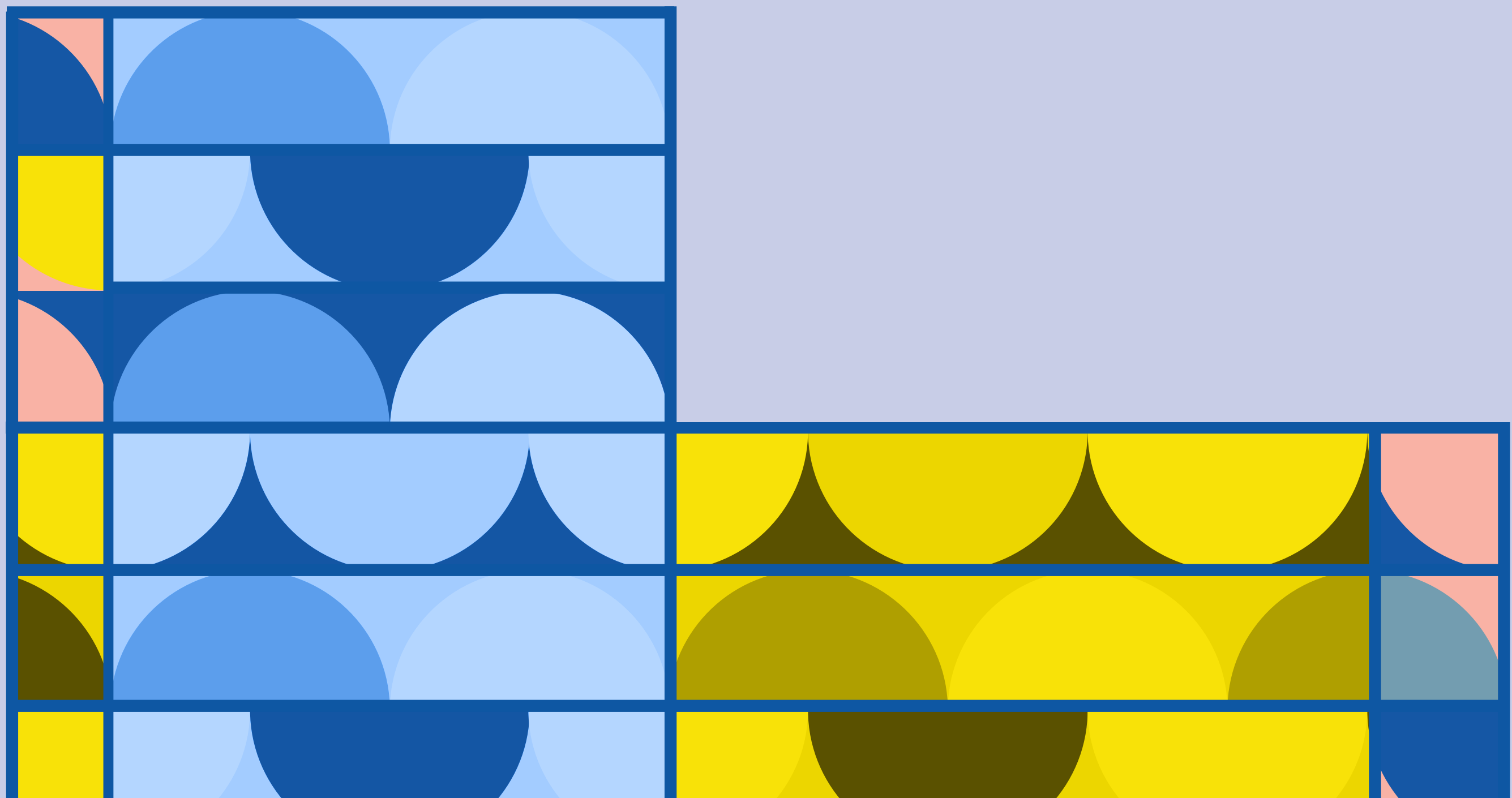


CHIWAYLAND



14-20 Parkes Street Parramatta

31 March 2016



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Chiwayland
14 -20 Parks Street,
Parramatta NSW Australia

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Prepared by: KN
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Vision & Context



Vision

Our site is located at the doorstep of Parramatta River which is the main tributary of Sydney Harbour. The land adjacent to the River was occupied for many thousands of years by Aboriginal people, and today it still continues to influence and direct the way the City is organised. Our concept takes the meandering nature of Parramatta river and strategically implements gentle curves throughout our building form, reminiscent of a natural physical movement. The curves act to provide entrance points to our proposal at podium levels, motivate activation, and open up expansive views from the tower corner balconies. They soften the tower on what is an important corner gateway site to the City.





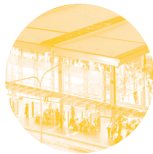
Context

Site



1

Parramatta
Train Station



2

Parramatta
Town Hall



3

NSW Police
Force



4

Westfield
Parramatta



5

Parramatta
River



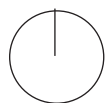
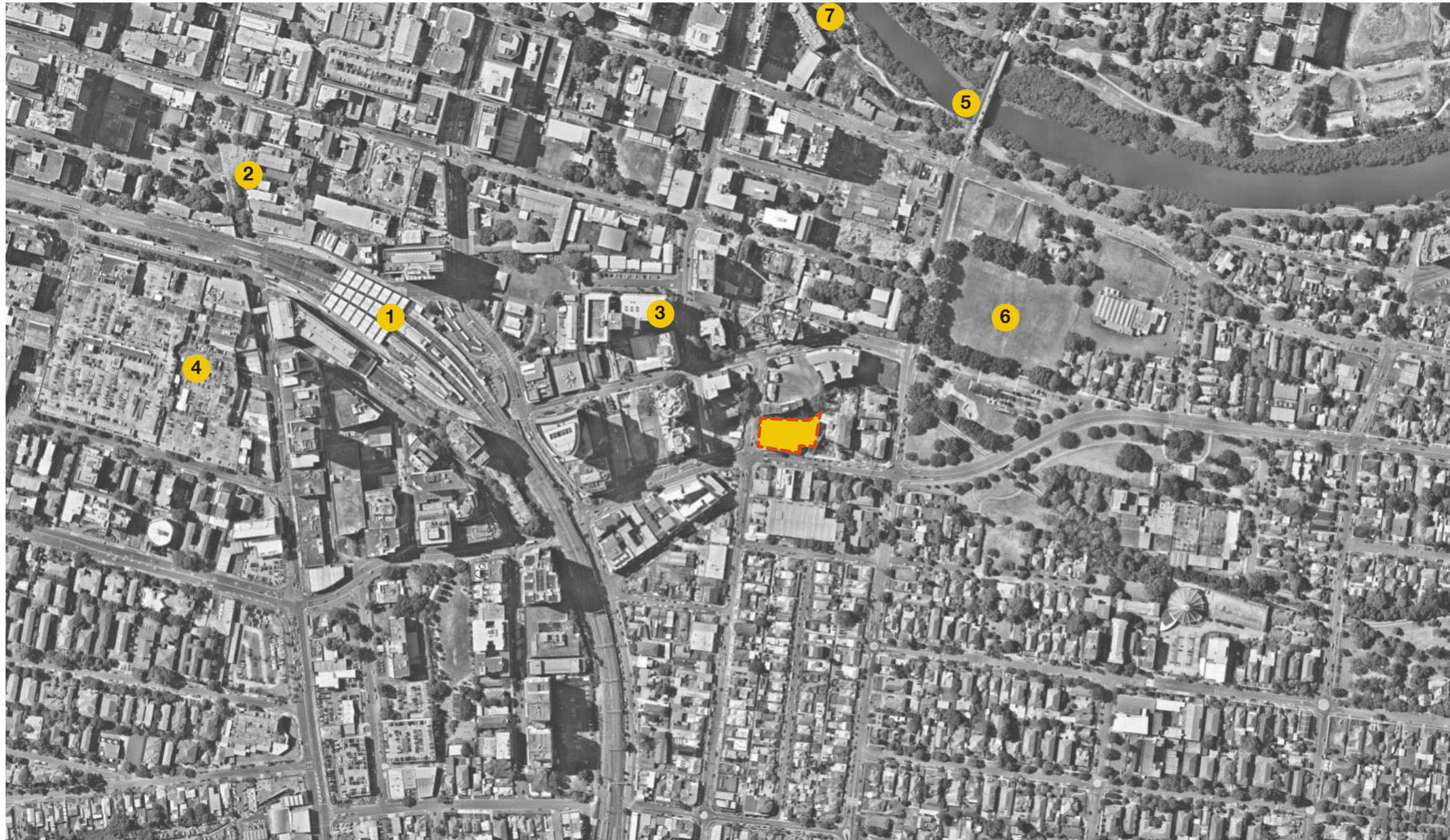
6

Robin
Thomas



7

Ferry
Wharf





Context

Transport hub



Tall Parramatta



River-side development





Context

Emerging Cultural Clusters



Parramatta Square



Parramatta CBD



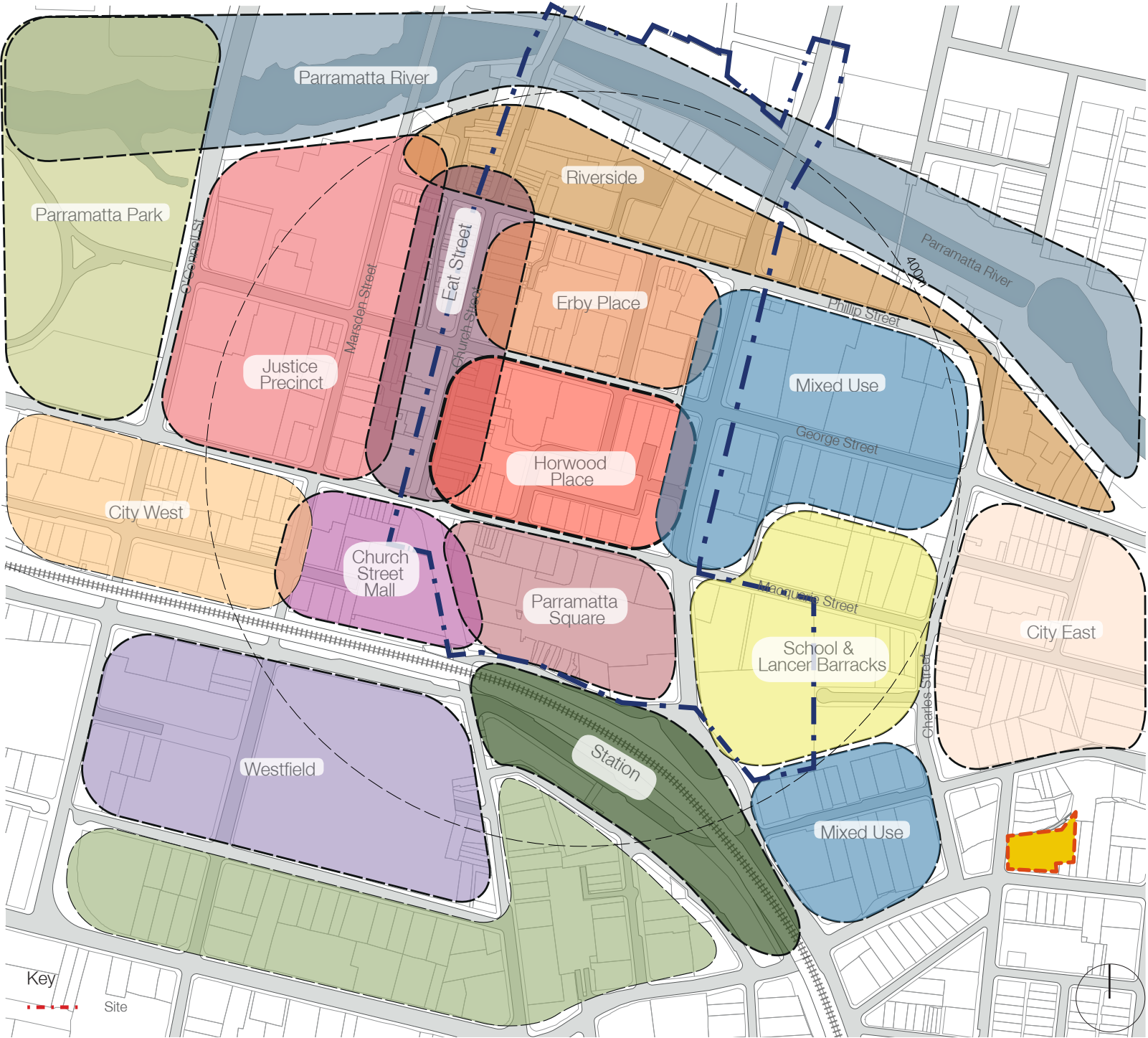
Church Street Mall



Riverbank



Erby Place





Context - The emerging Parramatta

More people living
in the CBD

98% residential
population growth
in CBD, over the last
10 years.

- Western Sydney is the fastest growing population in Australia¹
- In 2011, approximately 50,000 people work in the Parramatta CBD

Source: Solving Sydney's Growth Dilemma, Ernst & Young

Continuing to grow

126.95%
forecast **increase**
in **population** in
the **CBD**, between
2016-2036

- Current population in the CBD is 12,116
- Forecast to grow to 27,498 by 2036 - more than double what it is today

Source: Forecast ID



Context - The emerging Parramatta

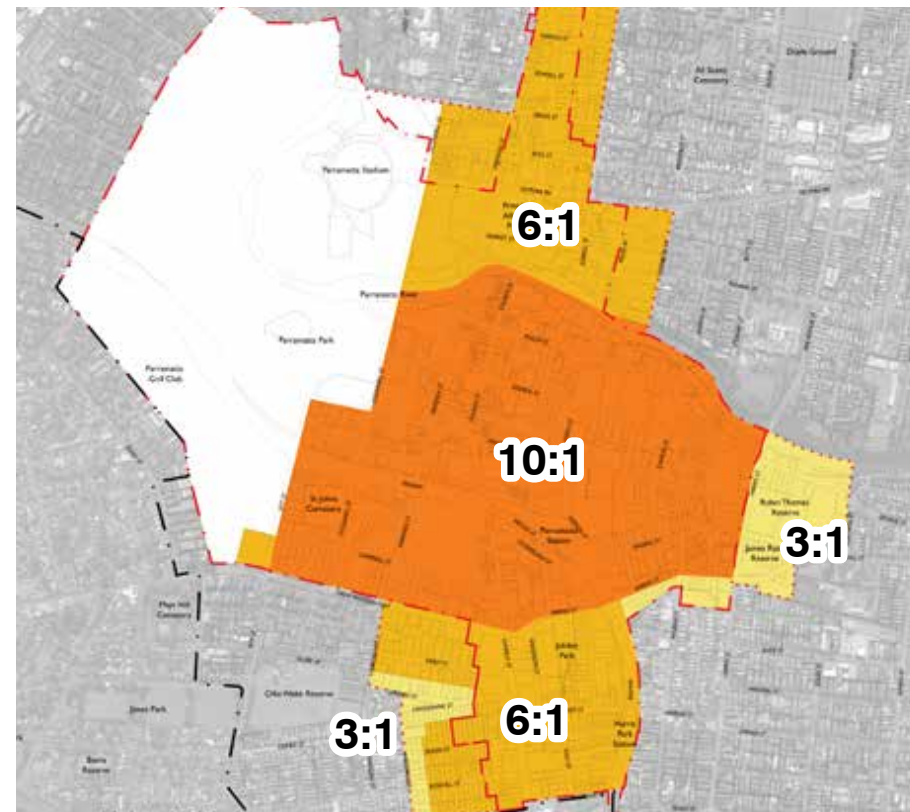
Boomtime



AUSTRALIA'S 5th LARGEST CBD?

- Over 30 major projects on the drawing board, not including Horwood Place and Erby place
- Parramatta could soon overtake Adelaide to become the nation's fifth -biggest CBD (source: The Australian September 2014)

Densifying Core



PRO-DEVELOPMENT

- Increased FSR controls to 10:1 in the central area of the CBD adopted by Council in September 2014
- No specific maximum building height control
- Expanded commercial core

Source: Draft Parramatta City Centre

More People, More Jobs



NEED TO EXCEED THE METRO PLAN'S JOB TARGETS

- Parramatta Community Strategic Plan (2013) identified the need to create 50,000 new jobs between now and 2038 – a target that goes well beyond the draft Metropolitan Strategy for Sydney's target of 21,000 jobs for Parramatta
 - The Sydney CBD to Parramatta Strategic Transport Plan (September 2015) identifies the the possibility of up to 100,000 jobs in Greater Parramatta in the next 20 years
- Eitherway.... a huge increase in workers!



Context - Views & Solar



2

Response



View of Podium





View from corner of Wigram Street and Parkes Street

Our site is located to the eastern fringe of an emerging City Centre which acknowledges the need to integrate dynamic civic change with quality housing.

Our proposal must respond to this change and it must remain relevant for many years to come. It must go beyond just housing people as it will need to sustain and contribute to changing social dimensions. It will be significant in scale and it will need to be appreciated from within, from close by and from a distance.

We have sought to achieve design excellence and to contribute to the emerging Parramatta precinct by;

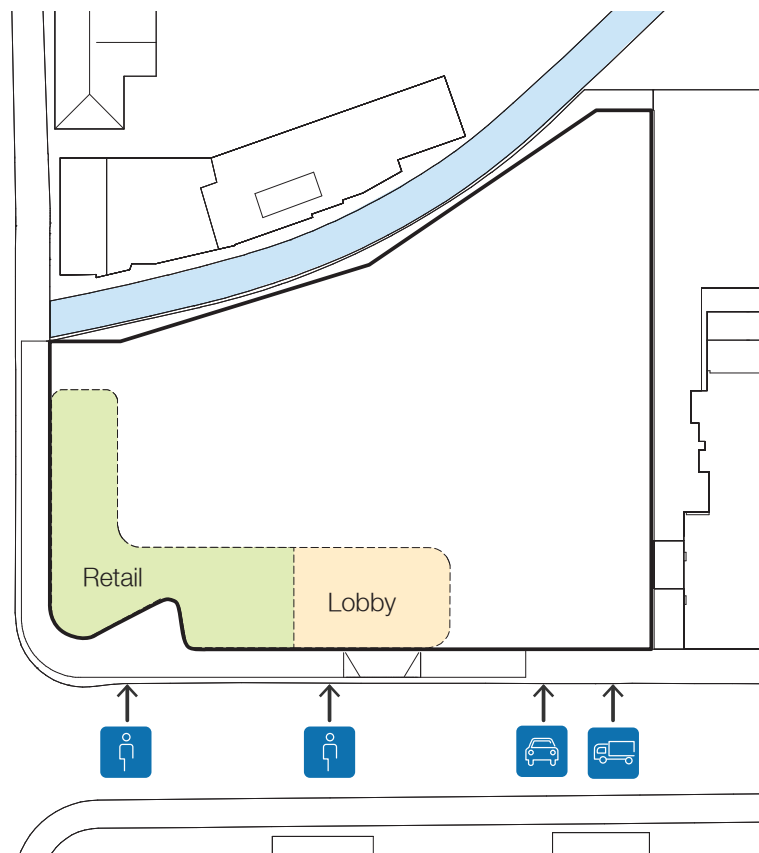
- Arriving at a built form which optimises site opportunities
- Providing excellent amenity through clever apartment design
- Providing a diversity in offer
- Achieving an active street frontage which is responsive to pedestrians
- Using materials which are both contemporary and respectful of history, and
- Achieving an aesthetic which is embedded in context.



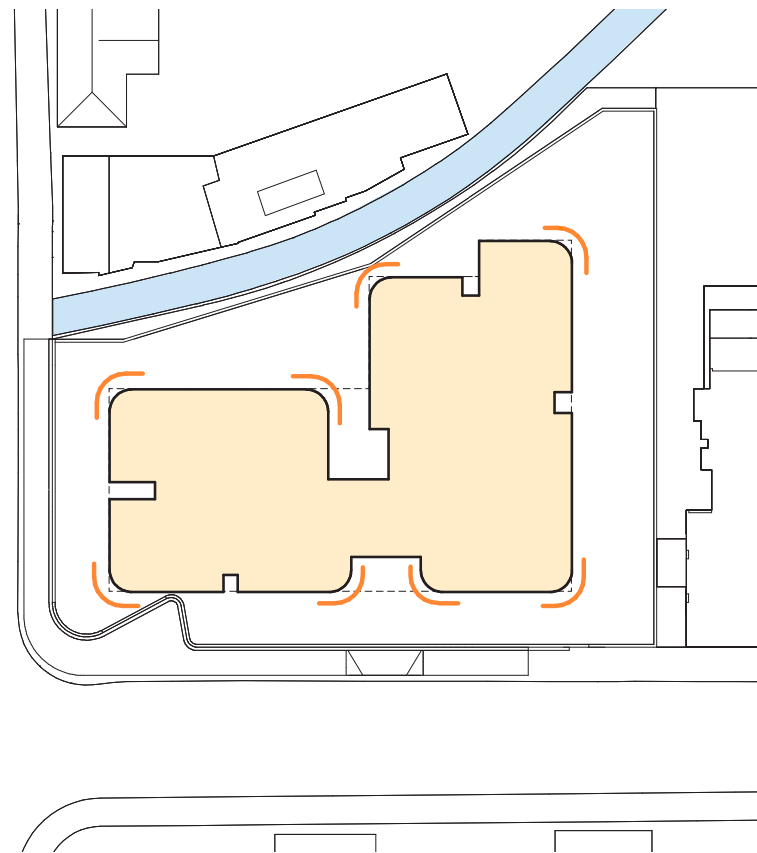


Building Articulation

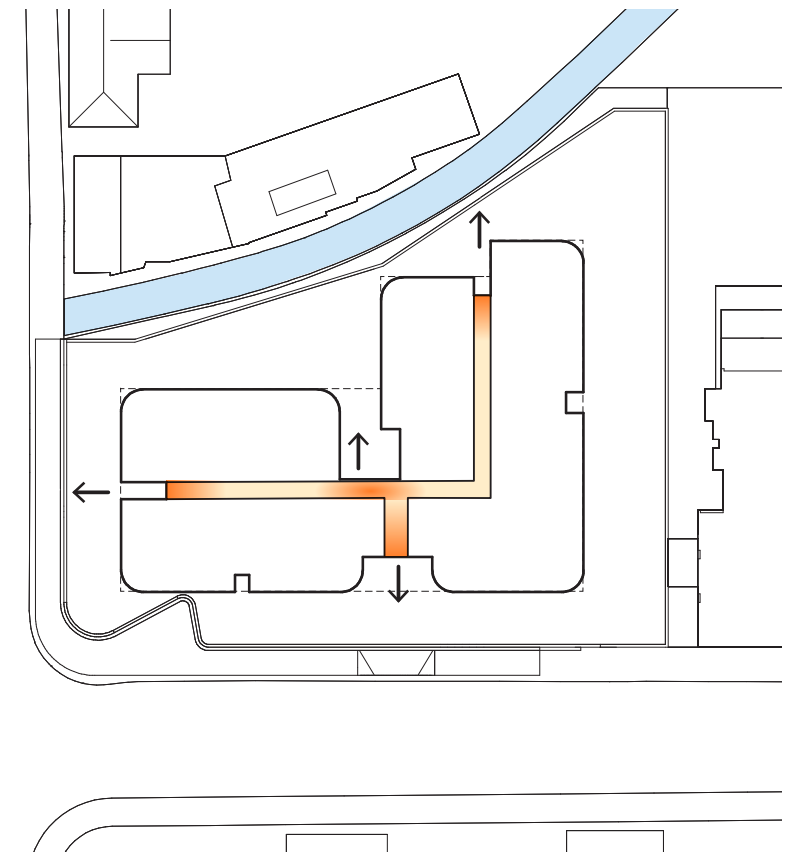
Site



Curve Edges



Natural light to corridor

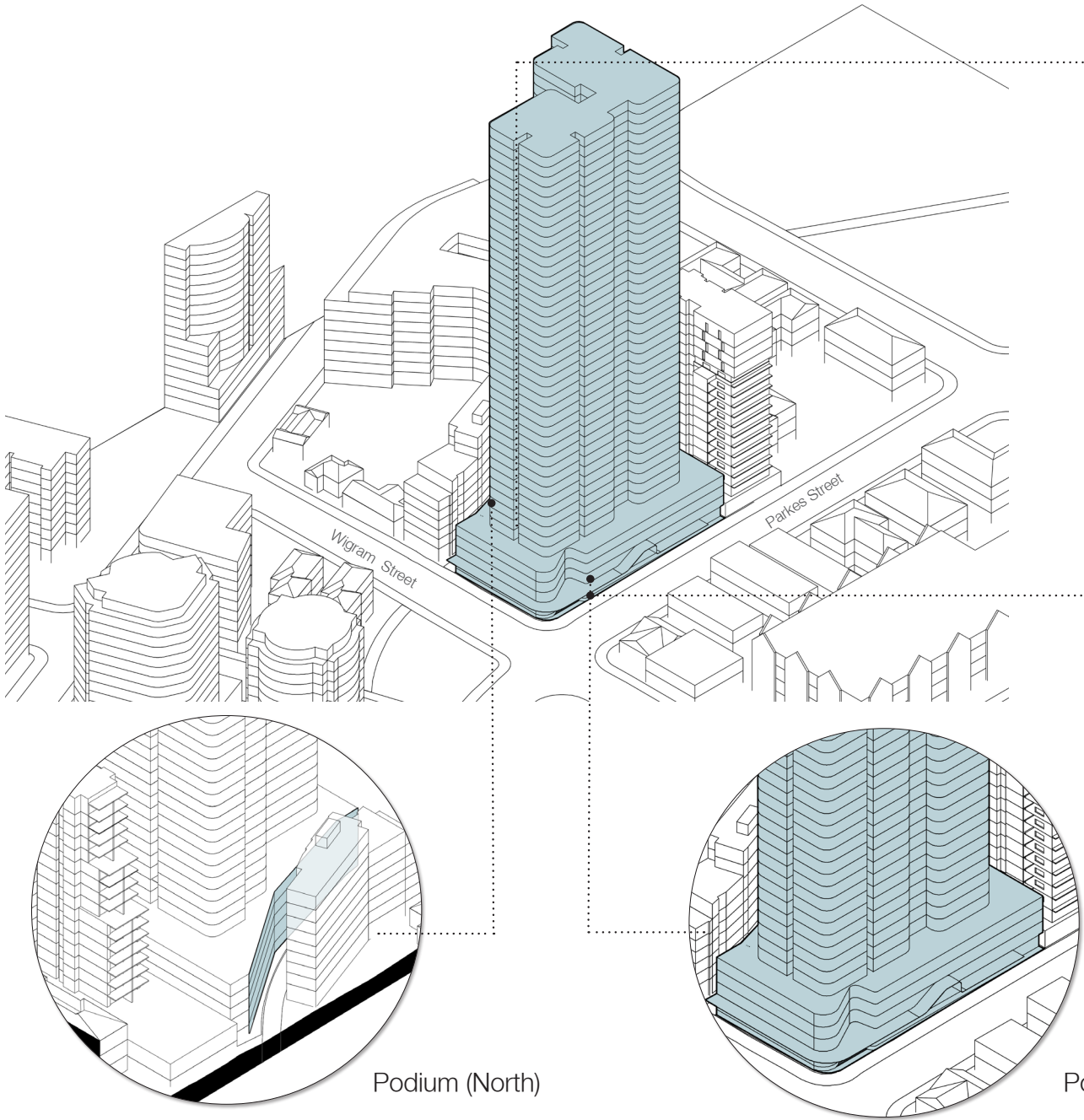


Key
Retail Lobby Canal Natural light



Response - Podium Treatment

The Podium has detailed to ensure there is a rich and diverse use of material and so that carparking is appropriately screened whilst maintaining active street edges.



