



ABN: 84 116 791 229
208/98 Riley Street
Darlinghurst 2010 Australia
T : 61 2 8313 1594

131-135 Crown Street WOLLONGONG **Mixed-use Development**

18-storey Mixed-use Development, Associated Basement Parking and Landscaping

Proposed Shop Top Housing inclusive of Infill Affordable Housing
Faster Assessment Program for Affordable Housing

State Environmental Planning Policy (Housing) 2021 **Chapter 4 Design of Residential Apartment Development** **Design Report**

Version A
April 2024

VERSION A

ISSUE	DATE	REASON FOR ISSUE	REVIEWED
A	30.04.2024	For Scoping Meeting Submission	TL

CONTENTS

INTRODUCTION

STATE ENVIRONMENTAL PLANNING POLICY (HOUSING) 2021, CHAPTER 4 DESIGN OF RESIDENTIAL APARTMENT DEVELOPMENT DESIGN QUALITY PRINCIPLES

PRINCIPLE 1: CONTEXT AND NEIGHBOURHOOD CHARACTER

PRINCIPLE 2: BUILT FORM AND SCALE

PRINCIPLE 3: DENSITY

PRINCIPLE 4: SUSTAINABILITY

PRINCIPLE 5: LANDSCAPE

PRINCIPLE 6: AMENITY

PRINCIPLE 7: SAFETY

PRINCIPLE 8: HOUSING DIVERSITY AND SOCIAL INTERACTION

PRINCIPLE 9: AESTHETICS

STATE ENVIRONMENTAL PLANNING POLICY (HOUSING) 2021, CHAPTER 4 DESIGN OF RESIDENTIAL APARTMENT DEVELOPMENT KEY STANDARDS AND APARTMENT DESIGN GUIDE CODE – OBJECTIVES TABLE

CONCLUSION

INTRODUCTION

The design and statement have been prepared by Yiou Tan, nominated NSW architect (Reg. 9334) of Metropoint Group Architects on behalf of TQM Develop Pty. Ltd. in support of a Mixed-use development known at 131-135 Crown Street, Wollongong.

This report addresses design principles set out in the State Environmental Planning Policy (Housing) 2021, Chapter 4 Design of Residential Apartment Development and the objectives in Part 3 and Part 4 of the Apartment Design Guide (ADG).

This State Environmental Planning Policy (Housing) 2021, Chapter 4 Design of Residential Apartment Development Design Report and Design Verification Statement is to be read in conjunction with the Architectural Drawings prepared by Metropoint Group Architects and relevant reports prepared by consultants.

STATE ENVIRONMENTAL PLANNING POLICY (HOUSING) 2021, CHAPTER 4 DESIGN OF RESIDENTIAL APARTMENT DEVELOPMENT DESIGN QUALITY 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 subject site for the proposed development at 131-135 Crown Street, Wollongong, is zoned E2 Commercial Centre under WLEP 2009 and located in the Wollongong City Centre Precinct.

The site is located on the southern side of Crown Street between Kembla and Church Street. The subject site consists of three separate double storey buildings located in front of the pedestrian pathway along Crown Street. The building located at 131 Crown Street is a commercial building built in the Interwar architectural style. The Royal Bank building located at 133 Crown Street is a Federation style building and so is the commercial building located at 135 Crown Street, Wollongong.

Existing buildings include an 11 storey Commercial Building at 95-109 Crown Street known as Lang's corner. Adjacent to this is an approval for the construction of a similar 11 storey Commercial Building at 111-119 Crown Street. This is currently under construction. The remainder of the neighbourhood typologies consists of 2 storey retails. Heritage listed Kawarra Chambers Building and Wesley Uniting Church are located opposite of subject site.

Shop top housing is a permitted land use within the E2 zone, and therefore, the proposed development is permitted with development consent. The site has dual frontage to Crown Street Mall (pedestrian only) to the north, and Simpson Place to the south.

The proposed contemporary is for a 18-storey shop top housing development including three basement levels and has been sympathetically designed to align its scale and massing to the surrounding developing high-density developments around, contributing to the provision of local housing and enhancing the performance of local public open space.

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."

As the proposed development incorporates 15% affordable housing, an additional 30% FSR and height is enabled. Therefore, the maximum permissible building height for the development is 62.4m, based on a maximum height of building of 48m plus an additional building height that is the same percentage (30%) as the additional FSR.

The design of the development involves the retention of the heritage façade walls and awning on the northern elevation to retain and enhance ground level activation of Crown Street Mall and the heritage significant façades. The two-storey heritage façade forms the podium level of the overall development, with the residential tower designed above.

The proposed building is appropriate in terms of its bulk and height in relation to the desired future character of the area. The overall height is within the bonus height based on the affordable component at 62.4m.

Holistically the proposed scale, bulk and height intends to invigorate the existing architectural typology and its future character and aligns with neighbouring approved development along Crown Street.

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 proposed development incorporates:

- Two levels of commercial uses on Ground Floor and Level One, include eight (8) ground floor retail spaces, one (1) large floorplate commercial tenancy on the second storey.
- Ground floor activation and pedestrian thoroughfare connecting Crown Street Mall to Simpson Lane.
- communal open space for both commercial tenancies and residential apartments on the third storey (Level 2 on the plans).
- Levels Two to Eighteen - residential levels incorporating a total of 97 apartments with a mix of dwelling typologies including one, two and three-bedroom apartments including adaptable apartments, specifically:
 - o Twenty (20) x one-bedroom apartments
 - o Thirty (30) x two-bedroom apartments
 - o Forty-seven (47) x three-bedroom apartments
- Of the above 97-apartments, 20% of the apartment mix is dedicated to the provision of infill affordable housing on Levels 2-4 and part of Level 5, and includes nineteen (19) apartments with the following unit mix:
 - o Eight (8) x one-bedroom apartment
 - o Six (6) x two-bedroom apartments
 - o Five (5) x three-bedroom apartments
- Rooftop terrace for exclusive use by residents, capitalising on panoramic views of the Illawarra Escarpment and coastline.

The proposed development provides an apartment density that is appropriate and consistent with both the existing and emerging larger multi-unit developments which allow for flexibility to work from home and within an evolving local context.

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."

Apartments have been designed to optimise thermal performance, provide increase amenity to occupants and reduce greenhouse emissions and therefore the cost of energy supply.

The proposal incorporates a number of principles of sustainability:

- On-site rainwater detention and re-use
- Natural ventilation to the majority of apartments (60% of dwellings are cross-ventilated)
- Maximising direct sun to apartments (92% of apartments receive minimum 2 hours of direct sunlight)
- Predominantly constructed from locally produced, sustainable materials chosen favouring longevity and minimising maintenance
- Energy-efficient lighting and appliances
- Water-efficient fixtures
- Photo Voltaic System Solar power energy and provision for electric car charging

PRINCIPLE 5: LANDSCAPE

"Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in attractive developments with good amenity. A positive image and contextual fit of well-designed developments is achieved by contributing to the landscape character of the streetscape and neighbourhood. Good landscape design enhances the development's environmental performance by retaining positive natural features which contribute to the local context, coordinating water and soil management, solar access, micro-climate, tree canopy, habitat values and preserving green networks. Good landscape design optimises useability, privacy and opportunities for social interaction, equitable access, and respect for neighbours' amenity and provides for practical establishment and long-term management."

The landscape design is important in defining the key spaces within the public domain and communal spaces and enhance the occupants' privacy across public and private thresholds.

The proposed development provides 1,557m² of landscaped area. There is no provision for deep soil zone within the development footprint.

Ground floor consists of the interactively designed public domain spaces in the Crown Laneway, which interacts with the retail spaces along the laneway.

