and R9) and associated works at Barangaroo South as described in the Overview of Proposed Development section of this report.

The R8 and R9 Project Application seeks approval for the construction and use of two residential flat buildings comprising 159 apartments, ground floor retail, allocation of car parking spaces from the Bulk Excavation and Basement Car Parking Project Application, and the construction of the surrounding ancillary temporary public domain and landscaping.

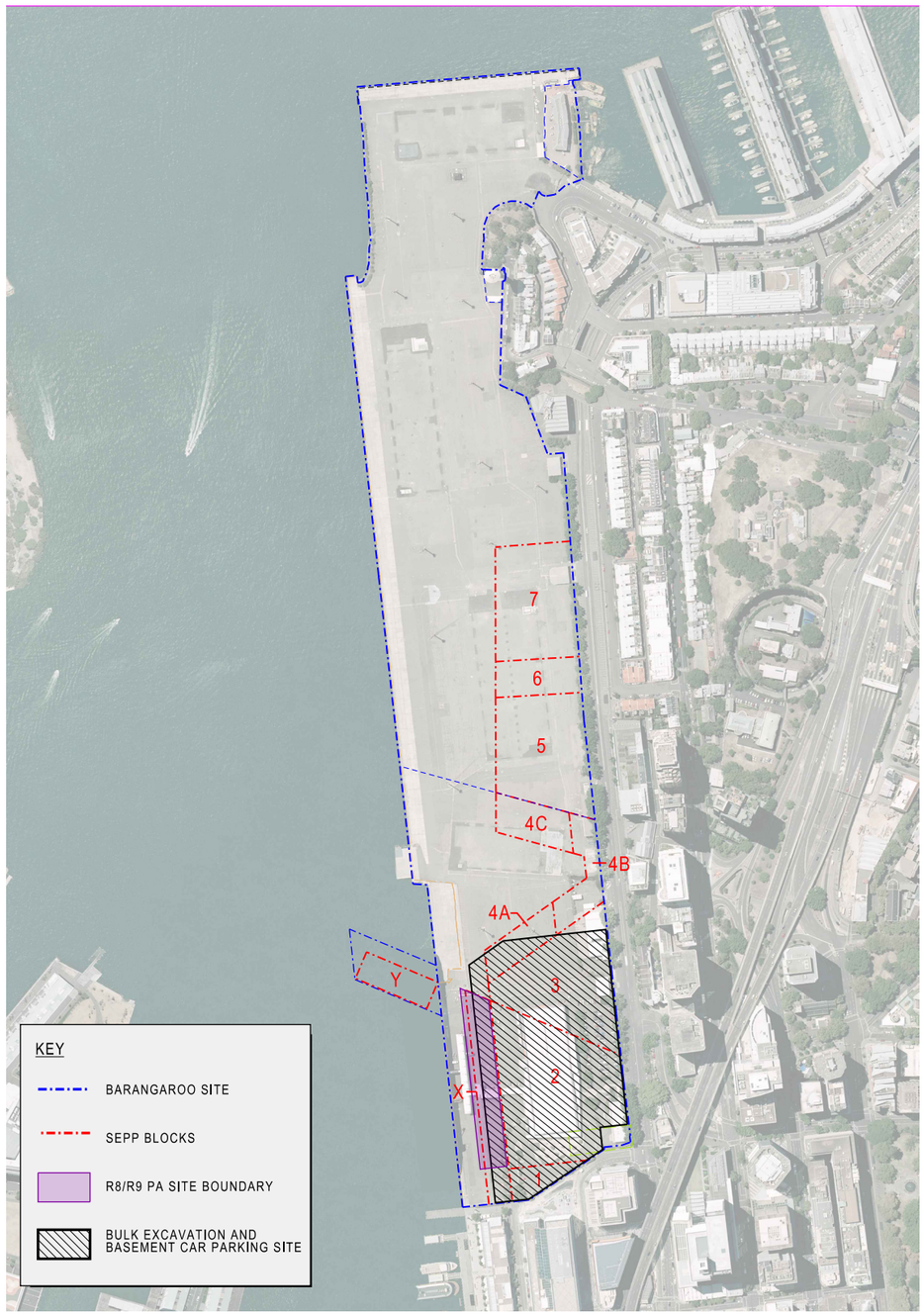
This report specifically addresses building R8

Site Location

Barangaroo is located on the north western edge of the Sydney Central Business District, bounded by Sydney Harbour to the west and north, the historic precinct of Millers Point (for the northern half), The Rocks and the Sydney Harbour Bridge approach to the east; and bounded to the south by a range of new development dominated by large CBD commercial tenants.

The Barangaroo site has been divided into three distinct redevelopment areas (from north to south) – the Headland Park, Barangaroo Central and Barangaroo South.

The R8 and R9 Project Application Site area is located within Barangaroo South as shown in Figure 1. The Project Application Site extends over land generally known and identified in the approved Concept Plan as Block X.



DESIGN STATEMENT

Pursuant to Clause 50 (1A) of the Environmental Planning and Assessment Regulation 2000, effective from July 26 2003;

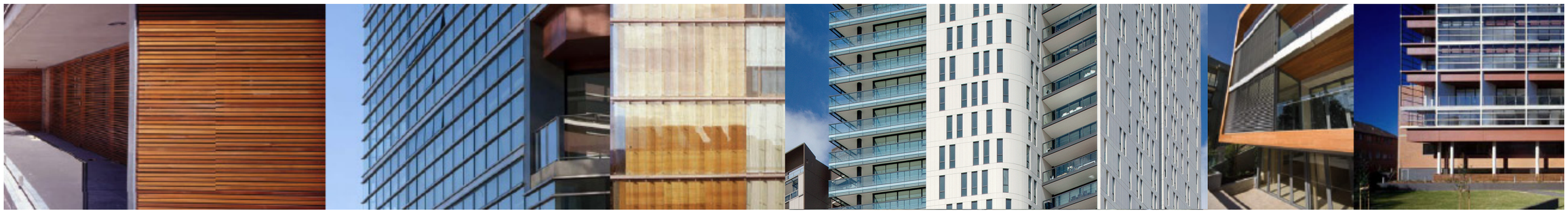
I hereby declare that I am a qualified designer, which means a person registered as an architect in accordance with the architects Act 1921 as defined by Clause 3 of the Environmental Planning and Assessment Regulation 2000.

I designed, or directed the design, of the mixed use development stated above and I affirm that the design achieves the design quality principles as set out in Part 2 of the State Environmental Planning Policy No 65 - Design Quality of Residential Flat. I have provided further detail on the designs' compliance with the quality principles in this Design Verification Statement, which is attached.

Yours faithfully

RICHARD FRANCIS-JONES

Design Director



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Design Excellence

fjmt is proud of its reputation as an architectural leader and innovator. We strive to produce buildings of high architectural quality and merit without compromising value for the client, the user or for the community. fjmt has received recognition for its work receiving the highest industry awards and being published in national and international design magazines. Testimony to our success is the level of repeat work we achieve from our public clients where competitive tendering is mandatory.

As demonstrated through our many public, commercial and residential projects, fjmt brings the highest quality service, design excellence and innovation to all commissions regardless of size or complexity. A key attribute of the fjmt approach is to seek a thorough understanding of all aspects of the commission from urban design and landscape issues of the site to the desired outcomes of our clients. This information is continuously fed into and monitored by our Project Quality Plans.

Our approach to architectural design is one of specificity: providing unique design solutions for each particular project. This approach requires careful analysis of the site (physical, environmental, historical, cultural, commercial and social), and of the brief (both functional and aspirational) and budget (time and cost). Superimposed onto this analysis is the quality and rigour of our service, design expertise across diverse building typologies, and the innovation and creativity of our project team. From this overlaid process, unique design solutions emerge, which are subjected to critical review and refinement.

fjmt has won numerous design awards. For instance, the Scientia at the University of New South Wales won Australia's highest design and construction honours including the AIA's Sir Zelman Cowen Award for Public Architecture and Lloyd Rees Award for Excellence in Civic Design. The jury described the Scientia as "a major work of ceremonial architecture, [which] has transformed the UNSW campus and given it a remarkably poetic and emblematic focus. The Scientia is a rare, highly defined work whose language is international yet whose varying and changeable transparencies are both elegantly rational and pragmatically Australian."

In creating the new Headquarters of the Historic Houses Trust, fjmt were fortunate enough to receive both the Sir John Sulman Award for Architectural Excellence and the Francis Greenway Award for Conservation. This was the first time that both awards were awarded to the same project simultaneously. The jury described the project as "a gift to Sydney… an exemplary collaboration of minds and skills…". The project innovatively embraced and enhanced the site's archaeology to create one of the most intriguing and intimate spaces in the CBD.

Our experience in residential design is demonstrated by past and current residential projects such as Sugar Dock Apartments at Jacksons Landing, Alaris and Manta Apartments at Little Bay and Capella Apartments in Kensington, which have been awarded a range of UDIA, Local Government and AIA awards and commendationsThese sustainable projects demonstrate the practice's residential and mixed-use expertise and innovation providing significant benefit to the client whilst enhancing the public domain and fabric of the city.

fjmt won the commission for The Faculty of Law at Sydney University through a limited international competition. The resulting building won an institute award for Public Architecture, and also the Timber Design Award for Public Building and Interior Design.

The Surry Hills Library and Community Centre has won numerous national and international awards for its public and urban contribution and high level of sustainability. Also the Australian School of Business at UNSW won an AIA Architecture Award. The Australian School of Business' innovative, cost-effective modular facade system not only refreshed the former 1960s chemistry building, but it increased the floor area without increasing the building envelope.

.fjmt's recent awards include a RIBA award as well as the NZIA Architecture Medal for the Art Gallery of Auckland and a Public Architecture award for the Concourse. A range of projects have also been shortlisted for the World Architecture Festival awards both at Barcelona and Singapore.

fjmt has a considerable body of work which has been reviewed nationally and internationally. Publications consistently note our work for its sensitivity to site and place, its materiality and tectonics, and its ability to both simultaneously monumental and subtle. fjmt Design Director, Richard Francis-Jones, also regularly contributes to design journals and magazines as well as continuing his involvement in architectural education as a Visiting Professor at UNSW. He was published in Phaidon's 10x10: 100 architects, 10 cities and is editor of Content: a journal of architecture (UNSW Press). Richard was recently appointed an Honorary Fellowship of the American Institute of Architects.

fjmt personnel are also frequently requested to partake in design juries for design excellence competitions and provide independent advice to clients and authorities.

fjmt has participated in various exhibitions, recently being invited to develop a proposal for Circular Quay in the City of Sydney's Sustainable Sydney 2030 vision, opening the studio to the public for the Sydney Open: Open Practice event, and assisting with the Southbank Cultural Precinct Redevelopment Masterplan exhibition.

fjmt recognises environmental sustainability as one of the most pressing issues facing contemporary society. Accordingly, the practice places an emphasis on analysing the impact of a project's development on our environment and in turn has devised an impressive range of innovative design solutions

A number of these projects have received local and international acclaim for achievements in environmentally sustainability, including receipt of the American Institute of Architects/Boston Society of Architects Honour Award for Design Excellence – Sustainable Design Awards Program and AIA Award for Sustainable Architecture 2010.

Sugar Dock Apartments, Jacksons Landing NSW

Capella Apartments, Kensington

Rosewater Apartments

Sugar Dock Apartments, Jacksons Landing NSW

3

Site Analysis

3.1 Local Environment

The site for R8 within Block X of the Concept Plan is a long narrow site that is approximately 20m wide and approximately 79m along the east boundary and 84m along on the west. The west orientation is towards to harbour while the east orientation faces directly onto the commercial development C4 that forms a part of the overall Barangaroo development site. Directly to the south of R8 within Block X is the residential building R9 while to the north an open public square is proposed, positioned at the intersection of Globe Street and City Walk.

Points for Consideration:

Managing west light while maximising views and shelter from the harsh, south westerly winter winds

Sun path and effects of shadowing

Breezes off the harbour and prevailing north easterlies

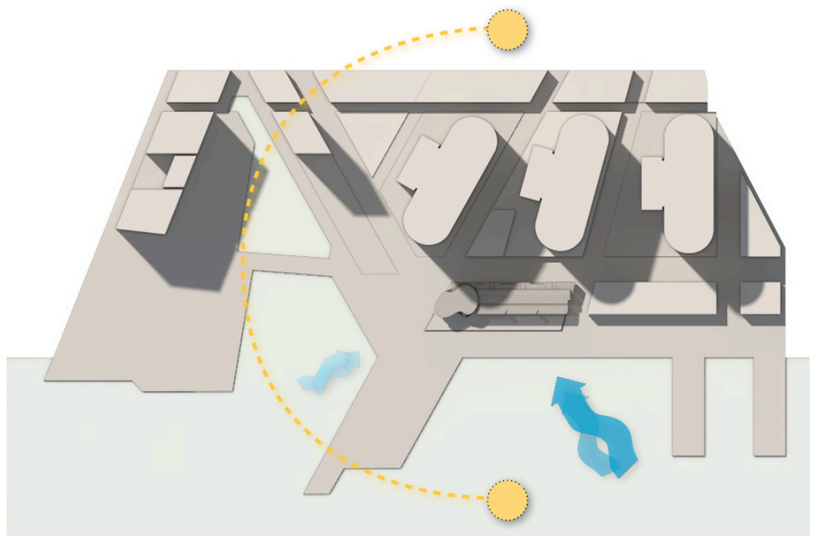
Managing the environmental impacts on public domain

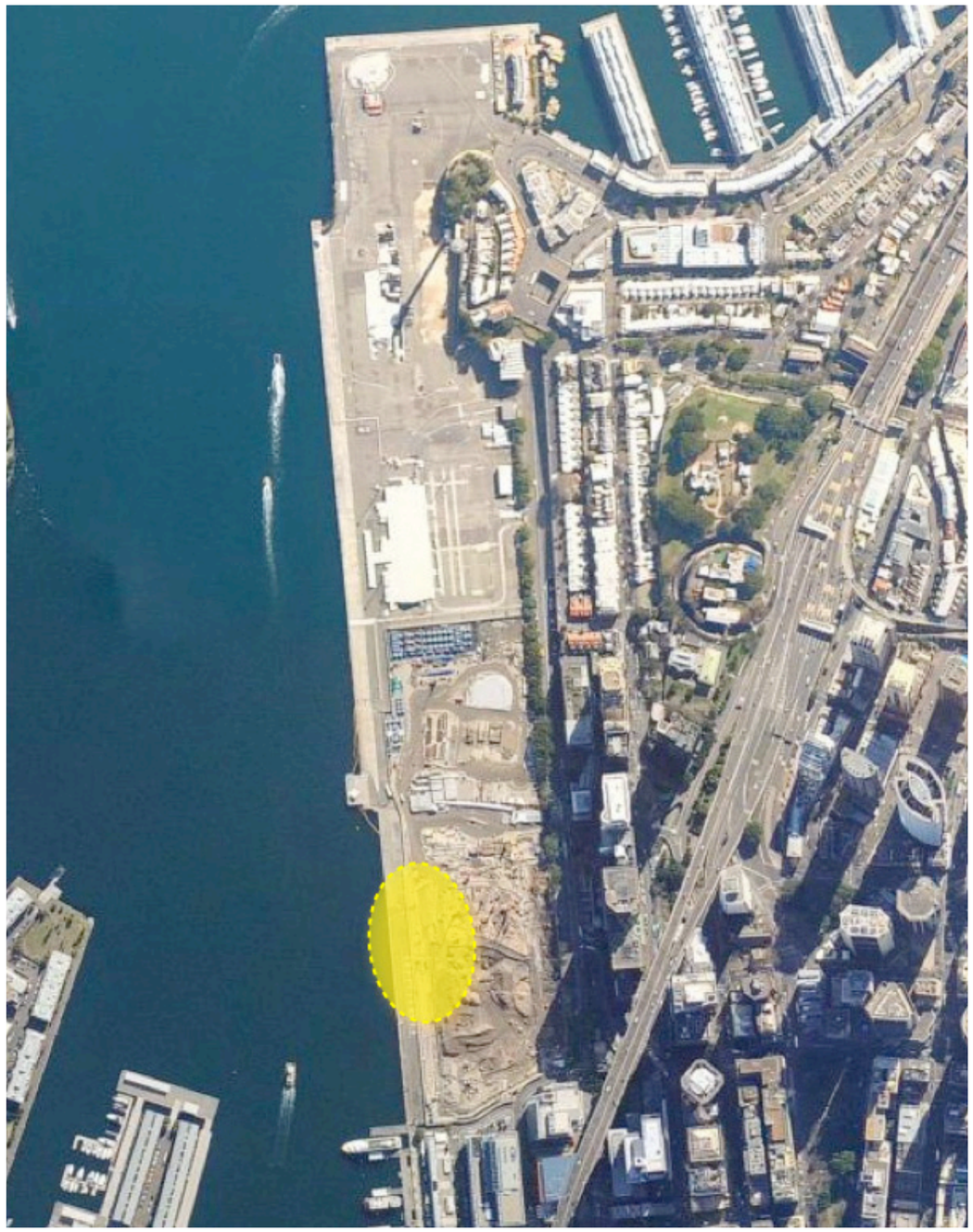
Creating variety, interest and a ‘destination’ at the waterfrontMaximising connectivity to the harbour and waterfront edge

Mitigating the scale change from adjacent commercial and residential developments and analysis of building envelope

Hickson Road is the nearest existing street

Maximising opportunity and integration with the CBD





3.2 Physical Constraints

With uninterrupted views and the proximity to the harbour on the western side of the site and the large scale commercial development immediately to the east, the site offers two extremes on the two long sides of the site. The closeness of the commercial towers on the east side of the site mean that provision of privacy is a critical factor for consideration while on the west given both westerly aspect and immediacy of the harbour, the key factor is the maximisation of views while controlling the sun and winds.

The site generally slopes gently from east to west towards the harbour.

Points for Consideration:

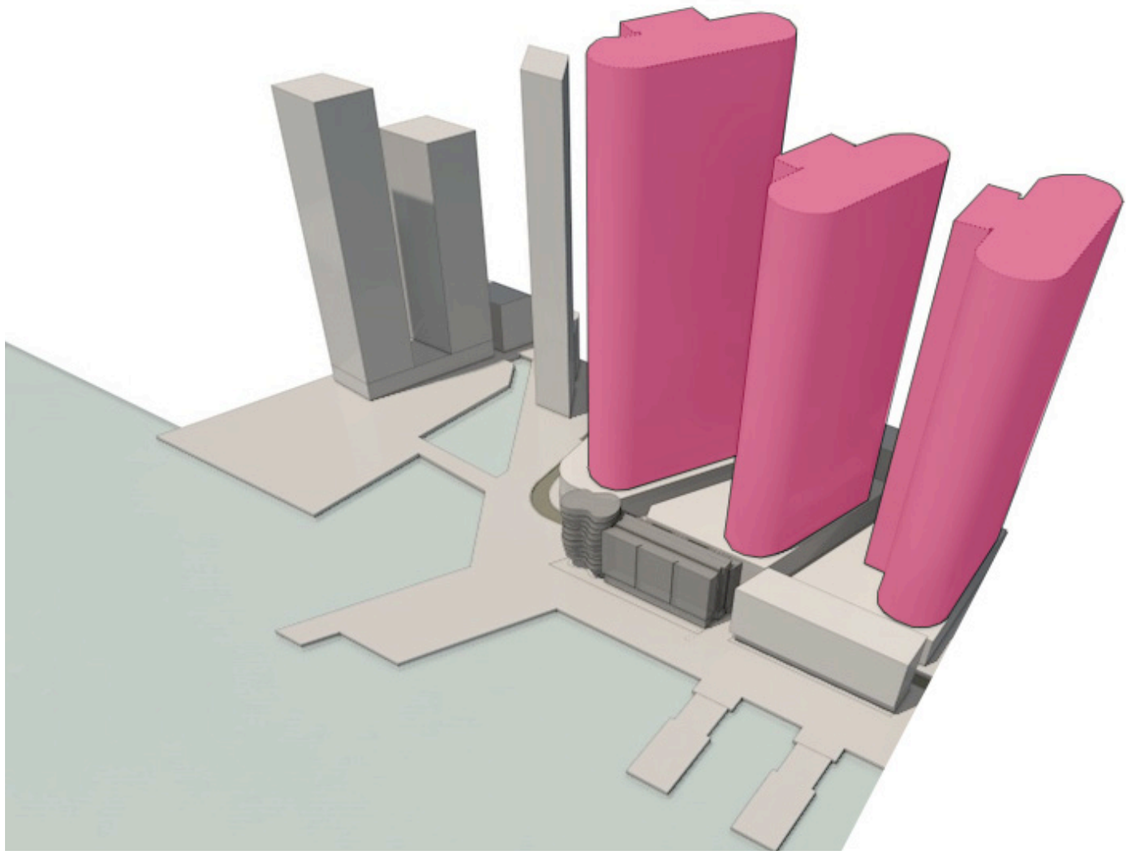
Provide clear and easy access for pedestrian and transport linkages, for new and existing connections

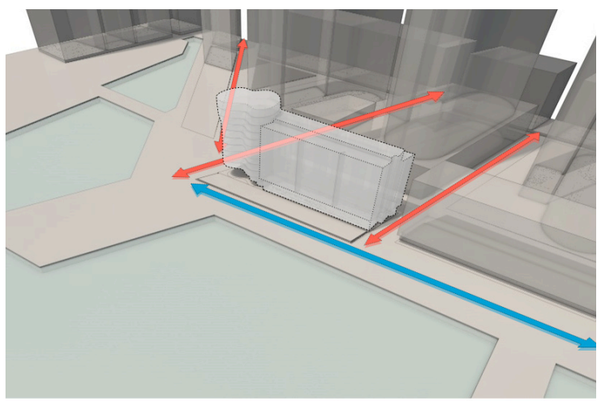
Existing and new viewing opportunities and maintenance of view corridors

Site density and impact of commercial developments on views and amenity to the east and south

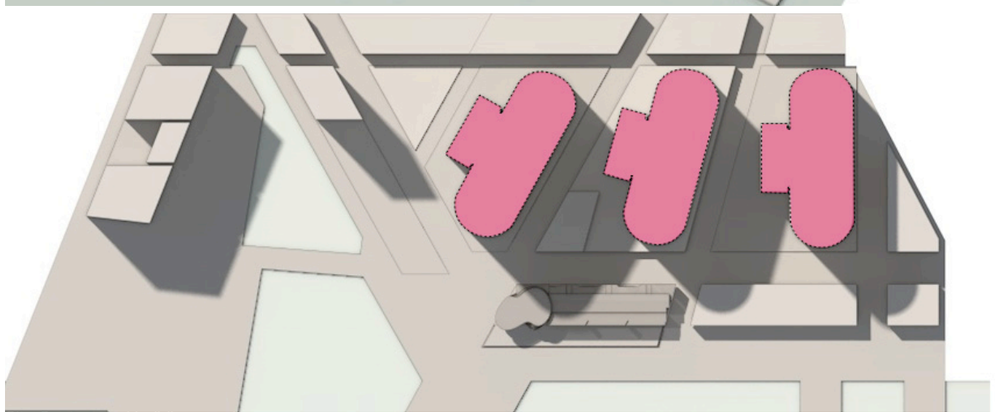
Reinforced connection to the city and waterfront

Consideration of height differences - R8 being considerably lower than adjacent commercial developments





Site connectivity



Site Context and building envelope

3.3 Site Context Plan

3.4 Site opportunities

The most significant site opportunity is the ability to reconnect the harbour to the western edge of the CBD. Block X is in the optimum position along the waters edge and benefits from uninterrupted views of the harbour to the west. The public domain adjacent to the waterfront also connects back to Darling Harbour to the south reinforcing the public connectivity and walking trail along the harbour foreshore. R8 and the activated retail at ground level serves to reinforce this opportunity providing a dynamic public realm while the northern end of the site opens to a public square that serves as an intersection of public activity for the broader site of Barangaroo and potentially the CBD.