Rear Podium Treatment



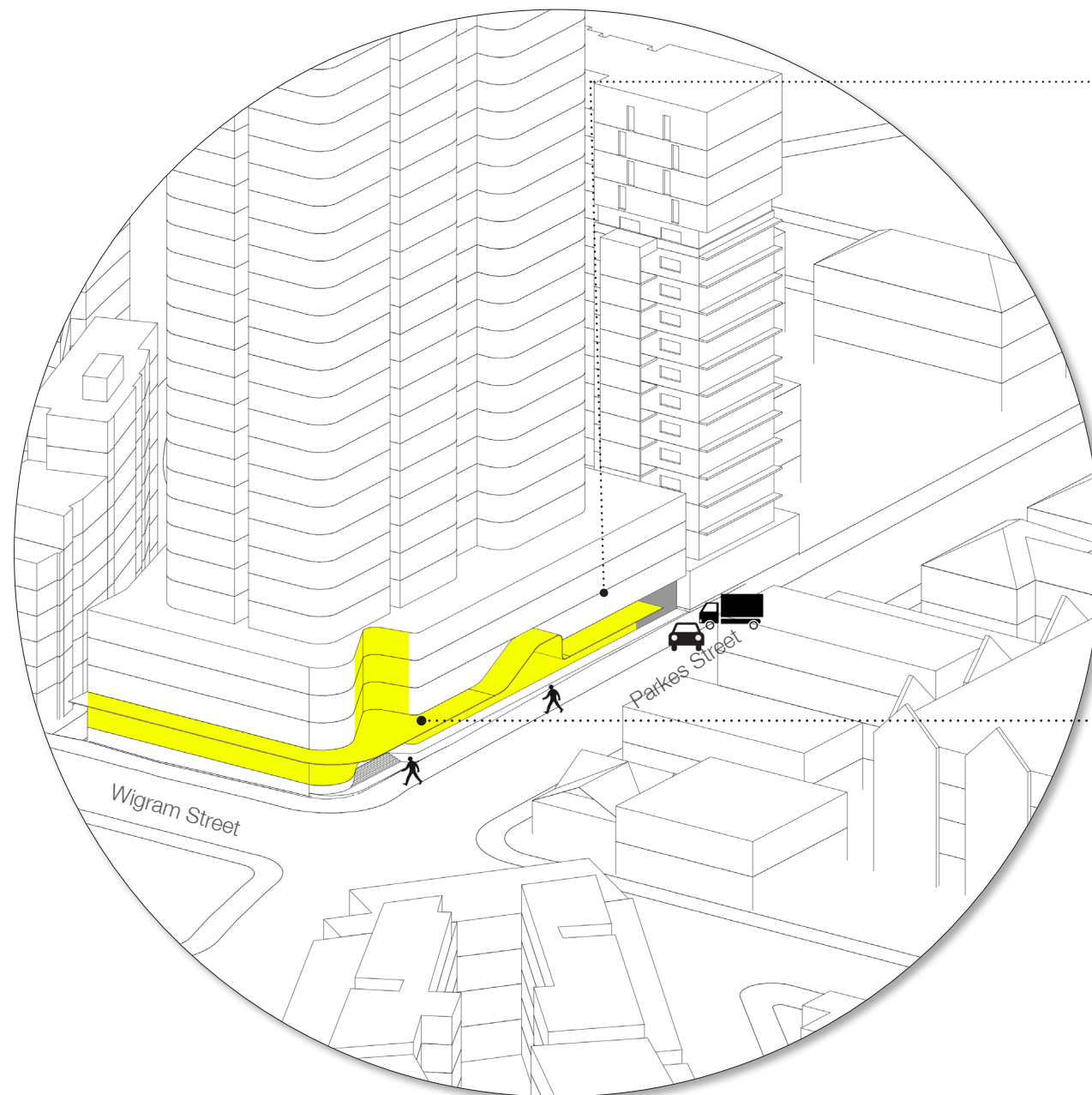
Active Corner





Response - Pedestrian Network and Street Activation

The design aims to maximise the extent of active street frontage and to minimize the impact of vehicular entry opening sizes.



Residential Lobby Entrance
clearly articulated

Retail Entrance
defined at corner by
curved articulation

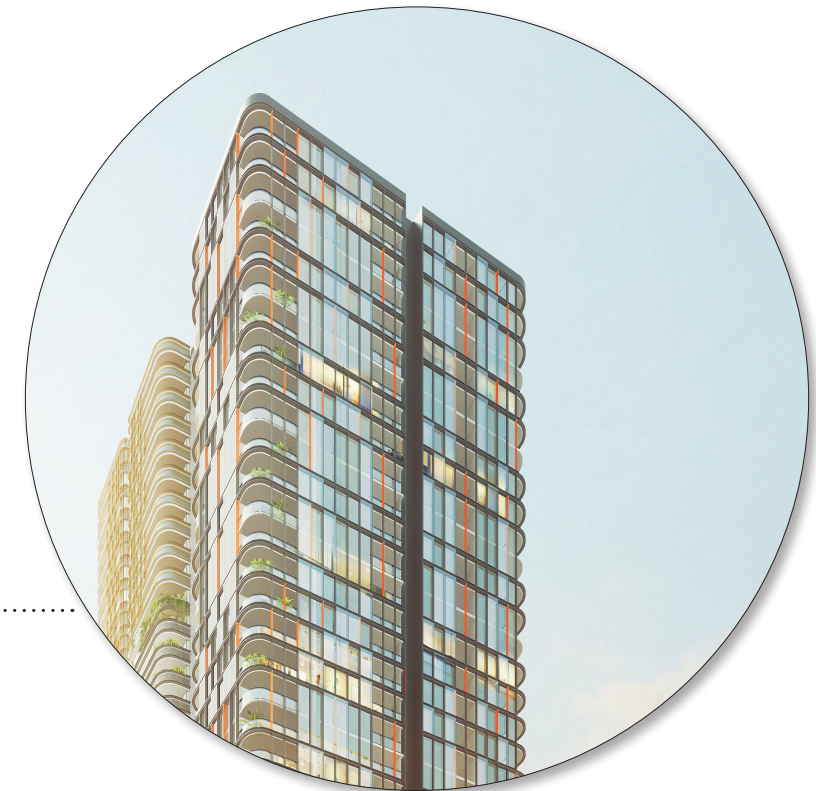
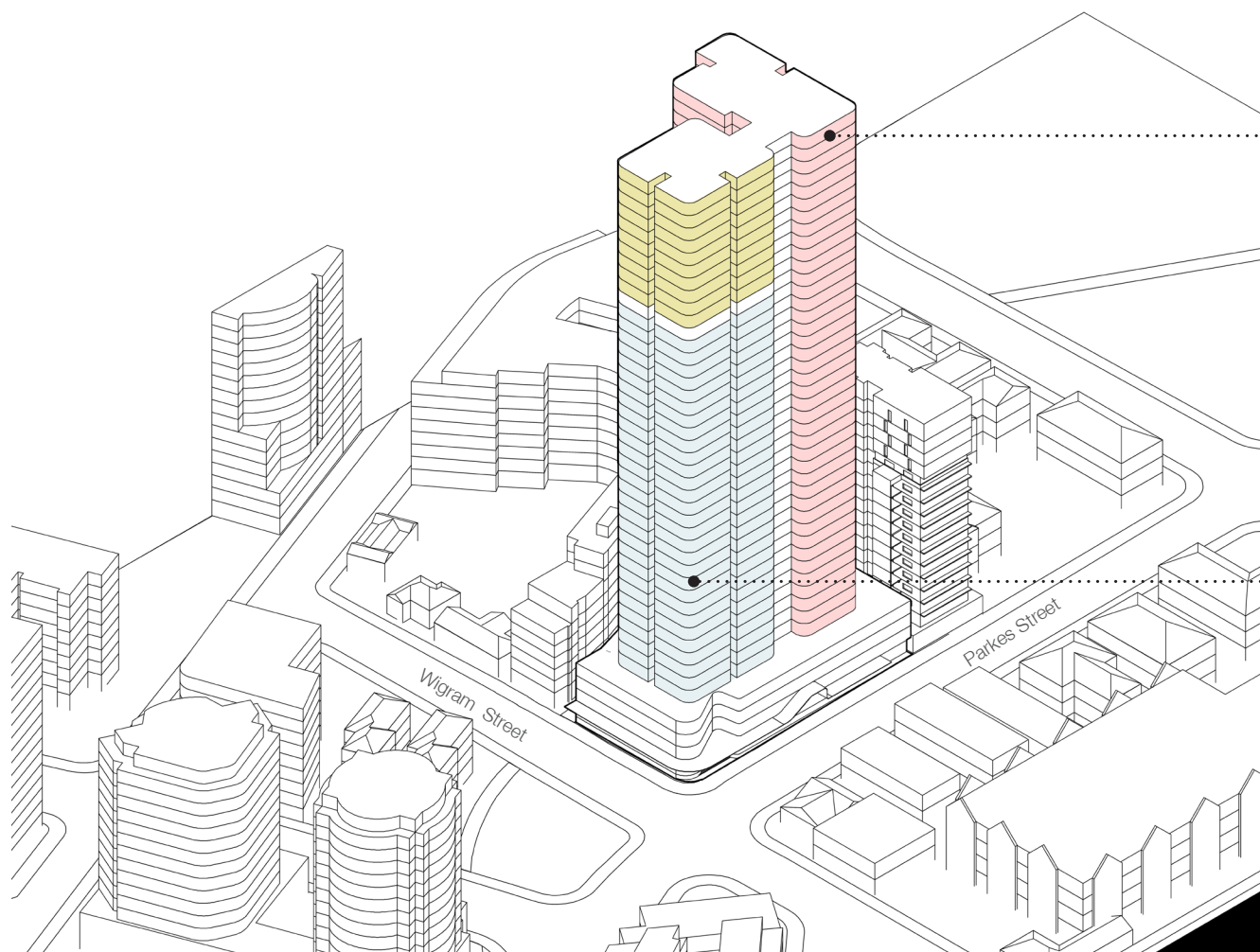




Response - Dual Facade Approach and Soft Corners

The tower has been articulated so that apartment amenity is maximised, the buck is broken into two distinct masses, the edges are softened, and the corner crown is distinct in appearance. The south west corner will be visible from many different vantage points.

We have crowned the building on the most prominent corner which has maximum exposure from distance views.





Response - Tower Edge Detail

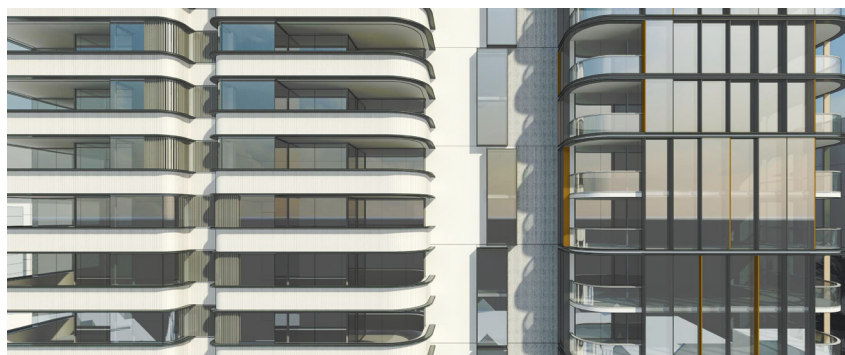
Articulation at buildings edge provides for a number of benefits including:

- Building aesthetics
- visual privacy
- wind control, and
- solar control

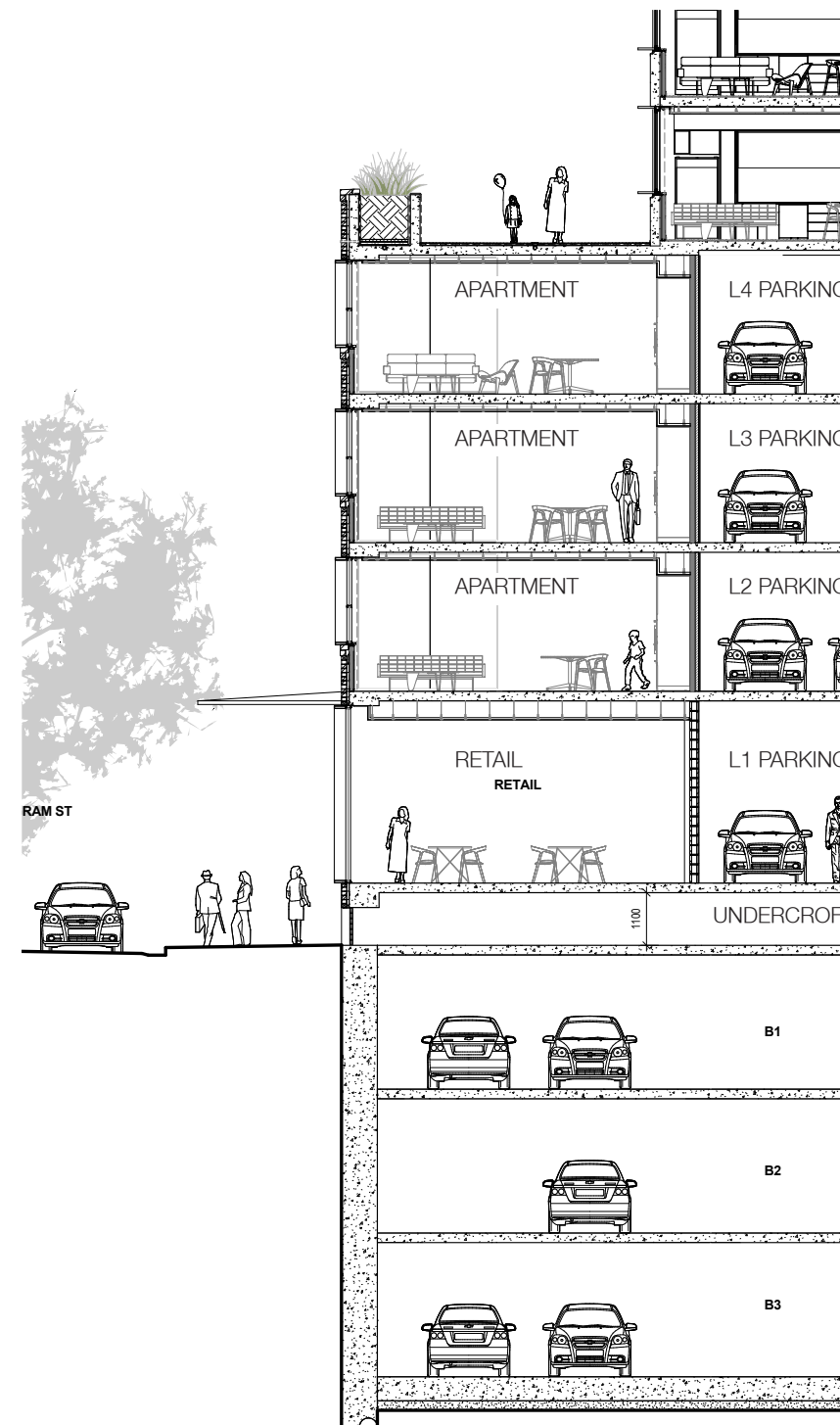


Aluminium battens provide visual privacy

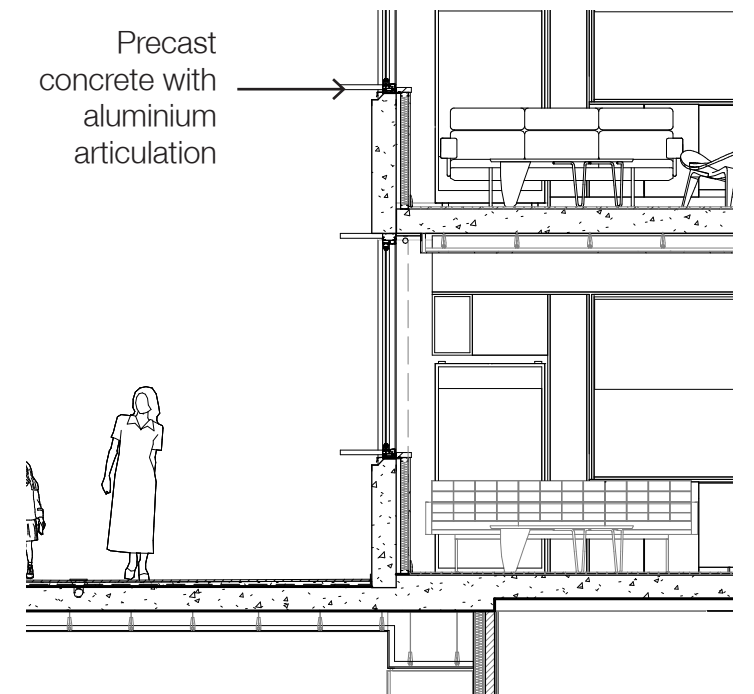
Balcony upstands provide screening from clutter



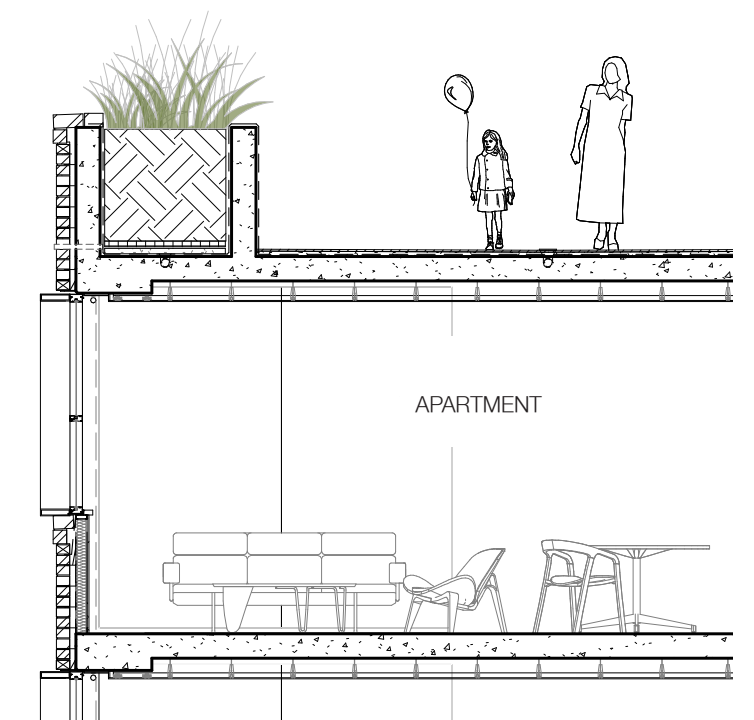
Dual facade treatment contribute to aesthetic diversity