Level 2 is dedicated to Residential Communal area and a dedicated Level 2 rooftop is also proposed for Commercial used.

Level 19 roof top garden is also proposed to be used as private open space for the penthouse's units.

The species proposed have been selected in consideration of the climatic conditions on the site, the existing ecosystem, water management on the site. Please refer to Landscape Architect's documentation for details.

PRINCIPLE 6: AMENITY

"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."

Refer to Compliance Table of Apartment Design Code in this statement.

The proposed development provides high level of amenities:

- Levelled and clearly visible entry points for residents.
- Naturally ventilated residential lobbies with natural daylighting.
- Unit layouts have been carefully designed to avoid visual and acoustic impact.
- Storage spaces are provided to all units both in the unit and basement.

We believe the amenity of the proposed development is considered to be adequate.

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."

The proposed development has avoided recesses or enclosed spaces where dangerous incidents may occur. The common open spaces will be restricted to residents only and the residential lobby is secured by CCTVs and access cards.

The proposal optimises safety and security both within the development in public domain. Apartment layouts have been designed to provide overlooking of the public spaces and communal areas whilst providing privacy for the occupants.

The principle of Crime Prevention through Environmental Design has been considered throughout the whole design process. Design elements have been well-considered in the proposed development to effectively reduce the occurrence of crime, fear of crime and improve the community's quality of lifestyle. The car park will be accessed from the neighbouring development with access cards.

Therefore, the proposal meets the safety and security principle requirements.

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 and providing opportunities for social interaction among residents."

The proposed development provides a good mixture of 1, 2 and 3 bedroom apartments. Level 18 is proposed with four 3 bedroom apartments as penthouse units. The provision of 97 well designed apartments, close to public transport, public open space and services, will provide good quality accommodation that is suitable for the intended occupants that encourage equal access to public amenities. 10 (10%) adaptable units are proposed, meeting the housing needs and choices for the growing ageing population and the needs of people with disabilities also providing greater flexibility to meet people's needs.

A well-designed and socially responsive development will always attract a socially diverse mix of people and consequently improve and enhance the area in terms of promoting a much richer community life. The provision of different units catering to different levels of affordability, divergence in social context and the needs for local community lifestyle emphasis means that the building is responsive to housing diversity and social interaction. 15% (1534m²) of the development is dedicated to affordable housing, which consists of 19 units.

The quality of the design and its contribution to the visual appeal of the street and the immediate surrounding context will positively improve the social ambience of the area.

PRINCIPLE 9: AESTHETICS

"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 a well-designed apartment development responds to the existing or future local context, particularly desirable elements and repetitions of the streetscape."

The proposal shows a sophisticated and balanced design from its building proportion and scale to its materials, colours and finishes. The key quality and aesthetics principles includes:

- The building scale of 18 storey tower with a podium at Level 2 have been carefully tweaked to achieve the best streetscape.
- Fine finished face brick is used for external walls on the Crown Laneway to blend in with the historical red brick of the site.
- Grey precast panels on the top level to provide a contrast to the coloured face bricks.
- Feature sculptural break in the tower façade provides a strong visual break in the Western and Eastern façade.

With its well-proportioned form, casual informality of external elements and appropriate selection of finishes, the buildings will have a very contemporary look that will blend and respond well to the existing urban fabric as well as to the future vision of the precinct.

STATE ENVIRONMENTAL PLANNING POLICY (HOUSING) 2021, CHAPTER 4 DESIGN OF RESIDENTIAL APARTMENT DEVELOPMENT KEY STANDARDS AND APARTMENT DESIGN GUIDE CODE – OBJECTIVES TABLE

PART 3 SITING THE DEVELOPMENT					
3A SITING ANALYSIS					
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
3A-1 Objective	Site analysis illustrates that design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context				
3A-1.1	Each element in the Site Analysis Checklist should be addressed (see Appendix 1 in ADG)		•		✓
3B ORIENTATION					
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
3B-1 Objective	Building types and layouts respond to the streetscape and site while optimising solar access within the development				
3B-1.1	Buildings along the street frontage define the street, by facing it and incorporating direct access from the street (see figure 3B.1 in ADG)		•	Buildings face the street and incorporate direct access where possible and appropriate.	✓
3B-1.2	Where the street frontage is to the east or west, rear buildings are orientated to the north		•		✓
3B-1.3	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 in ADG)		•		✓
3B-2 Objective	Overshadowing of neighbouring properties is minimised during mid winter				
3B-2.1	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		•		✓
3B-2.2	Solar access to living rooms, balconies and private open spaces of neighbours should be considered		•		✓
3B-2.3	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%		•		✓
3B-2.4	If the proposal will reduce the solar access of neighbours, building separation should be increased beyond minimums contained in section 3F Visual privacy		•		✓
3B-2.5	Overshadowing is minimised to the south or downhill by increased upper level setback		•		✓
3B-2.6	It is optimal to orientate buildings at 90 degrees to the boundary with neighbouring properties to minimize overshadowing and privacy impacts, particularly where minimum setbacks are		•		✓

	used and where buildings are higher than the adjoining development				
3B-2.7	A minimum of 4 hours of solar access should be retained to solar collectors on neighbouring buildings		•		N/A
3C	PUBLIC DOMAIN INTERFACE				
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
3C-1 Objective	Transition between private and public domain is achieved without compromising safety and security				
3C-1.1	Terraces, balconies and courtyard apartments should have direct street entry, where appropriate		•		✓
3C-1.2	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 in ADG)		•		✓
3C-1.3	Upper level balconies and windows should overlook the public domain		•		✓
3C-1.4	Front fences and walls along street frontages should use visually permeable materials and treatments. The height of solid fences or walls is limited to 1m		•		N/A
3C-1.5	Length of solid walls should be limited along street frontages		•		✓
3C-1.6	Opportunities should be provided for casual interaction between residents & the public domain. Design solutions may include seating at building entries, near letter boxes and in private courtyards adjacent to streets		•		✓
3C-1.7	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: · Architectural detailing · Changes in materials · Plant species · Colours		•		✓
3C-1.8	Opportunities for people to be concealed should be minimised		•	Clear sight lines with minimal obstructions, passive surveillance and secure entries minimises concealment.	✓
3C-2 Objective	Amenity of the public domain is retained and enhanced				
3C-2.1	Planting softens the edges of any raised terraces to the street, for example above sub-basement car parking		•		✓
3C-2.2	Mail boxes are located in lobbies, perpendicular to the street alignment or integrated into front fences where individual street entries are provided		•	Mail boxes integrated into feature Forecourt area which leads to the main entry lobby.	✓
3C-2.3	The visual prominence of underground car park vents should be minimised and located at a low level where possible		•	The visual prominence of car park vents is minimised by incorporating them into the lift overrun on roof	✓

3C-2.4	Substations, pump rooms, garbage storage areas and other service requirements should be located in basement car parks or out of view		•	Dedicated Garbage collection area is proposed, Pump rooms and other service rooms are dedicated to development wherever possible to basement areas.	✓
3C-2.5	Ramping for accessibility should be minimised by building entry location and setting ground floor levels in relation to footpath levels		•		✓
3C-2.6	Durable, graffiti resistant and easily cleanable materials should be used		•		✓
3C-2.7	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 planting 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
3C-2.8	On sloping sites protrusion of car parking above ground level should be minimized by using split levels to step underground car parking		•		N/A
3D COMMUNAL AND PUBLIC OPEN SPACE					
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
3D-1 Objective	An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping				
3D-1.1	Communal open space has a minimum area equal to 25% of the site (see figure 3D.3 in ADG)	•			✓
3D-1.2	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 9am and 3pm on 21 June (mid winter)	•			✓
3D-1.3	Communal open space should be consolidated into a well designed, easily identified and usable area		•		✓
3D-1.4	Communal open space should have a minimum dimension of 3m, and larger developments should consider greater dimensions		•		✓
3D-1.5	Communal open space should be collocated with deep soil areas		•		✓
3D-1.6	Direct, equitable access should be provided to communal open space areas from common circulation areas, entries and lobbies		•		✓
3D-1.7	Where communal open space cannot be provided at ground level, it should be provided on a podium or roof		•		N/A
3D-1.8	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: provide communal spaces elsewhere		•		N/A