The apartments above and lobbies at ground level also contribute to the liveliness along Globe Street providing an active public and residential community along the harbours edge.

Points for Consideration:

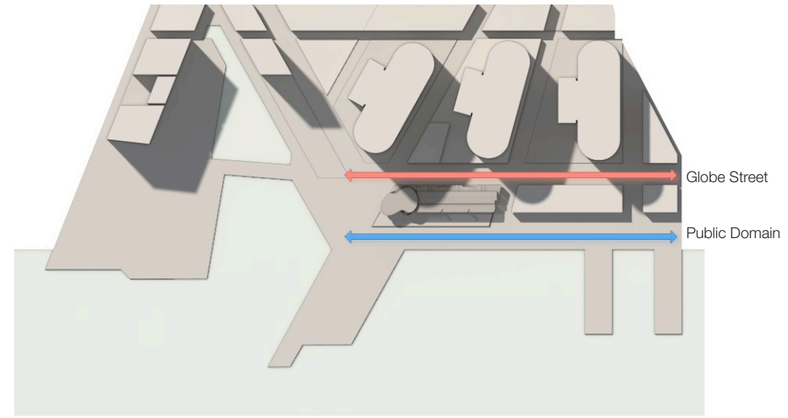
Provide sufficient clear physical and visual connections between the CBD and the new public domain along the foreshore

Managing west light while maximising views and shelter and maintaining existing views

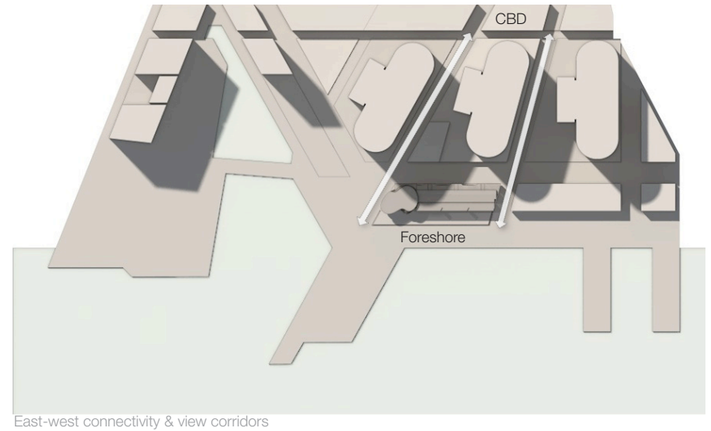
Integration of local residents, public and public domain

Opportunity to reinforce east-west and north-south connections

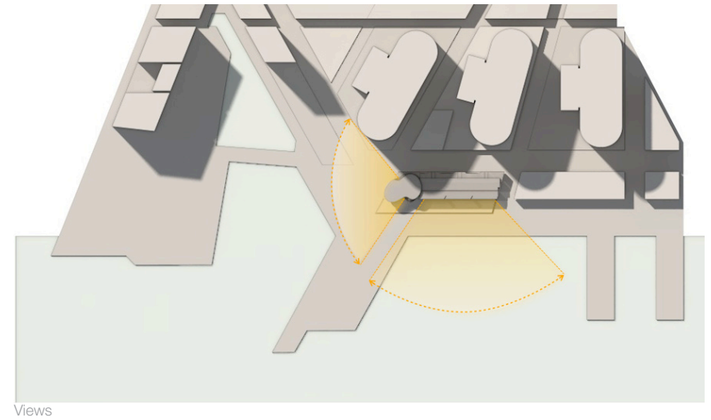
Provision for accessibility to existing and possible new transport connections



North-south connectivity and street alignments



East-west connectivity & view corridors


Views

4

Urban Design

4.1 Design Vision

Building R8 is positioned at the prominent end of a linear arrangement of two shore line apartment buildings. Together with R9 these buildings will perform an important role in defining and giving human scale to the waterfront promenade.

The ground level is predominantly retail, services and lobbies for the apartments which are accessed from Globe Street. Above this are 7 and 9 levels of apartments which are orientated West toward the water and east onto Globe Street.

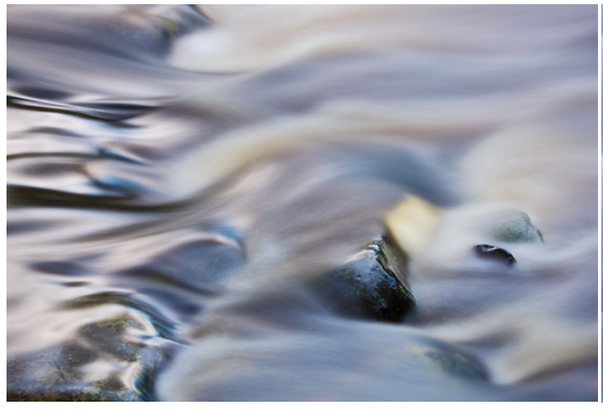
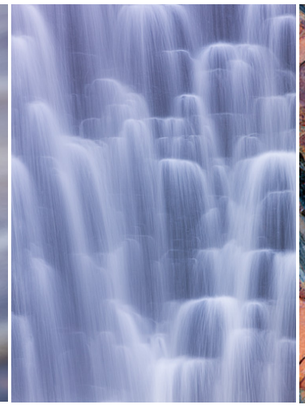
Our approach is to split this long linear building into two primary forms; a carefully scaled rectilinear form that defines and characterises the waterfront; and a higher more organic form that turns to the north and addresses the main public open space. These architectural forms will be combined with a linear canopy, gentle terracing and landscape to characterise the public waterfront.

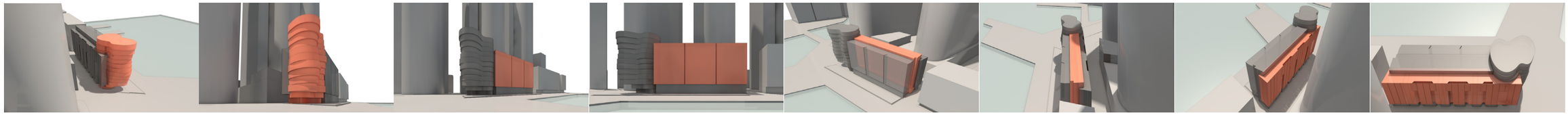
The west facade of the linear form is divided into three separate equal modules giving identity to each separate apartment building and reducing the overall scale of the west facade of the building along the waters edge. Within these modules the building form and facade is further expressed through angled separating walls that gently ‘turn’ the building to the north. This ‘turn’ of 45 degrees prioritises the northern orientation and reduces the impact of low western sun in summer. Additional environmental and privacy control is provided by way of custom external bifold adjustable screens, which allow personalised control and create a lively pattern of use across the facade.

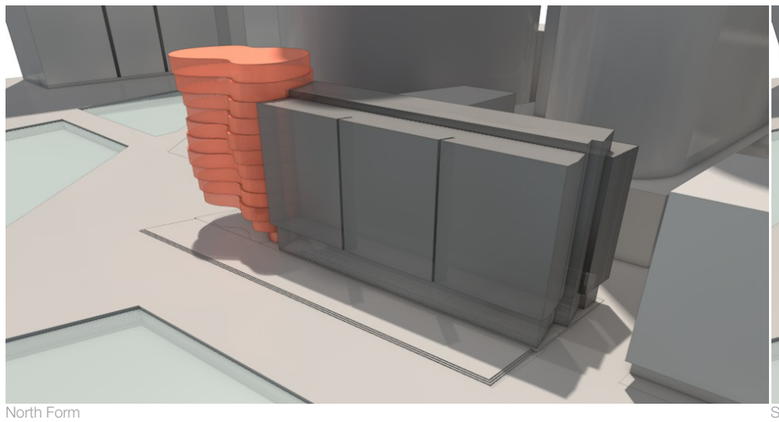
The eastern facade provides setbacks and recessed oblique windows to improve privacy and enable views along the length of Globe Street instead of directly across the road. Windows on this east elevation have additional measures to increase privacy in the form of fixed batten screens that further articulate this facade.

At the northern end of R8 facing onto the public square the building takes a more organic expressive form of subtle double curves and increased height addressing this important space and giving enhanced character and identity. The curved forms are created through facetted panels and lazer-cut custom patterned bifold balcony screens in light colours opening towards the north. Environmental and privacy control is managed through these screens and shutters that give a balance of consistency and individual expression to the apartments.

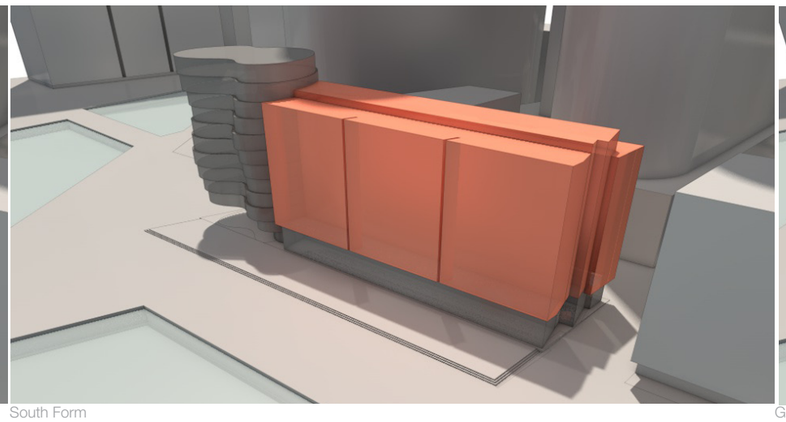
The architecture is intended to give a character to these privileged apartments that is appropriate to this exceptional public waterfront site, most of all it is intended to create a carefully scaled and expressive backdrop to these important public spaces.

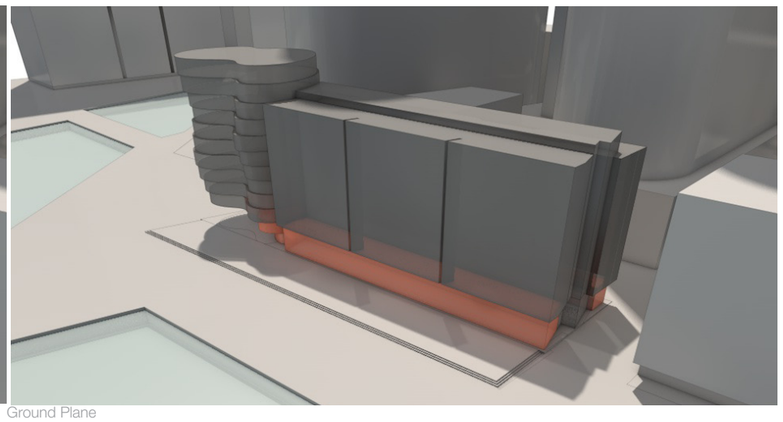





North Form



South Form



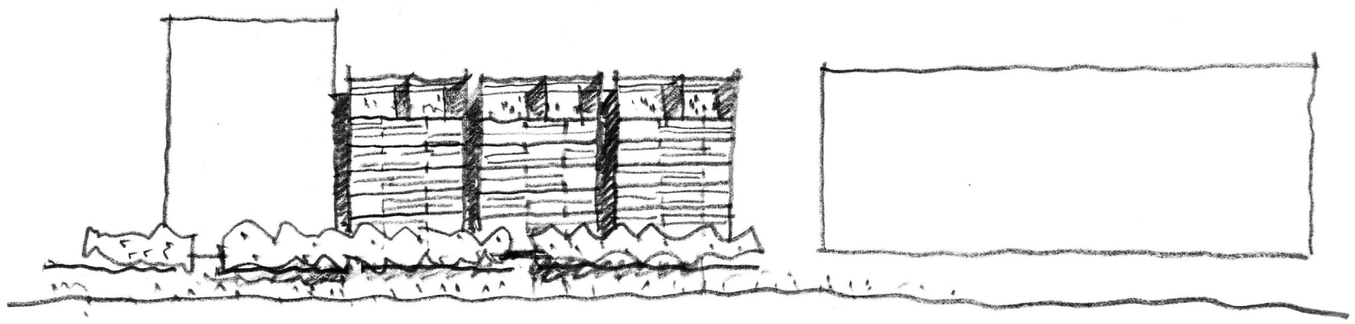
Ground Plane

4.2 Design Process

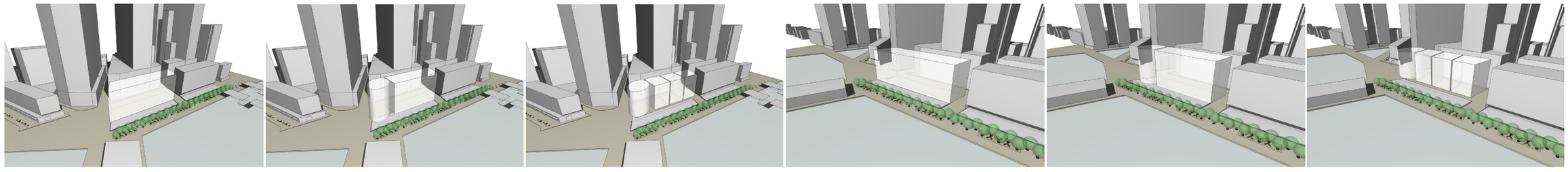
An outline of the design process leading to the proposal

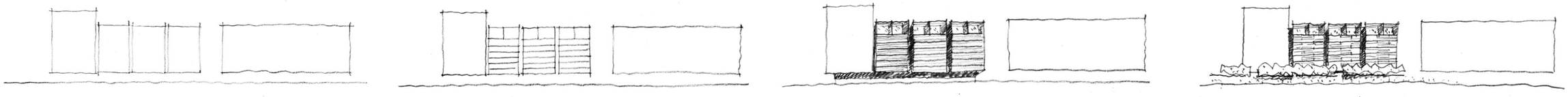
The design process and evolution of R8 has been closely reviewed at a number of key stages by the Barangaroo Delivery Authority. In this process a number of design elements have been considered within the approved building envelope for this site.

Working within a predefined envelope there are a number of key elements that have undergone changes through this design review process with the Barangaroo Delivery Authority. The key elements have been the articulation and representation of the facades, material selection, the planning of the apartments and provision of a number of different types within the overall development. The development of the ground plane has also been critical in responding to two quite different demands of both public domain and active retail space and a more private apartment access via lobbies which are also located at ground level.



West Elevation





Form articulation process

June 2012

Key decisions and reviews:

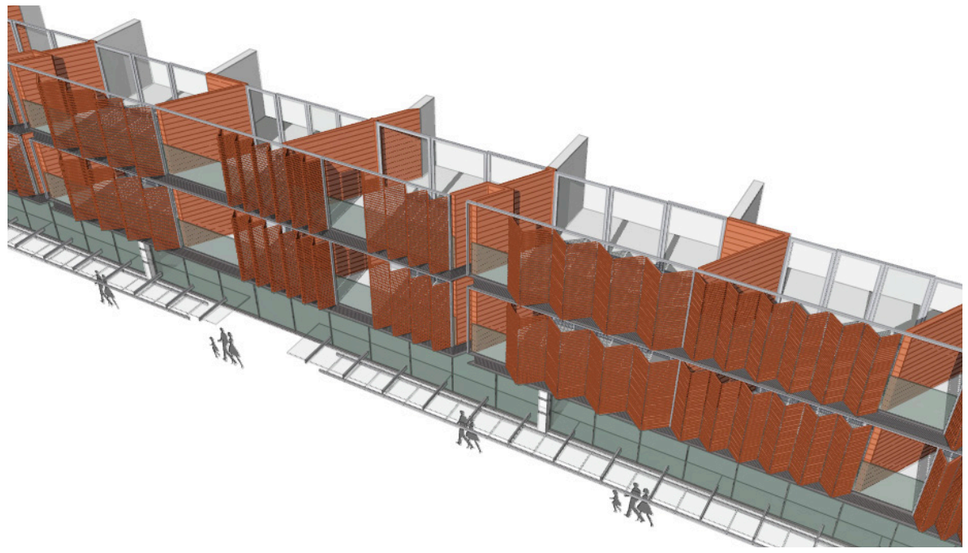
Analysis of proposed building envelope (as per Concept Plan MP06_0162 MOD4) and formal opportunities within this.

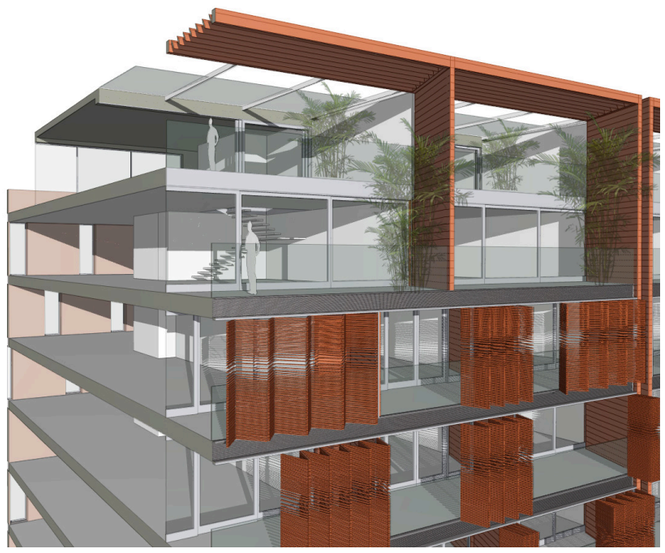
Review of frontage widths, balconies and maximisation of views and aspect to determine the most appropriate configuration.

Review of typical apartment module and apartment mix.

Facade development and building character studies to determine the facade representation in response to both context, climate and aspect.

Precedence studies for form evolution and facade.





July 2012

Key decisions and reviews:

Detailed facade studies done on all facades in response to both access to natural light, provision for privacy and access to views particularly to the west.

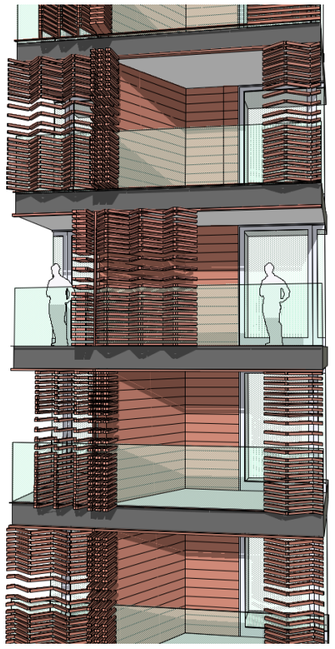
Site and building layering study to more closely consider the articulation of the different facades systems

To provide a consistent materiality language and tone across all the facades.

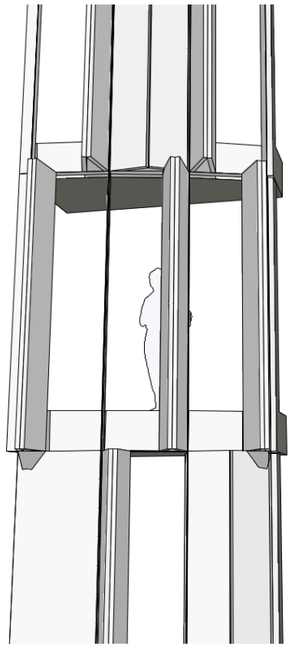
Detailed apartment planning

Northern Module form and concept development. Initial concept was to consider the northern module form as an extruded curved form across all levels.

Public domain/Waterfront Promenade. Two options were considered and presented with the difference between these being the location of the trees to the stepping on the western public domain site of the site.

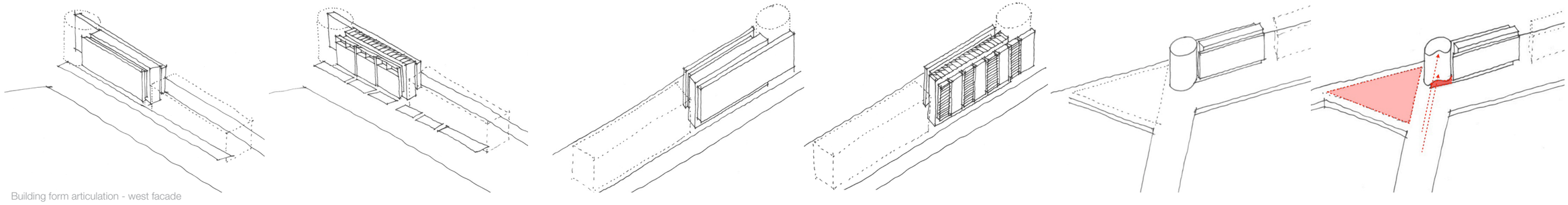


West facade study



North facade study

East facade study



Building form articulation - west facade

August 2012

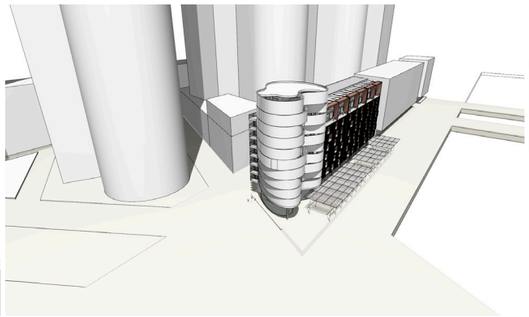
Key decisions and reviews:

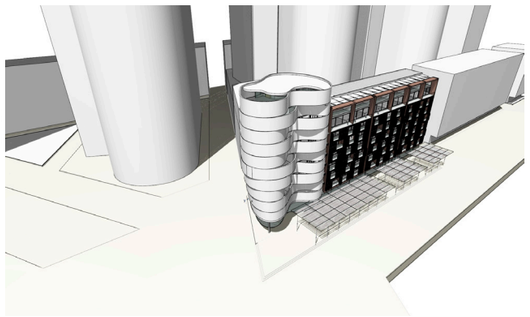
Northern Module form and concept development in response to Barangaroo Delivery Authority design advisors feedback. The Authority and its advisors agreed that further development of the northern form was warranted to make it more exciting. The Authority and its advisors discussed a possible solution to assist with further emphasising the curved nature of the facade was to extend the balconies only over the boundary. The living spaces are to remain within the boundary.