Section - Podium



Section - Western Facade Type 01

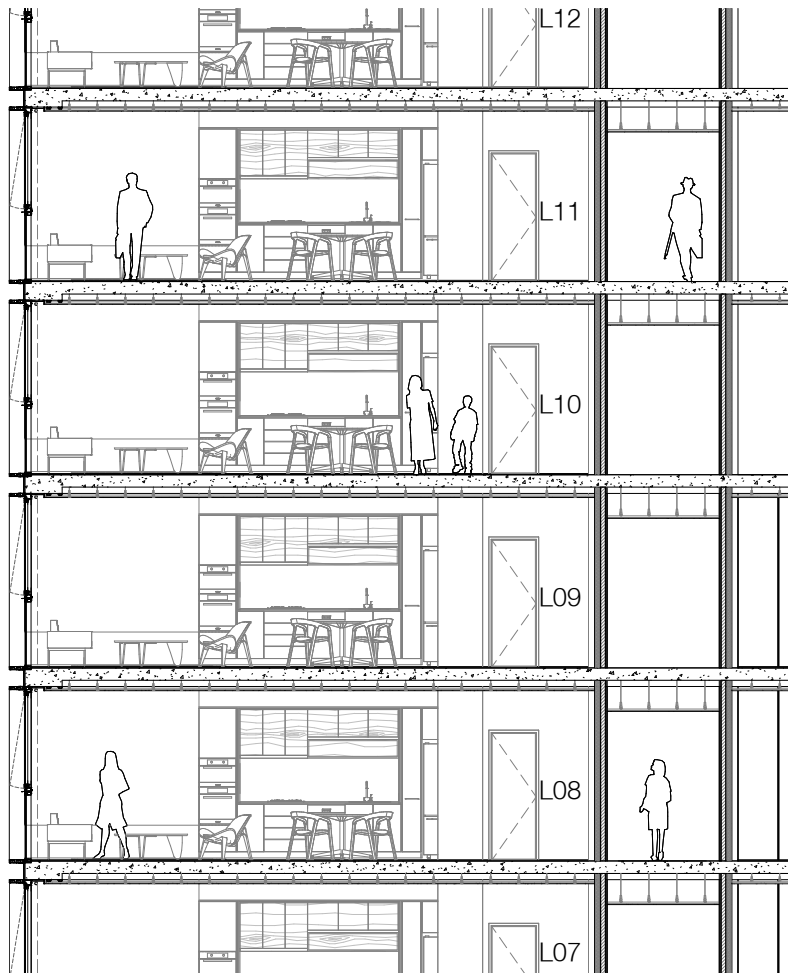


Section - Brick Facade to Podium

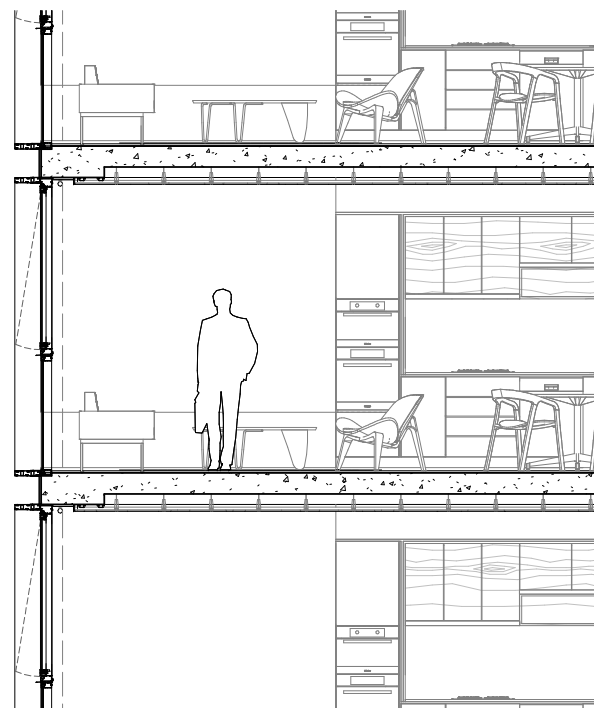


Response - Tower Edge Detail

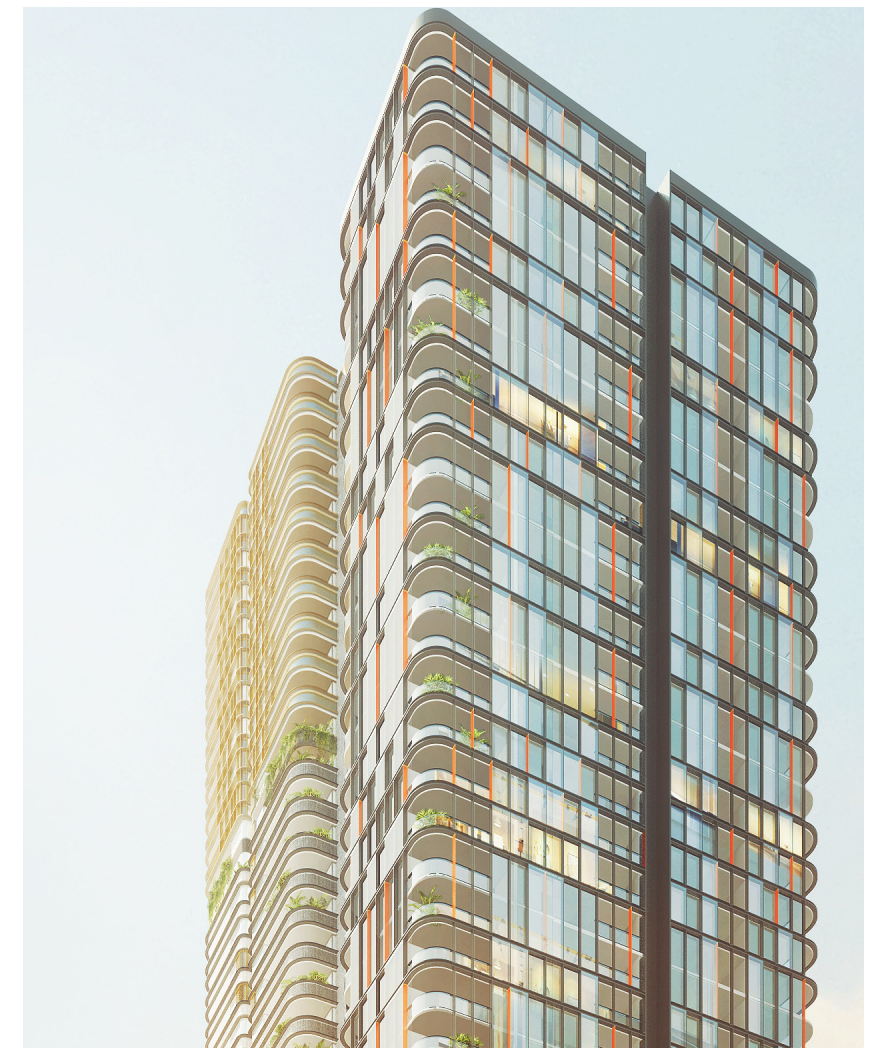
Dual Facade Approach



Section - East Facade Type 02

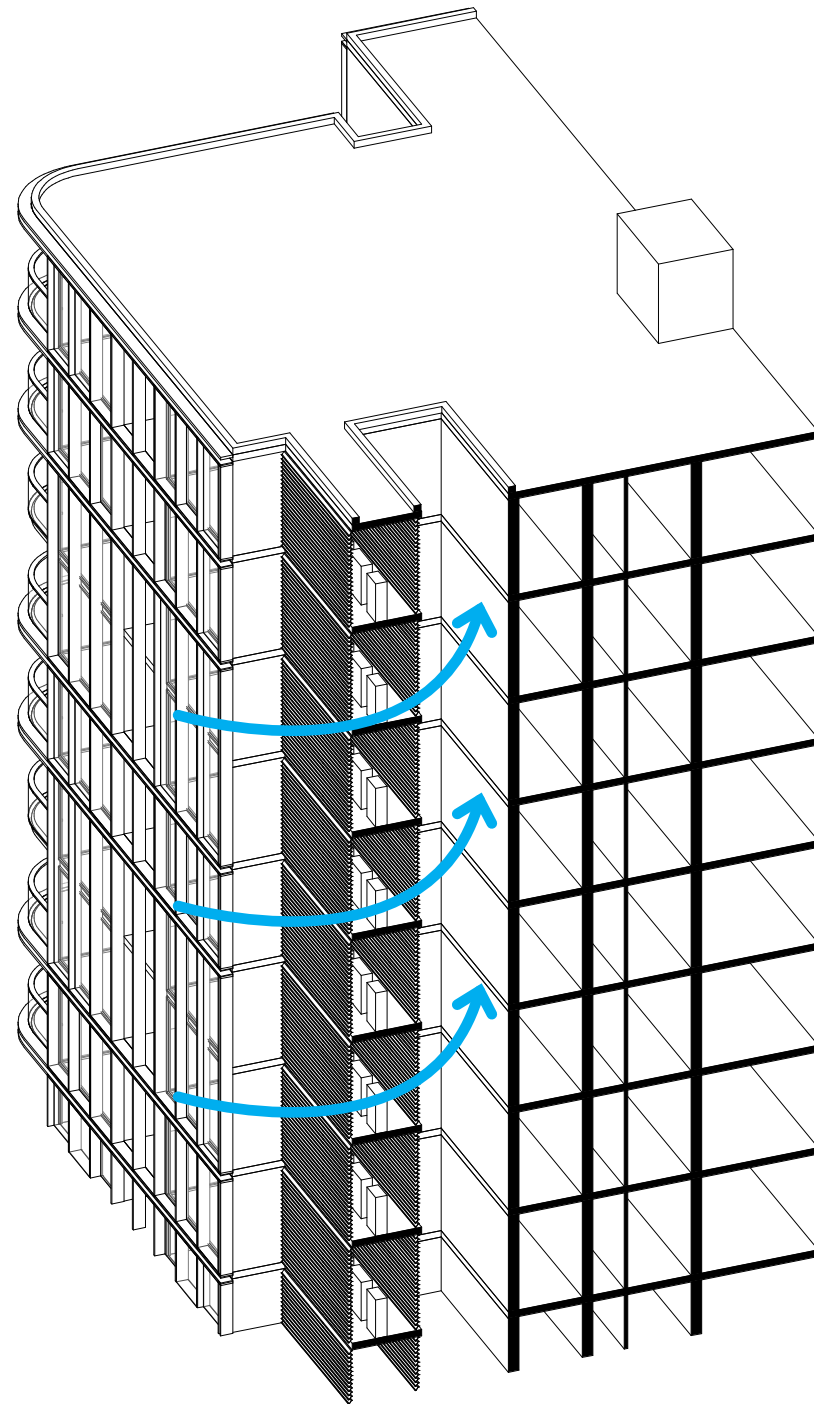


Section - Detail

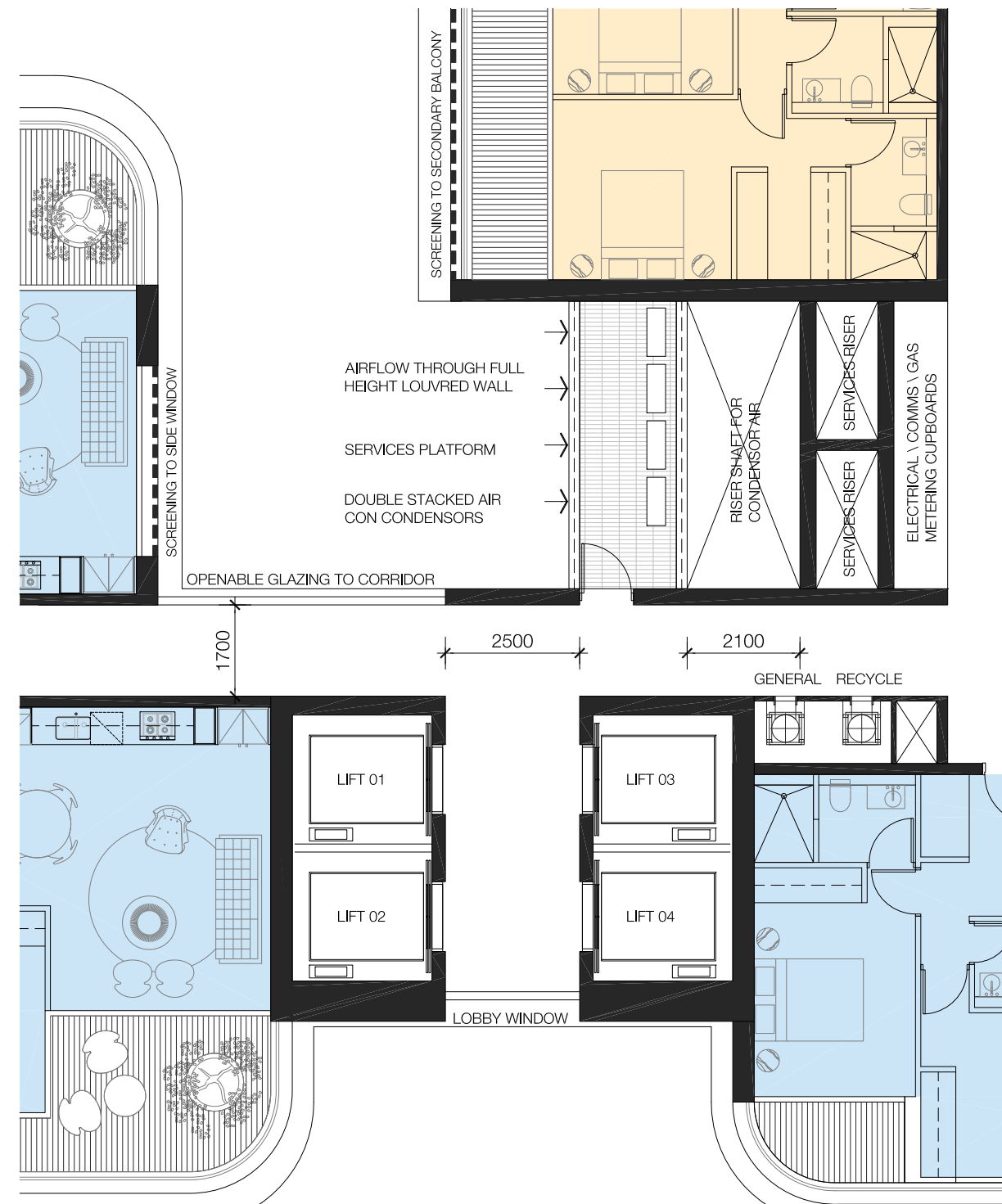




Services Plan & Diagram



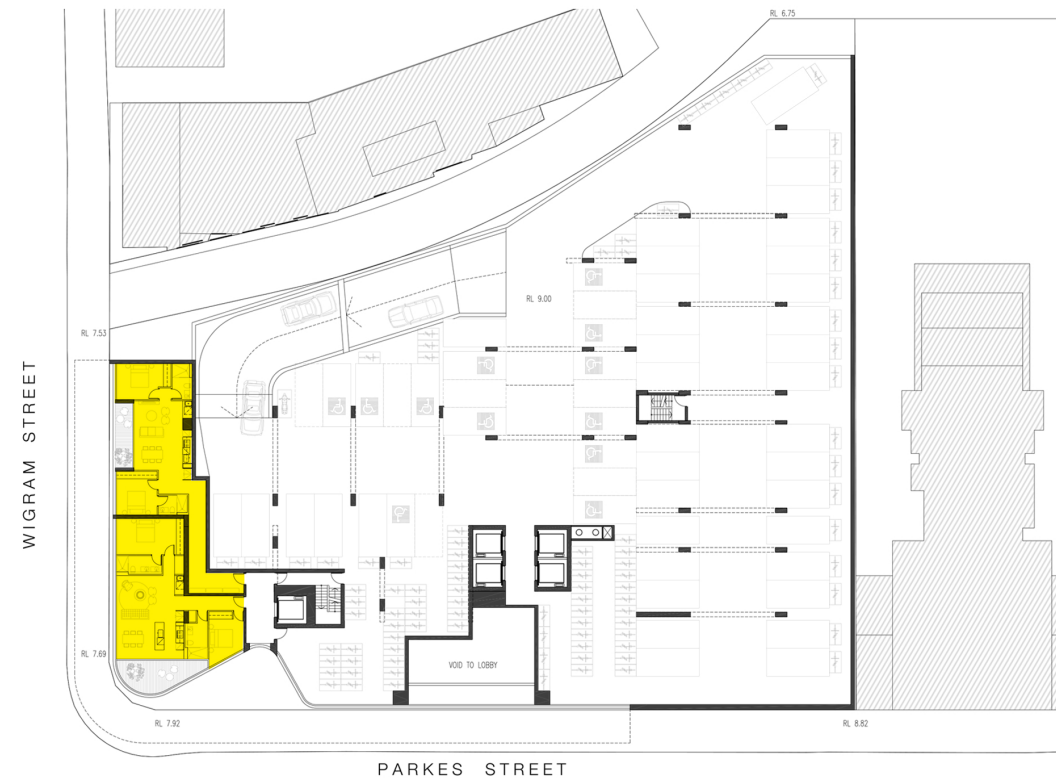
Axonometric View - Plant Room



Plan - Plant Room



Response - SEPP 65 Solar



02 - 04



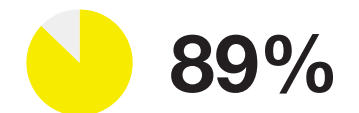
05 - 06



07 - 23

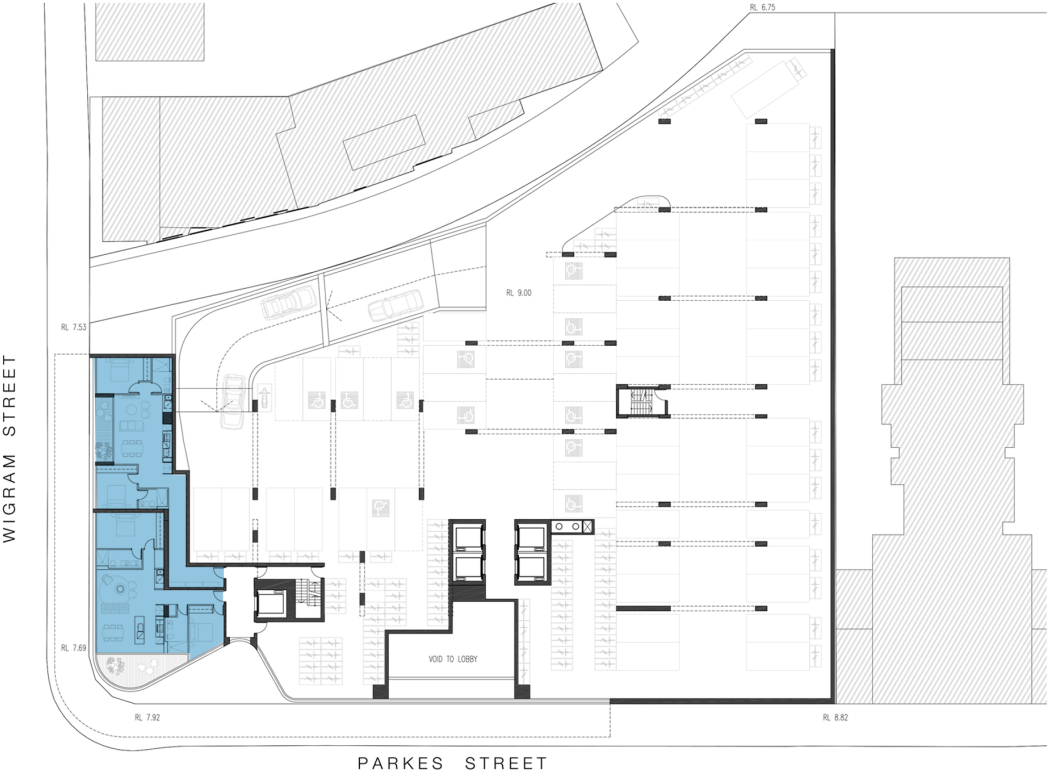


24 - 44

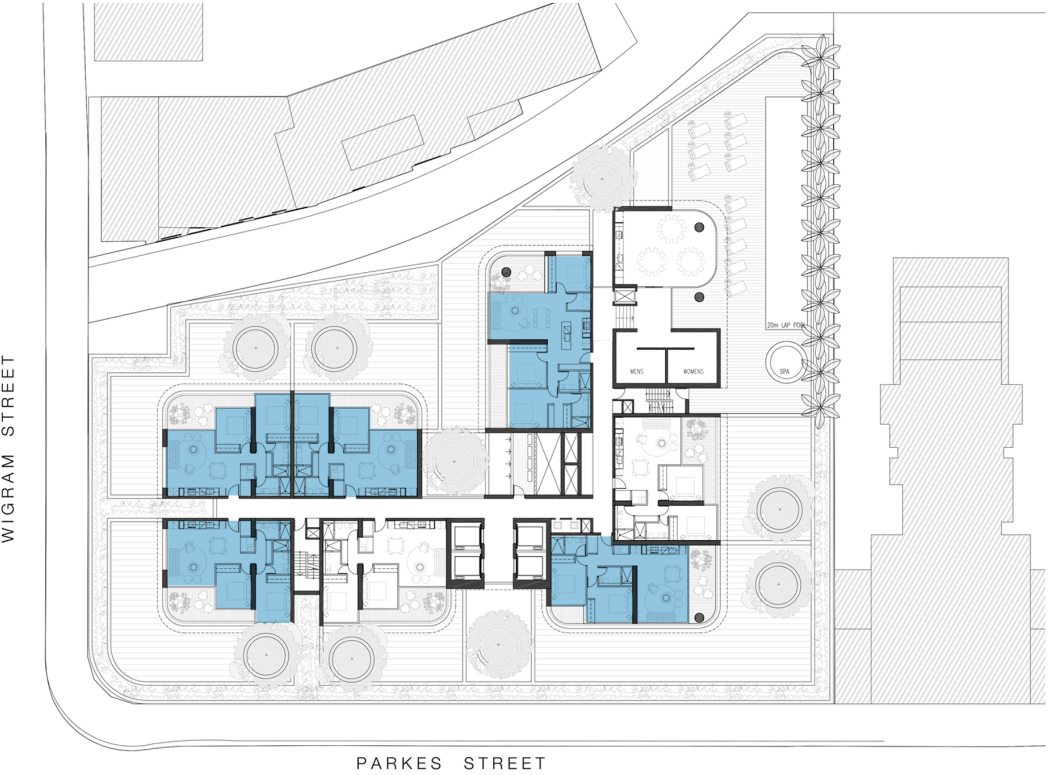




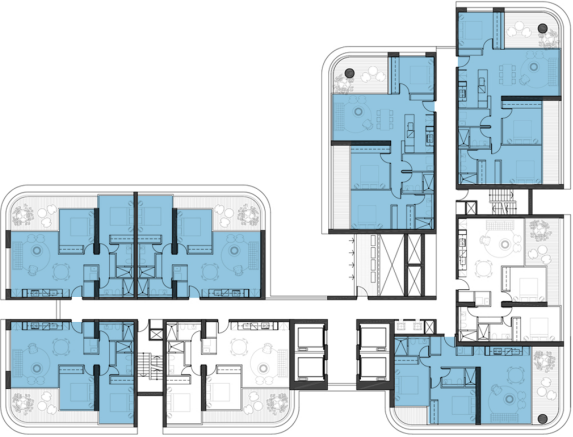
Response - SEPP Cross Ventilation



02 - 04



05 - 06



07 - 23



24 - 44



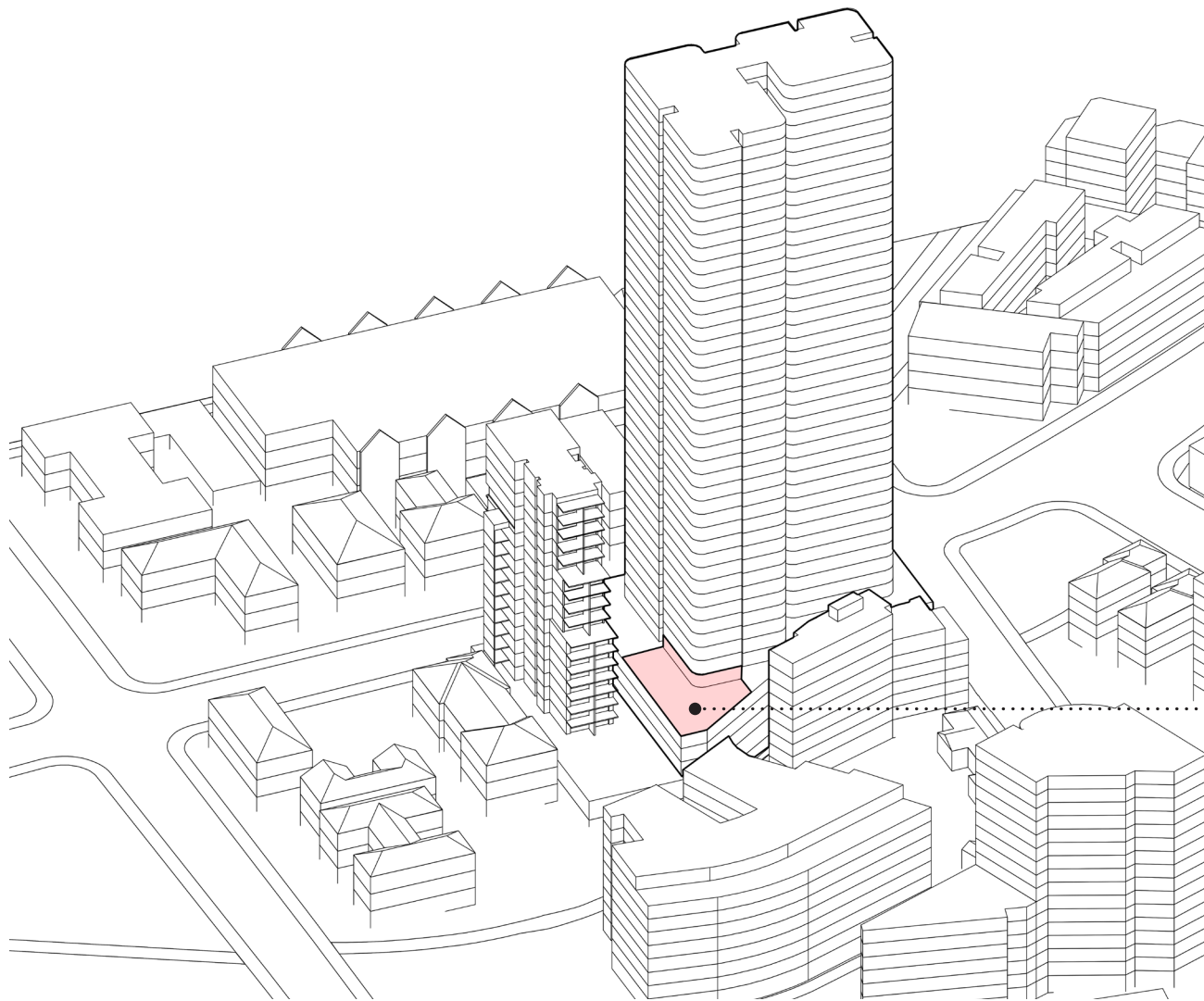
77%

First 10 levels



Response - Common Spaces

The communal outdoor space is located at the top of Podium level and will be screened from neighbours by landscaping. It will receive maximum solar benefit and be attached to 4.5m high communal indoor space suitable for owners corporation activities and meetings. The common spaces - both indoor and outdoors provide for excellent informal meeting opportunities.