	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				
3D-2 Objective	Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting				
3D-2.1	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: • eating for individuals or groups • barbecue areas • play equipment or play areas • swimming pools, gyms, tennis courts or common rooms		•	A number of architectural and landscape measures have been taken to provide facilities suitable for a variety of individuals and age groups.	✓
3D-2.2	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		•	Common open space locations and facilities respond to various microclimates around the site.	✓
3D-2.3	Visual impacts of services should be minimised, including location of ventilation duct outlets from basement car parks, electrical substations and detention tanks		•	Visual impact of services is minimised through screening and carefully located services within basements and plant zones.	✓
3D-3 Objective	Communal open space is designed to maximise safety				
3D-3.1	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: • bay windows • corner windows • balconies		•	Balconies are provided to each apartment which either overlook common open space or the public domain. Windows also enable visual connection with public and private domains. A combination of screening, shading and other techniques ensures that privacy is balanced with surveillance.	✓
3D-3.2	Communal open space should be well lit		•		✓
3D-3.3	Where communal open space / facilities are provided for children and young people they are safe and contained		•		✓
3D-4 Objective	Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood				
3D-4.1	The public open space should be well connected with public streets along at least one edge		•		✓
3D-4.2	The public open space should be connected with nearby parks and other landscape elements		•		✓
3D-4.3	Public open space should be linked through view lines, pedestrian desire paths, termination points and the wider street grid		•		✓

3D-4.4	Solar access should be provided year round along with protection from strong winds		•		✓															
3D-4.5	Opportunities for a range of recreational activities should be provided for people of all age		•		✓															
3D-4.6	A positive address and active frontages should be provided adjacent to public open space		•		✓															
3D-4.7	Boundaries should be clearly defined between public open space and private areas		•		✓															
3E	DEEP SOIL ZONES																			
3E-1 Objective	Deep soil zones provide areas on the site that allow for and support healthy plant and tree growth. They improve residential amenity and promote management of water and air quality																			
3E-1.1	Deep soil zones are to meet the following minimum requirements: <table><tr><td>Site area</td><td>Minimum dim</td><td>Deep soil zone (% of Site area)</td></tr><tr><td>< 650m₂</td><td></td><td>7%</td></tr><tr><td>650m₂-1500m₂</td><td>3m</td><td>7%</td></tr><tr><td>> 1,500m₂</td><td>6m</td><td>7%</td></tr><tr><td>> 1,500m₂</td><td>6m</td><td>7%</td></tr></table> with significant existing tree cover	Site area	Minimum dim	Deep soil zone (% of Site area)	< 650m ₂		7%	650m ₂ -1500m ₂	3m	7%	> 1,500m ₂	6m	7%	> 1,500m ₂	6m	7%	•		Not applicable. The proposed development provides 1,557m2 of landscaped area. There is no provision for deep soil zone within the development footprint.	✓
Site area	Minimum dim	Deep soil zone (% of Site area)																		
< 650m ₂		7%																		
650m ₂ -1500m ₂	3m	7%																		
> 1,500m ₂	6m	7%																		
> 1,500m ₂	6m	7%																		
3E-1.2	On some sites it may be possible to provide larger deep soil zones, depending on the site area and context: • 10% of the site as deep soil on sites with an area of 650m2-1,500m2 • 15% of the site as deep soil on sites greater than 1,500m2		•		✓															
3E-1.3	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: • basement and sub basement car park design that is consolidated beneath building footprints • use of increased front and side setbacks • adequate clearance around trees to ensure long term health • co-location with other deep soil areas on adjacent sites to create larger contiguous areas of deep soil		•		✓															
3E-1.4	Achieving the design criteria may not be possible on some sites including where: • 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) • 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																			

Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved											
3F-1 Objective	Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy															
3F-1.1	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: <table><tr><td>Building height</td><td>Habitable rooms and balconies</td><td>Non-habitable rooms</td></tr><tr><td>Up to 12m (4 storeys)</td><td>6m</td><td></td></tr><tr><td>(5-8 storeys)</td><td>3m Up to 25m 9m</td><td></td></tr><tr><td>(9+ storeys)</td><td>4.5m Over 25m 12m</td><td>6m</td></tr></table> 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	Building height	Habitable rooms and balconies	Non-habitable rooms	Up to 12m (4 storeys)	6m		(5-8 storeys)	3m Up to 25m 9m		(9+ storeys)	4.5m Over 25m 12m	6m		Required separation setback distances from side and rear boundaries are achieved.	✓
Building height	Habitable rooms and balconies	Non-habitable rooms														
Up to 12m (4 storeys)	6m															
(5-8 storeys)	3m Up to 25m 9m															
(9+ storeys)	4.5m Over 25m 12m	6m														
3F-1.2	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				✓											
3F-1.3	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											
3F-1.4	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 in ADG)			Visual privacy is maximized between neighbouring buildings by orientation and separation distances. Visual privacy is also mitigated through the implementation of privacy screens.	✓											
3F-1.5	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 in ADG)				N/A											
3F-1.6	Direct lines of sight should be avoided for windows and balconies across corners				✓											

3F-1.7	No separation is required between blank walls		•		✓
3F-2 Objective	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				
3F-2.1	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: • setbacks • solid or partially solid balustrades to balconies at lower levels • fencing and/or trees and vegetation to separate spaces • screening devices • bay windows or pop out windows to provide privacy in one direction and outlook in another • raising apartments/private open space above the public domain or communal open space • planter boxes incorporated into walls and balustrades to increase visual separation • pergolas or shading devices to limit overlooking of lower apartments or private open space • on constrained sites where it can be demonstrated that building layout opportunities are limited, fixed louvres or screen panels to windows and/or balconies		•		✓
3F-2.2	Bedrooms, living spaces and other habitable rooms should be separated from gallery access and other open circulation space by the apartment's service areas		•		✓
3F-2.3	Balconies and private terraces should be located in front of living rooms to increase internal privacy		•		✓
3F-2.4	Windows should be offset from the windows of adjacent buildings		•		✓
3F-2.5	Recessed balconies and / or vertical fins should be used between adjacent balconies		•		✓
3G	PEDESTRIAN ACCESS AND ENTRIES				
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
3G-1 Objective	Building entries and pedestrian access connects to and addresses the public domain				
3G-1.1	Multiple entries (including communal building entries and individual ground floor entries) should be provided to activate the street edge		•		✓
3G-1.2	Entry locations relate to the street and subdivision pattern and the existing pedestrian network		•		✓
3G-1.3	Building entries should be clearly identifiable and communal entries should be clearly distinguishable from private entries		•		✓