Development of the East facade in response to Barangaroo Delivery Authority design advisors feedback. The feedback considered that the east facade needed further exploration to provide further breakup of this facade given the immediate context and proximity of the commercial development along Globe Street. This was achieved by adjusting the horizontal extent of the facade of the top two floors across the length of the building while maintaining the vertical expression of the lower levels.

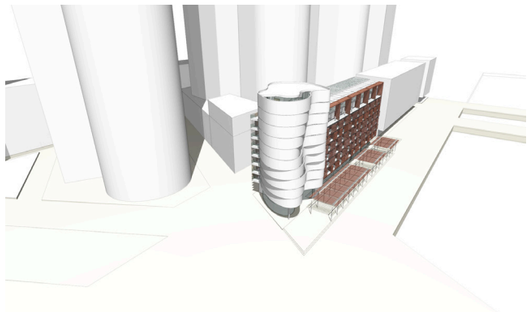
East elevation study

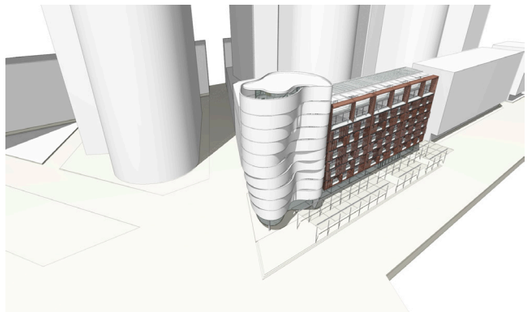
North module study - option 03



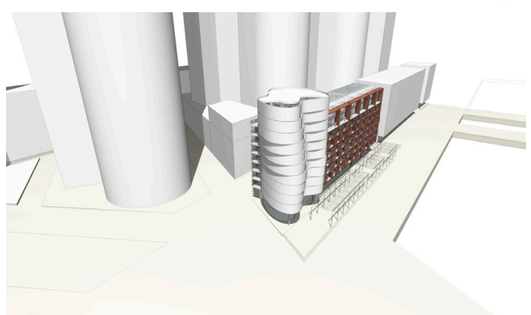


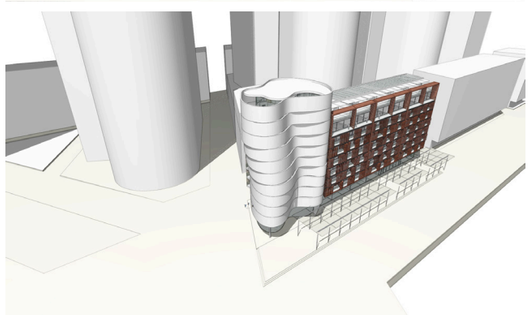
North module study - option 02

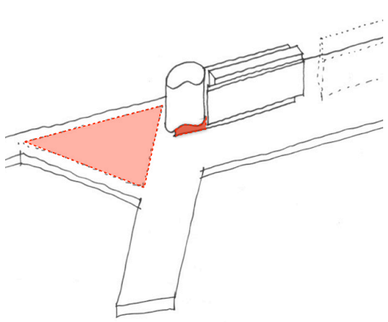


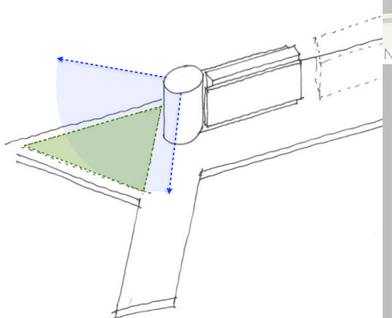


North module study - option 01







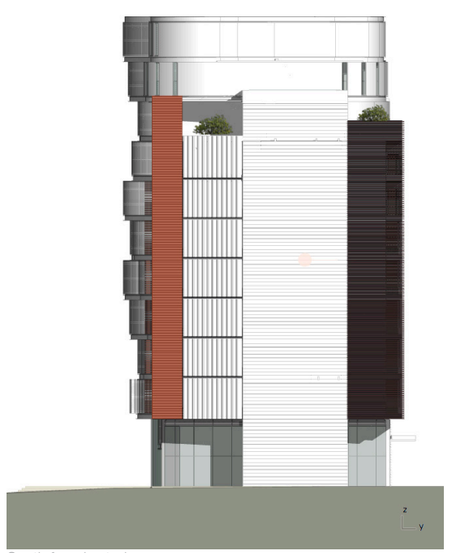


September 2012

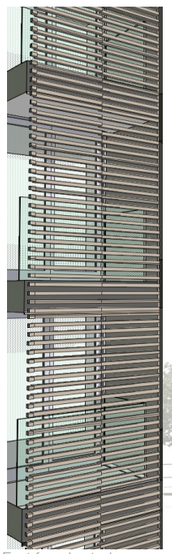
Key decisions and reviews:

Development of the south facade due to the rearranged configuration of the 2b and 1b to the south in response to feedback from the City of Sydney.

Removal of the 1m wide balconies on the east facade due to consideration that these balconies do not offer any benefit to the quality of the development and potentially present a risk that these balconies would be neglected and not represent well along Globe Street. The removal of these balconies further enhances the east facade by providing a greater depth and a consistent clean form behind the screens. This also increases the amount of light into the east facade by removing the balconies which would create shadowing on each respective floor below.

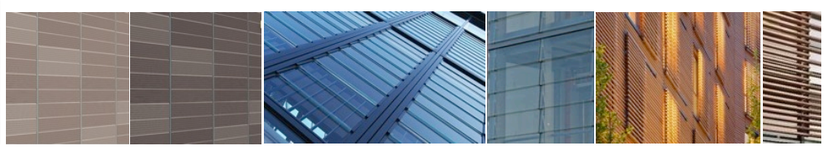


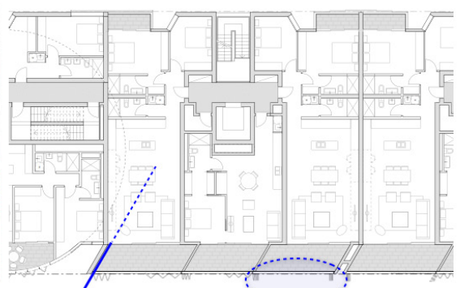
South facade study

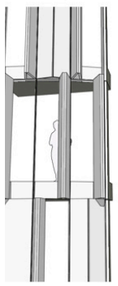


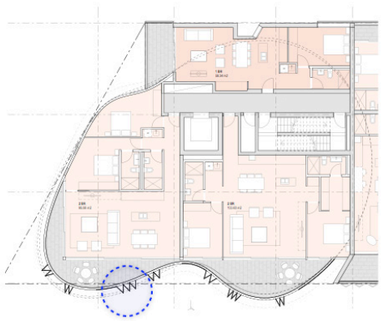
East facade study

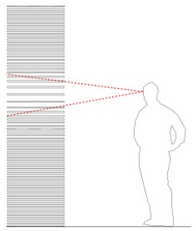
East facade study

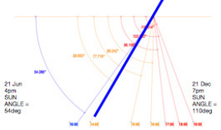




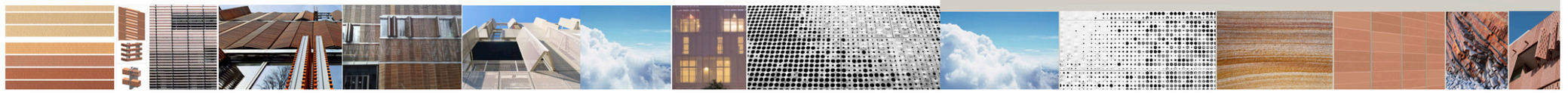








White bifold perforated facade panels
- *balconies*



5

Built Form

5.1 Design Principles

The design principles relate to the how the site and built envelope has developed within the controls of the Concept Plan. The key design outcomes that have been adopted are:

Built envelope within the predefined form as defined in the Concept Plan

Maximising view and solar aspect from all apartments on all levels

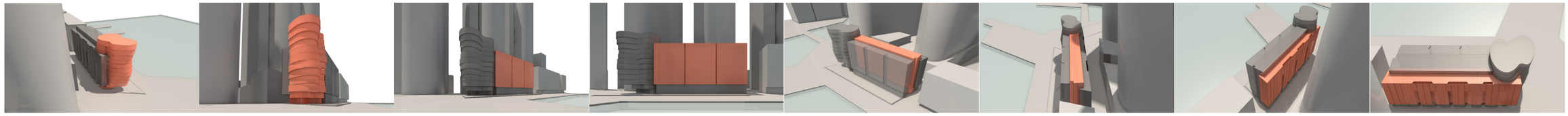
Facade systems in response to context and built form

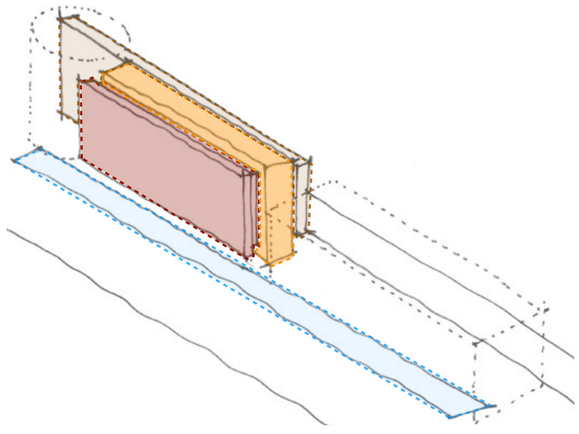
Material selection

Access to apartments from Globe Street

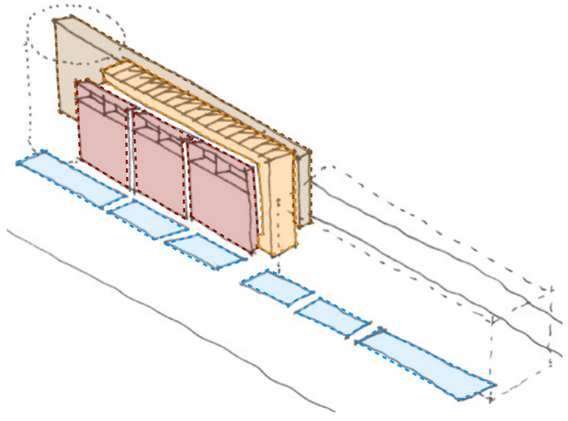
Defining the retail enclosure, particularly to the north in response to public open space address

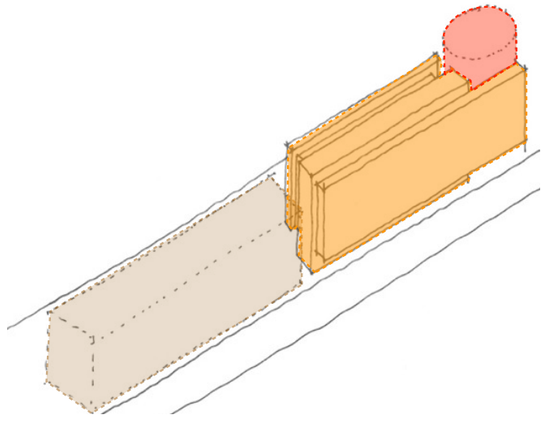
Maintaining primary view corridors established in the Concept Plan analysis



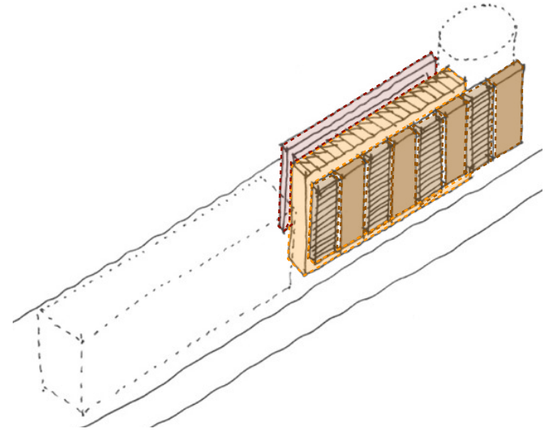


Built form articulation - west view





Built form articulation - east view



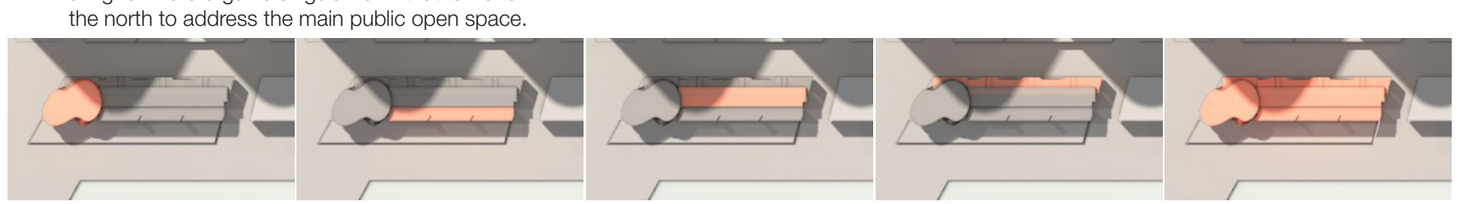
5.2 Building Scale and Massing

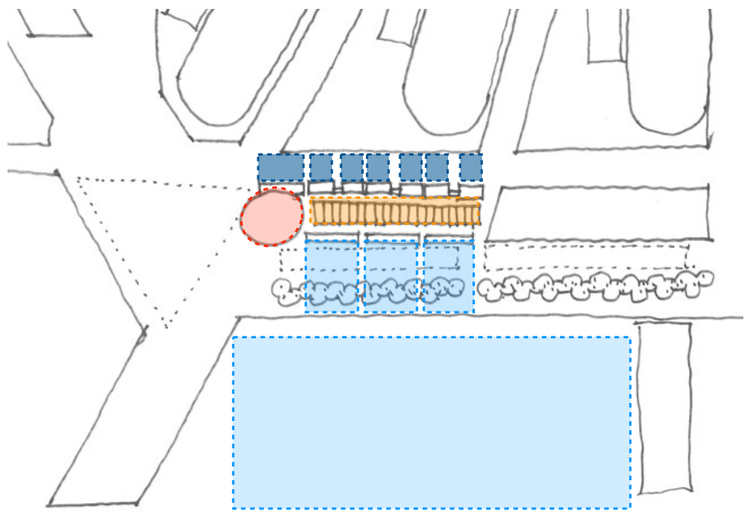
The building has been carefully considered to respond to the Concept Plan Built Form Principles and Urban Design Controls. From east to west this building serves as a transitional form that changes the scale from the commercial towers to the east to a more human scale of a linear 4,5m wide canopy, gentle terracing and landscape which characterise the public waterfront to the west. From north to south the approach is to split the linear building into two primary forms (consistent with the Concept Plan)

The first primary form is a carefully scaled rectilinear form that defines and characterises the waterfront edge and Globe Street. This form is represented as three sections relating to Globe Street on the east, the public domain on the west and a higher central spine where lifts and services are primarily located. The second primary form is a higher more organic singular form that turns to the north to address the main public open space.

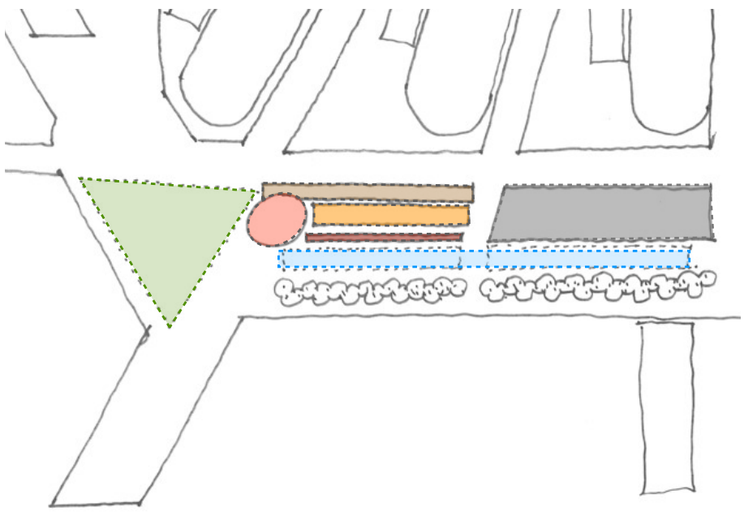
The eastern facade provides a more intimate scale for residents of R8 by way of canopies at the individual entry points of the building lobbies along Globe Street. This also assists by further refining the scale of the built envelope along Globe Street. On the west facade a continuous canopy responds to the larger scale of the public domain and harbour foreshore beyond.

Consistent with the Concept Plan the built envelope of R8 maintains a continuous street wall along both Globe street and the public promenade on the west.

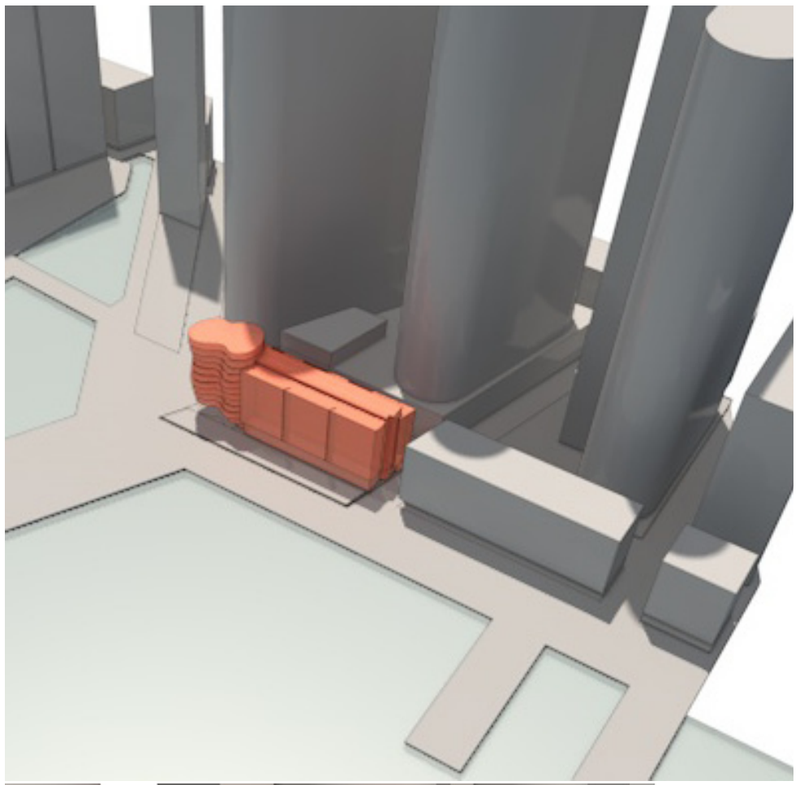


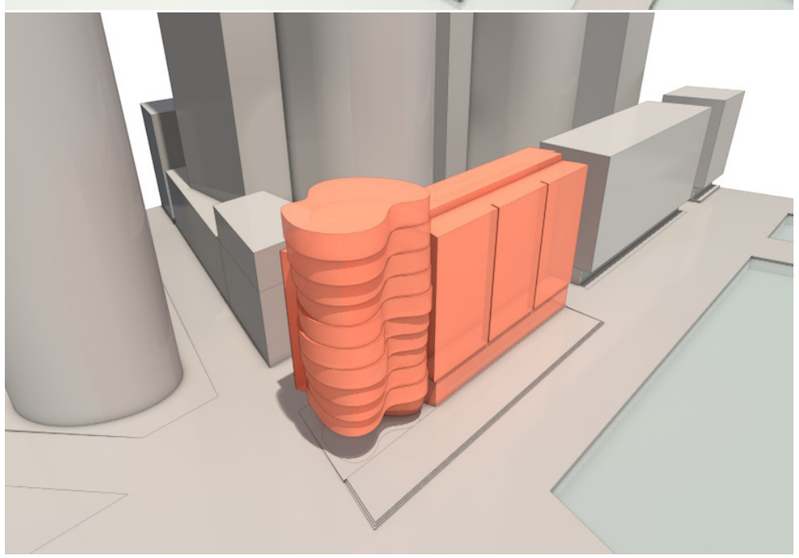


East-west facade articulation



Form articulation and layering



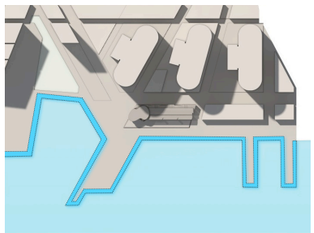


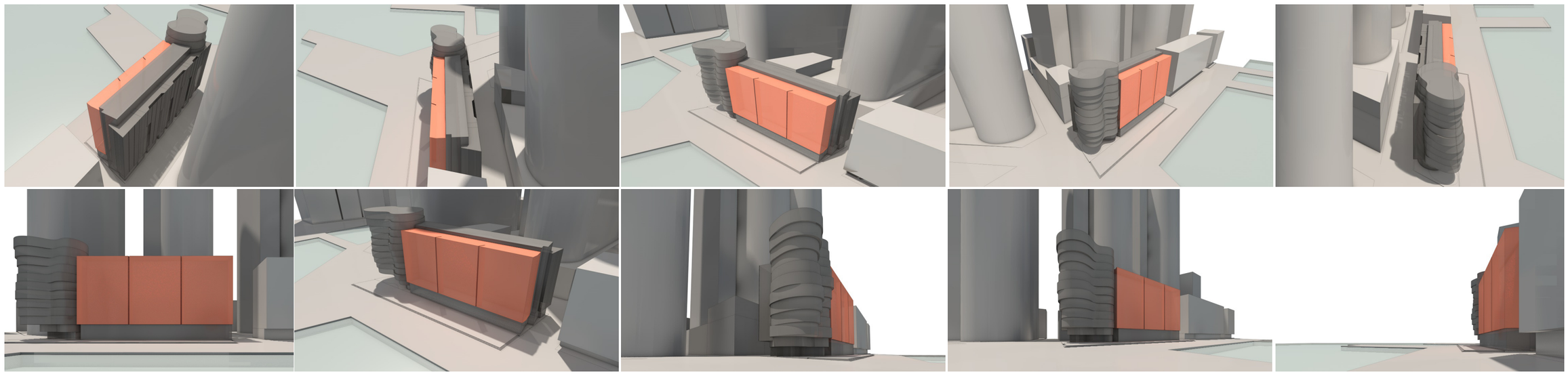
5.3 Waterfront Interface

The position of R8 in the Concept Plan has been established to best maximise its relationship to the waterfront.