Key

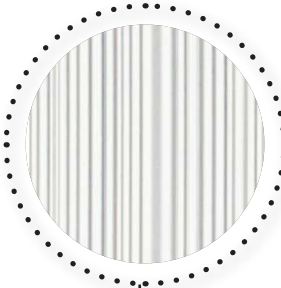
 Communal swimming pool





Materials

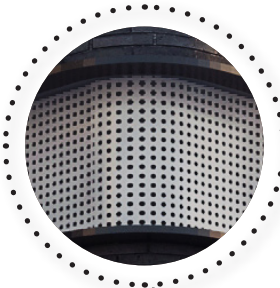
White Render
Paint Finish to fluted
Precast Concrete



Glazing



Perforated Metal
Screening or Open
Brickwork



Grey Brick



Aluminium Framed
Windows





View from east end of Parkes Street





Pool Area



3

Plans & Apartment Layouts



Basement 02 & 03



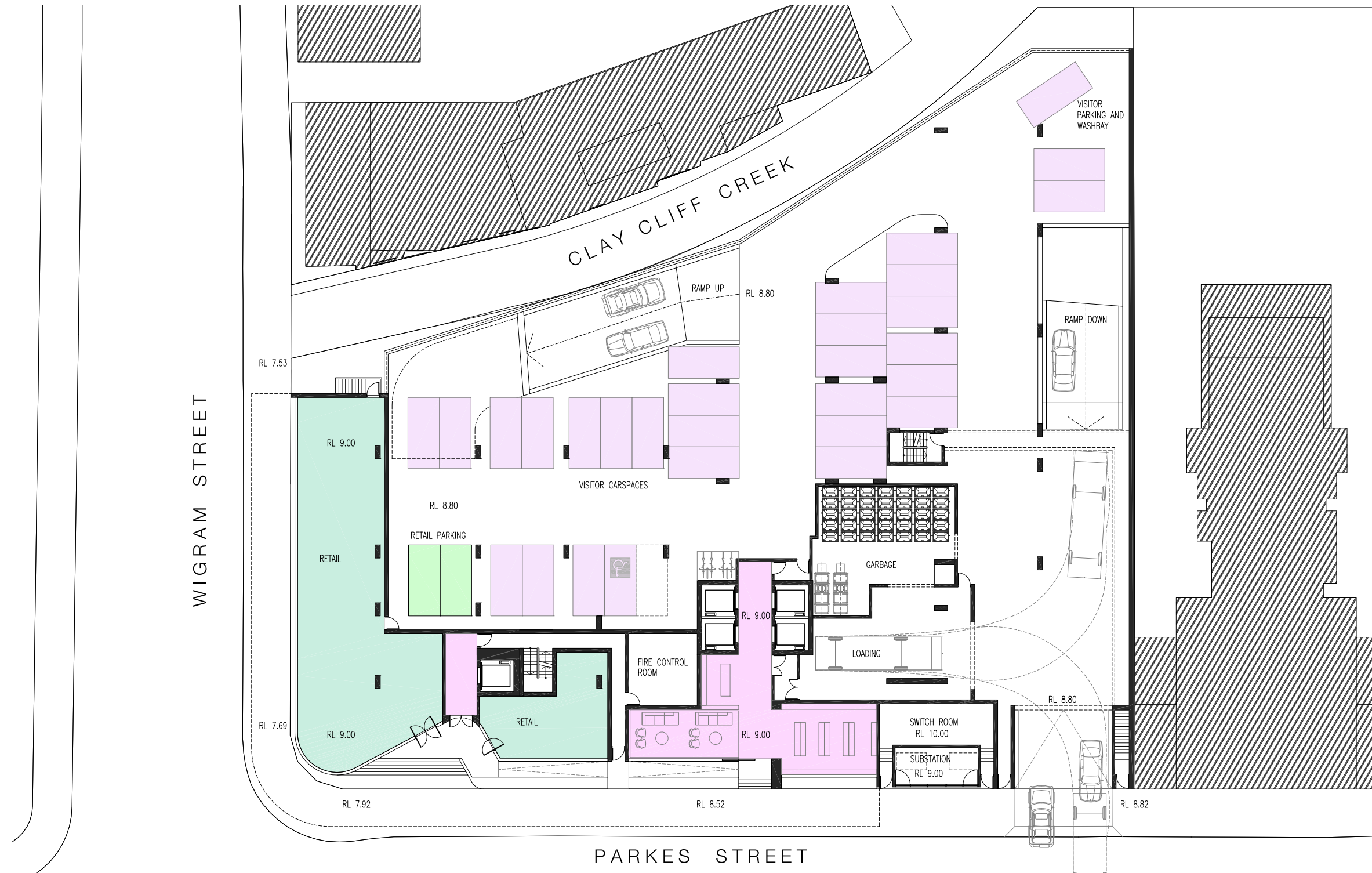


Basement 01





Ground Floor Plan



Project
Chiway

SJB Architects



Key

1 Bed

3 Bed

Landscape

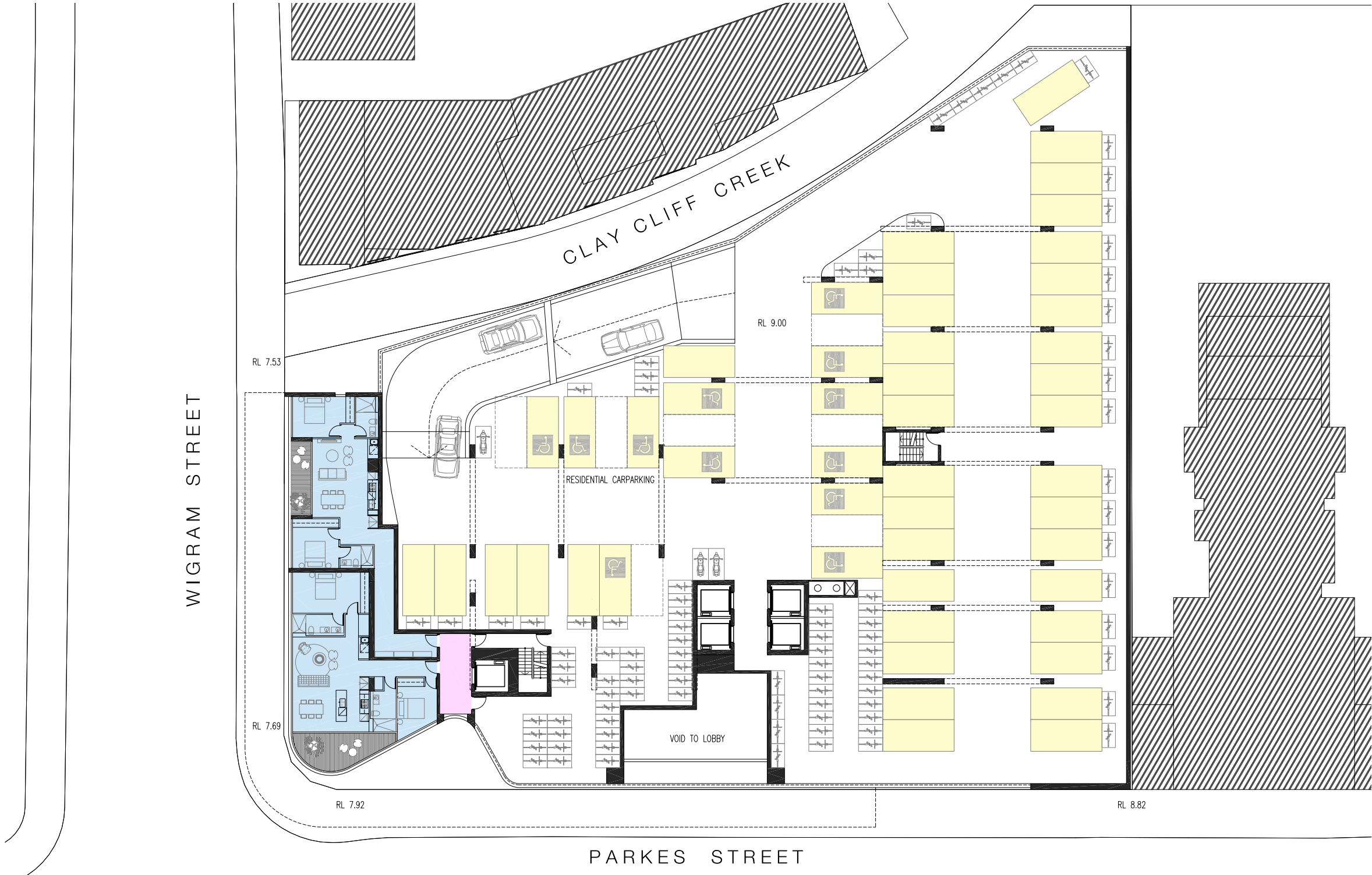
2 Bed

Car Park - Visitor

Car Park - Residential



Level 02 - Level 04





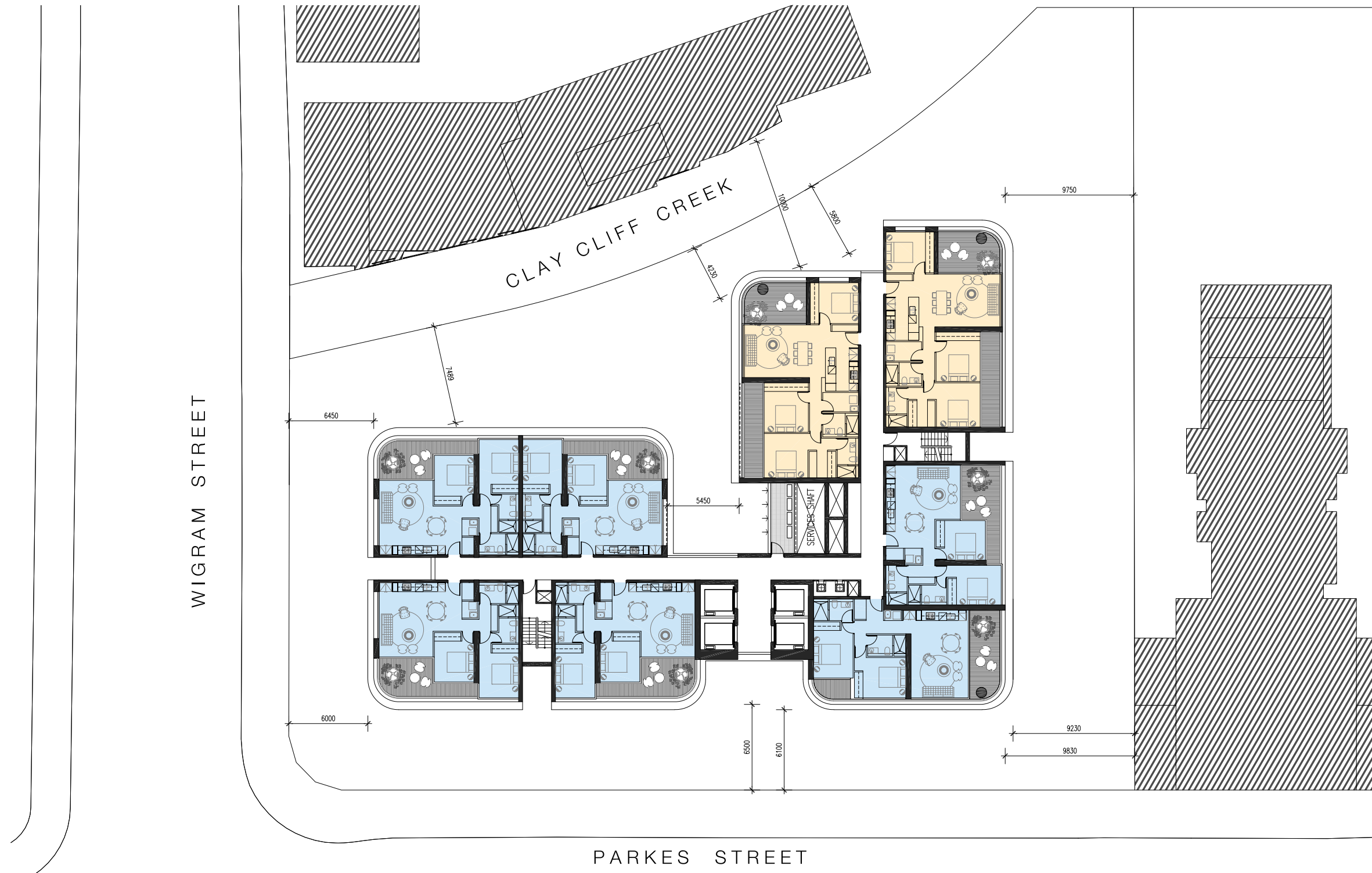
Level 05

Note: Level 06 similar but with void to common facilities.





Level 07 - Level 23





Level 24 - Level 44





Elevations



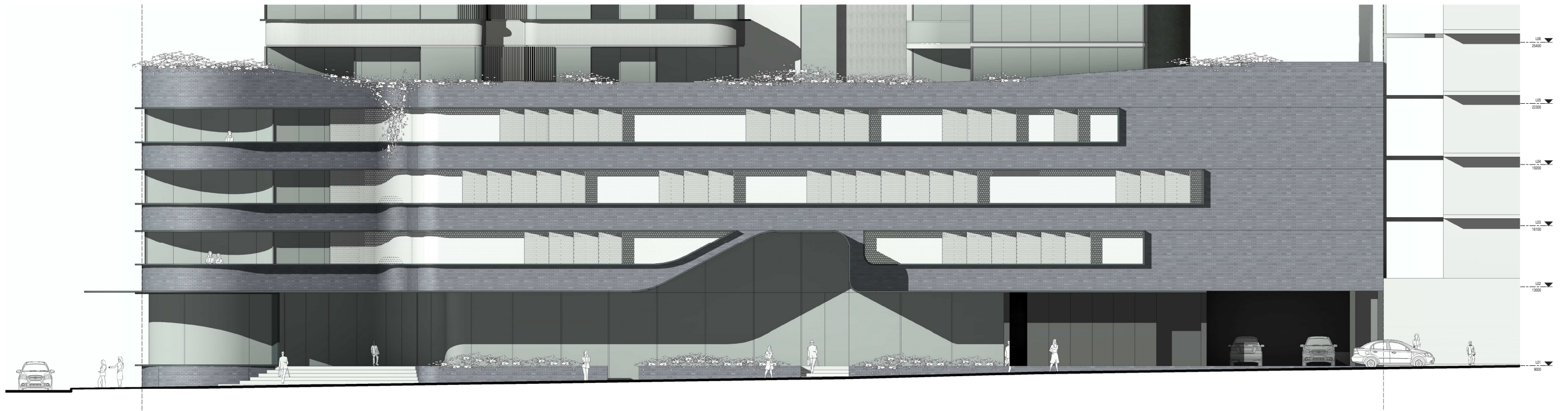
South Elevation



West Elevation



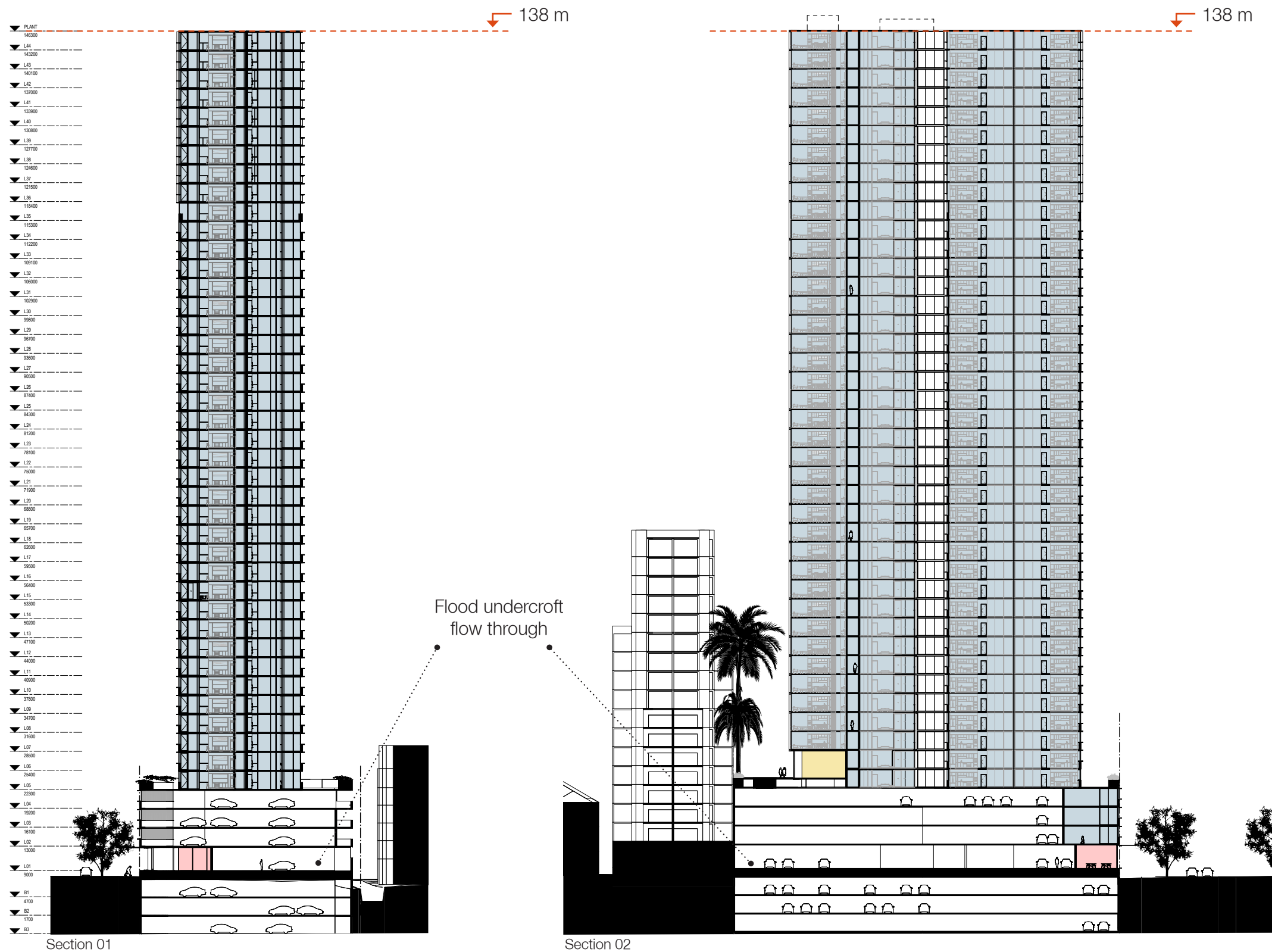
Elevations



Podium Elevation

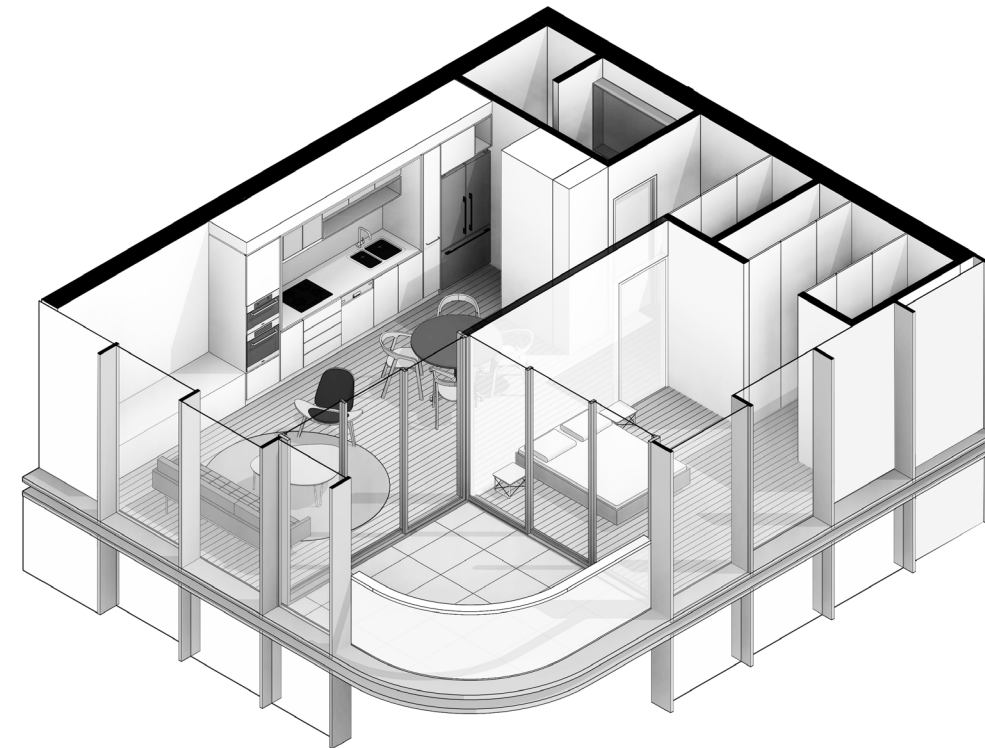
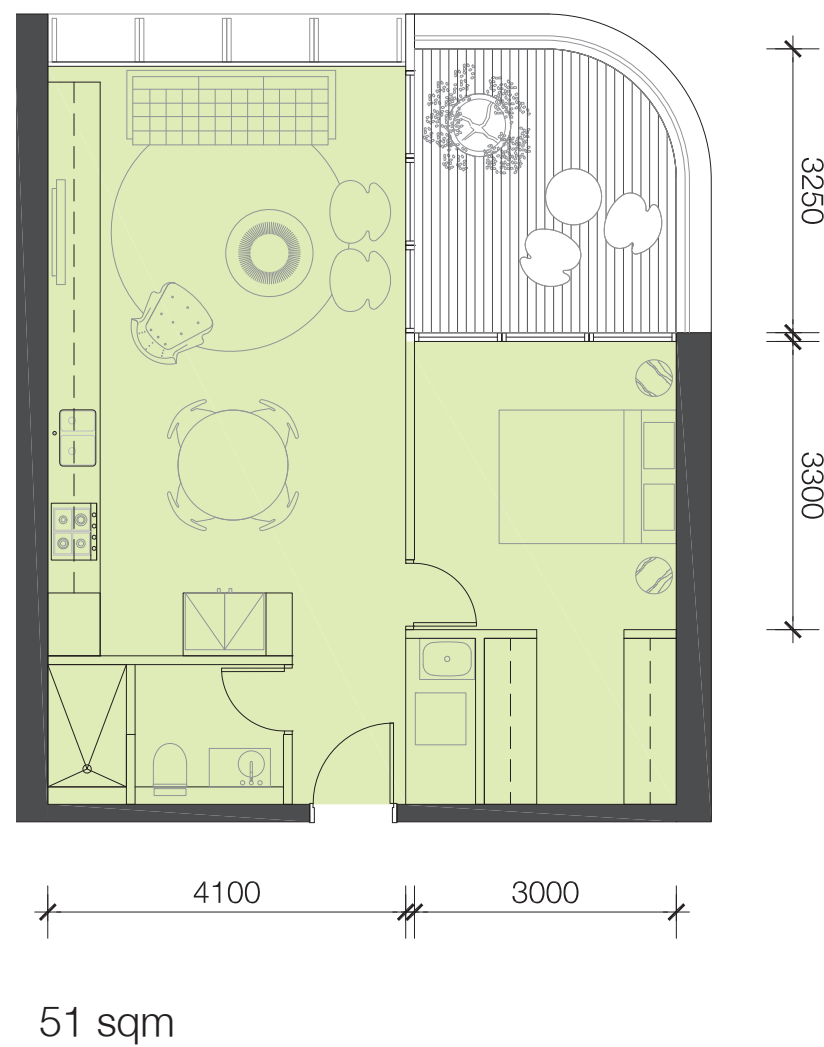