3G-1.4	Where street frontage is limited and multiple buildings are located on the site, a primary street address should be provided with clear sight lines and pathways to secondary building entries		•		N/A
3G-2 Objective	Access, entries and pathways are accessible and easy to identify				
3G-2.1	Building access areas including lift lobbies, stairwells and hallways should be clearly visible from the public domain and communal spaces		•	Clear line of sight to lift lobby areas from the street provided.	✓
3G-2.2	The design of ground floors and underground car parks minimise level changes along pathways and entries		•		✓
3G-2.3	Steps and ramps should be integrated into the overall building and landscape design		•	Access is integrated into landscape design wherever possible. Where this is not possible stairs and ramps have been considered as part of the architectural design	✓
3G-2.4	For large developments 'way finding' maps should be provided to assist visitors and residents (see figure 4T.3 in ADG)		•		N/A
3G-3 Objective	Large sites provide pedestrian links for access to streets and connection to destinations				
3G-3.1	Pedestrian links through sites facilitate direct connections to open space, main streets, centres		•		✓
3G-3.2	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		•		✓
3H	VEHICLE ACCESS				
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
3H-1 Objective	Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes				
3H-1.1	Car park access should be integrated with the building's overall facade. Design solutions may include: - the materials and colour palette to minimise visibility from the street - security doors or gates at entries that minimise voids in the façade - where doors are not provided, the visible interior reflects the façade design and the building services, pipes and ducts are concealed		•		✓
3H-1.2	Car park entries should be located behind the building line		•		✓
3H-1.3	Vehicle entries should be located at the lowest point of the site minimizing ramp lengths, excavation and impacts on the building form and layout		•		✓
3H-1.4	Car park entry and access should be located on secondary streets or lanes where available		•	Basement car park entry from Simpson Place.	✓
3H-1.5	Vehicle standing areas that increase driveway width and encroach into setbacks should be avoided		•		✓

3H-1.6	Access point locations should avoid headlight glare to habitable rooms		•		✓
3H-1.7	Adequate separation distances should be provided between vehicle entries and street intersections		•		✓
3H-1.8	The width and number of vehicle access points should be limited to the minimum		•		✓
3H-1.9	Visual impact of long driveways should be minimised through changing alignments and screen Planting		•		✓
3H-1.10	The need for large vehicles to enter or turn around within the site should be avoided		•		✓
3H-1.11	Garbage collection, loading and servicing areas are screened		•	Garbage bin collection and loading area provision is provided and access from Simpson Place.	✓
3H-1.12	Clear sight lines should be provided at pedestrian and vehicle crossings		•		✓
3H-1.13	Traffic calming devices such as changes in paving material or textures should be used where appropriate		•		✓
3H-1.14	Pedestrian and vehicle access should be separated and distinguishable. Design solutions may include: • changes in surface materials • level changes • the use of landscaping for separation		•		✓
3J	BICYCLE AND CAR PARKING				
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
3J-1 Objective	Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas				
3J-1.1	For developments in the following locations: • 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	•		All minimum residential and visitors car parking requirements are accommodated in basement	✓
3J-1.2	Where a car share scheme operates locally, provide car share parking spaces within the development. Car share spaces, when provided, should be on site		•		N/A
3J-1.3	Where less car parking is provided in a development, council should not provide on street resident parking permit		•		N/A

3J-2 Objective	Parking and facilities are provided for other modes of transport				
3J-2.1	Conveniently located and sufficient numbers of parking spaces should be provided for motorbikes and scooters		•		N/A
3J-2.2	Secure undercover bicycle parking should be provided that is easily accessible from both the public domain and common areas		•	Bicycle parking spaces are located on Basement.	✓
3J-2.3	Conveniently located charging stations are provided for electric vehicles, where desirable		•	Provided.	✓
3J-3 Objective	Car park design and access is safe and secure				
3J-3.1	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		•		✓
3J-3.2	Direct, clearly visible and well lit access should be provided into common circulation areas		•		✓
3J-3.3	A clearly defined and visible lobby or waiting area should be provided to lifts and stairs		•		✓
3J-3.4	For larger car parks, safe pedestrian access should be clearly defined and circulation areas have good lighting, colour, line marking and/or bollards.		•		✓
3J-4 Objective	Visual and environmental impacts of underground car parking are minimised				
3J-4.1	Excavation should be minimized through efficient car park layouts and ramp design		•		✓
3J-4.2	Car parking layout should be well organised, using a logical, efficient structural grid and double loaded Aisles		•		✓
3J-4.3	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		•		✓
3J-4.4	Natural ventilation should be provided to basement and sub basement car parking areas		•	Basement car parking level to be mechanically ventilated.	×
3J-4.5	Ventilation grills or screening devices for car parking openings should be integrated into the facade and landscape design		•		
3J-5 Objective	Visual and environmental impacts of on-grade car parking are minimised				
3J-5.1	On-grade car parking should be avoided				✓
3J-5.2	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		•	N/A	N/A

	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 - bio-swailes, rain gardens or on site detention tanks are provided, where appropriate - 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				
3J-6 Objective	Visual and environmental impacts of on-grade car parking are minimised		•	N/A	N/A
3J-6.1	Exposed parking should not be located along primary street frontages				
3J-6.2	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: - 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) - 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 in ADG)		•	N/A	N/A
3J-6.3	Positive street address and active frontages should be provided at ground level		•		✓
PART 4	DESIGNING THE BUILDING				
4A	SOLAR AND DAYLIGHT				
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
4A-1 Objective	To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space				
4A-1.1	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	•		89 apartments receive the minimum 2 hours of direct sunlight in mid winter between 9am and 3pm which equates to 92%	✓
4A-1.2	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	N/A
4A-1.3	A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid winter	•		All apartments can receive direct sunlight between 9am and 3pm at mid winter.	✓
4A-1.4	The design maximises north aspect and the number of single aspect south facing apartments is minimised		•		✓

4A-1.5	Single aspect, single storey apartments should have a northerly or easterly aspect		•		✓
4A-1.6	Living areas are best located to the north and service areas to the south and west of apartments		•	Living areas are located along the façade exterior of the apartment. Service areas are located next to corridors of apartments where possible.	✓
4A-1.7	To optimize the direct sunlight to habitable rooms and balconies a number of the following design features are used: • dual aspect apartments • shallow apartment layouts • two storey and mezzanine level apartments • bay windows		•	Design features incorporated are dual aspect apartments and shallow apartment layouts.	✓
4A-1.8	To maximise the benefit to residents of direct sunlight within living rooms and private open spaces, a minimum of 1m ² of direct sunlight, measured at 1m above floor level, is achieved for at least 15 minutes		•		✓
4A-1.9	Achieving the design criteria may not be possible on some sites. This includes: • where greater residential amenity can be achieved along a busy road or rail line by orientating the living rooms away from the noise source • on south facing sloping sites • where significant views are oriented away from the desired aspect for direct sunlight Design drawings need to demonstrate how site constraints and orientation preclude meeting the design criteria and how the development meets the objective		•		✓
4A-2 Objective	Daylight access is maximised where sunlight is limit				
4A-2.1	Courtyards, skylights and high level windows (with sills of 1,500mm or greater) are used only as a secondary light source in habitable rooms		•		✓
4A-2.2	Where courtyards are used: • 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		•		✓
4A-2.3	Opportunities for reflected light into apartments are optimised through: • reflective exterior surfaces on buildings opposite south facing windows • positioning windows to face other		•	Reflected light has been optimised through the provision of light coloured internal finishes as well as maximising glazing.	✓

	buildings or surfaces (on neighbouring sites or within the site) that will reflect light				
	- integrating light shelves into the design - light coloured internal finishes				
4A-3 Objective	Design incorporates shading and glare control, particularly for warmer months				
4A-3.1	A number of the following design features are used: - 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)			Vertical shading devices are provided on the western façade to shade the summer sun	✓
4B	NATURAL VENTILATION				
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
4B-1 Objective	All habitable rooms are naturally ventilated				
4B-1.1	The building's orientation maximizes capture and use of prevailing breezes for natural ventilation in habitable rooms			Corner apartments have been provided to maximise natural cross ventilation.	✓
4B-1.2	Depths of habitable rooms support natural ventilation			Depths of habitable rooms have been limited.	✓
4B-1.3	The area of unobstructed window openings should be equal to at least 5% of the floor area served				✓
4B-1.4	Light wells are not the primary air source for habitable rooms				N/A
4B-1.5	Doors and openable windows maximise natural ventilation opportunities by using the following design solutions: - 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			Awning window & glass louvres are used to allow for large effective openable areas.	✓
4B-2 Objective	The layout and design of single aspect apartments maximises natural ventilation				
4B-2.1	Apartment depths are limited to maximise ventilation and airflow (see also figure 4D.3 in ADG)				✓