The west facade faces directly towards the harbour taking full advantage of the aspect that this offers. The apartments are orientated primarily towards the view to the west and partially to the north. The view from the apartments to the north has been further enabled by the rotation of the balcony divisions.

At the ground level the retail and public domain fully utilises the unique proximity and context of the harbour aspect to activate the waterfront edge. A 4,5m wide canopy is proposed on the west side defining the public domain and creating a delineation between the retail and the first level of apartments. Its form provides uninterrupted shelter along the west facade and also provides an acoustic buffer for the retail space.





5.4 Solar Response

The orientation and position of R8 has been set to maximise the contextual benefits and opportunities of the site and its unique position along the waterfront edge. The outcome is that it is difficult to achieve the required solar access as identified between the hours of 9am and 3pm on the 21st of June. However the building's envelope maximises the extensive uninterrupted views of the harbour. Because of the close proximity of this development to the waters edge these views are unlikely to ever be built out.

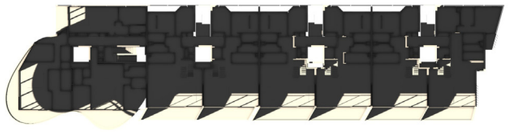
All the northern end apartments receive good solar access. The remaining predominantly west facing apartments have limited solar access because of their orientation. The deficiencies of direct sunlight penetration should be balanced against the excellent amenity and outlook which they will provide. The living spaces in these apartments generally receive sun from about 3pm onwards for levels 1-6 and from about 1pm onwards for level 7. The private open spaces adjacent to these living spaces on the western facade receive daylight from about 1pm onwards.

In response to maximising solar access for each apartment, particularly on the west facade the wall divisions between balconies have been rotated 45 degrees. This opens the balconies further towards the north and assists with the solar penetration to the private open space and living space in winter months. This adjustment to the orientation of the balcony divisions also helps better control the impact of the westerly sun during the summer months. The deeper balconies also assist with this.

The glass line of each of the apartments on the west facade is setback 2,3m from the boundary providing approximately a 2,25m deep balcony. Through a number of studies we have considered that it is necessary to marginally reduce the setback to what we have shown to increase the opportunity for solar penetration into the living areas without having a significant impact on the perception of the built envelope from the public domain.

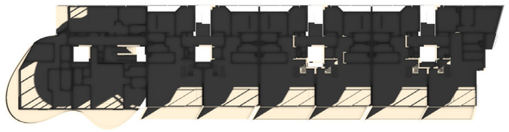
From level 1 to level 6 there are external adjustable bifold screens which provide additional environmental control. On level 7 the facade is expressed as a double height framed volume. There are fixed external louvres that are positioned at the top of this double height volume in a horizontal plane to control solar penetration at this level. The configuration of balconies on level 7 and the mezzanine step to better suit this change in scale and solar access at the roof level.

Winter - Level 7 - 11:30am (louvres open)

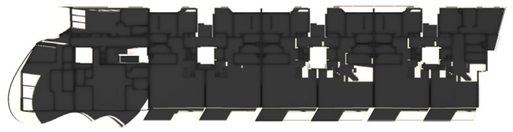


Winter - Level 7 - 2:30am (louvres open)

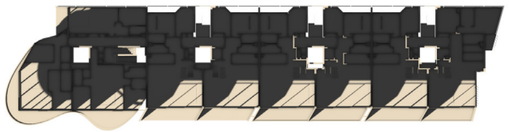
Winter - Level 7 - 12:00pm (louvres open)



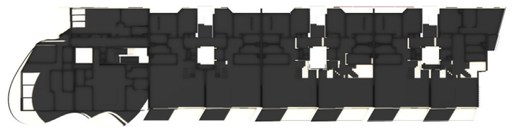
Winter - Level 7 - 3:00pm (louvres open)



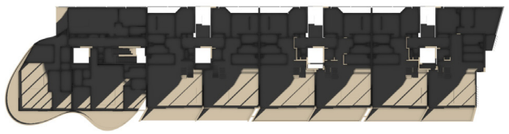
Winter - Level 7 - 12:30pm (louvres open)



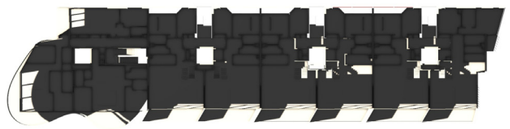
Winter - Level 7 - 3:30pm (louvres open)



Winter - Level 7 - 1:00pm (louvres open)



Winter - Level 7 - 4:00pm (louvres open)



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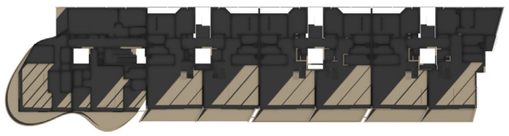
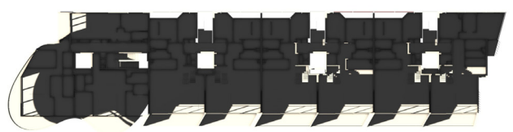
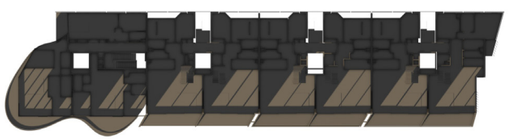


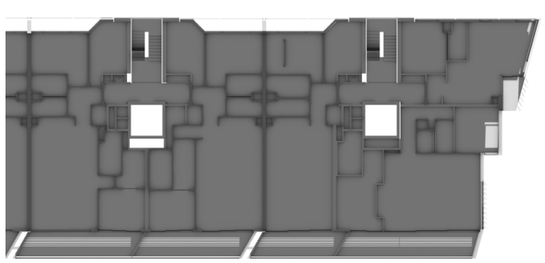
Winter - Level 7 - 4:30pm (louvres open)



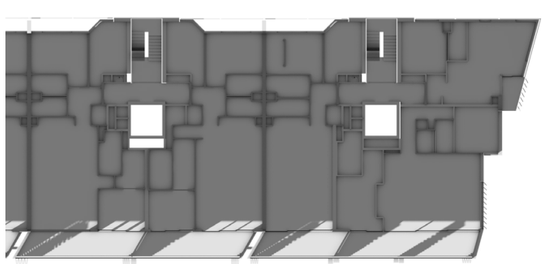
Winter - Level 7 - 2:00pm (louvres open)



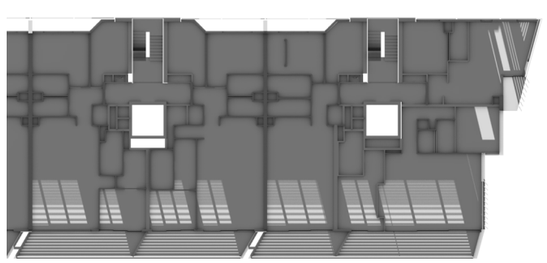
Winter - Level 7 - 5:00pm (louvres open)



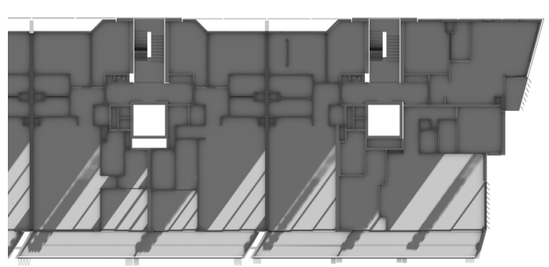
Summer - Level 6 - 3pm (louvres closed)



Winter - Level 6 - 3pm (louvres open)



Summer - Level 6 - 5pm (louvres closed)



Winter - Level 6 - 5pm (louvres open)

5.5 Setbacks

The ground level facade is set back from Globe Street and varies between 1 to 2,5m from the building envelope boundary along the east facade. The largest setback occurs at the entries to the residential lobbies along Globe Street. From level 1 up approximately 40% of the facade is set back 1.1m from the building envelope boundary.

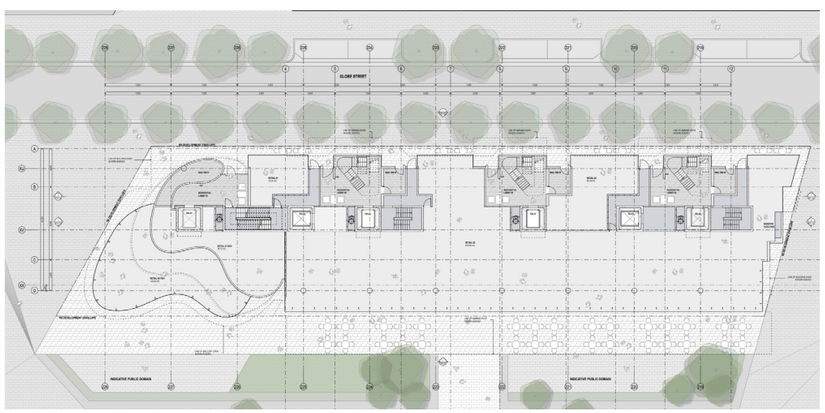
The curved northern retail facade at ground level provides a thoroughly engaging and prominent form in response to the public square to the north. The setbacks for this vary along the northern boundary as a result.

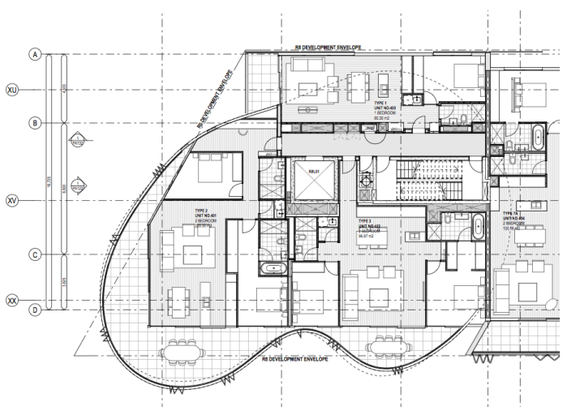
On the west facade at ground level, the retail glazing is set back from the boundary by 0,5m to provide a step and a change of alignments of the facades between ground level and the residential levels above.

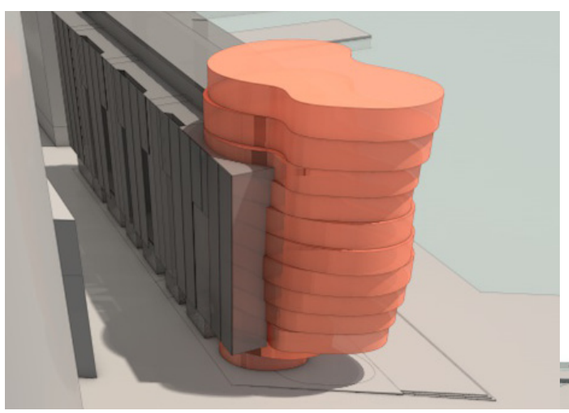
The west facade comprises a series of balconies that extend to the site boundary. The glass line of each of the apartments on the west facade is setback 2,3m from the boundary providing approximately a 2,25m deep balcony. The required setback is 3m which means there is only approximately 0,7m difference to what has been provided. Through a number of studies we have considered that it is necessary to marginally reduce the setback to what we have shown to increase the opportunity for solar penetration into the living areas without having a significant impact on the perception of the built envelope from the public domain. The balconies also sufficiently obscure the view of the apartments from the public domain therefore also maintaining privacy.

There are minimal setbacks to the north and south, however to the north the setbacks vary floor to floor. Additionally on the north end of R8 there are sections of the curvilinear facade that extend past the site boundary. These sections are limited to balconies only. The living areas are within the site boundary.

The balcony areas that extend past the Block X boundary to the north west have evolved out of a series of presentations and discussions with the Barangaroo Delivery Authority and design review panel. This direction was carefully considered and strongly supported by the panel to achieve the most architectural benefit and amenity from the northern end of R8. It is a way of effectively addressing the importance of the public space to the north and to give enhanced character and identity to the public domain.







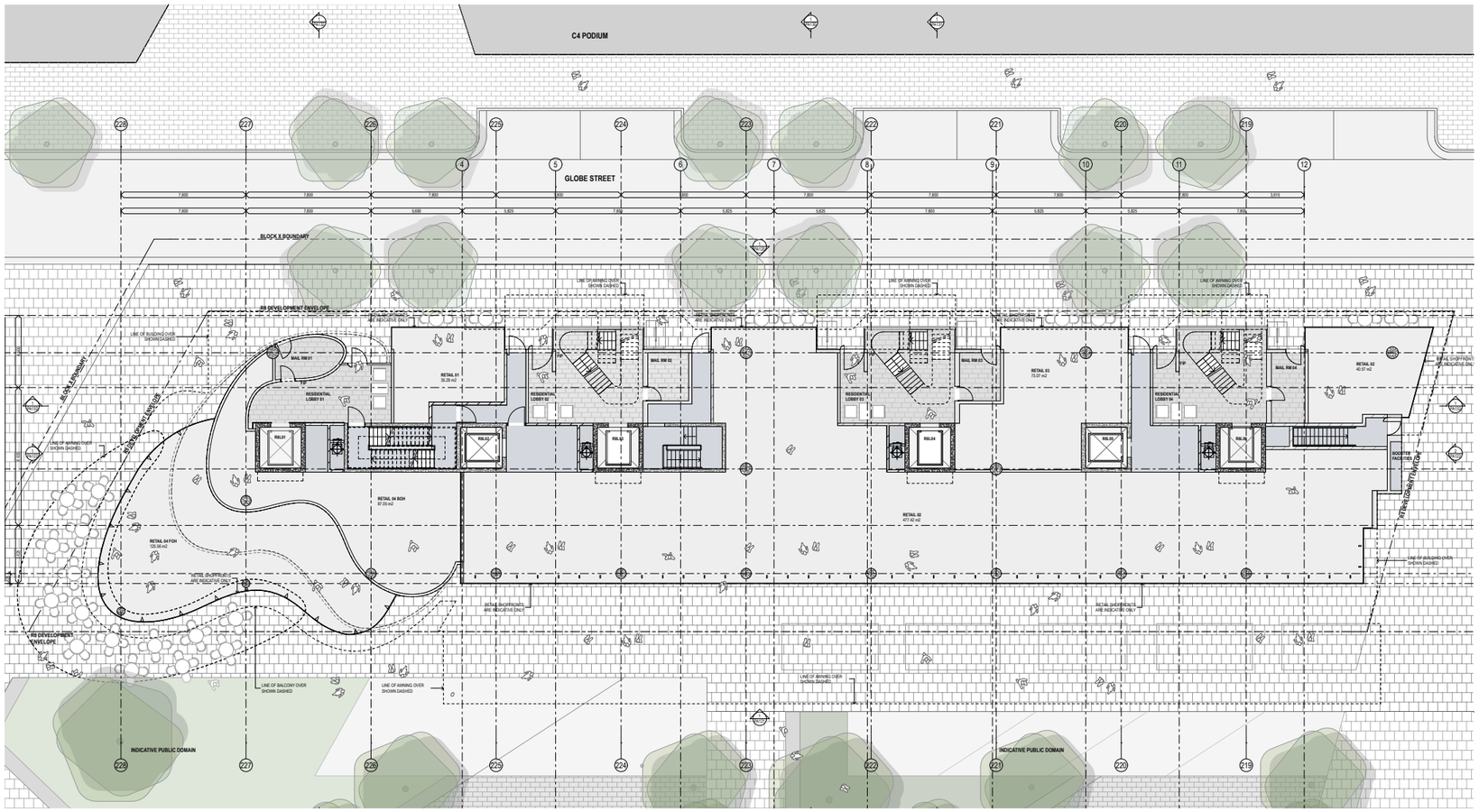
5.6 Ground Floor and Public Domain

The ground level is predominantly retail, services, lobbies and mail rooms for the apartments. To the east the lobbies and mail rooms are accessed from Globe Street which help to provide a consistent active presence along this street. Along this street frontage there are also smaller integrated retail uses that further activates Globe Street.

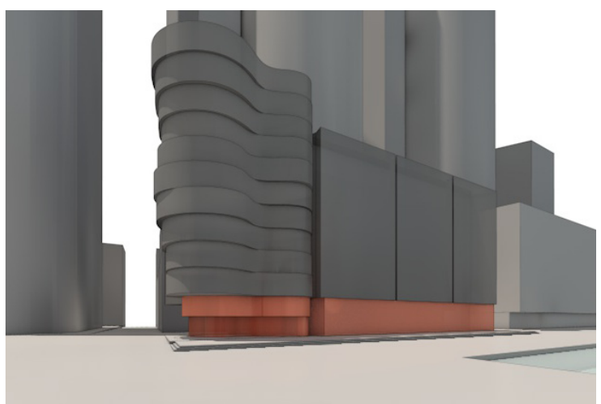
The organic form generated to the north of R8 continues down to ground level to be experienced as a part of the lobby for the northern end apartments and the retail space below.

To the west at ground level, a continuous glass frontage for the retail space activates the public domain. The glass line for this retail is set back slightly from the line of the residential apartments above to provide a clearer delineation between the two very different activities and provide further facade articulation. At this point of delineation, a 4,5m awning is proposed that will help to give visual and acoustic separation between the busy public domain and retail activity, and the residents immediately above.

Both the north and west retail facade form a continuous active frontage to the public domain.



Ground plane



Retail

Part west elevation showing retail and public domain

5.7 Residential Floors

There are 7 residential levels to the south and 9 to the north. The top levels of each of these has an additional mezzanine within the penthouse in the northern end and the loft apartments to the south.

There are 82 residential apartments in total with 24 apartments located in the northern end and 58 to the south. All apartments predominantly have aspect towards the view to the west with most also having a secondary connection to Globe Street on the east side of the site.

Of the 82 apartments there are 11 types ranging between one bedroom and three bedroom as well as penthouse providing good diversity across the development.

The apartment sizes are generally as follows:

1B - 60m2

2B - 100m2

3B - 130m2

Sizes may vary up and down from these areas.

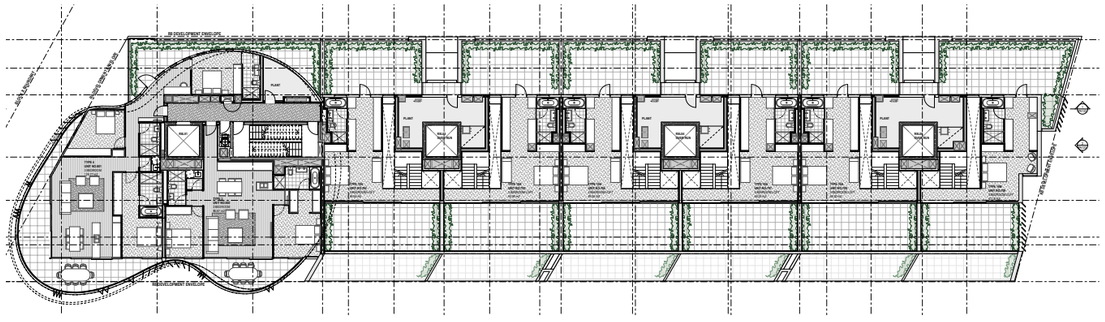
The majority of the two and three bedroom apartments are east-west facing maximising the full width of the site. The smaller one bedroom apartments generally have a western aspect. The living and kitchen spaces generally all face the views to the west and all kitchens are within 7m from the facade line.

Private open space opens off the main living spaces and also all faces the view. Balcony depths are consistent across the west facade at 2,3m deep. At the northern end, balcony depths vary and generally the useable area is a minimum of 2,4m wide. Due to the nature of the form of the northern end balcony dimensions diminish.

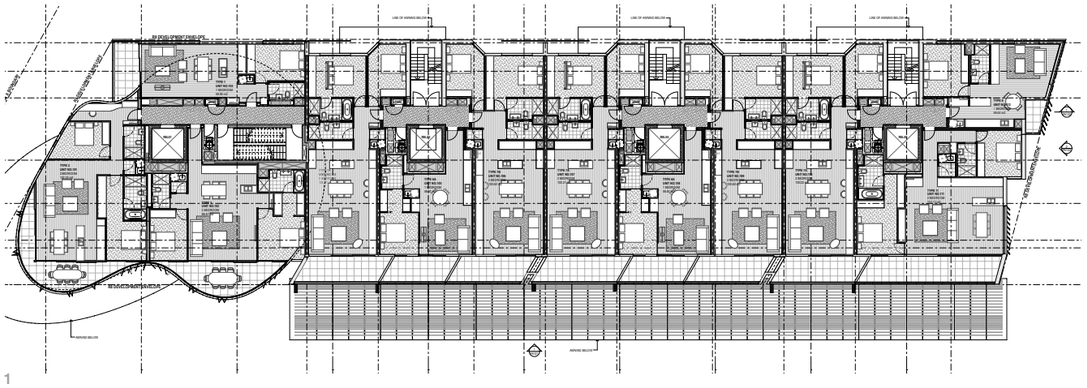
The residential floors have ceiling heights at a minimum of 2.7m for habitable rooms and 2.4m for non-habitable rooms.

In R8 there are four separate lifts each with their own lobby located at ground level with access off Globe Street. At each typical level a lift serves 3 apartments. On the upper levels this decreases to two. [It may be worth mentioning the maximum travel distance to a front door]

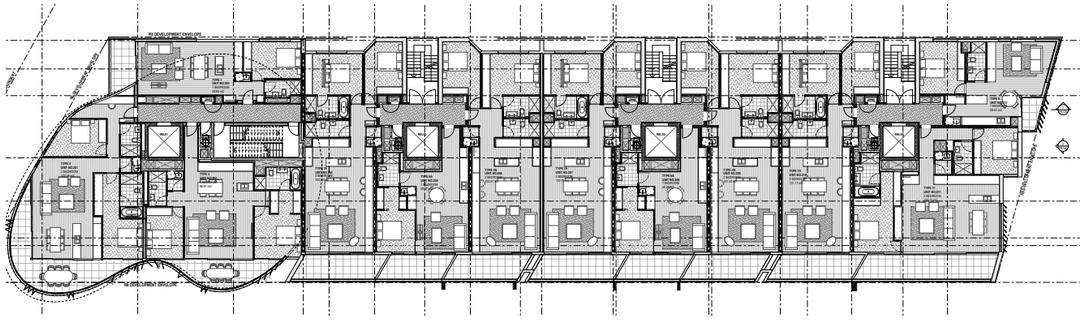
All residential apartment lobbies to the lower section of R8 have access to 1 source of natural light and are naturally ventilated. This is made possible as the fire stair feeding off the lobbies is located partially externally and is enclosed with a glass louvred facade. The requirement for an additional separate enclosed fire stair in the northern end results in an insufficient area to provide access to natural light and ventilation.