Sections



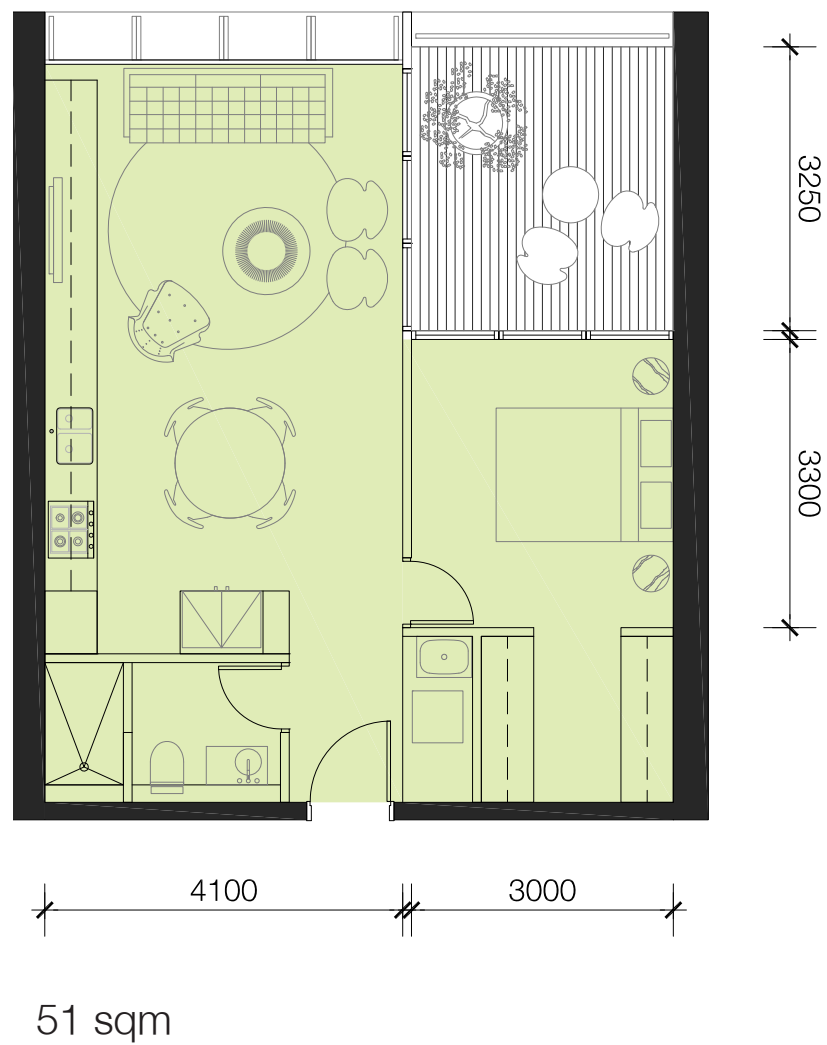


Apartments - 1 Bedroom Type 1



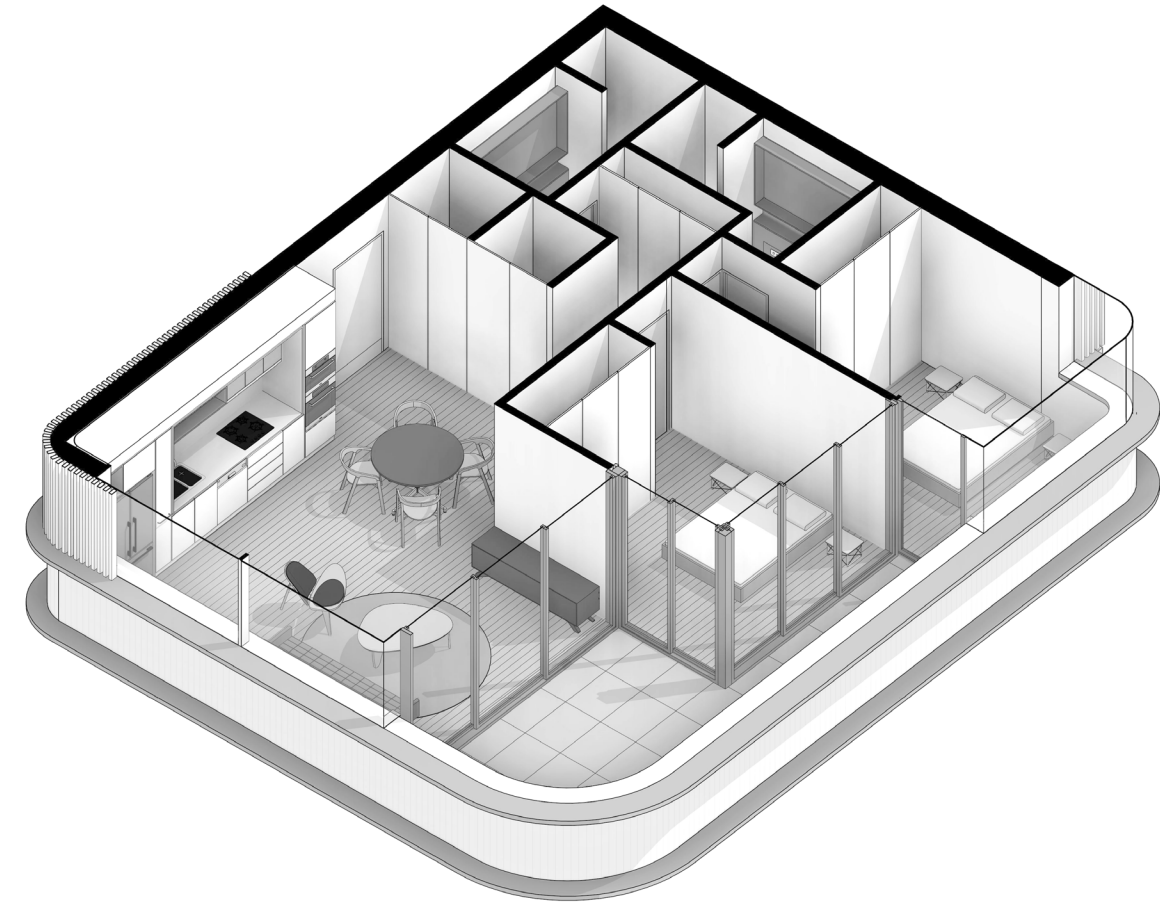
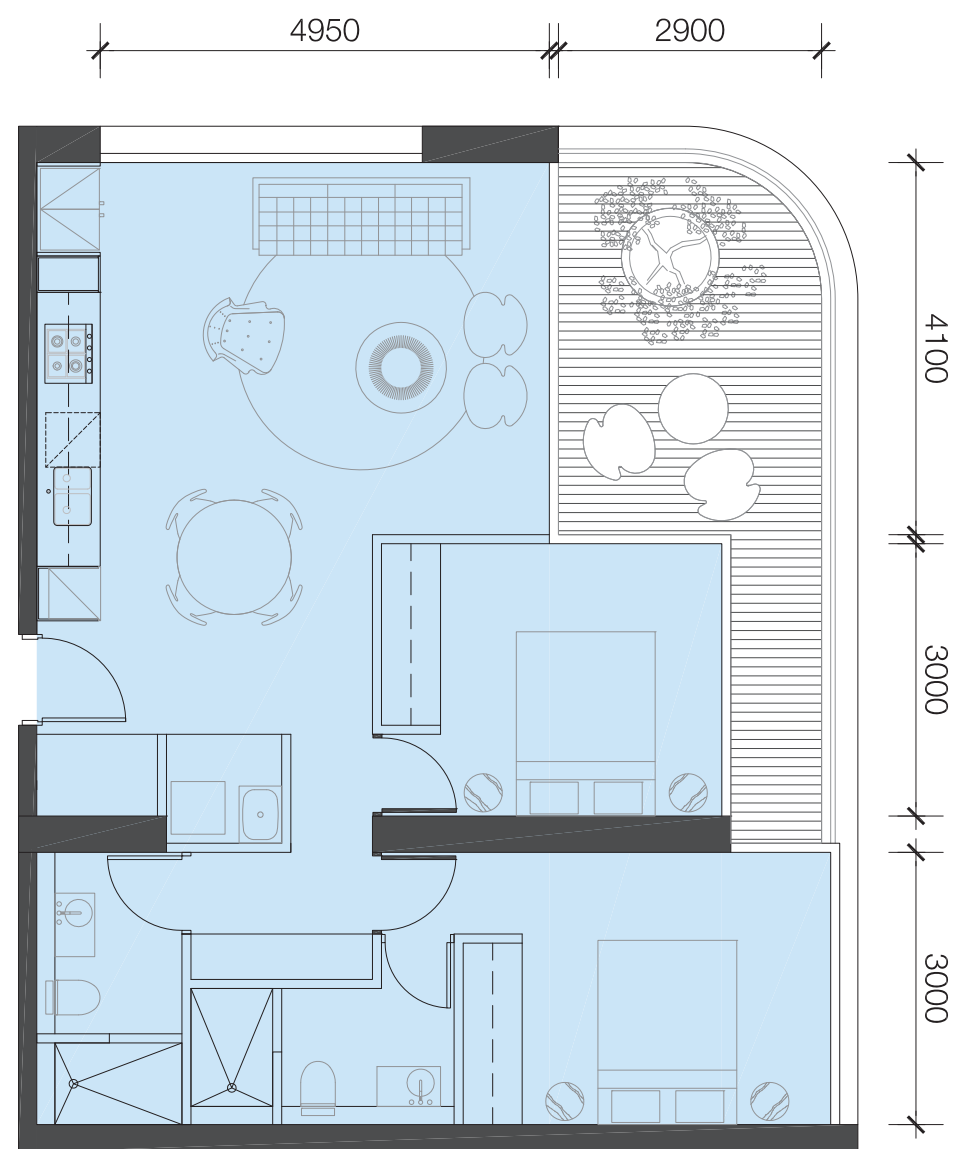


Apartments - 1 Bedroom Type 2





Apartments - 2 Bedroom Type 1



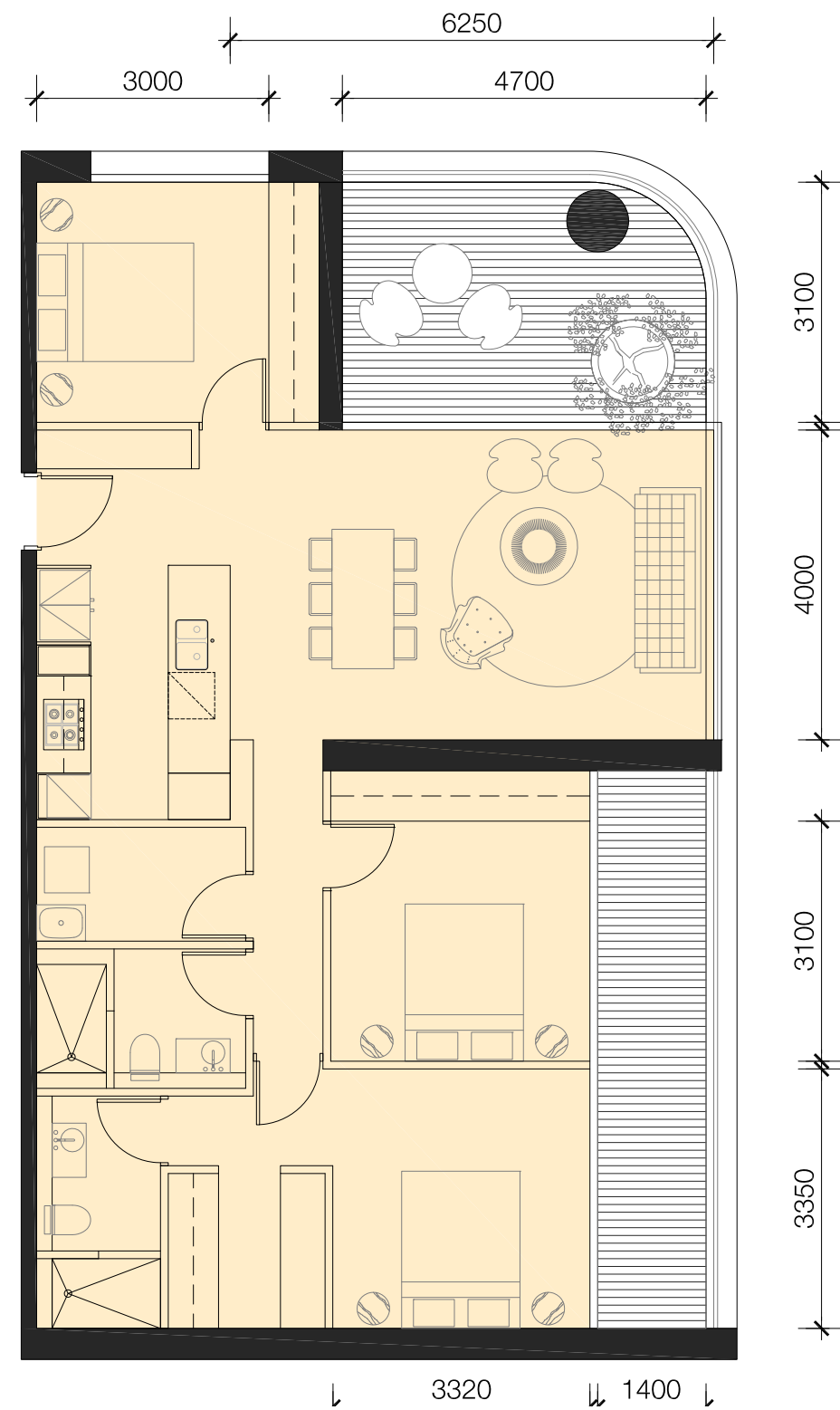


Apartments - 2 Bedroom Type 2





Apartments - 3 Bedroom Type 1



4

Area Schedule



Area Schedules

| | |
|---------------------------|-----------|
| Site Area | 2829 sqm |
| Allowable FSR = 10:1 | 28290 sqm |
| Allowable FSR + 15% bonus | 32534 sqm |
| Maximum Height | 138 m |
| Maximum storeys | 44 |

| | RL | Height | Floor to Floor | GBA | GFA | Residential NSA | Retail NLA | Efficiency | Cars | 1 Bed | 2 Bed | 3 Bed |
|---|-------|--------|----------------|------------------------|-------|--------------------|---------------|------------|------|-------|-------|-------|
| Level -03 | -1.7 | | 3 | 2744 | | | | | 65 | | | |
| Level -02 | 1.3 | | 3 | 2744 | | | | | 65 | | | |
| Level- 01 | 4.3 | | 4.5 | 2744 | | | | | 57 | | | |
| Level 01 | 8.8 | 8.8 | 5.4 | 2598 | 414 | | 275 | 66.4% | 32 | | | |
| Level 02 | 14.2 | 14.2 | 3.1 | 2687 | 218 | 191 | | 87.6% | 50 | 2 | | |
| Level 03 | 17.3 | 17.3 | 3.1 | 2687 | 219 | 191 | | 87.2% | 50 | 2 | | |
| Level 04 | 20.4 | 20.4 | 3.4 | 2687 | 219 | 191 | | 87.2% | 52 | 2 | | |
| Level 05 | 23.8 | 23.8 | 3.1 | 1113 | 686 | 557 | | 81.2% | | 6 | | 1 |
| Level 06 | 26.9 | 26.9 | 3.1 | 1113 | 783 | 557 | | 71.1% | | 6 | | 1 |
| Level 07 | 30 | 30 | 3.1 | 1137 | 786 | 653 | | 83.1% | | 6 | | 2 |
| Level 08 | 33.1 | 33.1 | 3.1 | 1137 | 786 | 653 | | 83.1% | | 6 | | 2 |
| Level 09 | 36.2 | 36.2 | 3.1 | 1137 | 786 | 653 | | 83.1% | | 6 | | 2 |
| Level 10 | 39.3 | 39.3 | 3.1 | 1137 | 786 | 653 | | 83.1% | | 6 | | 2 |
| Level 11 | 42.4 | 42.4 | 3.1 | 1137 | 786 | 653 | | 83.1% | | 6 | | 2 |
| Level 12 | 45.5 | 45.5 | 3.1 | 1137 | 786 | 653 | | 83.1% | | 6 | | 2 |
| Level 13 | 48.6 | 48.6 | 3.1 | 1137 | 786 | 653 | | 83.1% | | 6 | | 2 |
| Level 14 | 51.7 | 51.7 | 3.1 | 1137 | 786 | 653 | | 83.1% | | 6 | | 2 |
| Level 15 | 54.8 | 54.8 | 3.1 | 1137 | 786 | 653 | | 83.1% | | 6 | | 2 |
| Level 16 | 57.9 | 57.9 | 3.1 | 1137 | 786 | 653 | | 83.1% | | 6 | | 2 |
| Level 17 | 61 | 61 | 3.1 | 1137 | 786 | 653 | | 83.1% | | 6 | | 2 |
| Level 18 | 64.1 | 64.1 | 3.1 | 1137 | 786 | 653 | | 83.1% | | 6 | | 2 |
| Level 19 | 67.2 | 67.2 | 3.1 | 1137 | 786 | 653 | | 83.1% | | 6 | | 2 |
| Level 20 | 70.3 | 70.3 | 3.1 | 1137 | 786 | 653 | | 83.1% | | 6 | | 2 |
| Level 21 | 73.4 | 73.4 | 3.1 | 1137 | 786 | 653 | | 83.1% | | 6 | | 2 |
| Level 22 | 76.5 | 76.5 | 3.1 | 1137 | 786 | 653 | | 83.1% | | 6 | | 2 |
| Level 23 | 79.6 | 79.6 | 3.1 | 1137 | 786 | 653 | | 83.1% | | 6 | | 2 |
| Level 24 | 82.7 | 82.7 | 3.1 | 1137 | 792 | 656 | | 82.8% | | 4 | 6 | |
| Level 25 | 85.8 | 85.8 | 3.1 | 1137 | 792 | 656 | | 82.8% | | 4 | 6 | |
| Level 26 | 88.9 | 88.9 | 3.1 | 1137 | 792 | 656 | | 82.8% | | 4 | 6 | |
| Level 27 | 92 | 92 | 3.1 | 1137 | 792 | 656 | | 82.8% | | 4 | 6 | |
| Level 28 | 95.1 | 95.1 | 3.1 | 1137 | 792 | 656 | | 82.8% | | 4 | 6 | |
| Level 29 | 98.2 | 98.2 | 3.1 | 1137 | 792 | 656 | | 82.8% | | 4 | 6 | |
| Level 30 | 101.3 | 101.3 | 3.1 | 1137 | 792 | 656 | | 82.8% | | 4 | 6 | |
| Level 31 | 104.4 | 104.4 | 3.1 | 1137 | 792 | 656 | | 82.8% | | 4 | 6 | |
| Level 32 | 107.5 | 107.5 | 3.1 | 1137 | 792 | 656 | | 82.8% | | 4 | 6 | |
| Level 33 | 110.6 | 110.6 | 3.1 | 1137 | 792 | 656 | | 82.8% | | 4 | 6 | |
| Level 34 | 113.7 | 113.7 | 3.1 | 1137 | 792 | 656 | | 82.8% | | 4 | 6 | |
| Level 35 | 116.8 | 116.8 | 3.1 | 1137 | 792 | 656 | | 82.8% | | 4 | 6 | |
| Level 36 | 119.9 | 119.9 | 3.1 | 1137 | 792 | 656 | | 82.8% | | 4 | 6 | |
| Level 37 | 123 | 123 | 3.1 | 1137 | 792 | 656 | | 82.8% | | 4 | 6 | |
| Level 38 | 126.1 | 126.1 | 3.1 | 1137 | 792 | 656 | | 82.8% | | 4 | 6 | |
| Level 39 | 129.2 | 129.2 | 3.1 | 1137 | 792 | 656 | | 82.8% | | 4 | 6 | |
| Level 40 | 132.3 | 132.3 | 3.1 | 1137 | 792 | 656 | | 82.8% | | 4 | 6 | |
| Level 41 | 135.4 | 135.4 | 3.1 | 1137 | 792 | 656 | | 82.8% | | 4 | 6 | |
| Level 42 | 138.5 | 138.5 | 3.1 | 1137 | 792 | 656 | | 82.8% | | 4 | 6 | |
| Level 43 | 141.6 | 141.6 | 3.1 | 1137 | 792 | 656 | | 82.8% | | 4 | 6 | |
| Level 44 | 144.7 | 144.7 | 3.3 | 1137 | 792 | 656 | | 82.8% | | 4 | 6 | |
| Rooftop | 148 | 148 | | | | | | | | | | |
| | | | | 64323 | 32533 | 26564 | 275 | | 371 | 84 | 246 | 36 |
| | | | | 82.5% | | | | | | 23.0% | 67.2% | 9.8% |
| | | | | | | | | | | 366 | | |
| | | | | | | | | | | 36.6 | | |
| | | | | Adaptable Units at 10% | | | | | | 36.6 | | |
| | | | | Retail | | | | | | 1 bed | 2 bed | 3 bed |
| Carparking (maximum rates at 1 per 30sqm) | | | | 9 | | | | | | 1 | 1 | 1 |
| Carparking (proposed rates) | | | | 2 | | | | | | 0.6 | 1 | 1 |
| | | | | | | | | | | 50.4 | 246 | 36 |
| Sub total | | | | | | | | | | 332.4 | | |
| Visitors at 1:10 | | | | | | | | | | 36.6 | | |
| | | | | 2 | | | | | | 369 | | |
| Total Proposed Cars | | | | | | | | | | 371 | | |
| Total Provided Cars | | | | | | | | | | 371 | | |

5

SEPP 65
Design
Principles

SEPP 65 Design Principles

Principle 1: Context and Neighbourhood Character

Good design responds and contributes to its context. Context is the key natural and built features of an area, their relationship and the character they create when combined. It also includes social, economic, health and environmental conditions. Responding to context involves identifying the desirable elements of an area’s existing or future character.

Well designed buildings respond to and enhance the qualities and identity of the area including the adjacent sites, streetscape and neighbourhood. Consideration of local context is important for all sites, including sites in established areas, those undergoing change or identified for change.

The site is located at the south east end of the Parramatta City Centre, at the transition between the commercial and residential areas. Historically a retail and commercial precinct, the local context is now made up of a changing variety of building forms and uses. The subject site itself currently hosts a commercial and residential building and is the subject of a Planning Proposal to significantly vary its height.

The area is undergoing change which will result in a variety of building sizes dependant on site amalgamations and strategic review of design proposals. Our proposals looks to retain an active street frontage and a podium scale which is responsive to the local context and neighbourhood

Principle 2: Built Form and Scale

Good design achieves a scale, bulk and height appropriate to the existing or desired future character of the street and surrounding buildings.

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

Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook.

The built form character of our proposal reflects the changing scale of Parramatta City Centre and the desired future character of this precinct. A planning proposal outlines the appropriateness of the building form and its scale and this is currently under consideration.

The detail and use of appropriate materials at podium level will ensure that pedestrians are engaged both physically and visually.

Principle 3: Density

Good design achieves a high level of amenity for residents and each apartment, resulting in a density appropriate to the site and its context. Appropriate densities are consistent with the area's existing or projected population. Appropriate densities can be sustained by existing or proposed infrastructure, public transport, access to jobs, community facilities and the environment.

The site has both the surrounding infrastructure to support a significant residential development and the urban context to benefit from this type of development.

The addition of new residential apartments and a retail tenancy has the potential to activate the area’s existing character. The site is very well served by public transport, and is surrounded by major bus stops within the CBD. It is also within walking distance of major retail precincts to the north east of the site.

The site is also within walking distance of significant public space and community facilities. The central CBD location provides access to a range of public and private educational institutions and employment opportunities.

SEPP 65 Design Principles

Principle 4: Sustainability

Good design combines positive environmental, social and economic outcomes. Good sustainable design includes use of natural cross ventilation and sunlight for the amenity and liveability of residents and passive thermal design for ventilation, heating and cooling reducing reliance on technology and operation costs. Other elements include recycling and reuse of materials and waste, use of sustainable materials, and deep soil zones for groundwater recharge and vegetation.

As we are still at a design competition stage, the detailed building design and systems are yet to be determined. The proposal has the potential to utilise a range of strategies to achieve a positive environmental outcome. These strategies include:

- rainwater storage and reuse
- podium level open space landscaping
- climate and location suitable plant selection
- natural light and ventilation to the majority of apartments
- naturally ventilated corridors and lobbies
- energy efficient lighting
- proximity to public transport and the CBD
- careful articulation of glazing to allow direct sunlight while limiting heat loss or additional cooling loads
- specification of locally sourced materials
- communal recycling and composting facilities
- efficient building services
- bicycle parking

Principle 5: Landscape

Good design responds and contributes to its context. Context is the key natural and built features of an area, their relationship and the character they create when combined. It also includes social, economic, health and environmental conditions. Responding to context involves identifying the desirable elements of an area’s existing or future character.

Well designed buildings respond to and enhance the qualities and identity of the area including the adjacent sites, streetscape and neighbourhood. Consideration of local context is important for all sites, including sites in established areas, those undergoing change or identified for change.

There is significant opportunity for landscape design at the podium level which incorporates large private and communal space areas. Landscaping will also be used to achieve screening to and from adjoining properties and will form an integral part of the overall design.

Large balcony spaces have been provided for each dwelling such that they allow for external planting to suit the needs of individual owners.

Principle 6: Built Form and Scale

Good design positively influences internal and external amenity for residents and neighbours. Achieving good amenity contributes to positive living environments and resident well being.

Good amenity combines appropriate room dimensions and shapes, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas, and ease of access for all age groups and degrees of mobility.

The proposal demonstrates the potential to achieve a high degree of internal, external and social amenity for the residents and local area. The numeric compliance of the development with the recommendations of the Apartment Design Guide is detailed in the SEPP65 compliance table included as part of the Design Competition.

SEPP 65 Design Principles

Principle 7: Safety

Good design optimises safety and security, within the development and the public domain. It provides for quality public and private spaces that are clearly defined and fit for the intended purpose. Opportunities to maximise passive surveillance of public and communal areas promote safety.

A positive relationship between public and private spaces is achieved through clearly defined secure access points and well lit and visible areas that are easily maintained and appropriate to the location and purpose.

A positive relationship between public and private spaces is achieved through clearly defined secure access points and well lit and visible areas that are easily maintained and appropriate to the location and purpose.

The proposal is structured around the principles of addressing the public domain, activation and passive surveillance of communal spaces and of providing safe and legible entry points. The proposed envelope and its interaction with the existing buildings on the site prioritise safety and security, with an emphasis on social interaction, communal ownership and passive surveillance.

The proposal has the potential to significantly improve safety and security within the vicinity and enhance the relationship between the public domain and the private and commercial functions of the site.

Principle 8: Housing Diversity and Social Interaction

Good design achieves a mix of apartment sizes, providing housing choice for different demographics, living needs and household budgets.

Well designed apartment developments respond to social context by providing housing and facilities to suit the existing and future social mix. Good design involves practical and flexible features, including different types of communal spaces for a broad range of people, providing opportunities for social interaction amongst residents.

The location of the development, within the Parramatta City Centre (with its proximity to public transport and facilities) provides for a broad range of residents and family types. The proposal has the potential to address the diverse needs of this residential spectrum and develop a range of complimentary services within the retail at ground level.

The apartment mix and design is responsive to the future desired character for Parramatta and the proposed envelope allows for easy adaptation of existing apartments to cater for change.

Principle 9: Aesthetic

Good design achieves a built form that has good proportions and a balanced composition of elements, reflecting the internal layout and structure. Good design uses a variety of materials, colours and textures.

The visual appearance of well designed apartment development responds to the existing or future local context, particularly desirable elements and repetitions of the streetscape.