4B-2.2	Natural ventilation to single aspect apartments is achieved with the following design solutions: - 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		•		✓
4B-3 Objective	The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents				
4B-3.1	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	•		All apartments are naturally cross ventilated.	✓
4B-3.2	Overall depth of a cross-over or cross through apartment does not exceed 18m, measured glass line to glass line	•		No cross through apartment exceeds 18m	✓
4B-3.3	The building should include dual aspect apartments, cross through apartments and corner apartments and limit apartment depths		•	Apartment depths have been minimised and dual aspect apartments have been used to maximise any opportunity for natural ventilation	✓
4B-3.4	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 in ADG)		•		✓
4B-3.5	Apartments are designed to minimize the number of corners, doors and rooms that might obstruct airflow		•	Air flow has been maximized with sensible internal planning wherever practicable.	✓
4B-3.6	Apartment depths, combined with appropriate ceiling heights, maximize cross ventilation and airflow		•	Appropriate ceiling heights are used in combination with reduced apartment depths	✓
4C	CEILING HEIGHTS				
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
4C-1 Objective	Ceiling height achieves sufficient natural ventilation and daylight access				
4C-1.1	Measured from finished floor level to finished ceiling level, minimum ceiling heights are:	•		Ceiling heights comply with the minimums set out in the Apartment Design Guide	✓

	Min. ceiling heights for apartment and mixed use buildings Habitable rooms 2.7m Non-habitable 2.4m 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 degree minimum slop minimum 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				
4C-1.2	Ceiling height can accommodate use of ceiling fans for cooling and heat distribution		•		✓
4C-2 Objective	Ceiling height increases the sense of space in apartments and provides for well proportioned rooms				
4C-1.1	A number of the following design solutions can be used: - 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		•		✓
4C-3 Objective	Ceiling heights contribute to the flexibility of building use over the life of the building				
4C-3.1	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 in ADG)		•		✓
4D	APARTMENT SIZE AND LAYOUT				
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
4D-1 Objective	The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity				
4D-1.1	Apartments are required to have the following minimum internal areas: Apartment type Min. internal area Studio 35m² 1 bedroom 50m² 2 bedroom 70m² 3 bedroom 90m² The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5m² each. A fourth bedroom and further additional bedrooms increase the minimum internal area by 12m² each	•		All apartment types comply with the minimum internal areas set out by the Apartment Design Guide.	✓

4D-1.2	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	•			✓
4D-1.3	Kitchens should not be located as part of the main circulation space in larger apartments (such as hallway or entry space)		•	Complies	✓
4D-1.4	A window should be visible from any point in a habitable room		•	Complies	✓
4D-1.5	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
4D-2 Objective	Environmental performance of the apartment is maximised				
4D-2.1	Habitable room depths are limited to a maximum of 2.5 x the ceiling height	•		No habitable room exceeds the maximum depth of 2.5 x the ceiling height.	✓
4D-2.2	In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window	•		No open plan layout is greater than 8m from a window	✓
4D-2.3	Greater than minimum ceiling heights can allow for proportional increases in room depth up to the permitted maximum depths		•	N/A	N/A
4D-2.4	All living areas and bedrooms should be located on the external face of the building		•	Complies	✓
4D-2.5	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		•	As most bathrooms and laundries are located within the middle of the floor plate next to access corridors it is not possible to provide an operable window. Assisted ventilation is provided. All habitable living spaces are located on the external façade enjoying their respective aspect	✓
4D-3 Objective	Apartment layouts are designed to accommodate a variety of household activities and needs				
4D-3.1	Master bedrooms have a minimum area of 10m ² and other bedrooms 9m ² (excluding wardrobe space)	•		Complies	✓
4D-3.2	Bedrooms have a minimum dimension of 3m (excluding wardrobe space)	•		Complies	✓
4D-3.3	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	•		Complies	✓
4D-3.4	The width of cross-over or crossthrough apartments are at least 4m internally to avoid deep narrow apartment layouts	•		Complies	✓

4D-3.5	Access to bedrooms, bathrooms and laundries is separated from living areas minimising direct openings between living and service areas		•	Generally complies	✓																														
4D-3.6	All bedrooms allow a minimum length of 1.5m for robes		•	Complies	✓																														
4D-3.7	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		•	Complies	✓																														
4D-3.8	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 • dual master apartments • dual key apartments 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 • room sizes and proportions or open plans (rectangular spaces (2:3) are more easily furnished than square spaces (1:1)) • efficient planning of circulation by stairs, corridors and through rooms to maximise the amount of usable floor space in rooms		•	Efficient planning principles have been implemented particularly in relation to consolidation of circulation space in apartments to maximise usable space.	✓																														
4E	PRIVATE OPEN SPACE AND BALCONIES																																		
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved																														
4E-1 Objective	Apartments provide appropriately sized private open space and balconies to enhance residential amenity																																		
4E-1.1	All apartments are required to have primary balcony as follows: <table><tr><td>Dwelling type</td><td>Min. area</td><td>Min. depth</td></tr><tr><td>Studio apartments</td><td>4m2</td><td>-</td></tr><tr><td>1 bedroom apartments</td><td>8m2</td><td>2m</td></tr><tr><td>2 bedroom apartments</td><td>10m2</td><td>2m</td></tr><tr><td>3+bedroom apartments</td><td>12m2</td><td>2.4m</td></tr></table> The minimum balcony depth to be counted as contributing to the balcony area is 1m s as follows: <table><tr><td>Dwelling type</td><td>Min. area</td><td>Min. depth</td></tr><tr><td>Studio apartments</td><td>4m2</td><td>-</td></tr><tr><td>1 bedroom apartments</td><td>8m2</td><td>2m</td></tr><tr><td>2 bedroom apartments</td><td>10m2</td><td>2m</td></tr><tr><td>3+bedroom apartments</td><td>12m2</td><td>2.4m</td></tr></table> The minimum balcony depth to be counted as contributing to the balcony area is 1m	Dwelling type	Min. area	Min. depth	Studio apartments	4m2	-	1 bedroom apartments	8m2	2m	2 bedroom apartments	10m2	2m	3+bedroom apartments	12m2	2.4m	Dwelling type	Min. area	Min. depth	Studio apartments	4m2	-	1 bedroom apartments	8m2	2m	2 bedroom apartments	10m2	2m	3+bedroom apartments	12m2	2.4m	•		All apartment types achieve the minimum balcony areas and depths set out by the Apartment Design Guide.	✓
Dwelling type	Min. area	Min. depth																																	
Studio apartments	4m2	-																																	
1 bedroom apartments	8m2	2m																																	
2 bedroom apartments	10m2	2m																																	
3+bedroom apartments	12m2	2.4m																																	
Dwelling type	Min. area	Min. depth																																	
Studio apartments	4m2	-																																	
1 bedroom apartments	8m2	2m																																	
2 bedroom apartments	10m2	2m																																	
3+bedroom apartments	12m2	2.4m																																	
4E-1.2	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 15m2 and a minimum depth of 3m	•			✓																														
4E-1.3	Increased communal open space should be provided where the number or size of balconies are reduced		•		N/A																														