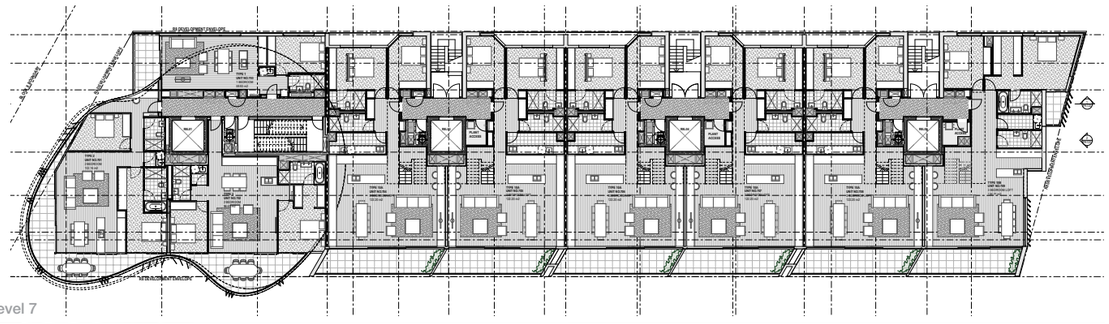
Level 8



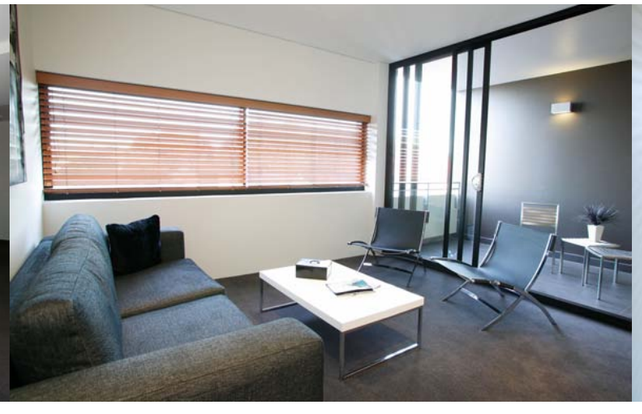
Level 1



Level 2 (typical)



Level 7



5.8 Facades

The facade systems for R8 are highly specific and have been chosen to suit the functional and aesthetic requirements of each facade.

The west facade is divided into three separate equal modules giving identity to each block of apartments and reducing the overall scale of the west facade of the building along the water's edge. Within these modules the building's form is further articulated by angled separating walls that gently 'turn' the building to the north. This 'turn' of 45 degrees prioritises the northern orientation, reduces the impact of low western sun in summer and increases solar access in winter. The solid areas of the facade are comprised of natural coloured ceramic cladding from level 1 and above.

There are external adjustable bifold screens from level 1 to level 6 which provide additional environmental control and privacy. On level 7 there are no screens and the facade is expressed as a double height framed volume which reflects the two story height of the loft apartments. External horizontal louvres are positioned at the top of this double height volume to reduce solar penetration at this level. The configuration of balconies on level 7 and the mezzanine level above changes and steps back to emphasise this variation in scale at roof level.

The custom external adjustable bifold screens allow personalised control and also create a lively pattern of use, layering light and shade across the facade. The natural colour and intentional tonal variation of the screens varies across the west facade to provide additional layering and depth to the facade.

The eastern facade includes setbacks and recessed oblique windows to improve privacy and enable views along the length of Globe Street instead of directly across the road to the commercial development opposite. Solid areas of the facade are clad in precast concrete panels with windows expressed as recessed openings within them. The windows on this elevation also have additional measures to increase privacy in the form of fixed natural coloured batten screens that provide further layering and visual interest. On this facade the colour, tone and material application of the batten screens and precast cladding panels varies consistently from north to south. Lighter tones are used at the northern end of the facade becoming increasingly darker at the southern end. Set within this facade are the fire stairs which are expressed as strong vertical elements and are enclosed with adjustable glass louvres. This louvred facade enables controlled natural ventilation and daylight into the stairs and lobbies at each level.

To provide further breakup of this facade and given the immediate proximity and scale of the commercial development along Globe Street the top two floors across the length of the building have been represented as a constant horizontal expression of the batten facade while maintaining the vertical expression of the lower levels.

At the northern end of R8, where it faces onto the public square, the building takes on a more organic and expressive form with subtle double curves and an increased overall height addressing this important space and enhancing the building's character and identity. The curved forms are created through facetted cladding panels and bifold balcony screens. These screens echo the screens on the west facade but are formed from light-coloured perforated metal sheet laser-cut in a custom pattern . Environmental and privacy control is managed through these screens and shutters that give a balance of overall consistency and individual expression to the apartments.

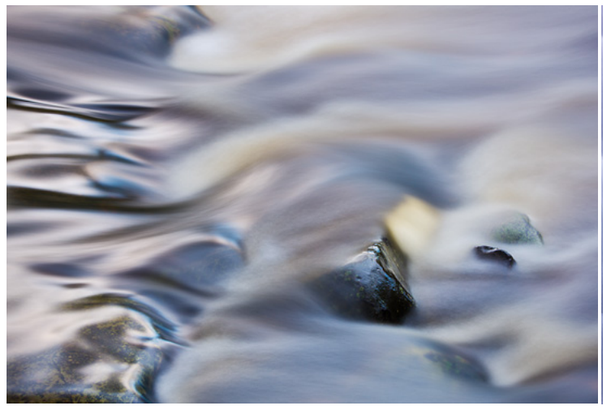
On the south facade external fixed louvres are proposed. These are orientated to provide privacy from the adjacent R9 site while maintaining the views from R8 to the west and the harbour.

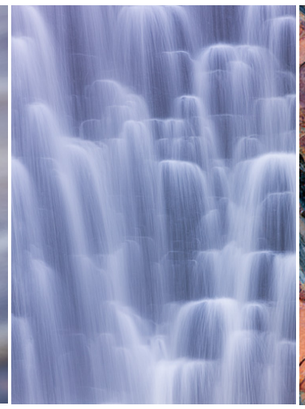

North elevation

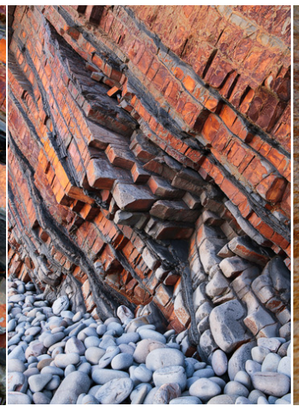

South elevation


East elevation


West elevation

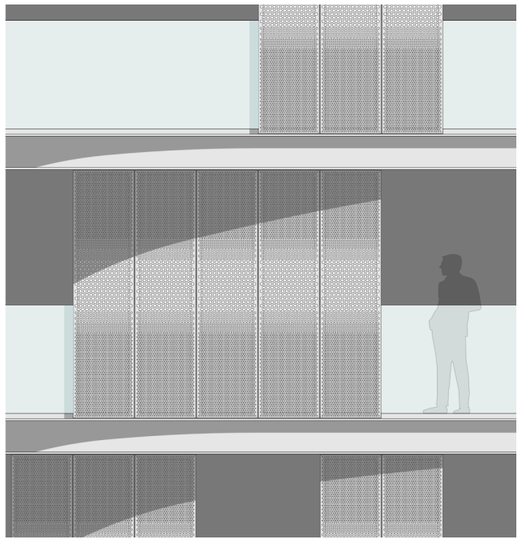




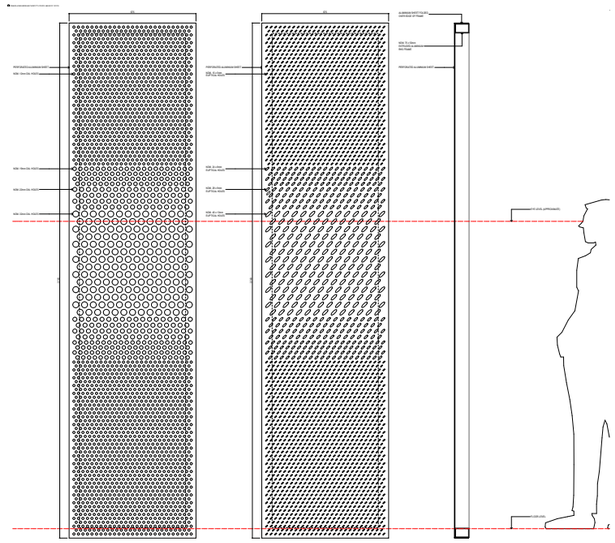


North Facade:

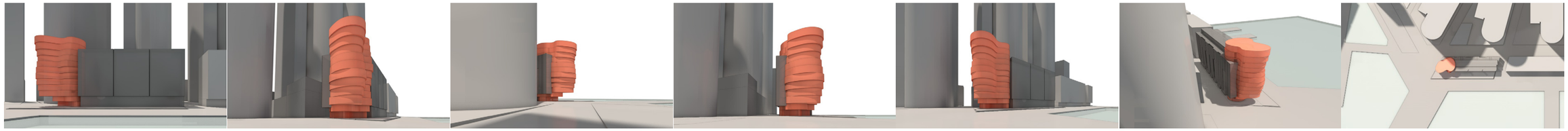
View from north

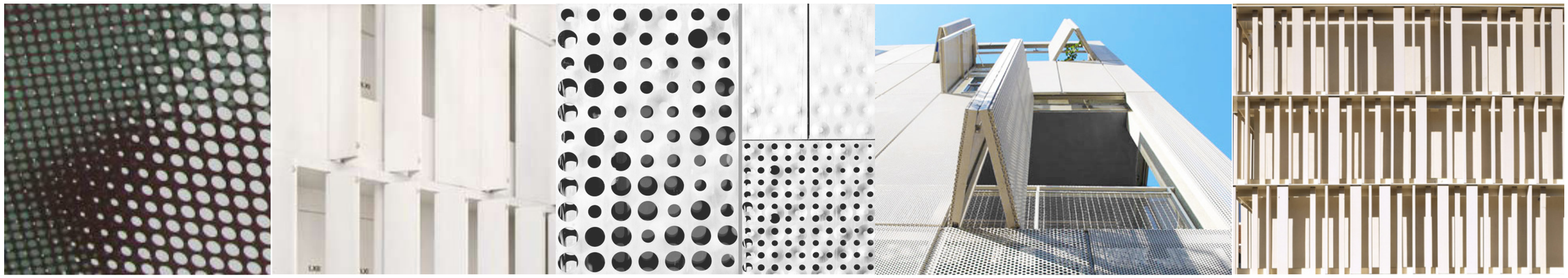


Part north facade elevation

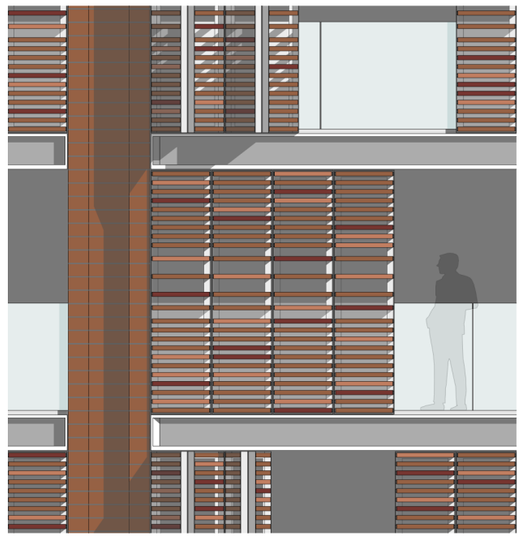


North facade screen options

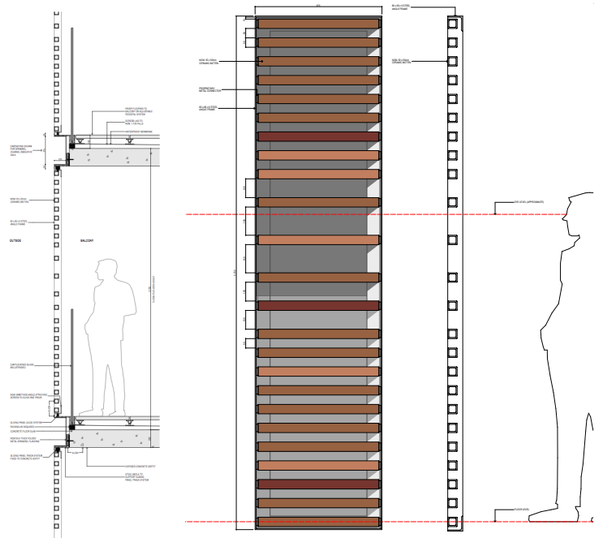




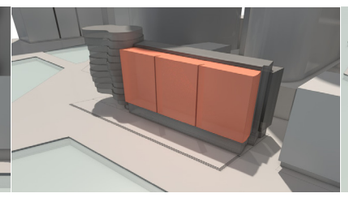
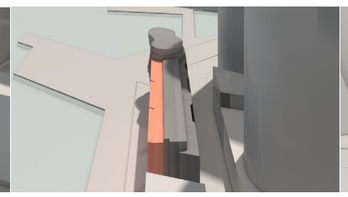
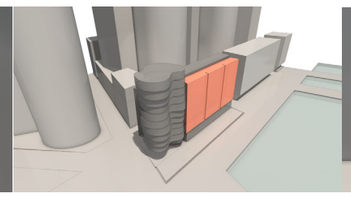
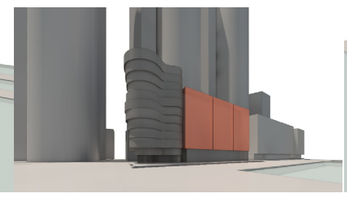
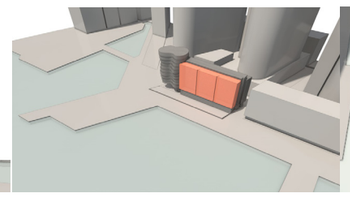
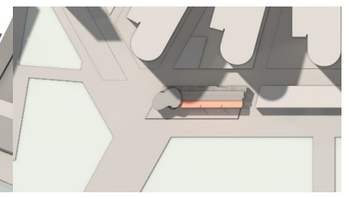
West Facade:



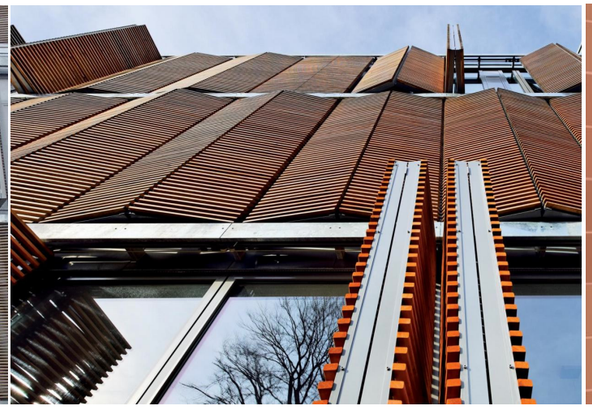
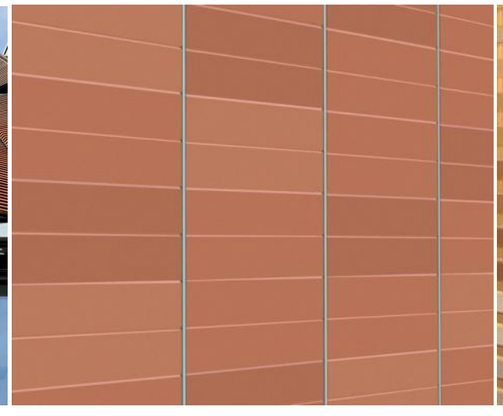
West facade elevation study



West facade screen study

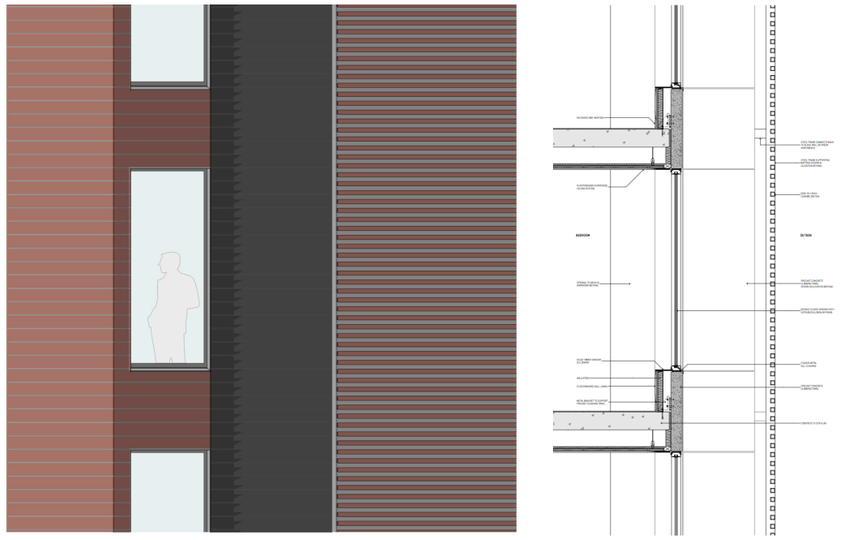










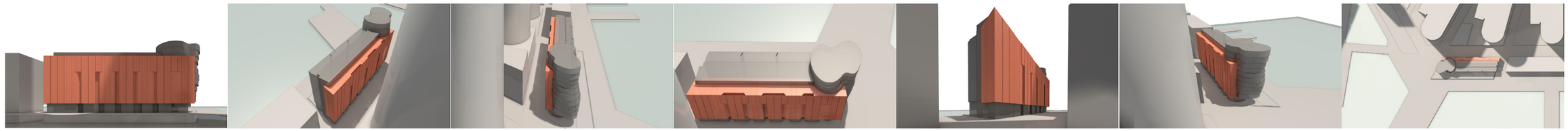



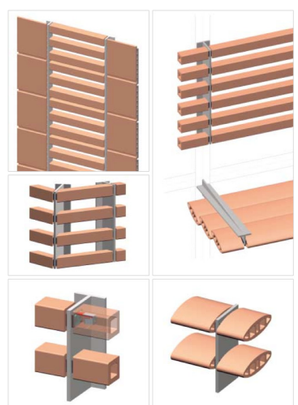
East Facade:

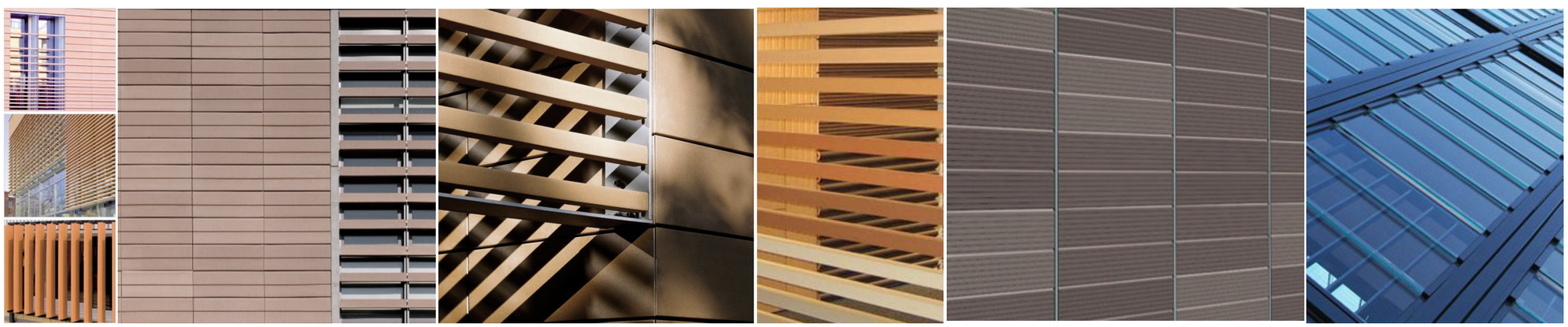
East facade elevation study



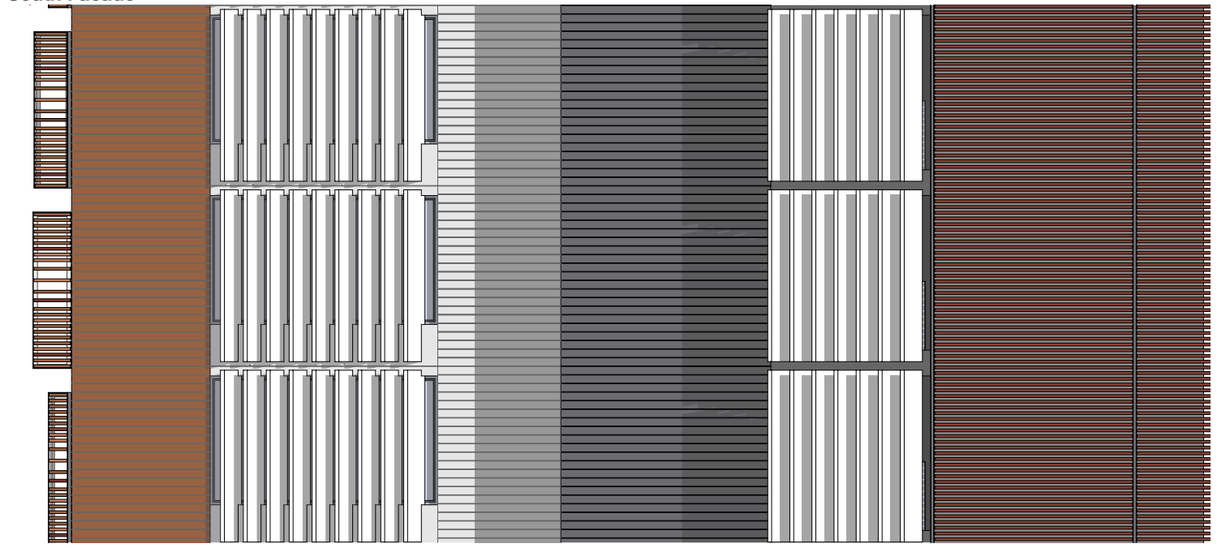
East facade screen study



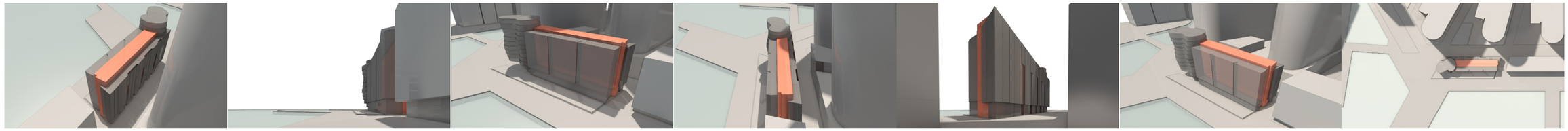


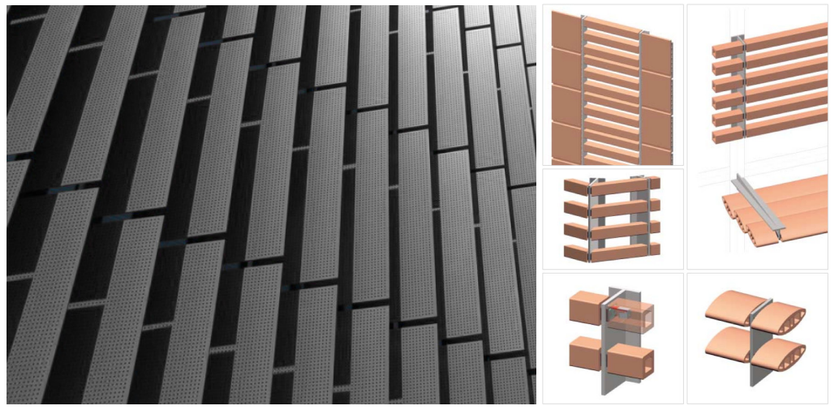


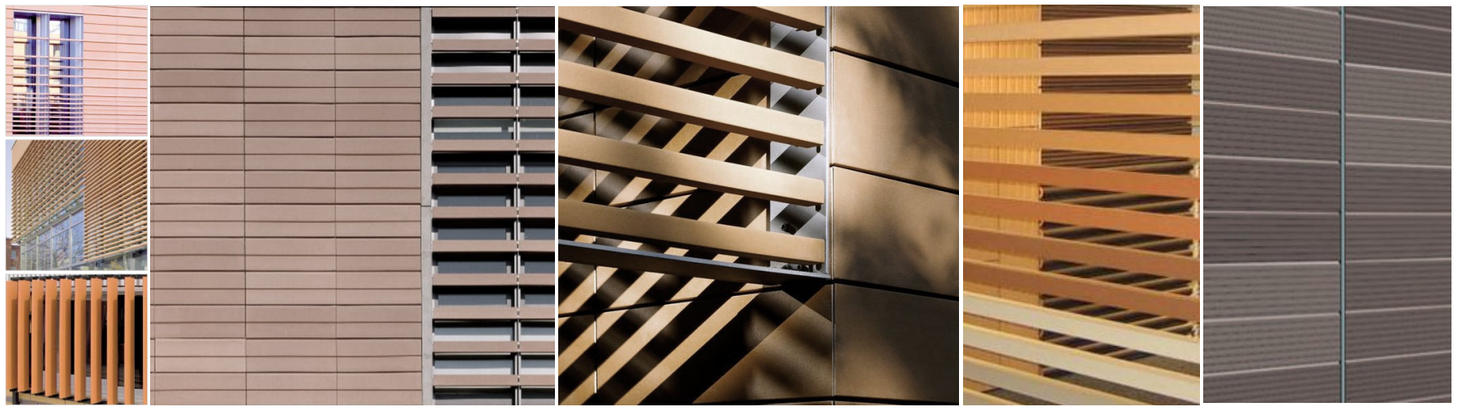
South Facade



South facade elevation study



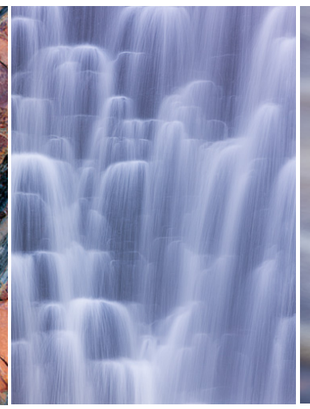


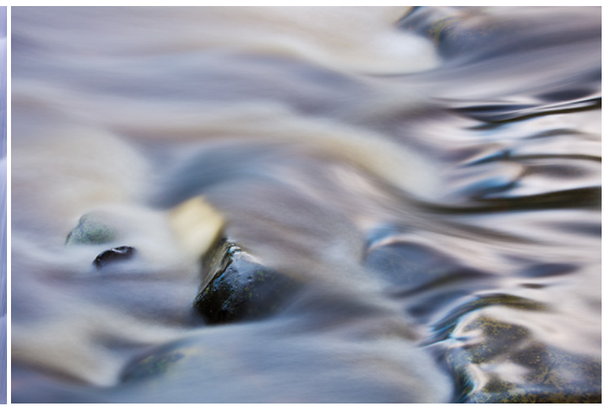


View from north

Aerial view from north west public square

View from north





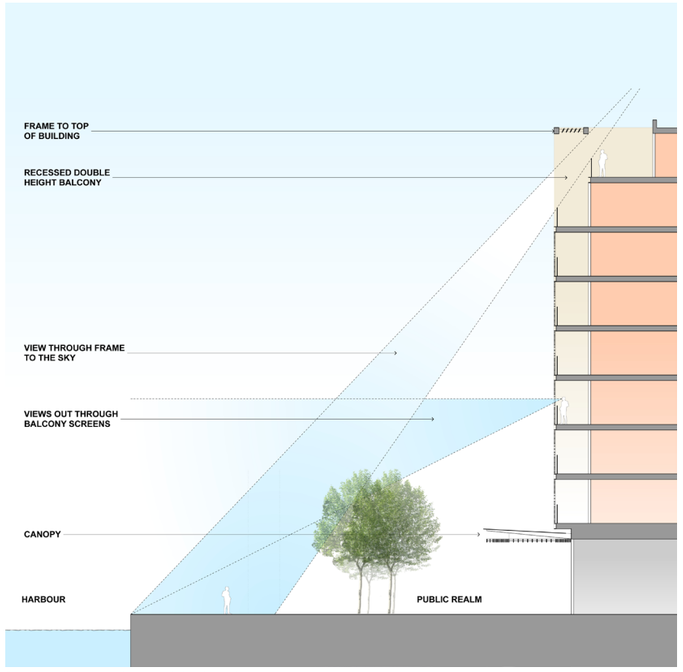
5.9 Rooftop

To the north of R8 the organic form continues upto the roof line to the allowable height and volume of the Concept Plan building envelope which maximises the height against the open public square.

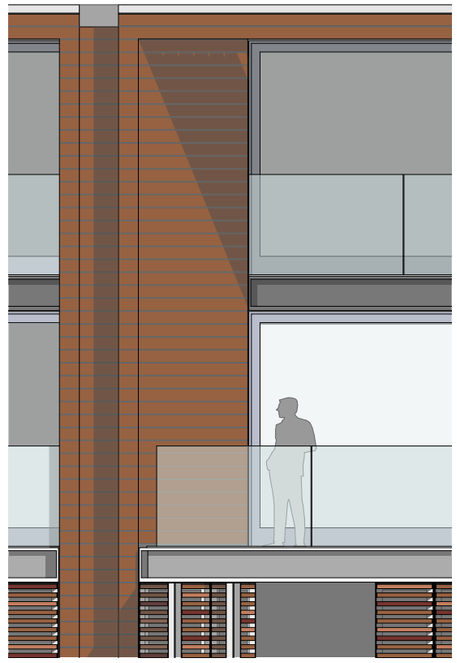
To the east and along Globe Street, the roof edge is expressed as a continuous form with subtle setbacks to reflect the steps in the facade below. The east facade continues in the same alignment on the south facade to reinforce the relationship and scale of R9 positioned immediately to the south.

To the west the rooftop is divided into three separate and equal modules giving identity to each apartment building and reducing the overall scale of the west facade of the building along the waters edge. These three modules are further defined as an open framed double height space at the top level. The top of this frame is defined as operable louvres which assist with solar access to these loft apartments. The top level loft apartments, to which these double height spaces relate, will also have planting positioned along the balcony dividing walls. The top level mezzanine is set back within the double height space to reduce the impact of the building envelope along the public domain by enabling the public to look up and past the set back form. This is achieved without compromising the formal composition and delineation of the outer face of the west elevation.

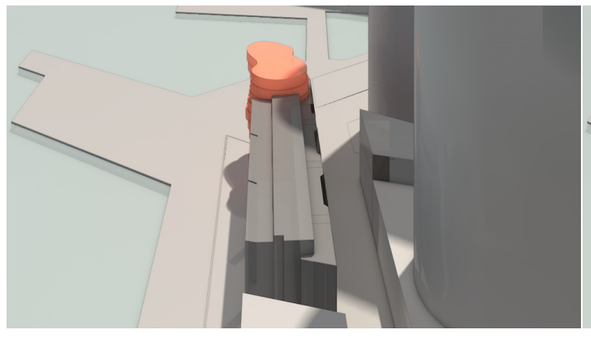
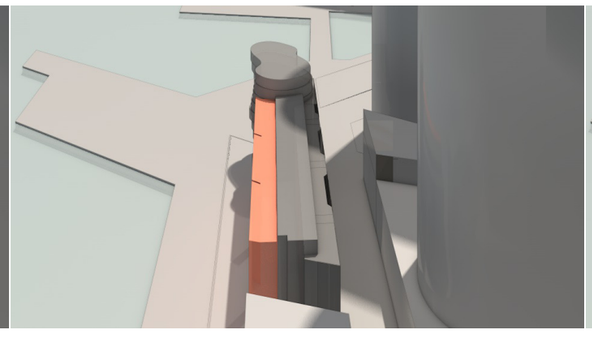
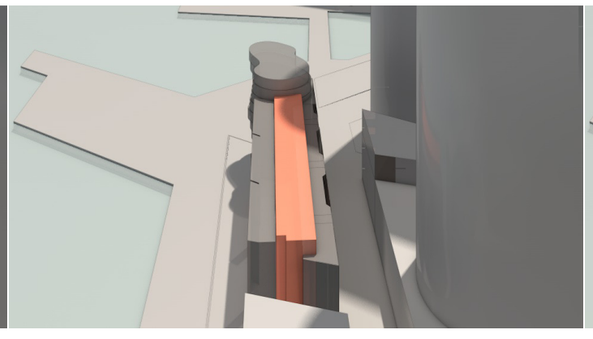
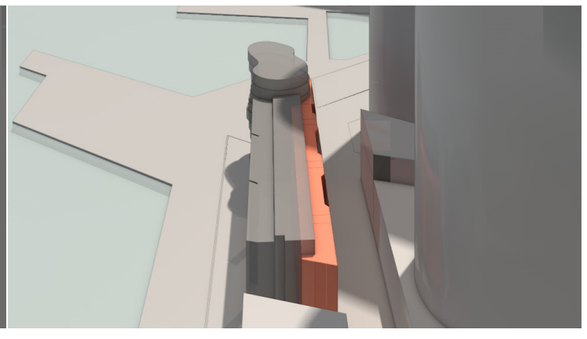
Solar panels are positioned in the middle of the roof of the lower of the two volumes. These are only visible from the taller commercial buildings that overlook the roof line of R8.



Section diagram along public domain


Part elevation of west facade at level 7/roof


View of level 7 terrace

5.10 Environment and Sustainability

The ESD summary report has been produced by Lend Lease design to describe the initiatives that are to be included within the R8 residential building proposed as part of the Barangaroo South precinct. This project aims to deliver a sustainable residential building with low operational energy consumption, reduced potable water use and appropriate materials selection while at the same time maintaining a high level of indoor environmental quality through appropriate mechanical design, façade configuration and materials selection.

The proposed residential development will benefit from the Barangaroo precinct sustainability initiatives such as the district cooling plant, on-site renewables strategy and precinct recycled water plant. These initiatives are essential to ensure the precinct achieves the many sustainability targets such as:

Minimal operational energy consumption off-set by offsite renewable energy to ensure a carbon neutral precinct.

Exporting more water than importing of potable water to ensure a positive water impact.

Zero waste

20% reduction in embodied carbon (cradle to gate) not including tenant fit outs.

On site renewables of an amount to offset public realm and recycled water treatment plant energy use.

Green Star design and As-Built ratings for all eligible buildings within the precinct.

The residential development will be committing to a 5 Star Design and As-Built Green Star ratings under the Green Star Multi-Unit Residential v1 tool. The precinct initiatives in combination with those specifically related to the residential buildings enable the minimum NSW sustainability performance requirements set by BASIX to be comfortably met.

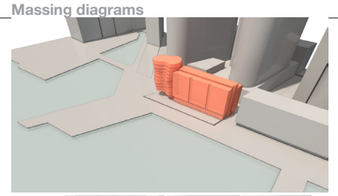
6

Compliance with Approved Concept Plan MP06_0162 Modification No 4.

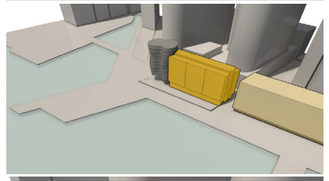
6 COMPLIANCE WITH APPROVED CONCEPT PLAN MP06_0162 MODIFICATION NO.4			
		Responds	Comment
6.1	**Building Mass and Location**	✓	*See 5.2 Building Scale and Massing*
	Objectives:		
	- To ensure building mass is appropriate within the envelope.		
	- The predominant height of the building mass fronting the foreshore promenade shall be 6 or 7 storeys above ground level, with over 70% of the building frontages having a consistent height. Any "pop ups" shall not result in more than 9 storeys above ground level and the overall massing shall be such to create an homogenous yet interesting streetwall		
	Standard:		
	- Above Ground floor level the westerly oriented facades to have a minimum 3m setback. Open and enclosed balconies are allowed to protrude into the setback zones. On the easterly oriented facades a minimum of 1m setback is required.		
	- Although the maximum height is RL41.5, the roof line will be undulating between maximum RL41.5 and RL20.		
6.2	**Street Wall Establishment**	✓	*See 5.2 Building Scale and Massing*
	Objectives:		
	- Street Wall defines promenade and Globe Street.		
	- To ensure an active Street Wall is established around each Block.		
	Standard:		
	- The building mass at the podium is to form a continuous Street Wall around the site for a minimum of 85% of the site perimeter.		
6.3	**Building Articulation**	✓	*See 5.2 Building Scale and Massing*
	Objectives:		
	- To establish an articulated, well proportioned building mass.		
	Standard:		
	- To reduce the impact of the building's mass, the envelope and floor plates are to be horizontally and/or vertically articulated, in particular at upper levels across Block X & 4A. Building Form is to express sustainability features such as for example access to natural light, ventilation and solar shading.		
6.4	**Building Legibility**	✓	*See 5.8 Facades*
	Objectives:		
	- Constituent elements of the building need to be legible.		
	- The building elements and structure should be legible at the base.		
	Standard:		
	- The separate primary components of the building will be expressed and include additional elements such as the open and enclosed balconies.		
	- Reinforce articulation of building form with modulation of open and enclosed balconies, building elements, etc. to avoid monotony.		
6.5	**Ground Floor Permeability and Accessibility of Public Realm**	✓	*See 5.6 Ground Floor and Public domain*
	Objectives:		
	- To ensure building mass is appropriate within the envelope.		
	Standard:		
	- Above Ground floor level the westerly oriented facades to have a minimum 3m setback. Open and enclosed balconies are allowed to protrude into the setback zones. On the easterly oriented facades a minimum of 1m setback is required.		
	- Although the maximum height is RL41.5, the roof line will be undulating between maximum RL41.5 and RL20.		
6.6	**Ensuring Quality of Rooftops**	✓	*See 5.9 Rooftop*
	Objectives:		
	- The mass at the rooftop shall be articulated and legible.		
	- The architectural treatment of the roof and its form is to be designed, coordinated and remain sympathetic to adjacent context.		
	- Roof Design to integrate sustainable features.		
	Standard:		
	- Architectural treatment of roof form.		
	- Architectural treatment of exposed elements such as lift shafts, overruns control rooms and any sustainability features.		
	- Exposed mechanical equipment is to be avoided.		
	- Use of good quality materials (i.e. durable, hardwearing, sustainable).		
	- Roof to incorporate no more than 60% accessible terraces.		
6.7	**Façades**	✓	*See 5.8 Facades*
	Objectives:		
	- To ensure the architectural quality of the facades.		
	- To articulate the building's functions and massing with appropriate facade design and detailing.		
	- To ensure the facades contribute to the building's articulation and mass.		
	- To contribute to "carbon neutral" for Barangaroo South.		
	Standard:		
	- The choice of appropriate materiality for longevity, durability and flexibility. Materials such as steel, glass, concrete, timber and aluminium.		
	- Environmentally sustainable design is to be incorporated on all facades.		
	- Depth and layering of facades is to be achieved through relief and protrusions. Mirrored facades should be avoided.		
6.8	**Active Street-fronts**	✓	*See 5.6 Ground Floor and Public domain*
	Objectives:		
	- Ensure an activated domain at street level with access to shops, lobbies, etc.		
	- Ground Floor retail uses will activate the waterfront.		
	- At least 70% of the ground floor frontages to the pedestrian waterfront promenade shall comprise retail or entertainment uses, open to the public to activate the adjoining foreshore pedestrian promenade.		
	Standard:		
	- At least 85% of the Ground Level is to be active on the primary Street Wall facades (North & West)		
	- Building entrances to internal areas such as residential lobbies, exit ways and service areas or loading docks shall be considered as part of the 85% active requirement.		

Massing diagrams

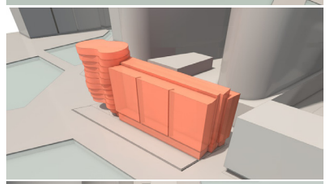
Building Mass and Location



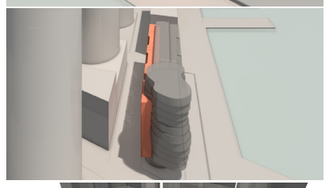
Street Wall Establishment



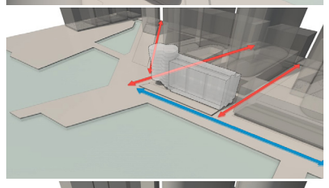
Building Articulation



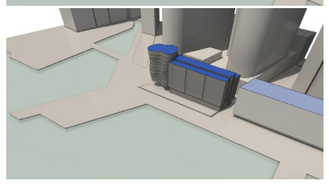
Building Legibility



Ground Floor Permeability and Accessibility of Public Realm

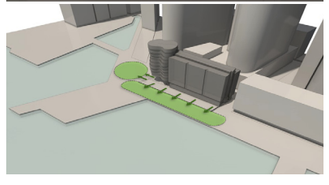


Ensuring Quality of Rooftops



Façades

Active Street-fronts



Massing diagrams

Building Mass and Location

Street Wall Establishment

Building Articulation

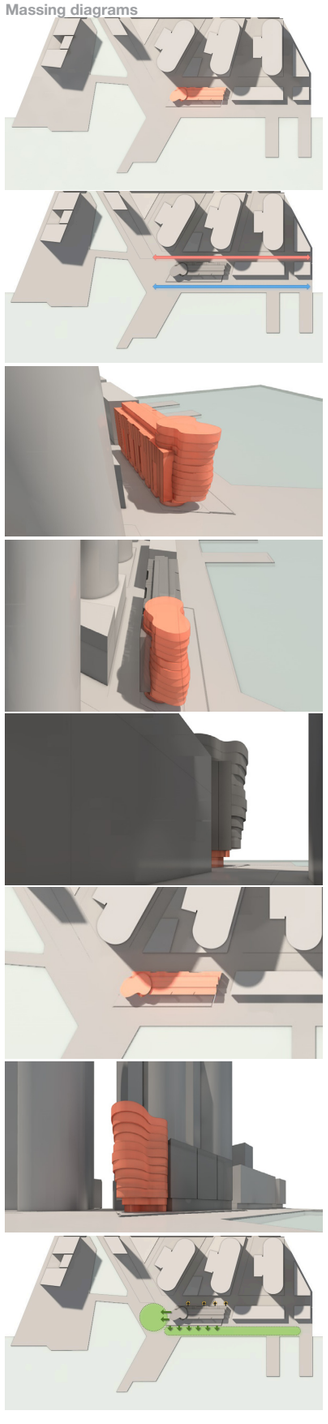
Building Legibility

Ground Floor Permeability and Accessibility of Public Realm

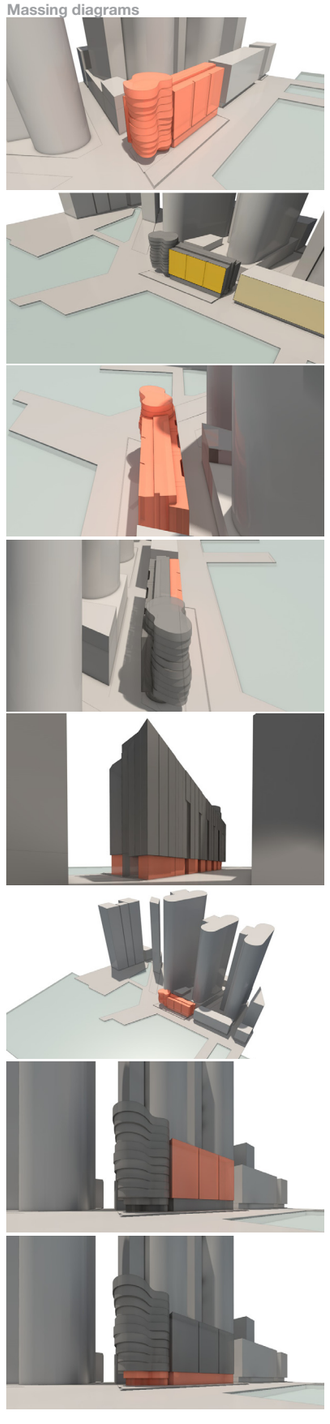
Ensuring Quality of Rooftops

Façades

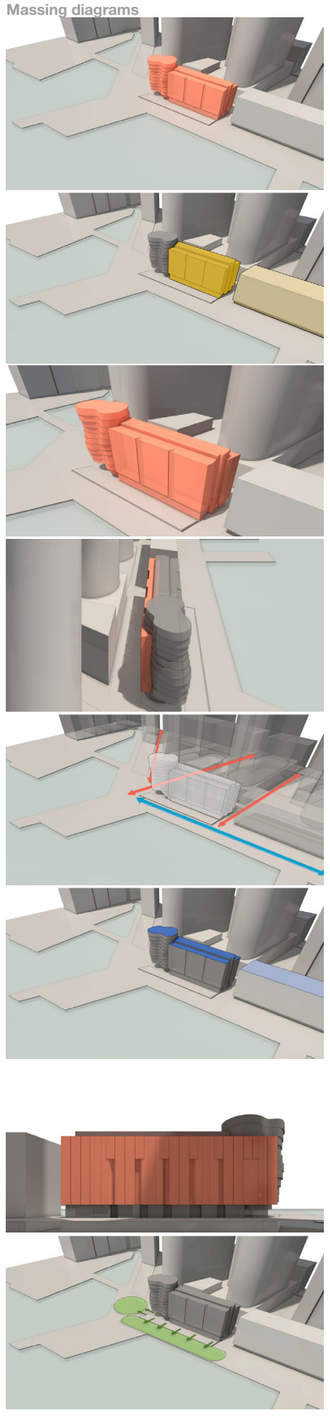
Active Street-fronts



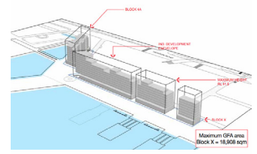
Massing diagrams

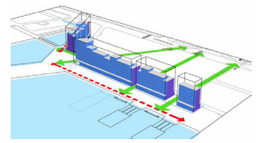


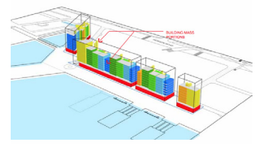
Massing diagrams

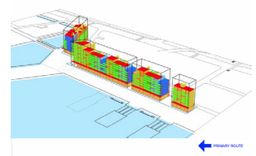


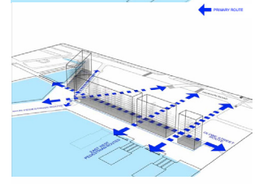
Barangaroo South Built Form principles & Urban Design Control Diagrams

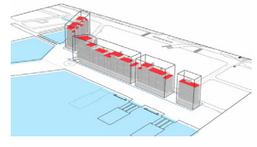


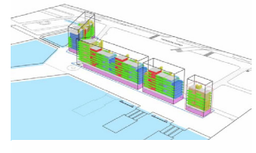


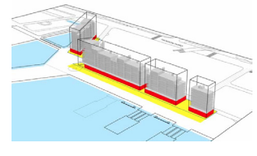












7

Residential Amenity

7.1 SEPP 65 Principles

Principle 1: Context

Good design responds and contributes to its context. Context can be defined as the key natural and built features of the area.