Our proposal has been design to allow for an elegant building form, responsive to the future desired character of the area and its surroundings. Below are some of the features that have been considered in response to the building's unique context:

- definition of two separate tower articulations,
- strong podium base which responds to pedestrian and traffic intersection
- feature element at top of the south west corner of the site
- clear articulation of the residential entry
- building articulation in both vertical and horizontal aspect
- slender tower form with the opportunity for finer modulation
- addressing each of the primary view corridors
- use of quality materials, and
- appropriate setbacks at podium level

6

**ADG
Response
Table**

ADG Response Table

| | | | | |
|---|---|-----|----|---|
| Part 3 | | | | |
| 3A - Site Analysis | | | | |
| Objective 3A – 1 | | | | |
| Site analysis illustrates that design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context | | | | |
| | | Yes | No | Notes |
| Design Guidance | Each element in the Site Analysis Checklist should be addressed (see Appendix 1) | ✓ | | |
| 3B – Orientation | | | | |
| Objective 3B – 1 | | | | |
| Building types and layouts respond to the streetscape and site while optimising solar access within the development. | | | | |
| | | Yes | No | Notes |
| Design Guidance | Buildings along the street frontage define the street, by facing it and incorporating direct access from the street (see figure 3B.1) | ✓ | | |
| | Where the street frontage is to the east or west, rear buildings should be orientated to the north | ✓ | | Street frontage to West and South |
| | Where the street frontage is to the north or south, overshadowing to the south should be minimised and buildings behind the street frontage should be orientated to the east and west (see figure 3B.2) | | ✓ | The building is orientated to the north to maximise solar access. It results in additional overshadowing impact to the south and is in line with development controls |
| Objective 3B-2 | | | | |
| Overshadowing of neighbouring properties is minimised during midwinter | | | | |
| Design Guidance | Living areas, private open space and communal open space should receive solar access in accordance with sections 3D Communal and public open space and 4A Solar and daylight access | ✓ | | No significant impact on solar access to adjacent properties. |
| | Solar access to living rooms, balconies and private open spaces of neighbours should be considered | ✓ | | |
| | Where an adjoining property does not currently receive the required hours of solar access, the proposed building ensures solar access to neighbouring properties is not reduced by more than 20% | ✓ | | |
| | If the proposal will significantly reduce the solar access of neighbours, building separation should be increased beyond minimums contained in section 3F Visual privacy | | ✓ | |
| | Overshadowing should be minimised to the south or downhill by increased upper level setbacks | ✓ | | The tower form on the south has a continuous setback, aligned with development controls. |
| | It is optimal to orientate buildings at 90 degrees to the boundary with neighbouring properties to minimise overshadowing and privacy impacts, particularly where minimum setbacks are used and where buildings are higher than the adjoining development | ✓ | | |
| | A minimum of 4 hours of solar access should be retained to solar collectors on neighbouring buildings | | | N/A |
| 3C – Public Domain Interface | | | | |
| Objective 3C-1 | | | | |
| Transition between private and public domain is achieved without compromising safety and security | | | | |
| | | Yes | No | Notes |
| eDesign Guidance | Terraces, balconies and courtyard apartments should have direct street entry, where appropriate | | | N/A |
| | Changes in level between private terraces, front gardens and dwelling entries above the street level provide surveillance and improve visual privacy for ground level dwellings (see figure 3C.1) | | | N/A |

ADG Response Table

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| | Upper level balconies and windows should overlook the public domain | ✓ | | |
| | Front fences and walls along street frontages should use visually permeable materials and treatments. The height of solid fences or walls should be limited to 1m | | | N/A |
| | Length of solid walls should be limited along street frontages | ✓ | | |
| | Opportunities should be provided for casual interaction between residents and the public domain. Design solutions may include seating at building entries, near letter boxes and in private courtyards adjacent to streets | ✓ | | Opportunities for casual interaction is provided in the residential lobby and at the communal open space |
| | In developments with multiple buildings and/or entries, pedestrian entries and spaces associated with individual buildings/entries should be differentiated to improve legibility for residents, using a number of the following design solutions: <ul style="list-style-type: none">- architectural detailing- changes in materials- plant species- colours | | | N/A |
| | Opportunities for people to be concealed should be minimised | ✓ | | |
| Objective 3C-2 <i>Amenity of public domain is retained and enhanced</i> | | | | |
| | | Yes | No | Notes |
| Design Guidance | Planting softens the edges of any raised terraces to the street, for example above sub-basement car parking | | | N/A |
| | Mail boxes should be located in lobbies, perpendicular to the street alignment or integrated into front fences where individual street entries are provided | ✓ | | |
| | The visual prominence of underground car park vents should be minimised and located at a low level where possible | ✓ | | |
| | Substations, pump rooms, garbage storage areas and other service requirements should be located in basement car parks or out of view | ✓ | | |
| | Ramping for accessibility should be minimised by building entry locations and setting ground floor levels in relation to footpath levels | ✓ | | |
| | Durable, graffiti resistant and easily cleanable materials should be used | ✓ | | |
| | Where development adjoins public parks, open space or bushland, the design positively addresses this interface and uses a number of the following design solutions: Street access, pedestrian paths and building entries which are clearly defined Paths, low fences and plating that clearly delineate between communal/private open space and the adjoining public open space Minimal use of blank walls, fences and ground level parking | | | N/A |
| | On sloping sites protrusion of car parking above ground level should be minimised by using split levels to step underground car parking | ✓ | | Above ground car parking has been treated to ensure minimal visual impact |

| | | | | |
|--|---|-----|----|--|
| 3D - Communal and public open space | | | | |
| Objective 3D-1 <i>An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping.</i> | | | | |
| | | Yes | No | Notes |
| Design Criteria | Communal open space has a minimum area equal to 25% of the site (See figure 3D.3) | | ✓ | The communal open space has a space which is commensurate with the design requirements and includes for a pool and spa area and a communal room suitable for use by the Owners Corporation |

ADG Response Table

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|---|--|-----|----|---|
| | Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June (mid-winter) | ✓ | | |
| Design Guidance | Communal open space should be consolidated into a well-designed, easily identified and usable area | ✓ | | |
| | Communal open space should have a minimum dimension of 3m, and larger developments should consider greater dimensions | ✓ | | The communal open space has been carefully designed to create intimate spaces and offer shared amenities. |
| | Communal open space should be co-located with deep soil areas | | ✓ | Deep soil is provided through use of planter boxes and is suitable for the extent of landscaping shown. |
| | Direct, equitable access should be provided to communal open space areas from common circulation areas, entries and lobbies | ✓ | | |
| | Where communal open space cannot be provided at ground level, it should be provided on a podium or roof | ✓ | | |
| | Where developments are unable to achieve the design criteria, such as on small lots, sites within business zones, or in a dense urban area, they should: <ul style="list-style-type: none">- provide communal spaces elsewhere such as a landscaped roof top terrace or a common room- provide larger balconies or increased private open space for apartments- demonstrate good proximity to public open space and facilities and/or provide contributions to public open space | ✓ | | |
| Objective 3D-2 | | | | |
| Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting | | | | |
| | | Yes | No | Notes |
| Design Guidance | Facilities are provided within communal open spaces and common spaces for a range of age groups (see also 4F Common circulation and spaces), incorporating some of the following elements: <ul style="list-style-type: none">- seating for individuals or groups- barbecue areas- play equipment or play areas- swimming pools, gyms, tennis courts or common rooms | ✓ | | |
| | The location of facilities responds to microclimate and site conditions with access to sun in winter, shade in summer and shelter from strong winds and down drafts | ✓ | | |
| | Visual impacts of services should be minimised, including location of ventilation duct outlets from basement car parks, electrical substations and detention tanks | ✓ | | |
| Objective 3D-3 | | | | |
| Communal open space is designed to maximise safety | | | | |
| | | Yes | No | Notes |
| Design Guidance | Communal open space and the public domain should be readily visible from habitable rooms and private open space areas while maintaining visual privacy. Design solutions may include: | | ✓ | The communal open space is located on the podium and is overlooked by apartments |

ADG Response Table

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|--|---|----------------|----|-------|--|---------------------------------|
| | <div><div>- bay windows</div><div>- corner windows</div><div>- balconies</div></div> | | | | | |
| | Communal open space should be well lit | ✓ | | | | |
| | Where communal open space/facilities are provided for children and young people they are safe and contained | ✓ | | | | |
| Objective 3D-4 | | | | | | |
| Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood | | | | | | |
| | | Yes | No | Notes | | |
| Design Guidance | The public open space should be well connected with public streets along at least one edge | | | N/A | | |
| | The public open space should be connected with nearby parks and other landscape elements | | | N/A | | |
| | Public open space should be linked through view lines, pedestrian desire paths, termination points and the wider street grid | | | N/A | | |
| | Solar access should be provided year round along with protection from strong winds | | | N/A | | |
| | Opportunities for a range of recreational activities should be provided for people of all ages | | | N/A | | |
| | A positive address and active frontages should be provided adjacent to public open space | | | N/A | | |
| | Boundaries should be clearly defined between public open space and private areas | | | N/A | | |
| 3E – Deep Soil Zones | | | | | | |
| Objective 3E-1 | | | | | | |
| Deep soil zones provide areas on the site that allow for and support healthy plant tree growth. They improve residential amenity and promote management of water and air quality | | | | | | |
| | | Yes | No | Notes | | |
| Design Criteria | Deep soil zones are to meet the following minimum requirements. | | | ✓ | The site is identified as dense urban infill and would not be able to meet the minimum requirements. Landscaping will be above ground and located in suitably deep planterboxes. | |
| | Site Area | Min Dimensions | | | | Deep Soil Zone (% of site area) |
| | < 650m² | - | | | | 7% |
| | 650-1500m² | 3m | | | | |
| | >1500m² | 6m | | | | |
| | >1500m² with significant existing tree cover | 6m | | | | |
| Design Guidance | On some sites it may be possible to provide larger deep soil zones, depending on the site area and context: <div><div>- 10% of the site as deep soil on sites with an area of 650m² - 1,500m²</div><div>- 15% of the site as deep soil on sites greater than 1,500m²</div></div> | | | | N/A | |
| | Deep soil zones should be located to retain existing significant trees and to allow for the development of healthy root systems, providing anchorage and stability for mature trees. Design solutions may include: <div><div>- basement and sub-basement car park design that is consolidated beneath building footprints</div><div>- use of increased front and side setbacks</div><div>- adequate clearance around trees to ensure long term health</div><div>- co-location with other deep soil areas on adjacent sites to create larger contiguous areas of deep soil</div></div> | | | | N/A | |
| | Achieving the design criteria may not be possible on some sites including where: <div><div>- The location and building typology have limited or no space for deep soil at ground level (e.g. central business district, constrained sites, high density areas, or in centres)</div></div> | | | | | |
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ADG Response Table

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| | <ul style="list-style-type: none"> - There is 100% site coverage or non-residential uses at ground floor level - Where a proposal does not achieve deep soil requirements, acceptable stormwater management should be achieved and alternative forms of planting provided such as on structure | | | |
|--|--|--|--|--|

3F – Visual Privacy

Objective 3F-1

Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy

| | | | | Yes | No | Notes | | | | | | | | | | | | |
|---|---|--|--|-------------------------|------------------------------|---------------|----------------------|----|----|-------------------------|----|------|-----------------------|-----|----|--|---|--|
| Design Criteria | <p>Separation between windows and balconies is provided to ensure visual privacy is achieved. Minimum required separation distances from buildings to the side and rear boundaries are as follows:</p> <table><tr><th>Building Height</th><th>Habitable Room and Balconies</th><th>Non Habitable</th></tr><tr><td>Up to 12 (4 storeys)</td><td>6m</td><td>3m</td></tr><tr><td>Up to 25m (5-8 storeys)</td><td>9m</td><td>4.5m</td></tr><tr><td>Over 25m (9+ storeys)</td><td>12m</td><td>6m</td></tr></table> | | | Building Height | Habitable Room and Balconies | Non Habitable | Up to 12 (4 storeys) | 6m | 3m | Up to 25m (5-8 storeys) | 9m | 4.5m | Over 25m (9+ storeys) | 12m | 6m | | ✓ | Separation distances have been considered in light of existing approvals, site density allowances and location of windows and balconies to ensure that privacy is maintained. Strict compliance with ADG is not possible. Design solutions mitigates impact. |
| | | | | Building Height | Habitable Room and Balconies | Non Habitable | | | | | | | | | | | | |
| | | | | Up to 12 (4 storeys) | 6m | 3m | | | | | | | | | | | | |
| | | | | Up to 25m (5-8 storeys) | 9m | 4.5m | | | | | | | | | | | | |
| | | | | Over 25m (9+ storeys) | 12m | 6m | | | | | | | | | | | | |
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| Note: Separation distances between buildings on the same site should combine required building separations depending on the type of room (see figure 3F.2) Gallery access circulation should be treated as habitable space when measuring privacy separation distances between neighbouring properties. | | | | | | | | | | | | | | | | | | |
| Design Guidance | Generally one step in the built form as the height increases due to building separations is desirable. Additional steps should be careful not to cause a 'ziggurat' appearance | | | ✓ | | | | | | | | | | | | | | |
| | For residential buildings next to commercial buildings, separation distances should be measured as follows: for retail, office spaces and commercial balconies use the habitable room distances for service and plant areas use the non-habitable room distances | | | | | N/A | | | | | | | | | | | | |
| | New development should be located and oriented to maximise visual privacy between buildings on site and for neighbouring buildings. Design solutions include: site layout and building orientation to minimise privacy impacts (see also section 3B Orientation) - on sloping sites, apartments on different levels have appropriate visual separation distances (see figure 3F.4) | | | ✓ | | | | | | | | | | | | | | |
| | Apartment buildings should have an increased separation distance of 3m (in addition to the requirements set out in design criteria 1) when adjacent to a different zone that permits lower density residential development to provide for a transition in scale and increased landscaping (figure 3F.5) | | | | | N/A | | | | | | | | | | | | |
| | Direct lines of sight should be avoided for windows and balconies across corners | | | ✓ | | | | | | | | | | | | | | |
| | No separation is required between blank walls | | | | | | | | | | | | | | | | | |

Objective 3F-2

Site and building design elements increase privacy without compromising access to light and air and balance outlook and views from habitable rooms and private open space

| | | Yes | No | Notes |
|------------------------|--|-----|----|-------|
| Design Guidance | Communal open space, common areas and access paths should be separated from private open space and windows to apartments, particularly habitable room windows. Design solutions may include: <ul style="list-style-type: none"> - setbacks - solid or partially solid balustrades to balconies at lower levels - fencing and/or trees and vegetation to separate spaces | ✓ | | |

ADG Response Table

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|--|--|-----|-----|---|
| | <div><div>- screening devices</div><div>- bay windows or pop out windows to provide privacy in one direction and outlook in another</div><div>- raising apartments/private open space above the public domain or communal open space</div><div>- planter boxes incorporated into walls and balustrades to increase visual separation</div><div>- pergolas or shading devices to limit overlooking of lower apartments or private open space</div><div>- on constrained sites where it can be demonstrated that building layout opportunities are limited, fixed louvres or screen panels to windows and/or balconies</div></div> | | | |
| | Bedrooms, living spaces and other habitable rooms should be separated from gallery access and other open circulation space by the apartment’s service areas | ✓ | | |
| | Balconies and private terraces should be located in front of living rooms to increase internal privacy | ✓ | | |
| | Windows should be offset from the windows of adjacent buildings | ✓ | | |
| | Recessed balconies and/or vertical fins should be used between adjacent balconies | ✓ | | |
| 3G – Pedestrian Access and Entries | | | | |
| Objective 3G-1 | | | | |
| Building entries and pedestrian access connects to and address the public domain | | | | |
| | | Yes | No | Notes |
| Design Guidance | Multiple entries (including communal building entries and individual ground floor entries) are provided to activate the street edge | | | N/A |
| | Entry locations relate to the street and subdivision pattern and the existing pedestrian network | ✓ | | |
| | Building entries are clearly identifiable. Communal entries are clearly distinguishable from private entries | ✓ | | |
| | Where street frontage is limited and multiple buildings are located on the site, a primary street address is provided with clear sight lines and pathways to secondary building entries | | | N/A |
| Objective 3G-2 | | | | |
| Access, entries and pathways are equitable and easy to identify | | | | |
| | | Yes | Yes | No |
| Design Guidance | Building access areas including lift lobbies, stairwells and hallways are clearly visible from the public domain and communal spaces | ✓ | | |
| | The design of ground floors and underground car parks minimise level changes along pathways and entries | ✓ | | |
| | Steps and ramps are integrated into the overall building and landscape design | ✓ | | |
| | For large developments ‘way finding’ maps should be provided to assist visitors and residents (see figure 4T.3) | | | As required, subject to future design development |
| | For large developments electronic access and audio/video intercom should be provided to manage access | ✓ | | |
| Objective 3G-3 | | | | |
| Pedestrian links through developments provide access to streets and connect destinations | | | | |
| | | Yes | No | Notes |
| Design Guidance | Pedestrian links through sites facilitate direct connections to open space, main streets, centres and public transport | | | N/A |
| | Pedestrian links should be direct, have clear sight lines, be overlooked by habitable rooms or private open spaces of dwellings, be well lit and contain active uses, where appropriate | | | N/A |

ADG Response Table

| 3H – Vehicle Access | | | | |
|--|--|-----|----|--|
| Objective 3H-1 | | | | |
| Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes | | | | |
| | | Yes | No | Notes |
| Design Guidance | Car park access is integrated with the building’s overall facade, design solutions may include: <ul style="list-style-type: none">- the materials and colour palette minimise visibility from the street- security doors or gates at entries that minimise voids in the facade- where doors are not provided, the visible interior reflects the facade design and the building services, pipes and ducts are concealed | ✓ | | |
| | Car park entries are located behind the building line | ✓ | | |
| | Vehicle entries are located at the lowest point of the site minimising ramp lengths, excavation and impacts on the building form and layout | ✓ | | Vehicle entry point is located in preferred position to suit flooding control and traffic conditions |
| | Car park entry and access is located on secondary streets or lanes where available | | | N/A |
| | Vehicle standing areas that increase driveway width and encroach into setbacks should be avoided | ✓ | | |
| | Access point locations avoid headlight glare to habitable rooms | ✓ | | |
| | Adequate separation distances are provided between vehicular entries and street intersections | ✓ | | |
| | The width and number of vehicle access points is limited to the minimum | ✓ | | |
| | Visual impact of long driveways is minimised through changing alignments and screen planting | | | N/A |
| | The requirement for large vehicles to enter or turnaround within the site is avoided | | ✓ | Allowance made on site |
| | Garbage collection, loading and servicing areas are screened | ✓ | | |
| | Clear sight lines should be provided at pedestrian and vehicle crossings | ✓ | | |
| | Traffic calming devices such as changes in paving material or textures should be used where appropriate | | | N/A |
| | Pedestrian and vehicle access should be separated and distinguishable. Design solutions may include: <ul style="list-style-type: none">- changes in surface materials- level changes- the use of landscaping for separation | ✓ | | |
| 3J – Bicycle and Car Parking | | | | |
| Objective 3J-1 | | | | |
| Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas | | | | |
| | | Yes | No | Notes |
| Design Criteria | For development in the following locations: <ul style="list-style-type: none">- on sites that are within 800 metres of a railway station or light rail stop in the Sydney Metropolitan Area; or- on land zoned, and sites within 400 metres of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre The minimum car parking requirement for residents and visitors is set out in the Guide to Traffic Generating Developments, or the car parking requirement prescribed by the relevant council, whichever is less The car parking needs for a development must be provided off street | ✓ | | |

ADG Response Table

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| Design Guidance | Where a car share scheme operates locally, provide car share parking spaces within the development. Car share spaces, when provided, should be on site | ✓ | | |
| | Where less car parking is provided in a development, council should not provide on street resident parking permits | | | Noted. |
| Objective 3J-2 <i>Parking and facilities are provided for other modes of transport</i> | | | | |
| | | Yes | No | Notes |
| Design Guidance | Conveniently located and sufficient numbers of parking spaces should be provided for motorbikes and scooters | ✓ | | |
| | Secure undercover bicycle parking should be provided that is easily accessible from both the public domain and common areas | ✓ | | |
| | Conveniently located charging stations are provided for electric vehicles, where desirable | | | Subject to future design development |
| Objective 3J-3 <i>Car park design and access is safe and secure</i> | | | | |
| | | Yes | No | Notes |
| Design Guidance | Supporting facilities within car parks, including garbage, plant and switch rooms, storage areas and car wash bays can be accessed without crossing car parking spaces | ✓ | | |
| | Direct, clearly visible and well lit access should be provided into common circulation areas | ✓ | | |
| | A clearly defined and visible lobby or waiting area should be provided to lifts and stairs | ✓ | | |
| | For larger car parks, safe pedestrian access should be clearly defined and circulation areas have good lighting, colour, line marking and/or bollards | ✓ | | |
| Objective 3J-4 <i>Visual and environmental impacts of underground car parking are minimised</i> | | | | |
| | | Yes | No | Notes |
| Design Guidance | Excavation should be minimised through efficient car park layouts and ramp design | ✓ | | |
| | Car parking layout should be well organised, using a logical, efficient structural grid and double loaded aisles | ✓ | | Car parking is well organised considering footprint and tower design |
| | Protrusion of car parks should not exceed 1m above ground level. Design solutions may include stepping car park levels or using split levels on sloping sites | | ✓ | Above ground car parking proposed as allowed for in the development controls |
| | Natural ventilation should be provided to basement and sub-basement car parking areas | ✓ | | |
| | Ventilation grills or screening devices for car parking openings should be integrated into the facade and landscape design | ✓ | | |
| Objective 3J-5 <i>Visual and environmental impacts of on-grade car parking are minimised</i> | | | | |
| | | Yes | No | Notes |
| Design Guidance | On-grade car parking should be avoided | ✓ | | |
| | Where on-grade car parking is unavoidable, the following design solutions are used: - parking is located on the side or rear of the lot away from the primary street frontage - cars are screened from view of streets, buildings, communal and private open space areas - safe and direct access to building entry points is provided - parking is incorporated into the landscape design of the site, by extending planting and materials into the car park space - stormwater run-off is managed appropriately from car parking surfaces | | | N/A |

ADG Response Table

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|--|--|-----|----|--|
| | <div><div>- bio-swales, rain gardens or on site detention tanks are provided, where appropriate</div><div>- light coloured paving materials or permeable paving systems are used and shade trees are planted between every 4-5 parking spaces to reduce increased surface temperatures from large areas of paving</div></div> | | | |
| <div>Objective 3J-6</div> <div>Visual and environmental impacts of above ground enclosed car parking are minimised</div> | | | | |
| | | Yes | No | Notes |
| Design Guidance | Exposed parking should not be located along primary street frontages | ✓ | | |
| | <div>Screening, landscaping and other design elements including public art should be used to integrate the above ground car parking with the facade. Design solutions may include:<div><div>- car parking that is concealed behind the facade, with windows integrated into the overall facade design (approach should be limited to developments where a larger floor plate podium is suitable at lower levels)</div><div>- car parking that is ‘wrapped’ with other uses, such as retail, commercial or two storey Small Office/Home Office (SOHO) units along the street frontage (see figure 3J.9)</div></div></div> | ✓ | | The carpark entry and façade has been carefully designed to complement the overall building forms and enhance the streetscape. |
| | Positive street address and active frontages should be provided at ground level | ✓ | | |

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|---|---|-----|----|---|
| <div>Part 4</div> <div>4A – Solar and Daylight Access</div> | | | | |
| <div>Objective 4A-1</div> <div>To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space</div> | | | | |
| | | Yes | No | Notes |
| Design Criteria | 1. Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid-winter in the Sydney Metropolitan Area and in the Newcastle and Wollongong local government areas | ✓ | | |
| | 2. In all other areas, living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 3 hours direct sunlight between 9 am and 3 pm at mid-winter | | | N/A |
| | 3. A maximum of 15% of apartments in a building receive no direct sunlight between 9am and 3 pm at mid winter | ✓ | | |
| Design Guidance | The design maximises north aspect and the number of single aspect south facing apartments is minimised | ✓ | | |
| | Single aspect, single storey apartments should have a northerly or easterly aspect | ✓ | | There is one apartment facing west with a single aspect that has suitable shading devices to control solar impact |
| | Living areas are best located to the north and service areas to the south and west of apartment | ✓ | | |
| | <div>To optimise the direct sunlight to habitable rooms and balconies a number of the following design features are used:<div><div>- dual aspect apartments</div><div>- shallow apartment layouts</div><div>- two storey and mezzanine level apartments</div><div>- bay windows</div></div></div> | ✓ | | |
| | To maximise the benefit to residents of direct sunlight within living rooms and private open spaces, a minimum of 1m² of direct sunlight, measured at 1m above floor level, is achieved for at least 15 minutes | ✓ | | This is achieved to the majority of apartments. |
| | <div>Achieving the design criteria may not be possible on some sites. This includes:<div><div>- where greater residential amenity can be achieved along a busy road or rail line by orientating the living rooms away from the noise source</div><div>- on south facing sloping sites</div><div>- where significant views are oriented away from the desired aspect for direct sunlight</div></div></div> | | | Noted. |