4E-1.4	Storage areas on balconies is additional to the minimum balcony size		•		✓
4E-1.5	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		•		✓
4E-2 Objective	Primary private open space and balconies are appropriately located to enhance liveability for residents				
4E-2.1	Primary open space and balconies should be located adjacent to the living room, dining room or kitchen to extend the living space		•	Complies	✓
4E-2.2	Private open spaces and balconies predominantly face north, east or west		•	Complies	✓
4E-2.3	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		•	Complies	✓
4E-3 Objective	Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building				
4E-3.1	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		•	Balcony and facade design has been carefully considered attempting to balance protection from noise sources, passive surveillance, privacy requirements and opportunities for desirable district views.	✓
4E-3.2	Full width full height glass balustrades alone are generally not desirable		•		✓
4E-3.3	Projecting balconies should be integrated into the building design and the design of soffits considered		•		✓
4E-3.4	Operable screens, shutters, hoods and pergolas are used to control sunlight and wind		•		✓
4E-3.5	Balustrades are set back from the building or balcony edge where overlooking or safety is an issue		•		✓
4E-3.6	Downpipes and balcony drainage are integrated with the overall facade and building design		•		✓
4E-3.7	Air-conditioning units should be located on roofs, in basements, or fully integrated into the building design				✓

4E-3.8	Where clothes drying, storage or air conditioning units are located on balconies, they should be screened and integrated in the building design		•		✓
4E-3.9	Ceilings of apartments below terraces should be insulated to avoid heat loss		•		✓
4E-3.10	Water and gas outlets should be provided for primary balconies and private open space		•	Able to provide, not nominated	Can be met
4E-4 Objective	Private open space and balcony design maximises safety				
4E-4.1	Changes in ground levels or landscaping are minimised		•	Transitions between levels has been considered and kept to a minimum	✓
4E-4.2	Design and detailing of balconies avoids opportunities for climbing and falls		•		✓
4F	COMMON CIRCULATION AND SPACES				
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
4F-1 Objective	Common circulation spaces achieve good amenity and properly service the number of apartments				
4F-1.1	The maximum number of apartments off a circulation core on a single level is eight	•		Varies between 3 to 4 apartments off a circulation core.	✓
4F-1.2	For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40	•			✓
4F-1.3	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		•	Complies	✓
4F-1.4	Daylight and natural ventilation should be provided to all common circulation spaces that are above ground		•	Complies	✓
4F-1.5	Windows should be provided in common circulation spaces and should be adjacent to the stair or lift core or at the ends of corridors		•	Complies	✓
4F-1.6	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		•		✓
4F-1.7	Design common circulation spaces to maximise opportunities for dual aspect apartments, including multiple core apartment buildings and cross over apartments		•		✓
4F-1.8	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		•	All circulation corridors are naturally ventilated and have access to daylight.	✓

	common lobbies, corridors and apartments should be demonstrated, including: • 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				
4F-1.9	Where design criteria 1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level		•	Complies	✓
4F-1.10	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		•		✓
4F-2 Objective	Common circulation spaces promote safety and provide for social interaction between residents				
4F-2.1	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		•	Complies	✓
4E-2.2	Tight corners and spaces are avoided		•	Complies	✓
4E-2.3	Circulation spaces should be well lit at night		•	Complies	✓
4E-2.4	Legible signage should be provided for apartment numbers, common areas and general way finding		•	Complies	✓
4E-2.5	Incidental spaces, for example space for seating in a corridor, at a stair landing, or near a window are provided		•	Complies	✓
4E-2.6	In larger developments, community rooms for activities such as owners corporation meetings or resident use should be provided and are ideally collocated with communal open space		•		✓
4E-2.7	Where external galleries are provided, they are more open than closed above the balustrade along their length		•	Complies	✓
4G	STORAGE				
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
4G-1 Objective	Adequate, well designed storage is provided in each apartment				
4G-1.1	In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided: Dwelling type Storage size volume Studio apartments 4m2 1 bedroom apartments 6m2 2 bedrooms 8m2 3+bedroom apartments 12m2	•		All apartment types achieve the minimum storage volumes set out by the Apartment Design Guide. Where the full volume of storage cannot be accommodated within the apartment, 50% has been accommodated within dedicated basement storage areas.	✓

	At least 50% of the required storage is to be located within the apartment				
4G-1.2	Storage is accessible from either circulation or living areas		•	Complies	✓
4G-1.3	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		•	Complies	✓
4G-1.4	Left over space such as under stairs is used for storage		•	Complies	✓
4G-2 Objective	Additional storage is conveniently located, accessible and nominated for individual apartments				
4G-2.1	Storage not located in apartments is secure and clearly allocated to specific apartments		•	Complies	✓
4G-2.2	Storage is provided for larger and less frequently accessed items		•	Complies	✓
4G-2.3	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		•	Complies	✓
4G-2.4	If communal storage rooms are provided they should be accessible from common circulation areas of the building		•	Complies	✓
4G-2.5	Storage not located in an apartment is integrated into the overall building design and is not visible from the public domain		•	Complies	✓
4H	ACOUSTIC PRIVACY				
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
4H-1 Objective	Noise transfer is minimised through the siting of buildings and building layout				
4H-1.1	Adequate building separation is provided within the development and from neighbouring buildings/adjacent uses (see also section 2F Building separation and section 3F Visual privacy)		•	Complies	✓
4H-1.2	Window and door openings are generally orientated away from noise sources		•	Complies	✓
4H-1.3	Noisy areas within buildings including building entries and corridors should be located next to or above each other and quieter areas next to or above quieter areas		•	Complies	✓
4H-1.4	Storage, circulation areas and non-habitable rooms should be located to buffer noise from external sources		•	Complies	✓
4H-1.5	The number of party walls (walls shared with other apartments) are limited and are appropriately insulated		•	Complies	✓
4H-1.6	Noise sources such as garage doors, driveways, service areas, plant rooms, building services, mechanical equipment, active communal open spaces and circulation areas should be		•	Complies	✓

	located at least 3m away from bedrooms				
4H-2 Objective	Noise impacts are mitigated within apartments through layout and acoustic treatments				
4H-2.1	Internal apartment layout separates noisy spaces from quiet spaces, using a number of the following design solutions: - rooms with similar noise requirements are grouped together - doors separate different use zones - wardrobes in bedrooms are collocated to act as sound buffers		•	Complies	✓
4H-2.2	Where physical separation cannot be achieved noise conflicts are resolved using the following design solutions: - 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		•	Complies	✓
4J	NOISE AND POLLUTION				
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
4J-1 Objective	In noisy or hostile environments the impacts of external noise and pollution are minimized through the careful siting and layout of buildings				
4J-1.1	To minimise impacts the following design solutions may be used: - 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 in ADG) - landscape design reduces the perception of noise and acts as a filter for air pollution generated by traffic and industry		•		✓