The site is positioned to the western most edge of the Barangaroo South Precinct with the longest side of the site facing west towards the harbour with uninterrupted views across the waterfront. On the east side are three primary commercial towers. To the south of the site is a residential project R9 which together with R8 sit within the defined Block X within the Barangaroo South Precinct. The two buildings are split by an important view corridor visually connecting the CBD to the waters edge. A large open public space is proposed to the North that also opens out towards the harbour. The proposed form and articulation generated for R8 carefully takes into consideration these varying contextual conditions.

R8 will contribute to its wider context by activating an extended public promenade along the harbour as well as defining a new street frontage within the Barangaroo site. It will contribute to a critical portion of the public domain by providing use and amenity to the Harbour frontage as well as a backdrop to a new public open space to the north..

Principle 2: Scale

Good design provides an appropriate scale in terms of bulk and height that suits the scale of the street and the surrounding buildings.

The building has been carefully considered to respond to the Concept Plan Built Form Principles and Urban Design Controls. From east to west this building serves as the transitional form that breaks down the scale of the commercial towers to the east to a human scale along the waters edge on the west.

The proposed building form responds to the different conditions on each side of the site by adopting varying elements of scale either within the overall envelope or in the more detailed articulation of facades, canopies and awnings. The eastern facade provides a more intimate scale for residents of R8 by way of canopies at the individual entry points of the building lobbies along Globe Street. The eastern facade focusses on providing privacy to the apartments while contributing an elegant and well composed frontage which is appropriate to the scale of the new street, Globe Street.

The western elevation provides a change in scale to enhance the experience of the public domain along the waterfront. The proposed retail areas which activate the harbour-side promenade are fringed by a 4.5m awning which provides weather protection, delineation and acoustic separation between the lively activities at ground level and the residents on Level 1.

The grandest scale is carefully placed to the north as a backdrop to the public open space. Its iconic form will provide identity to its surrounds as well as conveying a heightened sense of address for the apartments located in this special position.

Principle 3: Built Form

Good design achieves an appropriate built form for a site and the building's purpose, in terms of building alignments, proportions, building type and manipulation of building elements.

In the north south direction the built form responds to the changing context by an increase in height to the north which is done to reinforce the importance of the large open public space directly to the north of R8. This also creates a clear beginning to the built form within Block X that forms a street wall along Globe street on the east side of the site and the public promenade to the west. The northern module is expressed as an independent free-form envelope that reinforces its position in relation to the open public square to the north.

To the south of the building and along the edge of the view corridor between R8 and R9 the height and scale of the building envelope of R8 directly corresponds to that of R9 which reinforces the relationship and composition of the built form along the waters edge.

The western facade facing the harbour has been carefully studied to take maximum advantage of the immediate context and aspect while still responding to the solar impact of the western sun. In response to this, a system of concertina louvres on the outer face of the balconies and individual to each apartment enables residents to control the amount of sunlight penetrating the living spaces while still maintaing views across the harbour. Considerable diversity across the western and northern facades will be achieved as the position of the louvres for each individual apartment will constantly change at varying times of the day and night. Further to this the wall divisions between balconies on the western facade have been rotated 45 degrees to open the balconies towards the north to further assist with the solar penetration and control of the westerly sun during both summer and winter months. The rotation of the balcony division walls also opens the viewing opportunities from the living and balcony spaces towards the north.

Principle 4: Density

Good design has a density appropriate for a site and its context, in terms of floor space yields (or numbers of units or residents).

The total number of apartments for R8 is 82. This provides a good diversity and density of apartment types considered appropriate for the scale and context of this development.

The mix of apartments is as follows:

23 one bedroom apartments

47 two bedroom apartments

12 three bedroom apartments

Principle 5: Resource, Energy & Water Efficiency

Good design makes efficient use of natural resources, energy, and water throughout its full life cycle,including construction

This project aims to deliver a sustainable residential building with low operational energy consumption, reduced potable water use and appropriate materials selection while at the same time maintaining a high level of indoor environmental quality through appropriate mechanical design, façade configuration and materials selection.

The proposed residential development will benefit from the Barangaroo precinct sustainability initiatives such as the district cooling plant, on-site renewables strategy and precinct recycled water plant. These initiatives are essential to ensure the precinct achieves the many sustainability targets such as:

Minimal operational energy consumption off-set by offsite renewable energy to ensure a carbon neutral precinct.

Exporting more water than importing of potable water to ensure a positive water impact.

Zero waste

20% reduction in embodied carbon (cradle to gate) not including tenant fit outs.

On site renewables of an amount to offset public realm and recycled water treatment plant energy use.

Green Star design and As-Built ratings for all eligible buildings within the precinct.

The residential development will be committing to a 5 Star Design and As-Built Green Star ratings under the Green Star Multi-Unit Residential v1 tool. The precinct initiatives in combination with those specifically related to the residential buildings enable the minimum NSW sustainability performance requirements set by BASIX to be comfortably met.

Aside from this the design proposal embodies extensive passive sustainable design initiatives such as;

Excellent passive solar gain and loss properties

Cross ventilation to 78% of all apartments

Both passive and active sunshading devices to reduce solar gains and increase control of the internal environment against late afternoon sun.

Principle 6: Landscape

Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in greater aesthetic quality and amenity for both the residents and for the public domain.

Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in greater aesthetic quality and amenity for both the residents and for the public domain.

The scope of the landscape and public domain works for Building R8 at Barangaroo South consists of the following areas:

Ground Level Temporary Public Domain areas immediately adjacent to the building;

Level 7 typical external Balcony planters

Level 8 external; balcony planters

The landscape spaces employ sustainable design and use materials which consider the lifecycle of material inputs. Planting has been selected to respond to its particular site conditions with a high percentage of low water dependent species including native grasses, low shrubs and and succulents used throughout.

The following sections of this report provides a more detailed description of the treatment of the various temporary and permanent landscape components associated with the R8 development.

The R8 building lobby has an eastern street address to Globe Street, providing a vehicular drop off / pickup point at the building lobby. The building also addresses the west facing waterfront with a series of ground floor retail tenancies lining the promenade. The temporary landscape will complement the retail use of the ground floor with space provided for outdoor dining with shade provided by broad dome canopied trees. The pavement material to the public domain will consist of high quality throughout.

Public Domain

The temporary treatment to the public domain areas surrounding the R8 development. Consent will be sought for the final treatments of specific design features within the public domain through subsequent project applications. A Public Domain Plan is being developed by the BDA for the final design and treatment of public domain areas throughout Barangaroo South.

Streets and Pedestrian Access

Temporary stone pavements are proposed to all the footpaths and pedestrian areas directly adjacent to the R8 building. The pavements are a temporary solution which will be removed, recycled, re-used and replaced in accordance with the Barangaroo South Public Domain Plan. The stone will be the C.O.S standard ‘Austral Black’ granite paver and laid in accordance with the C.O.S standard paving detail.

A description of the temporary works proposed for the areas surrounding R8 are outlined below

Globe Street

The Globe Street footpaths are proposed as temporary pavements. Street tree planting shown in the ground floor plan have been indicatively located with final street layout to be prepared by the BDA public domain team.

Waterfront Promenade

A temporary landscape layout including lighting and bench seating will be installed along the waterfront promenade to provide public amenity, safety and comfort.

Principle 7: Amenity

Good design provides amenity through the physical, spatial and environmental quality of a development.

The northern module of R8 provides 24 apartments all of which are oriented to maximise solar aspect and viewing opportunities to the north and west. To the south, a further 58 apartments face west towards the harbour to take advantage of the views. The western facade has been adapted to better maximise solar aspect as well as provide a deeper balcony which helps to reduce solar impact in the summer while taking full advantage of the low western winter sun. The living spaces and private open spaces receive direct sun from about 1pm onwards until sunset in winter; the setting sun entering deep into the apartments bringing warmth into the living space and kitchens

All apartments with exception of the 1 bedroom apartments on the west facade enjoy cross-ventilation due to the nature and orientation of the building envelope and the desire to utilise the full width of the site running east west for the majority of the apartments. 1 bedroom apartments are limited in depth and take full advantage of a long frontage

The R8 retail space, facing both east and west, will enhance and activate the public domain [in conjunction with similar uses in the adjacent R9 building] and will generate considerable diversity and amenity for residents, surrounding workers and visitors.




Principle 8: Safety & Security

Good design optimises safety and security, both internal to the development and for the public domain.

The development will generate the opportunity for good passive surveillance and active uses adjacent to and within the public domain without compromising the privacy of the residents.

The individual residential lobbies on the east provide a consistent active presence along Globe Street. The full height glass front lobbies face directly onto Globe Street maximising visibility and safety at the lobby entrances. Retail uses are interspersed between the lobbies ensuring further activation of the street.

Principle 9: Social Dimensions

Good design responds to the social context and needs of the local community in terms of lifestyles, affordability and access to social facilities.

The site is located within close proximity to the CBD and Darling Harbour which provides excellent access opportunities to and from the site. This is further reinforced by the water frontage which provides further connectivity to the site via the harbour.

The mix of retail along the public domain at ground level and the diversity of residential dwellings above enables the opportunity for a strong local community to develop. The range of apartment types also encourages a broad mix of residents adding further diversity to the local community.

Principle 10: Aesthetics

Quality aesthetics require the appropriate composition of building elements, texture, materials and colours and reflect the use, internal design and structure of the development

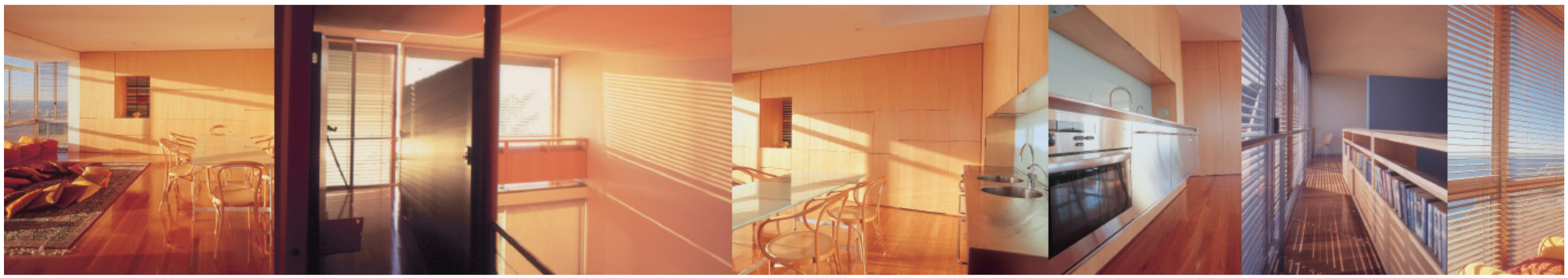
Our approach is to split this linear building into two primary forms; a carefully scaled rectilinear form that defines and characterises the waterfront; and a higher more organic form that turns to the north and addresses the main public open space. These architectural forms will be combined with a linear canopy, gentle terracing and landscape to characterise the public waterfront.

The west facade of the linear form is divided into three separate and equal modules giving identity to each apartment building and reducing the overall scale of the west facade along the waters edge. Within these modules the angled separating walls of the balconies gently orientate the balconies to the north. This ‘turn’ of 45 degrees prioritises the northern orientation and reduces the impact of low western sun in summer. Additional environmental and privacy control is provided by way of custom external bifold adjustable screens, which allow personalised control and create a lively pattern of use across the facade. The natural earth-tone colours of the screens and cladding tiles on the west facade are proposed to be a variation of light and dark ceramic to bring depth and variation to the facade.

The eastern facade provides setbacks and recessed oblique windows to improve privacy and enable views along the length of Globe Street instead of directly across the road. Windows and balconies on this east elevation have additional measures to increase privacy in the form of fixed batten screens. Similar to the west facade, the fixed battens are proposed to be a variation of light and dark natural colours bring depth and variation to the facade, particularly as the east facade is fixed. The east facade is also composed of a number of precast panels to be coloured consistently with the colour selections for the fixed battens.

At the northern end of R8 facing onto the public square the building takes a more organic expressive form of subtle double curves and increased height addressing this important space and giving enhanced character and identity. The curved forms are created through facetted panels and lazer-cut bifold balcony screens of white aluminium, custom patterned and opening towards the north. Environmental and privacy control is managed through these screens and shutters that give a balance of consistency and individual expression to the apartments.

The architecture is intended to give a character to these privileged apartments that is appropriate to this exceptional public waterfront site. Most of all it is intended to create a carefully scaled and expressive backdrop to these important public spaces.



7.2 RFDC Compliance

The following is an overview of compliance with the Residential Flat Design Code “rule of thumb” requirements.

Building Heights

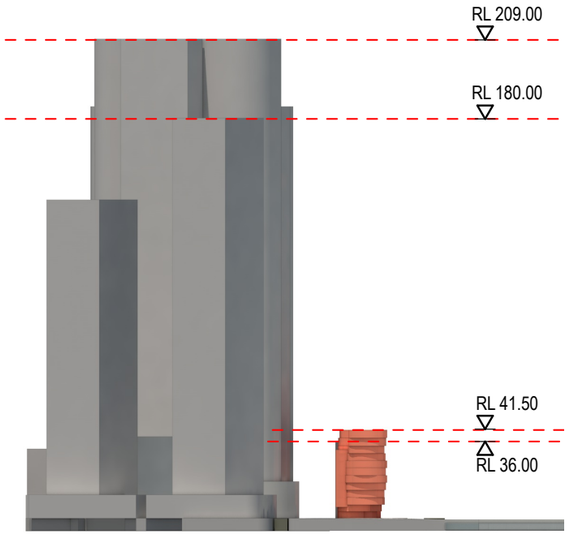
The proposal has been considered through detailed analysis of the environmental impacts of the development on its surroundings and immediate neighbours. Detailed massing studies, site, and shadow analysis have been undertaken as well options to study the detailed form and separation of the envelope. In turn this process informed the environmental design and performance of the development to optimise the efficiency, amenity orientation and aspect of the apartment design. Overall building height is 38,1m from ground floor to the northern module and 31,5m from ground floor to the south with residential apartments being located from level 1 to level 9 to the north and level 1 to level 7 to the south. In each case the top apartments have a mezzanine level.

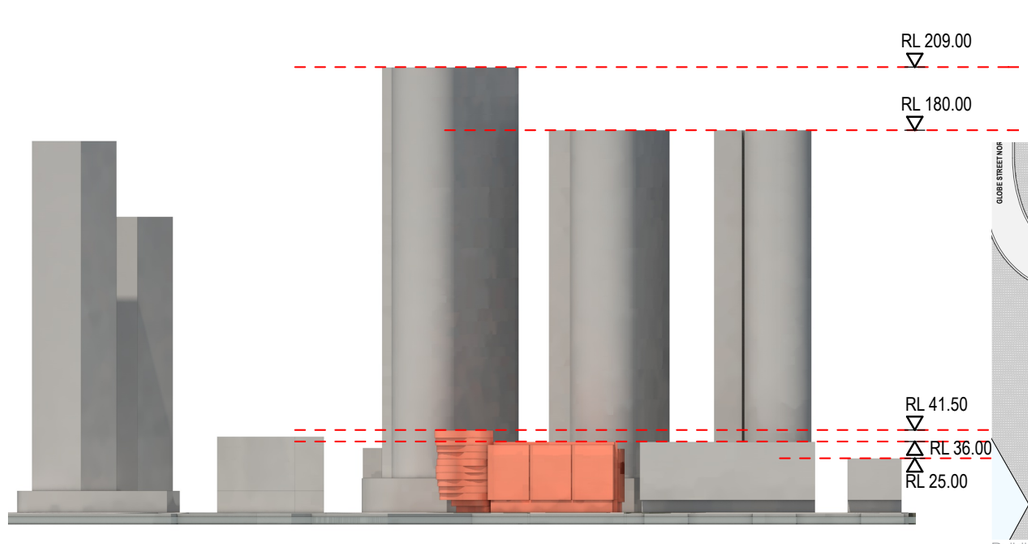
Building Depth

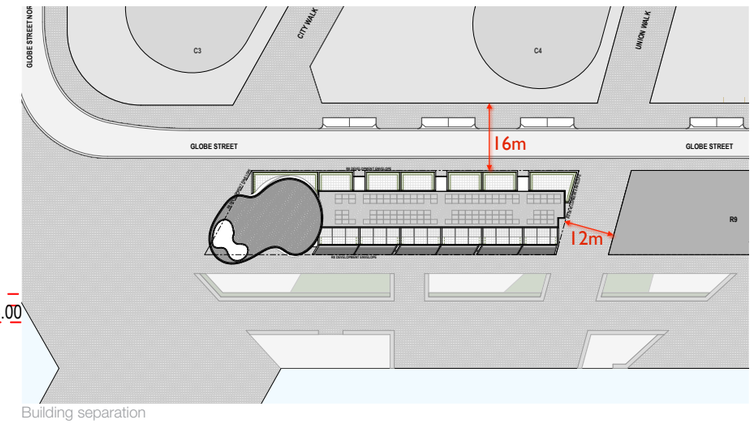
The apartment depths have been optimised through maximising the number of apartments with aspect to the views. The overall width of the building envelope varies between 16,6m and 17,7m which sits within the east-west boundary. Predominantly the apartments are positioned east west to the width of the built envelope which maximises natural cross ventilation. All living areas and kitchens face towards the view with all kitchens within 7m from the facade.

Building Separation

The building envelope is stepped to the north and increases in height to address the main public open space. This is consistent with the Concept Plan. The lower portion of the overall building envelope is a consistent height which closely responds to R9 to the south. This reinforces the street wall alignment along both Globe Street and the public domain to the west. The view corridors are maintained.







Building separation

Street Setbacks

Refer section 5.5 Setbacks

Side Setbacks

Refer section 5.5 Setbacks

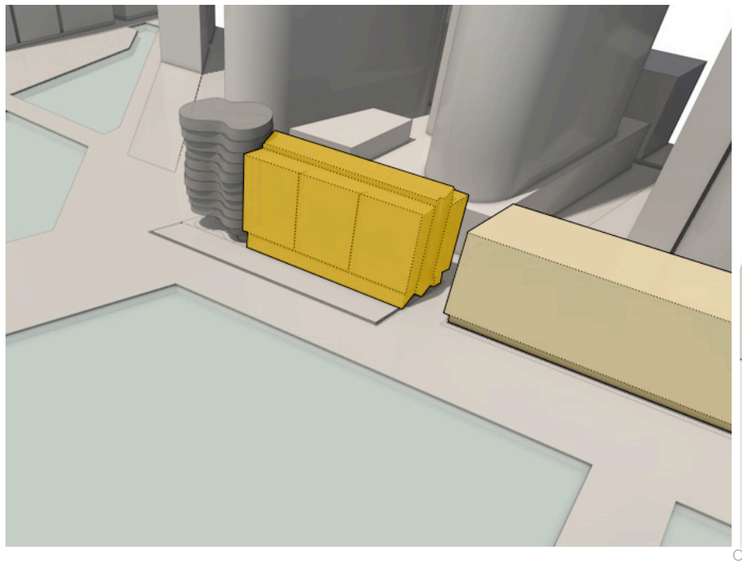
Open Space

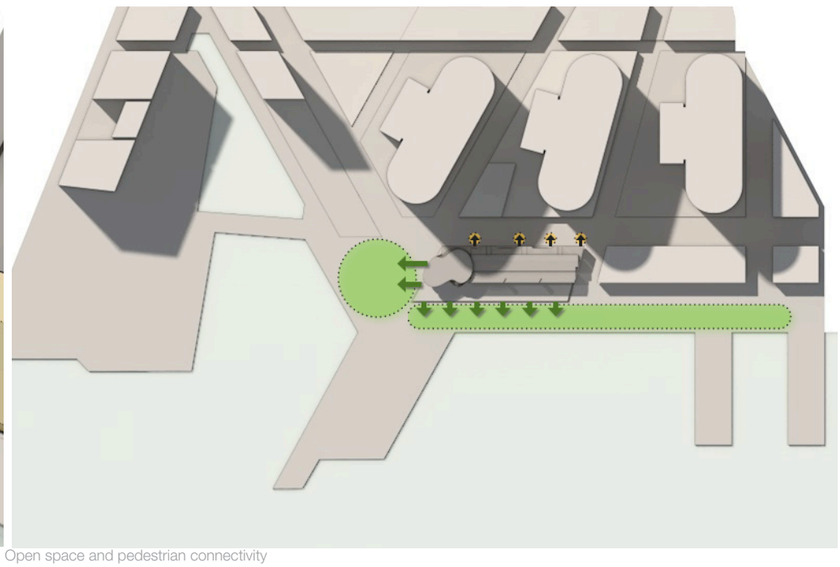
Each apartment has private open space predominantly facing the views to the west over the harbour. These are in the form of balcony spaces that are able to be closed off by way of custom external bifold adjustable screens. These screens help to provide further privacy and solar control to these private open spaces yet maintain the views. The balconies have a minimum depth of 2,3m on the west facade and 2,4 at the northern end.