ADG Response Table

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|---|---|-----|----|-------|
| | Design drawings need to demonstrate how site constraints and orientation preclude meeting the design criteria and how the development meets the objective | | | |
| Objective 4A-2 <i>Daylight access is maximised where sunlight is limited</i> | | | | |
| | | Yes | No | Notes |
| Design Guidance | Courtyards, skylights and high level windows (with sills of 1,500mm or greater) are used only as a secondary light source in habitable rooms | | | N/A |
| | Where courtyards are used: <ul style="list-style-type: none">- use is restricted to kitchens, bathrooms and service areas- building services are concealed with appropriate detailing and materials to visible walls- courtyards are fully open to the sky- access is provided to the light well from a communal area for cleaning and maintenance- acoustic privacy, fire safety and minimum privacy separation distances (see section 3F Visual privacy) are achieved | | | N/A |
| | Opportunities for reflected light into apartments are optimised through: <ul style="list-style-type: none">- reflective exterior surfaces on buildings opposite south facing windows- positioning windows to face other buildings or surfaces (on neighbouring sites or within the site) that will reflect light- integrating light shelves into the design- light coloured internal finishes | ✓ | | |
| Objective 4A-3 <i>Design incorporates shading and glare control, particularly for warmer months</i> | | | | |
| | | Yes | No | Notes |
| Design Guidance | A number of the following design features are used: <ul style="list-style-type: none">- balconies or sun shading that extend far enough to shade summer sun, but allow winter sun to penetrate living areas- shading devices such as eaves, awnings, balconies, pergolas, external louvres and planting- horizontal shading to north facing windows- vertical shading to east and particularly west facing windows- operable shading to allow adjustment and choice- high performance glass that minimises external glare off windows, with consideration given to reduced tint glass or glass with a reflectance level below 20% (reflective films are avoided) | ✓ | | |

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|--|--|-----|----|-------|
| 4B – Natural Ventilation | | | | |
| Objective 4B-1 <i>All habitable rooms are naturally ventilated</i> | | | | |
| | | Yes | No | Notes |
| Design Guidance | The building's orientation maximises capture and use of prevailing breezes for natural ventilation in habitable rooms | ✓ | | |
| | Depths of habitable rooms support natural ventilation | ✓ | | |
| | The area of unobstructed window openings should be equal to at least 5% of the floor area served | ✓ | | |
| | Light wells are not the primary air source for habitable rooms | ✓ | | |
| | Doors and openable windows maximise natural ventilation opportunities by using the following design solutions: <ul style="list-style-type: none">- adjustable windows with large effective openable areas- a variety of window types that provide safety and flexibility such as awnings and louvres- windows which the occupants can reconfigure to funnel breezes into the apartment such as vertical louvres, casement windows and externally opening doors | ✓ | | |

ADG Response Table

| Objective 4B-2 | | | | |
|---|--|-----|----|---|
| The layout and design of single aspect apartments maximises natural ventilation | | | | |
| | | Yes | No | Notes |
| Design Guidance | Apartment depths are limited to maximise ventilation and airflow (see also figure 4D.3) | ✓ | | |
| | Natural ventilation to single aspect apartments is achieved with the following design solutions: <ul style="list-style-type: none">- primary windows are augmented with plenums and light wells (generally not suitable for cross ventilation)- stack effect ventilation / solar chimneys or similar to naturally ventilate internal building areas or rooms such as bathrooms and laundries- courtyards or building indentations have a width to depth ratio of 2:1 or 3:1 to ensure effective air circulation and avoid trapped smells | ✓ | | |
| Objective 4B-3 | | | | |
| The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents | | | | |
| | | Yes | No | Notes |
| Design Criteria | 1. At least 60% of apartments are naturally cross ventilated in the first nine storeys of the building. Apartments at ten storeys or greater are deemed to be cross ventilated only if any enclosure of the balconies at these levels allows adequate natural ventilation and cannot be fully enclosed | ✓ | | |
| | 2. Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line | | | N/A |
| Design Guidance | The building should include dual aspect apartments, cross through apartments and corner apartments and limit apartment depths | ✓ | | No cross through apartments but building has been well articulated to ensure each apartment has good aspect |
| | In cross-through apartments external window and door opening sizes/areas on one side of an apartment (inlet side) are approximately equal to the external window and door opening sizes/areas on the other side of the apartment (outlet side) (see figure 4B.4) | | | N/A |
| | Apartments are designed to minimise the number of corners, doors and rooms that might obstruct airflow | ✓ | | |
| | Apartment depths, combined with appropriate ceiling heights, maximise cross ventilation and airflow | ✓ | | |
| 4C – Ceiling Heights | | | | |
| Objective 4C-1 | | | | |
| Ceiling height achieves sufficient natural ventilation and daylight access | | | | |
| | | Yes | No | Notes |

ADG Response Table

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|---|---|--|-----|----|-------|
| Design Criteria | 1. Measured from finished floor level to finished ceiling level, minimum ceiling heights are: | | ✓ | | |
| | Minimum ceiling height (for apartment and mixed use buildings) | | | | |
| | Habitable rooms | 2.7m | | | |
| | Non-habitable | 2.4m | | | |
| | For 2 storey apartments | 2.7m for main living area floor 2.4m for second floor, where its area does not exceed 50% of the apartment area | | | |
| | Attic spaces | 1.8m at edge of room with a 30 people degree minimum ceiling slope | | | |
| | If located in mixed use areas | 3.3m for ground and first floor to promote future flexibility of use | | | |
| | These minimums do not preclude higher ceilings if desired | | | | |
| Design Guidance | Ceiling height can accommodate use of ceiling fans for cooling and heat distribution | | ✓ | | |
| Objective 4C-2 | | | | | |
| Ceiling height increases the sense of space in apartments and provides for well-proportioned rooms | | | | | |
| | | | Yes | No | Notes |
| Design Guidance | A number of the following design solutions can be used: <ul style="list-style-type: none">- The hierarchy of rooms in an apartment is defined using changes in ceiling heights and alternatives such as raked or curved ceilings, or double height spaces- Well-proportioned rooms are provided, for example, smaller rooms feel larger and more spacious with higher ceilings- Ceiling heights are maximised in habitable rooms by ensuring that bulkheads do not intrude. The stacking of service rooms from floor to floor and coordination of bulkhead location above non-habitable areas, such as robes or storage, can assist | | ✓ | | |
| Objective 4C-3 | | | | | |
| Ceiling heights contribute to the flexibility of building use over the life of the building | | | | | |
| | | | Yes | No | Notes |
| Design Guidance | Ceiling heights of lower level apartments in centres should be greater than the minimum required by the design criteria allowing flexibility and conversion to non-residential uses (see figure 4C.1) | | ✓ | | |
| 4D Apartment size and layout | | | | | |
| Objective 4D-1 | | | | | |
| The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity | | | | | |
| | | | Yes | No | Notes |
| Design Criteria | 1. Apartments are required to have the following minimum internal areas: | | ✓ | | |
| | Apartment Type | Minimum Internal Area | | | |
| | Studio | 35m ² | | | |
| | 1 bedroom | 50m ² | | | |
| | 2 bedroom | 70m ² | | | |
| | 3 bedroom | 90m ² | | | |

ADG Response Table

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|---|---|-----|----|-------|
| | The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5m ² each A fourth bedroom and further additional bedrooms increase the minimum internal area by 12m ² each | | | |
| | 2. Every habitable room must have a window in an external wall with a total minimum glass area of not less than 10% of the floor area of the room. Daylight and air may not be borrowed from other rooms | ✓ | | |
| Design Guidance | Kitchens should not be located as part of the main circulation space in larger apartments (such as hallway or entry space) | ✓ | | |
| | A window should be visible from any point in a habitable room | ✓ | | |
| | Where minimum areas or room dimensions are not met apartments need to demonstrate that they are well designed and demonstrate the usability and functionality of the space with realistically scaled furniture layouts and circulation areas. These circumstances would be assessed on their merits | | | N/A |
| Objective 4D-2 Environmental performance of the apartment is maximised | | | | |
| | | Yes | No | Notes |
| Design Criteria | 1. Habitable room depths are limited to a maximum of 2.5 x the ceiling height | ✓ | | |
| | 2. In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window | ✓ | | |
| Design Guidance | Greater than minimum ceiling heights can allow for proportional increases in room depth up to the permitted maximum depths | ✓ | | |
| | All living areas and bedrooms should be located on the external face of the building | ✓ | | |
| | Where possible: - bathrooms and laundries should have an external openable window - main living spaces should be oriented toward the primary outlook and aspect and away from noise sources | ✓ | | |
| Objective 4D-3 Apartment layouts are designed to accommodate a variety of household activities and needs | | | | |
| | | Yes | No | Notes |
| Design Criteria | 1. Master bedrooms have a minimum area of 10m ² and other bedrooms 9m ² (excluding wardrobe space) | ✓ | | |
| | 2. Bedrooms have a minimum dimension of 3m (excluding wardrobe space) | ✓ | | |
| | 3. Living rooms or combined living/dining rooms have a minimum width of: - 3.6m for studio and 1 bedroom apartments - 4m for 2 and 3 bedroom apartments | ✓ | | |
| | 4. The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts | | | N/A |
| Design Guidance | Access to bedrooms, bathrooms and laundries is separated from living areas minimising direct openings between living and service areas | ✓ | | |
| | All bedrooms allow a minimum length of 1.5m for robes | ✓ | | |
| | The main bedroom of an apartment or a studio apartment should be provided with a wardrobe of a minimum 1.8m long, 0.6m deep and 2.1m high | ✓ | | |
| | Apartment layouts allow flexibility over time, design solutions may include: - dimensions that facilitate a variety of furniture arrangements and removal - spaces for a range of activities and privacy levels between different spaces within the apartment | ✓ | | |

ADG Response Table

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| | <div><div><div>- dual master apartments</div><div>- dual key apartments</div><div>- Note: dual key apartments which are separate but on the same title are regarded as two sole occupancy units for the purposes of the Building Code of Australia and for calculating the mix of apartments</div><div>- room sizes and proportions or open plans (rectangular spaces (2:3) are more easily furnished than square spaces (1:1))</div><div>- efficient planning of circulation by stairs, corridors and through rooms to maximise the amount of usable floor space in rooms</div></div></div> | | | |
|--|--|--|--|--|

| 4E – Private Open Space and Balconies | | | | | | |
|--|--|------------------|---------------|-----|-----|--|
| Objective 4E-1 | | | | | | |
| Apartments provide appropriately sized private open space and balconies to enhance residential amenity | | | | | | |
| | | | | Yes | No | Notes |
| Design Criteria | All apartments are required to have primary balconies as follows: | | | ✓ | | |
| | Dwelling Type | Minimum Area | Minimum Depth | | | |
| | Studio Apartments | 4m ² | - | | | |
| | 1 bedroom apartments | 8m ² | 2m | | | |
| | 2 bedroom apartments | 10m ² | 2m | | | |
| | 3+ bedroom apartments | 12m ² | 2.4m | | | |
| | The minimum balcony depth to be counted as contributing to the balcony area is 1m | | | | | |
| For apartments at ground level or on a podium or similar structure, a private open space is provided instead of a balcony. It must have a minimum area of 15m ² and a minimum depth of 3m | | | | | N A | |
| Design Guidance | Increased communal open space should be provided where the number or size of balconies are reduced | | | ✓ | | N A |
| | Storage areas on balconies is additional to the minimum balcony size | | | ✓ | | |
| | Balcony use may be limited in some proposals by: - consistently high wind speeds at 10 storeys and above - close proximity to road, rail or other noise sources - exposure to significant levels of aircraft noise - heritage and adaptive reuse of existing buildings - In these situations, Juliet balconies, operable walls, enclosed wintergardens or bay windows may be appropriate, and other amenity benefits for occupants should also be provided in the apartments or in the development or both. Natural ventilation also needs to be demonstrated | | | | | Balconies have been provided at full size at all levels as this was seen to be essential to apartment amenity. Appropriate screening will be provided to mitigate wind impacts |
| Objective 4E-2 | | | | | | |
| Primary private open space and balconies are appropriately located to enhance liveability for residents | | | | | | |
| | | | | Yes | No | Notes |
| Design Guidance | Primary open space and balconies should be located adjacent to the living room, dining room or kitchen to extend the living space | | | ✓ | | |
| | Private open spaces and balconies predominantly face north, east or west | | | ✓ | | |
| | Primary open space and balconies should be orientated with the longer side facing outwards or be open to the sky to optimise daylight access into adjacent rooms | | | ✓ | | |
| Objective 4E-3 | | | | | | |

ADG Response Table

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|---|---|-----|----|---|
| Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building | | | | |
| | | Yes | No | Notes |
| Design Guidance | Solid, partially solid or transparent fences and balustrades are selected to respond to the location. They are designed to allow views and passive surveillance of the street while maintaining visual privacy and allowing for a range of uses on the balcony. Solid and partially solid balustrades are preferred | ✓ | | |
| | Full width full height glass balustrades alone are generally not desirable | ✓ | | Balconies generally have a masonry upstand to allow for screening of visual clutter |
| | Projecting balconies should be integrated into the building design and the design of soffits considered | | | N/A |
| | Operable screens, shutters, hoods and pergolas are used to control sunlight and wind | ✓ | | |
| | Balustrades are set back from the building or balcony edge where overlooking or safety is an issue | ✓ | | |
| | Downpipes and balcony drainage are integrated with the overall facade and building design | ✓ | | |
| | Air-conditioning units should be located on roofs, in basements, or fully integrated into the building design | ✓ | | Fully integrated into an area adjacent the core |
| | Where clothes drying, storage or air conditioning units are located on balconies, they should be screened and integrated in the building design | ✓ | | |
| | Ceilings of apartments below terraces should be insulated to avoid heat loss | ✓ | | |
| | Water and gas outlets should be provided for primary balconies and private open space | ✓ | | |
| Objective 4E-4 | | | | |
| Private open space and balcony design maximises safety | | | | |
| | | Yes | No | Notes |
| Design Guidance | Changes in ground levels or landscaping are minimised | | | N/A |
| | Design and detailing of balconies avoids opportunities for climbing and falls | | | N/A |

| | | | | |
|--|---|-----|----|---|
| 4F – Common Circulation and Spaces | | | | |
| Objective 4F-1 | | | | |
| Common circulation spaces achieve good amenity and properly service the number of apartments | | | | |
| | | Yes | No | Notes |
| Design Criteria | 1. The maximum number of apartments off a circulation core on a single level is eight | | ✓ | 10 apartments off one core. Increased amenity provided to hallways with 4 locations for natural light |
| | 2. For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40 | ✓ | | 4 lifts for 360 apartments – as instructed by design brief |
| Design Guidance | Greater than minimum requirements for corridor widths and/ or ceiling heights allow comfortable movement and access particularly in entry lobbies, outside lifts and at apartment entry doors | ✓ | | |
| | Daylight and natural ventilation should be provided to all common circulation spaces that are above ground | ✓ | | |
| | Windows should be provided in common circulation spaces and should be adjacent to the stair or lift core or at the ends of corridors | ✓ | | |
| | Longer corridors greater than 12m in length from the lift core should be articulated. Design solutions may include: - a series of foyer areas with windows and spaces for seating - wider areas at apartment entry doors and varied ceiling heights | ✓ | | |
| | Design common circulation spaces to maximise opportunities for dual aspect apartments, including multiple core apartment buildings and cross over apartments | | | N/A |

ADG Response Table

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|---|---|--------------|----|-------|
| | Achieving the design criteria for the number of apartments off a circulation core may not be possible. Where a development is unable to achieve the design criteria, a high level of amenity for common lobbies, corridors and apartments should be demonstrated, including: <ul style="list-style-type: none">- sunlight and natural cross ventilation in apartments- access to ample daylight and natural ventilation in common circulation spaces- common areas for seating and gathering- generous corridors with greater than minimum ceiling heights- other innovative design solutions that provide high levels of amenity | ✓ | | |
| | Where design criteria 1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level | ✓ | | |
| | Primary living room or bedroom windows should not open directly onto common circulation spaces, whether open or enclosed. Visual and acoustic privacy from common circulation spaces to any other rooms should be carefully controlled | ✓ | | |
| Objective 4F-2 | | | | |
| Common circulation spaces promote safety and provide for social interaction between residents | | | | |
| | | Yes | No | Notes |
| Design Guidance | Direct and legible access should be provided between vertical circulation points and apartment entries by minimising corridor or gallery length to give short, straight, clear sight lines | ✓ | | |
| | Tight corners and spaces are avoided | ✓ | | |
| | Circulation spaces should be well lit at night | ✓ | | |
| | Legible signage should be provided for apartment numbers, common areas and general wayfinding | ✓ | | |
| | Incidental spaces, for example space for seating in a corridor, at a stair landing, or near a window are provided | ✓ | | |
| | In larger developments, community rooms for activities such as owners corporation meetings or resident use should be provided and are ideally co-located with communal open space | ✓ | | |
| | Where external galleries are provided, they are more open than closed above the balustrade along their length | | | N/A |
| 4G – Storage | | | | |
| Objective 4G-1 | | | | |
| Adequate, well designed storage is provided in each apartment | | | | |
| | | Yes | No | Notes |
| Design Criteria | In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided: | | ✓ | |
| | Dwelling type | Storage size | | |
| | Studio apartments | 4m³ | | |
| | 1 bedroom apartments | 6m³ | | |
| | 2 bedroom apartments | 8m³ | | |
| | 3 bedroom apartments | 10m³ | | |
| | At least 50% of the required storage is to be located within the apartment | | | |
| Design Guidance | Storage is accessible from either circulation or living areas | ✓ | | |
| | Storage provided on balconies (in addition to the minimum balcony size) is integrated into the balcony design, weather proof and screened from view from the street | | | N/A |
| | Left over space such as under stairs is used for storage | ✓ | | |

ADG Response Table

| Objective 4G-2 | | | | |
|--|--|-----|----|-------|
| Additional storage is conveniently located, accessible and nominated for individual apartments | | | | |
| | | Yes | No | Notes |
| Design Guidance | Storage not located in apartments is secure and clearly allocated | ✓ | | |
| | Storage is provided for larger and less frequently accessed items, where practical | ✓ | | |
| | Storage space in internal or basement car parks is provided at the rear or side of car spaces or in cages so that allocated car parking remains accessible | ✓ | | |
| | If communal storage rooms are provided they should be accessible from common circulation areas of the building | ✓ | | |
| | Storage not located in an apartment is integrated into the overall building design and not visible from the public domain | ✓ | | |

| 4H – Acoustic Privacy | | | | |
|---|--|-----|----|-------|
| Objective 4H-1 | | | | |
| Noise transfer is minimised through the siting of buildings and building layout | | | | |
| | | Yes | No | Notes |
| Design Guidance | Adequate building separation is provided within the development and from neighbouring buildings / adjacent uses (also see section 2F Building separation and section 3F Visual Privacy) | ✓ | | |
| | Window and door openings are generally orientated away from noise sources | ✓ | | |
| | Noisy areas within buildings including building entries and corridors are located next to or above each other and quieter areas next to or above quieter areas | ✓ | | |
| | Storage, circulation areas and non-habitable rooms are located to buffer noise from external sources | ✓ | | |
| | The number of party walls (walls shared with other apartments) are limited and are appropriately insulated | ✓ | | |
| | Noise sources such as garage doors, driveways, service areas, plant rooms, building services, mechanical equipment, active communal open spaces and circulation areas are located at least 3m away from bedrooms | ✓ | | |
| Objective 4H-2 | | | | |
| Noise impacts are mitigated through internal apartment layout and acoustic treatments | | | | |
| | | Yes | No | Notes |
| Design Guidance | Internal apartment layout separates noisy spaces from quiet spaces, using a number of the following design solutions: <ul style="list-style-type: none">- rooms with similar noise requirements are grouped together- doors separate different use zones- wardrobes in bedrooms are co-located to act as sound buffers | ✓ | | |
| | Where physical separation cannot be achieved noise conflicts are resolved using the following design solutions: <ul style="list-style-type: none">- double or acoustic glazing- acoustic seals- use of materials with low noise penetration properties- continuous walls to ground level courtyards where they do not conflict with streetscape or other amenity requirements | ✓ | | |

| 4J – Noise and Pollution | | | | |
|---|--|--|--|--|
| Objective 4J-1 | | | | |
| In noisy or hostile environments the impacts of external noise and pollution are minimised through the careful siting and layout of buildings | | | | |

ADG Response Table

| | | Yes | No | Notes |
|---|--|-----|----|-------|
| Design Guidance | To minimise impacts the following design solutions may be used: <ul style="list-style-type: none">- physical separation between buildings and the noise or pollution source- residential uses are located perpendicular to the noise source and where possible buffered by other uses- non-residential buildings are sited to be parallel with the noise source to provide a continuous building that shields residential uses and communal open spaces- Non-residential uses are located at lower levels vertically separating the residential component from the noise or pollution source. Setbacks to the underside of residential floor levels should increase relative to traffic volumes and other noise sources- Buildings should respond to both solar access and noise. Where solar access is away from the noise source, non-habitable rooms can provide a buffer- Where solar access is in the same direction as the noise source, dual aspect apartments with shallow building depths are preferable (see figure 4J.4)- Landscape design reduces the perception of noise and acts as a filter for air pollution generated by traffic and industry | ✓ | | |
| | Achieving the design criteria in this Apartment Design Guide may not be possible in some situations due to noise and pollution. Where developments are unable to achieve the design criteria, alternatives may be considered in the following areas: <ul style="list-style-type: none">- solar and daylight access- private open space and balconies- natural cross ventilation | ✓ | | |
| Objective 4J-2 Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission | | | | |
| | | Yes | No | Notes |
| Design Guidance | Design solutions to mitigate noise include: <ul style="list-style-type: none">- limiting the number and size of openings facing noise sources- providing seals to prevent noise transfer through gaps- using double or acoustic glazing, acoustic louvres or enclosed balconies (wintergardens)- using materials with mass and/or sound insulation or absorption properties e.g. solid balcony balustrades, external screens and soffits | ✓ | | |

| 4K – Apartment Mix | | | | |
|---|---|-----|----|-------|
| Objective 4K-1 A range of apartment types and sizes is provided to cater for different household types now and into the future | | | | |
| | | Yes | No | Notes |
| Design Guidance | A variety of apartment types is provided | ✓ | | |
| | The apartment mix is appropriate, taking into consideration: <ul style="list-style-type: none">- the distance to public transport, employment and education centres- the current market demands and projected future demographic trends- the demand for social and affordable housing- different cultural and socioeconomic groups | ✓ | | |
| | Flexible apartment configurations, such as dual key apartments, are provided to support diverse household types and stages of life including single person households, families, multi-generational families and group households | | ✓ | |

ADG Response Table

| Objective 4K-2 | | | | |
|--|--|-----|----|--|
| The apartment mix is distributed to suitable locations within the building | | | | |
| | | Yes | No | Notes |
| Design Guidance | Different apartment types are located to achieve successful facade composition and to optimise solar access. See figure 4A.3 | ✓ | | |
| | Larger apartment types are located on the ground or roof level where there is potential for more open space and on corners where more building frontage is available | ✓ | | Larger apartment types are located so as to optimise solar and amenity where there is impact from adjoining developments |

| 4L – Ground Floor Apartments | | | | |
|---|---|-----|----|---|
| Objective 4L-1 | | | | |
| Street frontage activity is maximised where ground floor apartments are located | | | | |
| | | Yes | No | Notes |
| Design Guidance | Direct street access should be provided to ground floor apartments | | | N/A |
| | Activity is achieved through front gardens, terraces and the facade of the building. Design solutions may include: <ul style="list-style-type: none">- both street and foyer entrances to ground floor apartments- private open space is next to the street- doors and windows face the street | | | Ground floor activation is achieved with existing retail shop fronts integrated in heritage façade. |
| | Retail or home office spaces are located along street frontages | ✓ | | |
| | Ground floor apartment layouts support small office home office (SOHO) use to provide future opportunities for conversion into commercial or retail areas. In these cases provide higher floor to ceiling heights and ground floor amenities for easy conversion | | | N/A |
| Objective 4L-2 | | | | |
| Design of ground floor apartments delivers amenity and safety for residents | | | | |
| | | Yes | No | Notes |
| Design Guidance | Privacy and safety is provided without obstructing causal surveillance. Design solutions may include: <ul style="list-style-type: none">- elevation of private gardens and terraces above the street level by 1m – 1.5m (see Figure 4L.4)- landscaping and private courtyards- window sill heights that minimise sight lines into apartments- integrating balustrades, safety bars or screens with the exterior design | | | N/A |
| | Solar access is maximised through: <ul style="list-style-type: none">- high ceilings and tall windows- trees and shrubs that allow solar access in winter and shade in summer | ✓ | | |

| 4M – Facades | | | | |
|--|--|-----|----|-------|
| Objective 4M – 1 | | | | |
| Building facades provide visual interest along the street respecting the character of the local area | | | | |
| | | Yes | No | Notes |
| Design Guidance | Design solutions for front building facades may include: <ul style="list-style-type: none">- A composition of varied building elements- A defined base, middle and top of the buildings | ✓ | | |