4J-1.2	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: • solar and daylight access • private open space and balconies • natural cross ventilation		•	Complies	✓
4J-2 Objective	Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission				
4J-2.1	Design solutions to mitigate noise include: • 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		•	Complies	✓
4K	APARTMENT MIX				
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
4K-1 Objective	A range of apartment types and sizes is provided to cater for different household types now and into the future				
4K-1.1	A variety of apartment types is provided		•	A mix of studio, 1 bedroom, 2 bedroom and 3 bedroom apartments are provided.	✓
4K-1.2	The apartment mix is appropriate, taking into consideration: • 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		•	Complies	✓
4K-1.3	Flexible apartment configurations are provided to support diverse household types and stages of life including single person households, families, multi-generational families and group households		•	Complies	✓
4K-2 Objective	The apartment mix is distributed to suitable locations within the building				
4K-2.1	Different apartment types are located to achieve successful façade composition and to optimise solar access (see figure 4K.3 in ADG)		•	Complies	✓
4K-2.2	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		•	Complies	✓

4L GROUND FLOOR APARTMENTS					
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
4L-1 Objective	Street frontage activity is maximised where ground floor apartments are located				
4L-1.1	Direct street access should be provided to ground floor apartments		•		✓
4L-1.2	Activity is achieved through front gardens, terraces and the facade of the building. Design solutions may include: • both street, foyer and other common internal circulation entrances to ground floor apartments • private open space is next to the street • doors and windows face the street		•		✓
4L-1.3	Retail or home office spaces should be located along street frontages		•		N/A
4L-1.4	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
4L-2 Objective	Design of ground floor apartments delivers amenity and safety for residents				
4L-2.1	Privacy and safety should be provided without obstructing casual surveillance. Design solutions may include: • elevation of private gardens and terraces above the street level by 1-1.5m (see figure 4L.4 in ADG) • landscaping and private courtyards • window sill heights that minimize sight lines into apartments • integrating balustrades, safety bars or screens with the exterior design		•		✓
4L-2.2	Solar access should be maximized through: • high ceilings and tall windows • trees and shrubs that allow solar access in winter and shade in summer		•		✓
4M FACADES					
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
4M-1 Objective	Building facades provide visual interest along the street while respecting the character of the local area				
4M-1.1	Design solutions for front building facades may include: • a composition of varied building elements • a defined base, middle and top of buildings • revealing and concealing certain elements • changes in texture, material, detail and colour to modify the prominence of elements		•		✓
4M-1.2	Building services should be integrated within the overall facade		•	Complies.	✓

4M-1.3	Building facades should be well resolved with an appropriate scale and proportion to the streetscape and human scale. Design solutions may include: • well composed horizontal and vertical elements • variation in floor heights to enhance the human scale elements that are proportional and arranged in patterns • public artwork or treatments to exterior blank walls • grouping of floors or elements such as balconies and windows on taller buildings		•	Facades are conceived to create visual interest when viewed from a range of distances. Materials and colour palette are used appropriately to reflect the desired character of the proposed development.	✓
4M-1.4	Building facades relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights		•		✓
4M-1.5	Shadow is created on the façade throughout the day with building articulation, balconies and deeper window reveals		•		✓
4M-2 Objective	Building functions are expressed by the facade				
4M-2.1	Building entries should be clearly defined		•		✓
4M-2.2	Important corners are given visual prominence through a change in articulation, materials or colour, roof expression or changes in height		•		✓
4M-2.3	The apartment layout should be expressed externally through façade features such as party walls and floor slabs		•		✓
4N	ROOF DESIGN				
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
4N-1 Objective	Roof treatments are integrated into the building design and positively respond to the street				
4N-1.1	Roof design relates to the street. Design solutions may include: • special roof features and strong corners • use of skillion or very low pitch hipped roofs • breaking down the massing of the roof by using smaller elements to avoid bulk • using materials or a pitched form complementary to adjacent buildings		•		✓
4N-1.2	Roof treatments should be integrated with the building design. Design solutions may include: • roof design proportionate to the overall building size, scale and form • roof materials complement the building • service elements are integrated		•	Roof top area belongs to unit and with landscape integration.	✓
4N-2 Objective	Opportunities to use roof space for residential accommodation and open space are maximised				

4N-2.1	Habitable roof space should be provided with good levels of amenity. Design solutions may include: • penthouse apartments • dormer or clerestory windows • openable skylights		•		N/A
4N-2.2	Open space is provided on roof tops subject to acceptable visual and acoustic privacy, comfort levels, safety and security considerations		•		N/A
4N-3 Objective	Roof design incorporates sustainability features				
4N-3.1	Roof design maximises solar access to apartments during winter and provides shade during summer. Design solutions may include: • the roof lifts to the north • eaves and overhangs shade walls and windows from summer sun		•		✓
4N-3.2	Skylights and ventilation systems should be integrated into the roof design		•		✓
4O	LANDSCAPE DESIGN				
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
4O-1 Objective	Landscape design is viable and sustainable				
4O-1.1	Landscape design should be environmentally sustainable and can enhance environmental performance by incorporating: • diverse and appropriate planting • bio-filtration gardens • appropriately planted shading trees • areas for residents to plant vegetables and herbs • composting • green roofs or walls		•		✓
4O-1.2	Ongoing maintenance plans should be prepared		•		✓
4O-1.3	Microclimate is enhanced by: • 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		•		✓
4O-1.4	Tree and shrub selection considers size at maturity and the potential for roots to compete (see Table 4 in ADG)		•		✓
4O-2 Objective	Landscape design contributes to the streetscape and amenity				
4O-2.1	Landscape design responds to the existing site conditions including: • changes of levels • views • significant landscape features including trees and rock outcrops		•		✓

4O-2.2	Significant landscape features should be protected by: • tree protection zones (see figure 4O.5 in ADG) • appropriate signage and fencing during construction		•	N/A	N/A
4O-2.3	Plants selected should be endemic to the region and reflect the local ecology		•	Refer to landscape architects indicative plant schedule	✓
4P	PLANTING ON STRUCTURES				
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
4P-1 Objective	Appropriate soil profiles are provided				
4P-1.1	Structures are reinforced for additional saturated soil weight		•		✓
4P-1.2	Soil volume is appropriate for plant growth, considerations include: • modifying depths and widths according to the planting mix and irrigation frequency • free draining and long soil life span • tree anchorage		•		✓
4P-1.3	Minimum soil standards for plant sizes should be provided in accordance with Table 5 (in ADG)		•		✓
4P-2 Objective	Plant growth is optimised with appropriate selection and maintenance				
4P-2.1	Plants are suited to site conditions, considerations include: • drought and wind tolerance • seasonal changes in solar access • modified substrate depths for a diverse range of plants • plant longevity		•	Refer to Landscape Architects documentation.	✓
4P-2.2	A landscape maintenance plan is prepared		•	Can Comply	✓
4P-2.3	Irrigation and drainage systems respond to: • changing site conditions • soil profile and the planting regime • whether rainwater, stormwater or recycled grey water is used		•	Can Comply	✓
4P-3 Objective	Planting on structures contributes to the quality and amenity of communal and public open spaces				
4P-3.1	Building design incorporates opportunities for planting on structures. Design solutions may include: • green walls with specialized lighting for indoor green walls • wall design that incorporates planting • green roofs, particularly where roofs are visible from the public domain • planter boxes Note: structures designed to accommodate green walls should be integrated into the building facade and consider the ability of the facade to change over time		•		✓

