

MAY 2018

**DEVELOPMENT APPLICATION LODGED WITH PENRITH CITY COUNCIL
FOR
PROPOSED APARTMENT DEVELOPMENT
AT
26-30 HOPE STREET, PENRITH NSW 2750**

APARTMENT DESIGN GUIDE COMPLIANCE TABLE FOR SEPP 65

SEPP 65 establishes nine design quality principles to be applied in the design and assessment of residential apartment development.

Parts 3 and 4 of the Apartment Design Guide set out objectives, design criteria and design guidance for the siting, design and amenity of residential apartment development.

ARCHITECTS STATEMENT IN RESPONSE TO

SEPP No.65- DESIGN QUALITY OF RESIDENTIAL APARTMENT DEVELOPMENT and THE APARTMENT DESIGN GUIDE.

Nine design principles from SEPP 65

1. Context and neighbourhood character
2. Built form and scale
3. Density
4. Sustainability
5. Landscape
6. Amenity
7. Safety
8. Housing diversity and social interaction
9. Aesthetics

Design Verification Statement

The proposal has been designed by Mark Makhoul of Building Design & Technology, in association with Martha Strangas, Architect NSW ARB No:6900, who prepared this ADG Compliance table.

The design of this residential apartment development achieves the design quality principles set out in SEPP 65 and Sections 3 & 4 of the Apartment Design Guide.

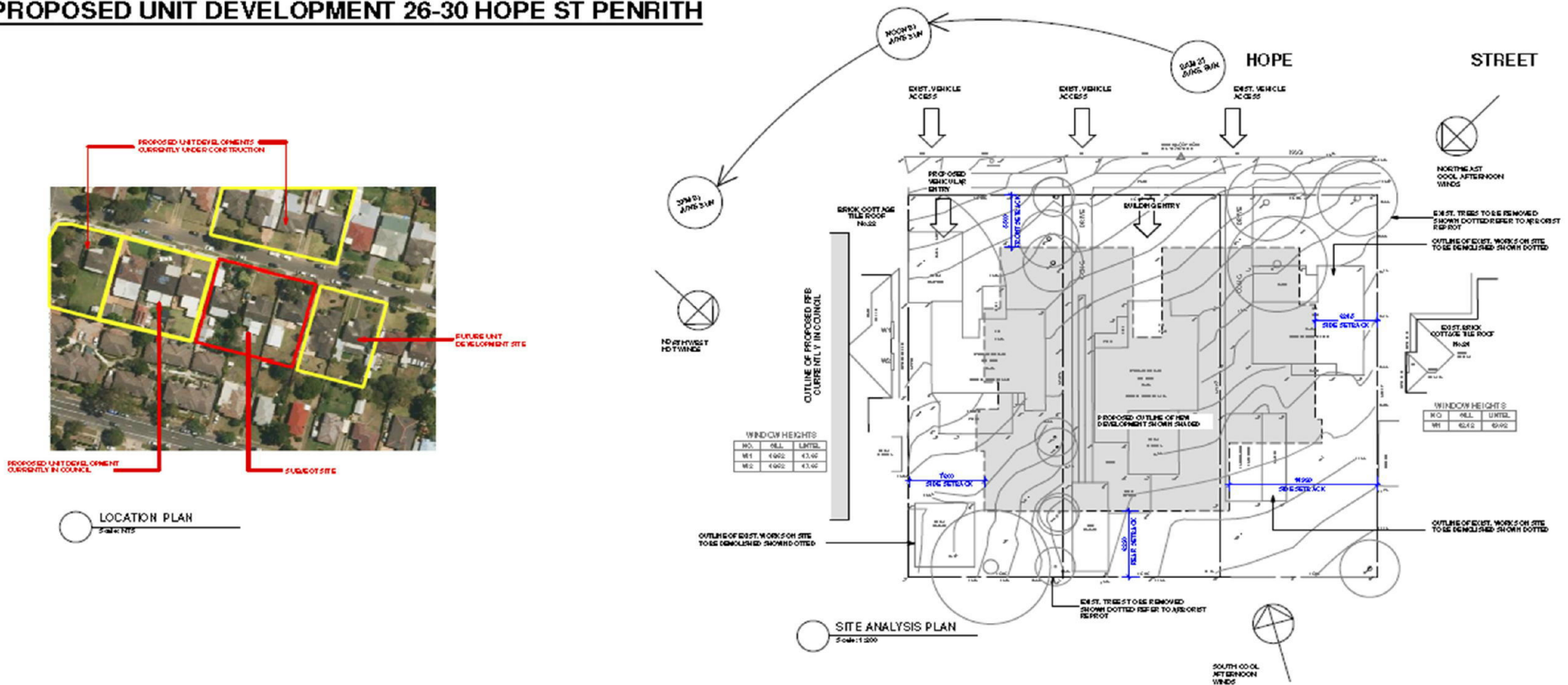
26-30 HOPE STREET PENRITH NSW 2750 - APARTMENT DESIGN GUIDE COMPLIANCE TABLE FOR SEPP 65