Planting

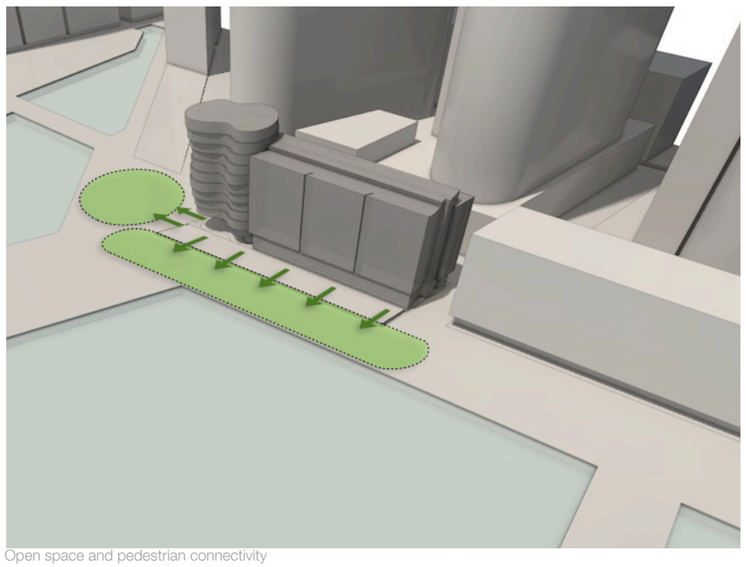
Extensive landscaping of the public domain is proposed. There is also some integrated landscape and planting to the top residential levels. This is important because in context of the considerably taller adjacent commercial towers to the east R8 sits well below these. By planting on the top levels and roof terraces of R8 it provides a better amenity for both the residential users and occupants of the commercial towers.

Refer section 7.1 Principle 6 Landscape





Open space and pedestrian connectivity



Open space and pedestrian connectivity

Visual Privacy

The custom external bifold adjustable screens proposed for the west and north facing apartments optimise both internal and external privacy whilst maximising the access to natural daylight, ventilation and views. These adjustable panels can be positioned to provide solar relief and also as a means of privacy from the public at ground level and also from adjacent residents.

The eastern facade provides setbacks and recessed oblique windows to improve privacy and enable views along the length of Globe Street instead of directly across the road. Windows on this east elevation have additional measures to increase privacy with fixed batten screens.

On the south facade external fixed louvres are proposed at the right orientation to provide privacy from the adjacent R9 but maintain the view to the west of the harbour.

Privacy is also enhanced by the provision of deeper private open spaces along the west facade. The wall divisions between balconies on the western facade have been rotated 45 degrees to open the balconies towards the north which also opens the viewing opportunities from the living and balcony spaces towards the north and improves visual privacy.

Pedestrian Access

The development will generate the opportunity for good passive surveillance and active uses adjacent to and within the public domain without compromising the privacy of the residents.

The individual residential lobbies on the east provide a consistent active presence along Globe Street. The full height glass front lobbies face directly onto Globe Street maximising visibility and safety at the lobby entrances. Retail uses are interspersed between the lobbies ensuring further activation of the street.

Compliance with the relevant accessibility standards have been used as a basis and design guideline for all circulation as access components of the design. Adaptable apartment designs are allowed for in the residential apartment configuration and design.

Apartment Layout

The apartment sizes are generally as follows:

1B - 60m2

2B - 100m2

3B - 130m2

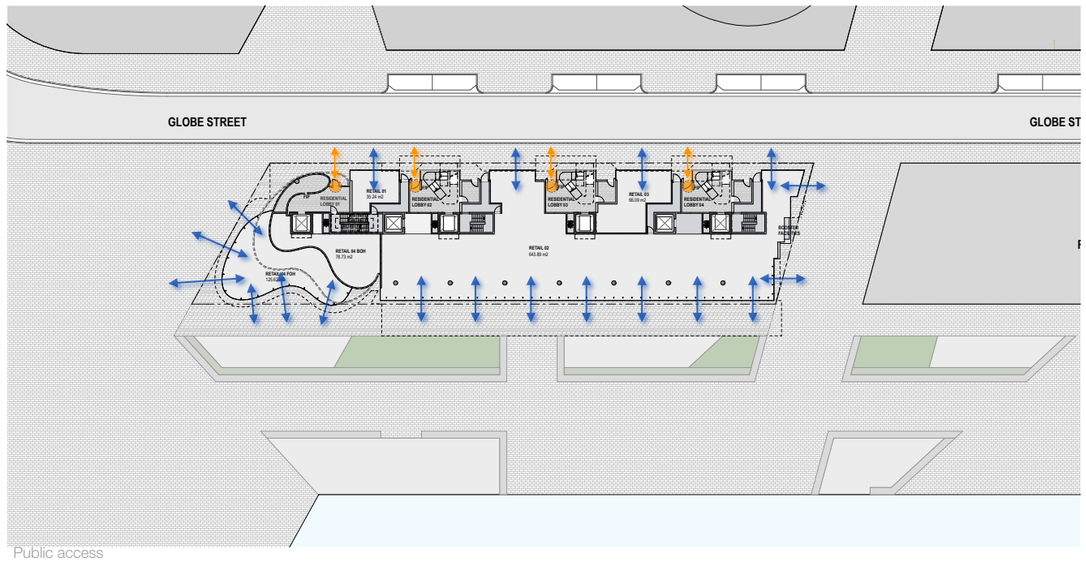
The majority of the two and three bedroom apartments are east-west facing maximising the full width of the site. The smaller one bedroom apartments generally have a western aspect. The living and kitchen spaces generally all face the views to the west and all kitchens are within 7m from the facade line.

Private open spaces open off the main living spaces and also face the view. Balcony depths are consistent across the west facade at 2,3m deep. At the northern end the balcony depths vary and generally the useable area is a minimum of 2,4m wide. Due to the nature of the form, northern end balcony dimensions diminish.

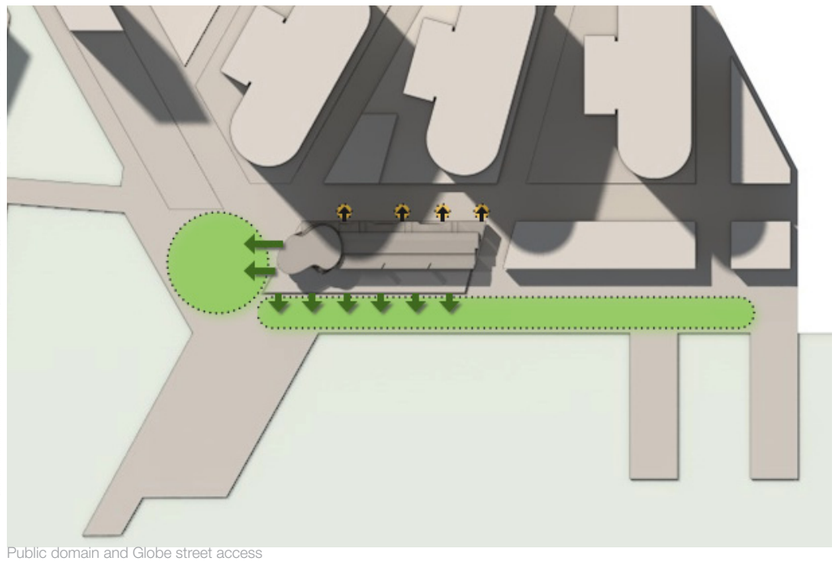
The residential floors have ceiling heights at a minimum of 2.7m for habitable rooms and 2.4m for non-habitable rooms.

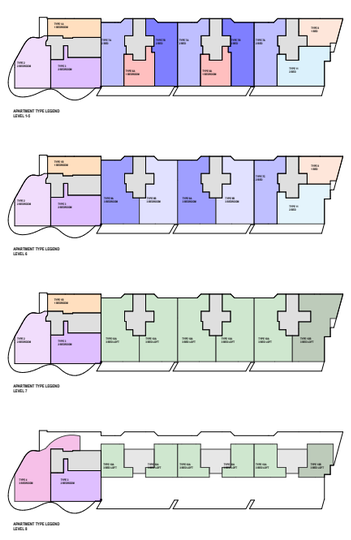
In R8 there are four separate lifts each with their own lobby located at ground level with access off Globe Street. At each typical level a lift serves 3 apartments. On the upper levels this decreases to two.

All residential apartment corridors to the south have access to 1 source of natural light and are naturally ventilated. In the northern end because of the requirement for an additional separate fire stair there is not sufficient area to provide access to natural light and ventilation.



Public access


Public domain and Globe street access


Apartment types

Storage

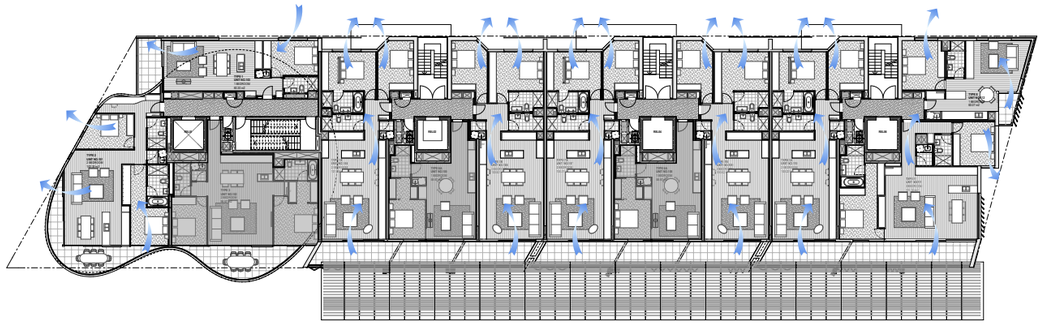
All apartments achieve the required storage capacity and as a minimum the required 50% storage within each apartment. The remaining required 50% or less where required is located in the basement in allocated storage bays.

Daylight Access

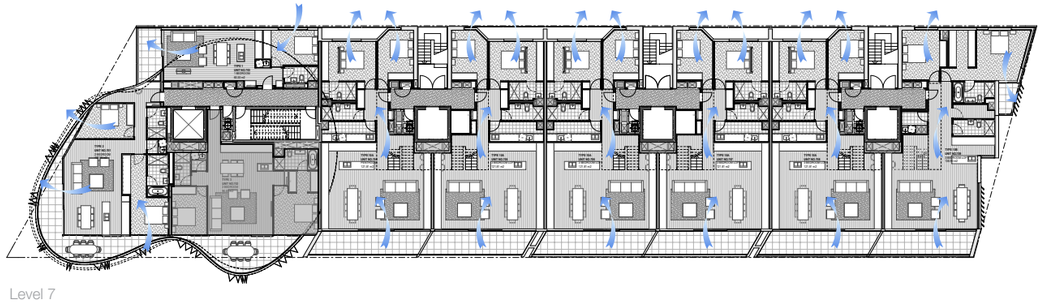
Refer section 5.4 Solar Access

Natural Ventilation

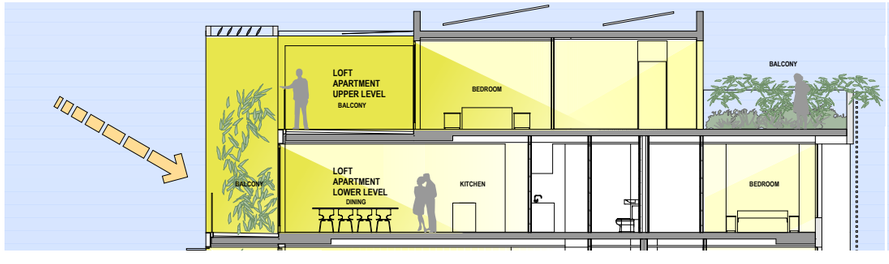
78% of residential apartments are naturally cross ventilated.



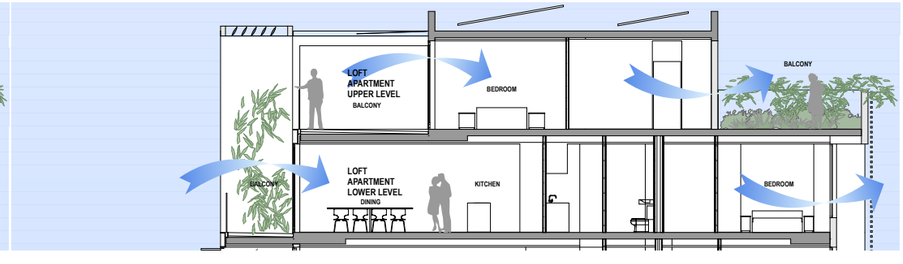
Level 1



Level 7



Solar penetration diagram



Cross ventilation diagram

Level 1

Number	Name	Occupancy	Area	Cross Ventilation	Solar Access POS	Solar Access Living Areas	Comments
101	TYPE 2	2 BEDROOM	102m2	Yes	900-1600	900-1600	
102	TYPE 3	2 BEDROOM	97m2	No	1130-1600	1330-1600	
103	TYPE 1	1 BEDROOM	60m2	Yes	900-1600	930-1400	
104	TYPE 7A	2 BEDROOM	100m2	Yes	1300-1600	1500-1600	Adaptable
105	TYPE 6A	1 BEDROOM	59m2	No	1300-1600	1500-1600	Adaptable
106	TYPE 7B	2 BEDROOM	101m2	Yes	1300-1600	1500-1600	
107	TYPE 7A	2 BEDROOM	100m2	Yes	1300-1600	1500-1600	Adaptable
108	TYPE 6A	1 BEDROOM	59m2	No	1300-1600	1500-1600	
109	TYPE 7B	2 BEDROOM	101m2	Yes	1300-1600	1500-1600	
110	TYPE 7A	2 BEDROOM	100m2	Yes	1300-1600	1500-1600	
111	TYPE 11	2 BEDROOM	110m2	Yes	1300-1600	1500-1600	
112	TYPE 8	1 BEDROOM	59m2	Yes	NIL	NIL	

Level 2

Number	Name	Occupancy	Area	Cross Ventilation	Solar Access POS	Solar Access Living Areas	Comments
201	TYPE 2	2 BEDROOM	102m2	Yes	900-1600	900-1600	
202	TYPE 3	2 BEDROOM	97m2	No	1130-1600	1330-1600	
203	TYPE 1	1 BEDROOM	60m2	Yes	900-1600	930-1400	
204	TYPE 7A	2 BEDROOM	100m2	Yes	1300-1600	1500-1600	Adaptable
205	TYPE 6A	1 BEDROOM	59m2	No	1300-1600	1500-1600	Adaptable
206	TYPE 7B	2 BEDROOM	101m2	Yes	1300-1600	1500-1600	
207	TYPE 7A	2 BEDROOM	100m2	Yes	1300-1600	1500-1600	Adaptable
208	TYPE 6A	1 BEDROOM	59m2	No	1300-1600	1500-1600	
209	TYPE 7B	2 BEDROOM	101m2	Yes	1300-1600	1500-1600	
210	TYPE 7A	2 BEDROOM	100m2	Yes	1300-1600	1500-1600	
211	TYPE 11	2 BEDROOM	110m2	Yes	1300-1600	1500-1600	
212	TYPE 8	1 BEDROOM	59m2	Yes	NIL	NIL	

Level 3

Number	Name	Occupancy	Area	Cross Ventilation	Solar Access POS	Solar Access Living Areas	Comments
301	TYPE 2	2 BEDROOM	104m2	Yes	900-1600	900-1600	
302	TYPE 3	2 BEDROOM	97m2	No	1130-1600	1330-1600	
303	TYPE 1	1 BEDROOM	60m2	Yes	900-1600	930-1400	
304	TYPE 7A	2 BEDROOM	100m2	Yes	1300-1600	1500-1600	Adaptable
305	TYPE 6A	1 BEDROOM	59m2	No	1300-1600	1500-1600	Adaptable
306	TYPE 7B	2 BEDROOM	101m2	Yes	1300-1600	1500-1600	
307	TYPE 7A	2 BEDROOM	100m2	Yes	1300-1600	1500-1600	Adaptable
308	TYPE 6A	1 BEDROOM	59m2	No	1300-1600	1500-1600	
309	TYPE 7B	2 BEDROOM	101m2	Yes	1300-1600	1500-1600	
310	TYPE 7A	2 BEDROOM	100m2	Yes	1300-1600	1500-1600	
311	TYPE 11	2 BEDROOM	110m2	Yes	1300-1600	1500-1600	
312	TYPE 8	1 BEDROOM	59m2	Yes	NIL	NIL	

Level 4

Number	Name	Occupancy	Area	Cross Ventilation	Solar Access POS	Solar Access Living Areas	Comments
401	TYPE 2	2 BEDROOM	105m2	Yes	900-1600	900-1600	
402	TYPE 3	2 BEDROOM	97m2	No	1130-1600	1330-1600	
403	TYPE 1	1 BEDROOM	60m2	Yes	900-1600	930-1400	
404	TYPE 7A	2 BEDROOM	100m2	Yes	1300-1600	1500-1600	Adaptable
405	TYPE 6A	1 BEDROOM	59m2	No	1300-1600	1500-1600	Adaptable
406	TYPE 7B	2 BEDROOM	101m2	Yes	1300-1600	1500-1600	
407	TYPE 7A	2 BEDROOM	100m2	Yes	1300-1600	1500-1600	
408	TYPE 6A	1 BEDROOM	59m2	No	1300-1600	1500-1600	
409	TYPE 7B	2 BEDROOM	101m2	Yes	1300-1600	1500-1600	
410	TYPE 7A	2 BEDROOM	100m2	Yes	1300-1600	1500-1600	
411	TYPE 11	2 BEDROOM	110m2	Yes	1300-1600	1500-1600	
412	TYPE 8	1 BEDROOM	59m2	Yes	NIL	NIL	

Level 5

Number	Name	Occupancy	Area	Cross Ventilation	Solar Access POS	Solar Access Living Areas	Comments
501	TYPE 2	2 BEDROOM	104m2	Yes	900-1600	900-1600	
502	TYPE 3	2 BEDROOM	97m2	No	1130-1600	1330-1600	
503	TYPE 1	1 BEDROOM	60m2	Yes	900-1600	930-1400	
504	TYPE 7A	2 BEDROOM	100m2	Yes	1300-1600	1500-1600	Adaptable
505	TYPE 6A	1 BEDROOM	59m2	No	1300-1600	1500-1600	Adaptable
506	TYPE 7B	2 BEDROOM	101m2	Yes	1300-1600	1500-1600	
507	TYPE 7A	2 BEDROOM	100m2	Yes	1300-1600	1500-1600	
508	TYPE 6A	1 BEDROOM	59m2	No	1300-1600	1500-1600	
509	TYPE 7B	2 BEDROOM	101m2	Yes	1300-1600	1500-1600	
510	TYPE 7A	2 BEDROOM	100m2	Yes	1300-1600	1500-1600	
511	TYPE 11	2 BEDROOM	110m2	Yes	1300-1600	1500-1600	
512	TYPE 8	1 BEDROOM	59m2	Yes	NIL	NIL	

Level 6

Number	Name	Occupancy	Area	Cross Ventilation	Solar Access POS	Solar Access Living Areas	Comments
601	TYPE 2	2 BEDROOM	103m2	Yes	900-1600	900-1600	
602	TYPE 3	2 BEDROOM	97m2	Yes	1130-1600	1330-1600	
603	TYPE 1	1 BEDROOM	60m2	Yes	900-1600	930-1400	
604	TYPE 9A	3 BEDROOM	128m2	Yes	1300-1600	1500-1600	
605	TYPE 9B	3 BEDROOM	130m2	Yes	1300-1600	1500-1600	
606	TYPE 9A	3 BEDROOM	128m2	Yes	1300-1600	1500-1600	
607	TYPE 9B	3 BEDROOM	130m2	Yes	1300-1600	1500-1600	
608	TYPE 7C	2 BEDROOM	102m2	Yes	1300-1600	1500-1600	
609	TYPE 11	2 BEDROOM	110m2	Yes	1300-1600	1500-1600	
610	TYPE 8	1 BEDROOM	59m2	Yes	NIL	NIL	

Level 7

Number	Name	Occupancy	Area	Cross Ventilation	Solar Access POS	Solar Access Living Areas	Comments
701	TYPE 2	2 BEDROOM	102m2	Yes	1130-1600	1330-1600	
702	TYPE 3	2 BEDROOM	97m2	Yes	930-1600	930-1400	
703	TYPE 1	1 BEDROOM	60m2	Yes	1300-1600	930-1600	
704	TYPE 10A	3 BEDROOM	168m2	Yes	1200-1600	1300-1600	
705	TYPE 10A	3 BEDROOM	168m2	Yes	1200-1600	1300-1600	
706	TYPE 10A	3 BEDROOM	168m2	Yes	1200-1600	1300-1600	
707	TYPE 10A	3 BEDROOM	168m2	Yes	1200-1600	1300-1600	
708	TYPE 10A	3 BEDROOM	168m2	Yes	1200-1600	1300-1600	
709	TYPE 10B	3 BEDROOM	176m2	Yes	1200-1600	1300-1600	

Level 8

Number	Name	Occupancy	Area	Cross Ventilation	Solar Access POS	Solar Access Living Areas	Comments
801	TYPE 4	3 BEDROOM	130m2	Yes	900-1600	930-1600	
802	TYPE 3	2 BEDROOM	97m2	Yes	930-1600	1330-1600	

Level 9

Number	Name	Occupancy	Area	Cross Ventilation	Solar Access POS	Solar Access Living Areas	Comments
901	TYPE 5	PENTHOUSE	250m2	Yes	900-1600	930-1600	

TOTAL

	Total Apartments	
Total Number of Apartments	**82**	
Percentage of Solar Access between 9am-3pm to Living Areas	**30**	**36.5%**
Percentage of Solar Access between 9am-3pm to Private Open Space	**76**	**92.6%**
Percentage of Adaptable Apartments (min. 15%)	**13**	**15.8%**
Percentage of Solar Access from 3pm into Living Areas	**69**	**84.1%**
Percentage of Solar Access from 1pm to Private Open Space	**76**	**92.6%**

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