ADG Response Table

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|---|--|-----|----|--|
| | <div><div>- Revealing and concealing certain elements</div><div>- Changes in texture, material, detail and colour to modify the prominence of elements</div></div> | | | |
| | Building services should be integrated within the overall façade | ✓ | | |
| | Building facades should be well resolved with an appropriate scale and proportion to the streetscape and human scale. Design solutions may include: <div><div>- Well composed horizontal and vertical elements</div><div>- Variation in floor heights to enhance the human scale</div><div>- Elements that are proportional and arranged in patterns</div><div>- Public artwork or treatments to exterior blank walls</div><div>- Grouping of floors or elements such as balconies and windows on taller buildings</div></div> | ✓ | | |
| | Building facades relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights | ✓ | | |
| | Shadow is created on the façade throughout the day with building articulation, balconies and deeper window reveals | ✓ | | |
| | <div>Objective 4M – 2</div> <div>Building functions are expressed by the façade</div> | | | |
| | | Yes | No | Notes |
| Design Guidance | Building entries should be clearly defined | ✓ | | |
| | Important corners are given visual prominence through a change in articulation, materials or colour, roof expression or changes in height | ✓ | | |
| | The apartment layout should be expressed externally through façade features as party walls and floor slabs | ✓ | | |
| | | | | |
| 4N – Roof Design | | | | |
| <div>Objective 4N – 1</div> <div>Roof treatments are integrated into the building design and positively respond to the street</div> | | | | |
| | | Yes | No | Notes |
| Design Guidance | Roof design relates to the street. Design solutions may include: <div><div>- Special roof features and strong corners</div><div>- Use of skillion or very low pitch hipped roofs</div><div>- Breaking down the massing of the roof by using smaller elements to avoid bulk</div><div>- Using materials or a pitched form complementary to adjacent buildings</div></div> | ✓ | | |
| | Roof treatments should be integrated with the building design. Design solutions may include: <div><div>- Roof design proportionate to the overall building size, scale and form</div><div>- Roof materials complement the building</div><div>- Service elements are integrated</div></div> | ✓ | | |
| <div>Objective 4N – 2</div> <div>Opportunities to use roof space for residential accommodation and open space are maximised</div> | | | | |
| | | Yes | No | Notes |
| Design Guidance | Habitable roof space should be provided with good levels of amenity. Design solutions may include: <div><div>- Penthouse apartments</div><div>- Dormer or clerestory windows</div></div> | | ✓ | Communal are is provided at podium level |

ADG Response Table

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|--|--|------------|-----------|---|
| | - Openable skylights | | | |
| | Open space is provided on roof tops subject to acceptable visual and acoustic privacy, comfort levels, safety and security considerations | | ✓ | |
| Objective 4N – 3 <i>Roof design incorporates sustainability features</i> | | | | |
| | | Yes | No | Notes |
| Design Guidance | Roof design maximises solar access to apartments during winter and provides shade during summer. Design solutions may include: <ul style="list-style-type: none">- The roof lifts to the north- Eaves and overhangs shade walls and windows from summer sun | | | N/A |
| | Skylights and ventilation systems should be integrated into the roof design | | ✓ | Skylights and ventilation are not required, as adequate solar and cross flow is achieved. |

| | | | | |
|---|--|------------|-----------|--------------|
| 4O – Landscape Design | | | | |
| Objective 4O – 1 <i>Landscape design is viable and sustainable</i> | | | | |
| | | Yes | No | Notes |
| Design Guidance | Landscape design should be environmentally sustainable and can enhance environmental performance by incorporating: <ul style="list-style-type: none">- Diverse and appropriate planting- Bio-filtration gardens- Appropriately planted shading trees- Areas for residents to plant vegetables and herbs- Composting- Green roofs or walls | ✓ | | |
| | Ongoing maintenance plans should be prepared | ✓ | | |
| | Microclimate in enhanced by: <ul style="list-style-type: none">- Appropriately scaled trees near the eastern and western elevations for shade- A balance of evergreen and deciduous trees to provide shading in summer and sunlight access in winter- Shade structures such as pergolas for balconies and courtyards | ✓ | | |
| | Tree and shrub selection considers size at maturity and the potential for roots to complete (see table 4) | ✓ | | |
| Objective 4O – 2 <i>Landscape design contributes to the streetscape and amenity</i> | | | | |
| | | Yes | No | Notes |
| Design Guidance | Landscape design responds to the existing site conditions including: <ul style="list-style-type: none">- Changes of levels- Views- Significant landscape features including trees and rock outcrops | ✓ | | |
| | Significant landscape features should be protected by: <ul style="list-style-type: none">- Tree protection zones (see figure 40.5)- Appropriate signage and fencing during construction | | | N/A |
| | Plants selected should be endemic to the region and reflect the local ecology | ✓ | | |

ADG Response Table

| 4P – Planting on Structures | | | | |
|--|---|-----|----|-------|
| Objective 4P – 1 | | | | |
| Appropriate soil profiles are provided | | | | |
| | | Yes | No | Notes |
| Design Guidance | Structures are reinforced for additional saturated soil weight | ✓ | | |
| | Soil volume is appropriate for plant growth, considerations include: <ul style="list-style-type: none">- Modifying depths and widths according to the planting mix and irrigation frequency- Free draining and long soil life span- Tree anchorage | ✓ | | |
| | Minimum soil standards for plant sizes should be provided in accordance with Table 5 | ✓ | | |
| Objective 4P – 2 | | | | |
| Plant growth is optimised with appropriate selection and maintenance | | | | |
| | | Yes | No | Notes |
| Design Guidance | Plants are suited to site conditions, considerations include: <ul style="list-style-type: none">- Drought and wind tolerance- Seasonal changes in solar access- Modified substrate depths for diverse range of plants- Plant longevity | ✓ | | |
| | A landscape maintenance plan is prepared | ✓ | | |
| | Irrigation and drainage systems respond to : <ul style="list-style-type: none">- Changing site conditions- Soil profile and the planting regime- Whether rainwater, stormwater r recycled grey water is used | ✓ | | |
| 4P – Planting on Structures | | | | |
| Objective 4P – 3 | | | | |
| Planting on structure contributes to the quality and amenity of communal and public open spaces | | | | |
| | | Yes | No | Notes |
| Design Guidance | Building design incorporates opportunities for planting on structures. Design solutions may include: <ul style="list-style-type: none">- Green walls with specialised lighting for indoor green walls- All design that incorporates planting- Green roofs, particularly where roofs are visible form public domain- Planter boxes <i>Note: structures designed to accommodate green walls should be integrated into the building façade and consider the ability of the façade to change over time</i> | ✓ | | |
| 4Q – Universal Design | | | | |
| Objective 4Q – 1 | | | | |
| Universal design features are included in apartment design to promote flexible housing for all community members | | | | |
| | | Yes | No | Notes |

ADG Response Table

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|--|---|-----|----|--|
| Design Guidance | Developments achieve a benchmark of 20% of the total apartment incorporating the Liveable Housing Guideline's silver level universal design features | ✓ | | All apartments incorporate the Liveable Housing Guideline's silver level universal design features |
| Objective 4Q – 2 <i>A variety of apartments with adaptable designs are provided</i> | | | | |
| | | Yes | No | Notes |
| Design Guidance | Adaptable housing should be provided in accordance with the relevant council policy | ✓ | | |
| | Design solutions for adaptable apartments include: <ul style="list-style-type: none">- Convenient access to communal and public areas- High level of solar access- Minimal structural change and residential amenity loss when adapted- Larger car parking spaces for accessibility- Parking titled separately from apartments or shared car parking arrangements | ✓ | | |
| Objective 4Q – 3 <i>Apartment layouts are flexible and accommodate a range of lifestyle needs</i> | | | | |
| | | Yes | No | Notes |
| Design Guidance | Apartments design incorporates flexible design solutions which may include: <ul style="list-style-type: none">- Rooms with multiple functions- Dual master bedroom apartments with separate bathrooms- Larger apartments with various living space options- Open plan 'loft' style apartments with only a fixed kitchen, laundry and bathroom | ✓ | | |

| | | | | |
|--|--|-----|----|-------|
| 4R – Adaptive Reuse | | | | |
| Objective 4R – 1 <i>New additional to existing buildings are contemporary and complementary and enhance an area's identity and sense of place</i> | | | | |
| | | Yes | No | Notes |
| Design Guidance | Design solutions may include: <ul style="list-style-type: none">- New elements to align with the existing building- Additions that complement the existing character, siting, scale, proportion, pattern form and detailing- Use of contemporary and complementary materials, finishes, textures and colours | | | N/A |
| | Additions to heritage items should be clearly identifiable form the original building | | | N/A |
| | New additions allow for the interpretation and future evolution of the building | | | N/A |
| Objective 4R – 2 <i>Adapted buildings provide residential amenity while not precluding future adaptive reuse</i> | | | | |
| | | Yes | No | Notes |
| Design Guidance | Design features should be incorporated sensitively into adapted buildings to make up for any physical limitations, to ensure residential amenity is achieved. Design solutions may include: <ul style="list-style-type: none">- Generously sized voids in deeper buildings- Alternative apartment types when orientation is poor- Using additions to expand the existing building envelope | | | N/A |

ADG Response Table

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|---|--|-----|----|-------|
| | <p>Some proposals that adapt existing buildings may not be able to achieve all of the design criteria in this Apartment Design Guide. Where developments are unable to achieve the design criteria, alternatives could be considered in the following areas:</p> <ul style="list-style-type: none">- Where there are existing higher ceilings, depths of habitable rooms could increase subject to demonstrating access to natural ventilation, cross ventilation (when applicable) and solar an daylight access (see also sections 4A Solar and daylight access and 4B Natural ventilation)- Alternatives to providing deep soil where less than the minimum requirement is currently available on the site- Building and visual separation – subject to demonstrating alternative design approaches to achieving privacy- Common circulation- Car parking- Alternative approaches to private open space and balconies | | | N/A |
| 4S – Mixed Use | | | | |
| Objective 4S – 1 | | | | |
| Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement | | | | |
| | | Yes | No | Notes |
| Design Guidance | Mixed use development should be concentrated around public transport and centres | ✓ | | |
| | Mixed use developments positively contribute to the public domain. Design solutions may include: <ul style="list-style-type: none">- Development addresses the street- Active frontages are provided- Diverse activities and uses- Avoiding blank walls at the ground level- Live/work apartments on the ground floor level, rather than commercial | ✓ | | |
| Objective 4S – 2 | | | | |
| Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents | | | | |
| | | Yes | No | Notes |
| Design Guidance | Residential circulation areas should be clearly defined. Design solutions may include: <ul style="list-style-type: none">- Residential entries are separated from commercial entries and directly accessible from the street- Commercial service areas are separated from residential components- Residential car parking and communal facilities are separated or secured- Concealment opportunities are avoided | | | N/A |
| | Landscape communal open space should be provided at podium or roof levels | ✓ | | |
| 4T – Awnings and Signage | | | | |
| Objective 4T – 1 | | | | |
| Awnings are well located and complement and integrate with the building design | | | | |
| | | Yes | No | Notes |
| Design Guidance | Awnings should be located along streets with high pedestrian activity and active frontages | ✓ | | |
| | A number of the following design solutions are used: <ul style="list-style-type: none">- Continuous awnings are maintained and provided in areas with existing pattern- Height, depth, material and form complements the existing street character- Protection from the sun and rain is provided | ✓ | | |

ADG Response Table

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| | <div><div>- Awnings are wrapped around the secondary frontages of corner sites</div><div>- Awnings are retractable in areas without an established pattern</div></div> | | | |
| | Awnings should be located over building entries for building address and public domain amenity | ✓ | | |
| | Awnings relate to residential windows, balconies, street tree planting, power poles and street infrastructure | ✓ | | |
| | Gutters and down pipes should be integrated and concealed | ✓ | | |
| | Lighting under awnings should be provided for pedestrian safety | ✓ | | |
| Objective 4T – 2 <i>Signage responds to the context and desired streetscape character</i> | | | | |
| | | Yes | No | Notes |
| Design Guidance | Signage should be integrated into the building design and respond to the scale, proportion and detailing of the development | ✓ | | |
| | Legible and discrete way finding should be provided for larger developments | ✓ | | |
| | Signage is limited to being on and below awnings and in single façade sign on the primary street frontage | ✓ | | |
| 4U – Energy Efficiency | | | | |
| Objective 4U – 1 <i>Development incorporates passive environmental design</i> | | | | |
| | | Yes | No | Notes |
| Design Guidance | Adequate natural light is provided to habitable rooms (see 4A Solar and daylight access) | ✓ | | |
| | Well located, screened outdoor areas should be provided for clothes drying | ✓ | | Where possible. Solid balcony upstands have been provided to allow balcony drying facilities to be screened from the public domain. |
| Objective 4U – 2 <i>Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer</i> | | | | |
| | | Yes | No | Notes |
| Design Guidance | <div>A number of the following design solutions are used:<div><div>- The use of smart glass or other technologies on north and west elevations</div><div>- Thermal mass in the floors and walls of north facing rooms is maximised</div><div>- Polished concrete floor, tiles, or timber rather than carpet</div><div>- Insulated roofs, walls and floors and seals on window and door openings</div><div>- Overhangs and shading devices such as awnings, blinds and screens</div></div></div> | ✓ | | To be further developed in detail design stage. |
| | Provision of consolidated heating and cooling infrastructure should be located in a centralised location (e.g. the basement) | ✓ | | |
| Objective 4U – 3 <i>Adequate natural ventilation minimises the need for mechanical ventilation</i> | | | | |
| | | Yes | No | Notes |
| Design Guidance | <div>A number of the following design solution are used:<div><div>- Rooms with similar usage are grouped together</div><div>- Natural cross ventilation for apartments is optimised</div></div></div> | ✓ | | |

ADG Response Table

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|---|---|-----|----|---------------------------------------|
| | - Natural ventilation is provided to all inhabitable rooms and as many non-habitable rooms, common areas and circulation spaces as possible | | | |
| 4V – Water Management and Conservation | | | | |
| Objective 4V – 1 | | | | |
| Potable water use is minimised | | | | |
| | | Yes | No | Notes |
| Design Guidance | Water efficient fittings, appliances and wastewater reuse should be incorporated | ✓ | | |
| | Apartments should be individually metered | ✓ | | |
| | Rainwater should be collected, stored and reused on site | ✓ | | |
| | Drought tolerant, low water use plants should be used within landscaped areas | ✓ | | |
| Objective 4V – 2 | | | | |
| Urban stormwater is treated on site before being discharged to receiving waters | | | | |
| | | Yes | No | Notes |
| Design Guidance | Water sensitive urban design systems are designed by a suitably qualified professional | ✓ | | |
| | A number of the following design solutions are used: <ul style="list-style-type: none">- Runoff is collected from roofs and balconies in water tanks and plumbed into toilets, laundry and irrigation- Porous and open paving materials is maximised- On site stormwater and infiltration, including bio-retention systems such as rain gardens or street tree pits | ✓ | | |
| Objective 4V – 3 | | | | |
| Flood management systems are integrated into site design | | | | |
| | | Yes | No | Notes |
| Design Guidance | Detention tanks should be located under paved areas, driveways or in basement car parks | ✓ | | To be included if required by Council |
| | On large sites parks or open spaces are designed to provide temporary on site detention basins | ✓ | | |
| 4W – Waste Management | | | | |
| Objective 4W – 1 | | | | |
| Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents | | | | |
| | | Yes | No | Notes |
| Design Guidance | Adequately sized storage areas for rubbish bins should be located discreetly away from the front of the development or in the basement car park | ✓ | | |
| | Waste and recycling storage areas should be well ventilated | ✓ | | |
| | Circulation design allows bins to be easily manoeuvred between storage and collection points | ✓ | | |
| | Temporary storage should be provided for large bulk items such as mattresses | ✓ | | |
| | A waste management plan should be prepared | ✓ | | To future detail |
| Objective 4W – 2 | | | | |

ADG Response Table

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|--|--|-----|----|--|
| Domestic waste is minimised by providing safe and convenient source separation and recycling | | | | |
| | | Yes | No | Notes |
| Design Guidance | All dwellings should have a waste and recycling cupboard or temporary storage area of sufficient size to hold two days' worth of waste and recycling | ✓ | | Separate chutes provided |
| | Communal waste and recycling rooms are in convenient and accessible locations related to each vertical core | ✓ | | |
| | For mixed use developments, residential waste and recycling storage areas and access should be separate and secure from other uses | ✓ | | |
| | Alternative waste disposal methods such as composting should be provided | ✓ | | |
| 4X – Building Maintenance | | | | |
| Objective 4X – 1 | | | | |
| Building design detail provides protection from weathering | | | | |
| | | Yes | No | Notes |
| Design Guidance | A number of the following design solutions are used: <ul style="list-style-type: none">- Roof overhangs to protect walls- Hoods over windows and doors to protect openings- Detailing horizontal edges with drip lines to avoid staining of surfaces- Methods to eliminate or reduce planter box leaching- Appropriate design and material selection for hostile locations | ✓ | | |
| Objective 4X – 2 | | | | |
| Systems and access enable ease of maintenance | | | | |
| | | Yes | No | Notes |
| Design Guidance | Window design enables cleaning from the inside of the building | ✓ | | Where possible, but not all instances. |
| | Building maintenance systems should be incorporated and integrated into design of the building form, roof and façade | ✓ | | |
| | Design solutions do not require external scaffolding for maintenance access | ✓ | | |
| | Manually operated systems such as blinds, sunshades and curtains are used in preference to mechanical systems | | | N/A |
| | Centralised maintenance, services and storage should be provided for communal open space areas within the building | ✓ | | |
| Objective 4X – 3 | | | | |
| Material selection reduces ongoing maintenance costs | | | | |
| | | Yes | No | Notes |
| Design Guidance | A number of the following design solutions are used: <ul style="list-style-type: none">- Sensors to control artificial lighting in common circulation and spaces- Natural materials that weather well and improve with time such as face brickwork- Easily cleaned surfaces that are graffiti resistant- Robust and durable materials and finished are used in locations which receive heavy wear and tear, such as common circulation areas and lift interiors | ✓ | | |



Plans
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WIGRAM STREET

CLAY CLIFF CREEK

RESIDENTIAL CARPARKING

PARKES STREET

RL 7.53

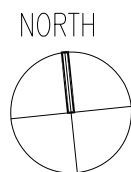
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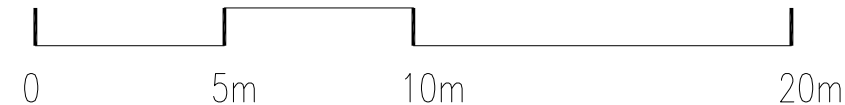
RL 7.92

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RL 9.00



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WIGRAM STREET

CLAY CLIFF CREEK

PLANT \ SERVICES

RL 7.53

RL 4.50

RL 4.50

RL 6.00

RESIDENTIAL CARPARKING

RL 7.69

RETAIL

RL 9.00

RL 7.92

RL 8.52

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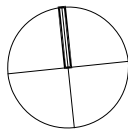
5m

10m

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PARKES STREET

NORTH



1:200 @ A3



WIGRAM STREET

CLAY CLIFF CREEK

VISITOR
PARKING AND
WASHBAY

RAMP DOWN

RAMP UP

VISITOR CARSPACES

RETAIL PARKING

GARBAGE

LOADING

FIRE CONTROL
ROOM

SWITCH ROOM
RL 10.00

SUBSTATION
RL 9.00

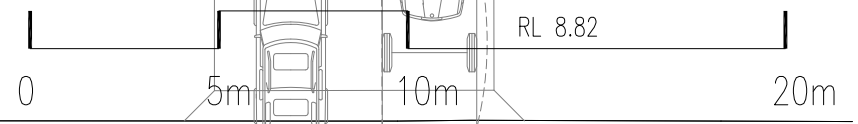
RETAIL

RETAIL



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PARKES STREET



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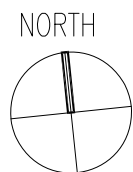
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WIGRAM STREET



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CLAY CLIFF CREEK

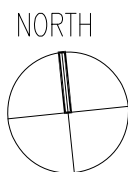
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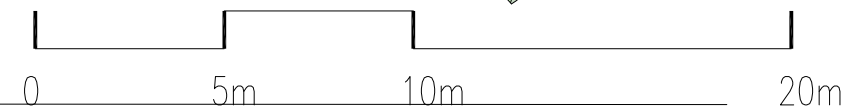
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20m LAP POOL

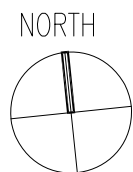


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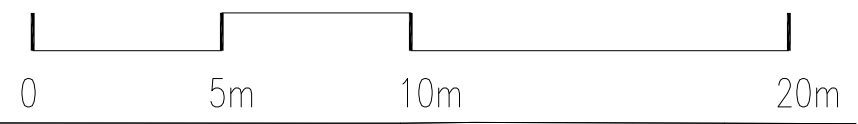


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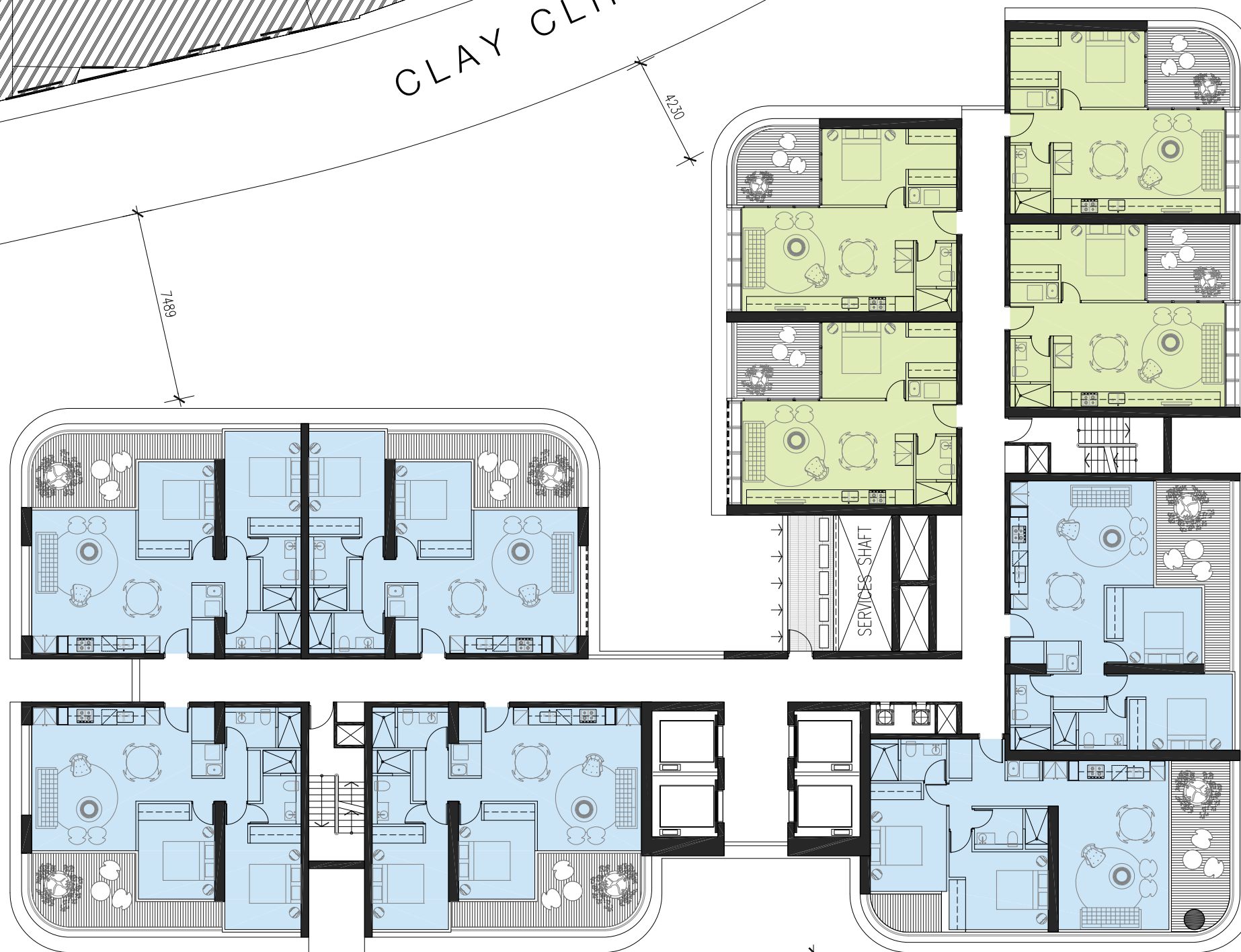
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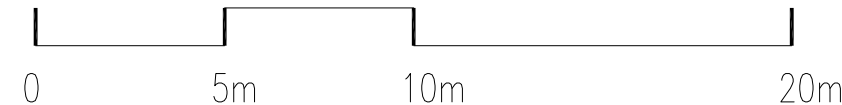
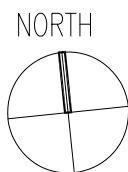
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PARKES STREET

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