PART 3 SITING THE DEVELOPMENT

3A SITE ANALYSIS

OBJECTIVE 3A-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Site analysis illustrates that design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context		Each element in the Site Analysis Checklist should be addressed (see Appendix 1)	Objective Achieved. Site Analysis Checklist used as guide. Refer to SURVEY PLAN and Architectural Drawings No. A0.01 SITE ANALYSIS PLAN AND LOCATION PLAN and No. A0.02 SITE LEP CONTROLS & PHOTOS

PROPOSED UNIT DEVELOPMENT 26-30 HOPE ST PENRITH



3B ORIENTATION

OBJECTIVE 3B-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Building types and layouts respond to the streetscape and site while optimising solar access within the development.		<p>Buildings along the street frontage define the street, by facing it and incorporating direct access from the street.</p> <p>Where the street frontage is to the east or west, rear buildings should be orientated to the north.</p> <p>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.</p>	<p>Objective Achieved. The main entry and four ground floor apartments face the street and have direct access to their apartments from the street via their front courtyards. The apartments on the floors directly above them also address the street.</p> <p>The street frontage is to the north of the site. The neighbours will receive required solar access because of the north-south site orientation.</p>
OBJECTIVE 3B-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Overshadowing of neighbouring properties is minimised during mid winter.		<p>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.</p> <p>Solar access to living rooms, balconies and private open spaces of neighbours should be considered.</p> <p>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%.</p> <p>If the proposal will significantly reduce the solar access of neighbours, building separation should be increased beyond minimums contained in section 3F Visual privacy.</p> <p>Overshadowing should be minimised to the south or down hill by increased upper level setbacks.</p> <p>It is optimal to orientate buildings at 90 degrees to the boundary with neighbouring properties to minimise overshadowing and privacy impacts, particularly where minimum setbacks are used and where buildings are higher than the adjoining development.</p> <p>A minimum of 4 hours of solar access should be retained to solar collectors on neighbouring buildings.</p>	<p>Objective Achieved. Refer to Architectural Drawings No. A1.13 SOLAR ACCESS AND VENTILATION PLAN and No. A1.15 SHADOW DIAGRAMS</p> <p>Required building separation has been proposed. Currently the east and west neighbours are individual dwellings, with development proposals for units of similar nature to this one. The southern neighbours will achieve at least 3 hours sunlight.</p>

3C PUBLIC DOMAIN INTERFACE

OBJECTIVE 3C-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
<p>Transition between private and public domain is achieved without compromising safety and security.</p>		Terraces, balconies and courtyard apartments should have direct street entry, where appropriate.	<p>Objective Achieved, as detailed in 3B.1</p> <p>The street fencing is setback from the street boundary to allow for a landscaped zone. Behind this landscaped area, open Colorbond slat fencing, 1800mm high, enclose the streetfront courtyards of the four ground floor units. This permeable filter allows them some privacy while still enabling street surveillance.</p> <p>The letterbox canopy and the main pedestrian entry are centrally located off the street frontage. The ground floor units have direct access to their courtyards via side gates off clearly defined paths.</p> <p>Pedestrian and vehicular entry and exit points are clearly defined.</p>
		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.	
		Upper level balconies and windows should overlook the public domain.	
		Front fences and walls along street frontages should use visually permeable materials and treatments. The height of solid fences or walls should be limited to 1m.	
		Length of solid walls should be limited along street frontages.	
		Opportunities should be provided for casual interaction between residents and the public domain. Design solutions may include seating at building entries, near letter boxes and in private courtyards adjacent to streets.	
		<p>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:</p> <ul style="list-style-type: none"> • architectural detailing • changes in materials • plant species • colours 	
Opportunities for people to be concealed should be minimised.			