4Q	UNIVERSAL DESIGN				
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
4Q-1 Objective	Universal design features are included in apartment design to promote flexible housing for all community members				
4Q-1.1	Developments achieve a benchmark of 20% of the total apartments incorporating the Livable Housing Guideline's silver level universal design features		•	Complies	✓
4Q-2 Objective	A variety of apartments with adaptable designs are provided				
4Q-2.1	Adaptable housing should be provided in accordance with the relevant council policy		•	Complies	✓
4Q-2.2	Design solutions for adaptable apartments include: • 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		•	Complies	✓
4Q-3 Objective	Apartment layouts are flexible and accommodate a range of lifestyle needs				
4Q-3.1	Apartment design incorporates flexible design solutions which may include: • 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		•	Incorporated open plan living/dining/kitchen spaces with large bedrooms.	✓
4R	ADAPTIVE REUSE				
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
4R-1 Objective	New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense of place				
4R-1.1	Design solutions may include: • 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	N/A
4R-1.2	Additions to heritage items should be clearly identifiable from the original building		•	N/A	N/A
4R-1.3	New additions allow for the interpretation and future evolution of the building		•	N/A	N/A
4R-2 Objective	Adapted buildings provide residential amenity while not precluding future adaptive reuse				

4R-2.1	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: - generously sized voids in deeper buildings - alternative apartment types when orientation is poor - using additions to expand the existing building envelope		•	N/A	N/A
4R-2.2	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: - 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 and 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	N/A
4S	MIXED USE				
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
4S-1 Objective	Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement				
4S-1.1	Mixed use development should be concentrated around public transport and centres		•	Complies	✓
4S-1.2	Mixed use developments positively contribute to the public domain. Design solutions may include: - 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		•	Complies	✓
4S-2 Objective	Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents				

4S-2.1	Residential circulation areas should be clearly defined. Design solutions may include: - 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 - security at entries and safe pedestrian routes are provided - concealment opportunities are avoided		•	Complies	✓
4S-2.2	Landscaped communal open space should be provided at podium or roof levels		•	Communal open space is provided on Level 2.	✓
4T	AWNINGS AND SIGNAGE				
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
4T-1 Objective	Awnings are well located and complement and integrate with the building design				
4T-1.1	Awnings should be located along streets with high pedestrian activity and active frontages		•		✓
4T-1.2	A number of the following design solutions are used: - continuous awnings are maintained and provided in areas with an existing pattern - height, depth, material and form complements the existing street character - protection from the sun and rain is provided - awnings are wrapped around the secondary frontages of corner sites - awnings are retractable in areas without an established pattern		•		✓
4T-1.3	Awnings should be located over building entries for building address and public domain amenity		•		✓
4T-1.4	Awnings relate to residential windows, balconies, street tree planting, power poles and street infrastructure		•		✓
4T-1.5	Gutters and down pipes should be integrated and concealed		•		✓
4T-1.6	Lighting under awnings should be provided for pedestrian safety		•		✓
4T-2 Objective	Signage responds to the context and desired streetscape character				
4T-2.1	Signage should be integrated into the building design and respond to the scale, proportion and detailing of the development		•		✓
4T-2.2	Legible and discrete way finding should be provided for larger developments		•		✓
4T-2.3	Signage is limited to being on and below awnings and a single façade sign on the primary street frontage		•		✓

4U	ENERGY EFFICIENCY				
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
4U-1 Objective	Development incorporates passive environmental design				
4U-1.1	Adequate natural light is provided to habitable rooms (see 4A Solar and daylight access)		•		✓
4U-1.2	Well located, screened outdoor areas should be provided for clothes drying		•	Laundries have provisions to accommodate dryers	N/A
4U-2 Objective	Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer				
4U-2.1	A number of the following design solutions are used: - the use of smart glass or other technologies on north and west elevations - thermal mass in the floors and walls of north facing rooms is maximised - polished concrete floors, tiles or timber rather than carpet - insulated roofs, walls and floors and seals on window and door openings - overhangs and shading devices such as awnings, blinds and screens		•	Double glazing, shading devices, floor and wall insulation are applied to some units to achieve energy efficiency targets.	✓
4U-2.2	Provision of consolidated heating and cooling infrastructure should be located in a centralised location (e.g. the basement)		•		✓
4U-3 Objective	Adequate natural ventilation minimises the need for mechanical ventilation				
4U-3.1	A number of the following design solutions are used: - rooms with similar usage are grouped together - natural cross ventilation for apartments is optimised - natural ventilation is provided to all habitable rooms and as many non-habitable rooms, common areas and circulation spaces as possible		•		✓
4V	WATER MANAGEMENT AND CONSERVATION				
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
4V-1 Objective	Potable water use is minimised				
4V-1.1	Water efficient fittings, appliances and wastewater reuse should be incorporated		•		✓
4V-1.2	Apartments should be individually metered		•		✓
4V-1.3	Rainwater should be collected, stored and reused on site		•		✓
4V-1.4	Drought tolerant, low water use plants should be used within landscaped areas		•		✓
4V-2 Objective	Urban stormwater is treated on site before being discharged to receiving waters				
4V-2.1	Water sensitive urban design systems are designed by a suitably qualified professional		•	Can comply, on site detention provided.	✓

4V-2.2	A number of the following design solutions are used: - 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		•		✓
4W	WATER MANAGEMENT AND CONSERVATION				
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
4W-1 Objective	Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents				
4W-1.1	Adequately sized storage areas for rubbish bins should be located discreetly away from the front of the development or in the basement carpark		•		✓
4W-1.2	Waste and recycling storage areas should be well ventilated		•		✓
4W-1.3	Circulation design allows bins to be easily manoeuvred between storage and collection points		•		✓
4W-1.4	Temporary storage should be provided for large bulk items such as mattresses		•		✓
4W-1.5	A waste management plan should be prepared		•		✓
4W-2 Objective	Domestic waste is minimised by providing safe and convenient source separation and recycling				
4W-2.1	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		•		✓
4W-2.2	Communal waste and recycling rooms are in convenient and accessible locations related to each vertical core		•		✓
4W-2.3	For mixed use developments, residential waste and recycling storage areas and access should be separate and secure from other uses		•		✓
4W-2.4	Alternative waste disposal methods such as composting should be provided		•	Can Comply.	✓
4X	BUILDING MAINTENANCE				
Ref	Item Description	Design Criteria	Design Guidance	Notes	Achieved
4X-1 Objective	Building design detail provides protection from weathering				
4X-1.1	A number of the following design solutions are used: - 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		•		✓

4X-2 Objective	Systems and access enable ease of maintenance				
4X-2.1	Window design enables cleaning from the inside of the building		•	Can Comply.	X
4X-2.2	Building maintenance systems should be incorporated and integrated into the design of the building form, roof and façade		•	Can Comply.	✓
4X-2.3	Design solutions do not require external scaffolding for maintenance access		•	Can Comply.	✓
4X-2.4	Manually operated systems such as blinds, sunshades and curtains are used in preference to mechanical systems		•	Can Comply.	✓
4X-2.5	Centralised maintenance, services and storage should be provided for communal open space areas within the building		•	Can Comply.	✓
4X-3 Objective	Material selection reduces ongoing maintenance costs				
4X-3.1	A number of the following design solutions are used: • 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 finishes are used in locations which receive heavy wear and tear, such as common circulation • areas and lift interiors		•	Can Comply.	✓

CONCLUSION

The above design statements and comments are made in respect of State Environmental Planning Policy (Housing) 2021, Chapter 4 Design of Residential Apartment Development and is supports the desired outcomes of Wollongong City Council.

The proposed development provides satisfied urban design, architectural and landscape outcomes.

The proposal responses appropriately to the sustainable development goals in the modern society.

The proposal maximise the community value.

I, Yiou Tan, as a NSW registered architect (Reg. 9334), verify that the proposed development at 131-135 Crown Street, Wollongong was designed in accordance with, and satisfied the design principles contained in State Environmental Planning Policy (Housing) 2021, Chapter 4 Design of Residential Apartment Development.

This Design Verification Statement and Report is prepared by:
Yiou Tan of Metropoint Group Architects