OBJECTIVE 3C-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
<p>Amenity of the public domain is retained and enhanced.</p>		<p>Planting softens the edges of any raised terraces to the street, for example above sub-basement car parking.</p>	<p>Objective Achieved, as detailed above in 3C.1.</p>
		<p>Mail boxes should be located in lobbies, perpendicular to the street alignment or integrated into front fences where individual street entries are provided.</p>	<p>Main entry and letterboxes are clearly designated. Pedestrian and vehicular entry and exit points are clearly defined.</p>
		<p>The visual prominence of underground car park vents should be minimised and located at a low level where possible.</p>	<p>No underground vents are visual from the street.</p>
		<p>Substations, pump rooms, garbage storage areas and other service requirements should be located in basement car parks or out of view.</p>	<p>All carpark mechanical vents will be taken through the building to the roof within the services zone indicated next to the lift.</p>
		<p>Ramping for accessibility should be minimised by building entry location and setting ground floor levels in relation to footpath levels.</p>	<p>Services rooms and all garbage storage areas are located in the basement and the garbage collection area is to the rear of the site out of street view.</p>
		<p>Durable, graffiti resistant and easily cleanable materials should be used.</p>	<p>Location of substation and fire hydrants to be determined by relevant authorities.</p>
		<p>Where development adjoins public parks, open space or bushland, the design positively addresses this interface and uses a number of the following design solutions:</p> <ul style="list-style-type: none"> • 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. 	<p>Accessible ramped entry path way is at the main entrance.</p>
<p>On sloping sites protrusion of car parking above ground level should be minimised by using split levels to step underground car parking.</p>			

3D COMMUNAL AND PUBLIC OPEN SPACE

OBJECTIVE 3D-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
<p>An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping.</p>	<p>1. Communal open space has a minimum area equal to 25% of the site (see figure 3D.3)</p> <p>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 9 am and 3 pm on 21 June (mid winter).</p>	<p>Communal open space should be consolidated into a well designed, easily identified and usable area.</p> <p>Communal open space should have a minimum dimension of 3m, and larger developments should consider greater dimensions.</p> <p>Communal open space should be co-located with deep soil areas.</p> <p>Direct, equitable access should be provided to communal open space areas from common circulation areas, entries and lobbies.</p> <p>Where communal open space cannot be provided at ground level, it should be provided on a podium or roof.</p> <p>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:</p> <ul style="list-style-type: none"> • provide communal spaces elsewhere such as a landscaped roof top terrace or a common room • provide larger balconies or increased private open space for apartments • demonstrate good proximity to public open space and facilities and/or provide contributions to public open space. 	<p>Overall Objective Achieved. Site Area = 1894.4sqm.</p> <p>Required Communal Area = 473sqm Proposed Communal Area = 448sqm with minimum 3m width (23.6%). This consists of ground floor open space of 175sqm plus 133sqm landscaped open space (within the front and rear setback deep soil areas) plus 140sqm of communal roof terrace.</p> <p>Penrith Council DCP requires 10% of the landscaped area to be communal open space but the ADG requires 25% of site area. Council's onsite garbage collection policy requires a turntable which reduces our total potential ground floor communal open space area. At 23.6 % we are short 1.4% of the ADG's minimum of 25% of site area. The main communal areas are oriented north and north-west exceeding the minimum 50% direct sunlight requirement.</p>
OBJECTIVE 3D-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
<p>Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting</p>		<p>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:</p> <ul style="list-style-type: none"> • seating for individuals or groups • barbecue areas • play equipment or play areas • swimming pools, gyms, tennis courts or common rooms <p>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.</p> <p>Visual impacts of services should be minimised, including location of ventilation duct outlets from basement car parks, electrical substations and detention tanks.</p>	<p>Objective Achieved. The proposed main ground floor communal open space area located on the north-west/ west side of the site has pergolas, timber tables and benches, seating and a barbecue area. The communal roof terrace has an awing with seating and tables and a combined kitchenette- barbecue area. Both the ground floor and roof communal areas are screened by landscaping and architectural elements for shade, privacy and wind.</p>

OBJECTIVE 3D-3	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Communal open space is designed to maximise safety.		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: <ul style="list-style-type: none"> • bay windows • corner windows • balconies 	Objective achieved. Both the ground and roof top communal open spaces are visible and only accessible from the main corridor on the ground floor and via a lift to the roof terrace. The ground floor communal area is at a lower level to the adjacent unit's private open space which is enclosed by a balcony and screened with landscaping. Each area is accessed by wide glass doors (hinged and sliding).
		Communal open space should be well lit.	
		Where communal open space/facilities are provided for children and young people they are safe and contained.	
OBJECTIVE 3D-4	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood.		The public open space should be well connected with public streets along at least one edge.	Objective achieved. The street facing courtyards are set back 3m from the street front boundary. This 3m wide public zone between the driveways on either side of the site (one for residents the other for garbage collection) is landscaped with varying height planting to allow partial screening of the courtyards. This zone incorporates the letterbox canopy that leads to the wide central path to the main entry of the building. It is a distinctly public zone that leads to the semi public and semi private spaces.
		The public open space should be connected with nearby parks and other landscape elements.	
		Public open space should be linked through view lines, pedestrian desire paths, termination points and the wider street grid.	
		Solar access should be provided year round along with protection from strong winds.	
		Opportunities for a range of recreational activities should be provided for people of all ages.	
		A positive address and active frontages should be provided adjacent to public open space.	
		Boundaries should be clearly defined between public open space and private areas.	

3E DEEP SOIL ZONES

OBJECTIVE 3E-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS												
<p>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.</p>	<p>1. Deep soil zones are to meet the following minimum requirements:</p> <table border="1" data-bbox="524 260 952 504"> <thead> <tr> <th>Site area</th> <th>Minimum dimensions</th> <th>Deep soil zone (% of site area)</th> </tr> </thead> <tbody> <tr> <td>less than 650m²</td> <td>-</td> <td rowspan="4">7%</td> </tr> <tr> <td>650m² - 1,500m²</td> <td>3m</td> </tr> <tr> <td>greater than 1,500m²</td> <td>6m</td> </tr> <tr> <td>greater than 1,500m² with significant existing tree cover</td> <td>6m</td> </tr> </tbody> </table>	Site area	Minimum dimensions	Deep soil zone (% of site area)	less than 650m ²	-	7%	650m ² - 1,500m ²	3m	greater than 1,500m ²	6m	greater than 1,500m ² with significant existing tree cover	6m	<p>On some sites it may be possible to provide larger deep soil zones, depending on the site area and context:</p> <ul style="list-style-type: none"> • 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. <p>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:</p> <ul style="list-style-type: none"> • 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 <p>Achieving the design criteria may not be possible on some sites including where:</p> <ul style="list-style-type: none"> • 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. <p>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.</p>	<p>Overall Objective Achieved. Site Area = 1894.4sqm. Required Deep Soil Area = 133sqm = 7% Proposed Deep Soil Area = 165sqm with minimum 6m width (8.7%). This application proposes to retain two mature trees to the rear of the site and establish 2 new large and 10 new medium trees. Refer to LANDSCAPE PLANS.</p>
Site area	Minimum dimensions	Deep soil zone (% of site area)													
less than 650m ²	-	7%													
650m ² - 1,500m ²	3m														
greater than 1,500m ²	6m														
greater than 1,500m ² with significant existing tree cover	6m														

3F VISUAL PRIVACY

OBJECTIVE 3F-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS												
<p>Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy.</p>	<p>1. Separation between windows and balconies is provided to ensure visual privacy is achieved.</p> <p>Minimum required separation distances from buildings to the side and rear boundaries are as follows:</p>	<p>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.</p>	<p>Objective Achieved. The minimum separation distances have been met.</p>												
	<table border="1"> <thead> <tr> <th>Building height</th> <th>Habitable rooms and balconies</th> <th>Non-habitable rooms</th> </tr> </thead> <tbody> <tr> <td>up to 12m (4 storeys)</td> <td>6m</td> <td>3m</td> </tr> <tr> <td>up to 25m (5-8 storeys)</td> <td>9m</td> <td>4.5m</td> </tr> <tr> <td>over 25m (9+ storeys)</td> <td>12m</td> <td>6m</td> </tr> </tbody> </table>	Building height		Habitable rooms and balconies	Non-habitable rooms	up to 12m (4 storeys)	6m	3m	up to 25m (5-8 storeys)	9m	4.5m	over 25m (9+ storeys)	12m	6m	<p>For residential buildings next to commercial buildings, separation distances should be measured as follows:</p> <ul style="list-style-type: none"> • for retail, office spaces and commercial balconies use the habitable room distances • for service and plant areas use the non-habitable room distances
	Building height	Habitable rooms and balconies		Non-habitable rooms											
	up to 12m (4 storeys)	6m		3m											
	up to 25m (5-8 storeys)	9m		4.5m											
	over 25m (9+ storeys)	12m		6m											
<p>Separation distances between buildings on the same site should combine required building separations depending on the type of room (see figure 3F.2)</p>	<p>New development should be located and oriented to maximise visual privacy between buildings on site and for neighbouring buildings.</p> <p>Design solutions include:</p> <ul style="list-style-type: none"> • 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) 														
<p>Gallery access circulation should be treated as habitable space when measuring privacy separation distances between neighbouring properties.</p>	<p>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)</p>														
	<p>Direct lines of sight should be avoided for windows and balconies across corners.</p>	<p>No separation is required between blank walls.</p>													

OBJECTIVE 3F-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
<p>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.</p>		<p>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:</p> <ul style="list-style-type: none"> • setbacks • solid or partially solid balustrades to balconies at lower levels • fencing and/or trees and vegetation to separate spaces • 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 	<p>Objective Achieved. Privacy screens, planting and orientation of open spaces protect privacy and views. Details as outlined in 3C and 3D.</p>
		<p>Bedrooms, living spaces and other habitable rooms should be separated from gallery access and other open circulation space by the apartment's service areas</p>	
		<p>Balconies and private terraces should be located in front of living rooms to increase internal privacy.</p>	
		<p>Windows should be offset from the windows of adjacent buildings.</p>	
		<p>Recessed balconies and/or vertical fins should be used between adjacent balconies.</p>	

3G PEDESTRIAN ACCESS AND ENTRIES

OBJECTIVE 3G-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Building entries and pedestrian access connects to and addresses the public domain.		Multiple entries (including communal building entries and individual ground floor entries) should be provided to activate the street edge.	Objective Achieved. Details as outlined in 3C and 3D.
		Entry locations relate to the street and subdivision pattern and the existing pedestrian network.	
		Building entries should be clearly identifiable and communal entries should be clearly distinguishable from private entries.	
		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.	
OBJECTIVE 3G-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Access, entries and pathways are accessible and easy to identify.		Building access areas including lift lobbies, stairwells and hallways should be clearly visible from the public domain and communal spaces.	Objective Achieved. Details as outlined in 3C and 3D.
		The design of ground floors and underground car parks minimise level changes along pathways and entries.	
		Steps and ramps should be integrated into the overall building and landscape design.	
		For large developments 'way finding' maps should be provided to assist visitors and residents (see figure 4T.3).	
		For large developments electronic access and audio/video intercom should be provided to manage access.	
OBJECTIVE 3G-3	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Large sites provide pedestrian links for access to streets and connection to destinations.		Pedestrian links through sites facilitate direct connections to open space, main streets, centres and public transport.	N/A
		Pedestrian links should be direct, have clear sight lines, be overlooked by habitable rooms or private open spaces of dwellings, be well lit and contain active uses, where appropriate.	Objective Achieved. The main entry and foyer on the ground floor are linked to the side doors of the building via the wide corridor.

3H VEHICLE ACCESS

OBJECTIVE 3H-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
<p>Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes.</p>		<p>Car park access should be integrated with the building's overall facade. Design solutions may include:</p> <ul style="list-style-type: none"> • the materials and colour palette to minimise visibility from the street • security doors or gates at entries that minimise voids in the facade • where doors are not provided, the visible interior reflects the facade design and the building services, pipes and ducts are concealed. 	<p>Objective achieved. There is a 3m wide landscaped zone between, and perpendicular to, the two driveways that run along either side of the site (one for residents the other for garbage collection). The main pedestrian entry to the site is at the centrally located letterbox canopy that leads to the wide central graded path to the main entry of the building. The resident parking is accessed via a down ramp to the basement at the north-west corner of the site. The narrow garbage collection graded driveway is at the north-east corner of the site. The pedestrian and vehicular zones are made distinct from each other by the use of varying surfaces and colour. The driveways are visually diminished by the layered and textural landscaped components of the streetfront setbacks.</p>
		<p>Car park entries should be located behind the building line.</p>	
		<p>Vehicle entries should be located at the lowest point of the site minimising ramp lengths, excavation and impacts on the building form and layout.</p>	
		<p>Car park entry and access should be located on secondary streets or lanes where available.</p>	
		<p>Vehicle standing areas that increase driveway width and encroach into setbacks should be avoided.</p>	
		<p>Access point locations should avoid headlight glare to habitable rooms.</p>	
		<p>Adequate separation distances should be provided between vehicle entries and street intersections.</p>	
		<p>The width and number of vehicle access points should be limited to the minimum.</p>	
		<p>Visual impact of long driveways should be minimised through changing alignments and screen planting.</p>	
		<p>The need for large vehicles to enter or turn around within the site should be avoided.</p>	
		<p>Garbage collection, loading and servicing areas are screened.</p>	
		<p>Clear sight lines should be provided at pedestrian and vehicle crossings.</p>	
		<p>Traffic calming devices such as changes in paving material or textures should be used where appropriate.</p>	
<p>Pedestrian and vehicle access should be separated and distinguishable. Design solutions may include:</p> <ul style="list-style-type: none"> • changes in surface materials • level changes • the use of landscaping for separation 			

3J BICYCLE AND CAR PARKING

OBJECTIVE 3J-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
<p>Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas.</p>	<p>1. For development in the following locations:</p> <ul style="list-style-type: none"> • on sites that are within 800 metres of a railway station or light rail stop in the Sydney Metropolitan Area; or • on land zoned, and sites within 400 metres of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre <p>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</p> <p>The car parking needs for a development must be provided off street.</p>	<p>Where a car share scheme operates locally, provide car share parking spaces within the development. Car share spaces, when provided, should be on site.</p> <p>Where less car parking is provided in a development, council should not provide on street resident parking permits.</p>	<p>N/A</p> <p>Resident car parking quotas have been provided:</p> <p>Resident car spaces: 62 (including 5 accessible) Visitor car spaces: 11 which includes 1 Carwash bay = total 73 car spaces.</p> <p>Bicycle racks/ storage have been provided.</p>
OBJECTIVE 3J-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
<p>Parking and facilities are provided for other modes of transport.</p>		<p>Conveniently located and sufficient numbers of parking spaces should be provided for motorbikes and scooters.</p> <p>Secure undercover bicycle parking should be provided that is easily accessible from both the public domain and common areas.</p> <p>Conveniently located charging stations are provided for electric vehicles, where desirable.</p>	<p>Objective Achieved.</p> <p>Residents have allocated car spaces that they would use for scooters or motorbikes. A bike rack on each level of the basement car park, adjacent to the lift, provide 11 bicycle spaces.</p>
OBJECTIVE 3J-3	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
<p>Car park design and access is safe and secure.</p>		<p>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.</p> <p>Direct, clearly visible and well lit access should be provided into common circulation areas.</p> <p>A clearly defined and visible lobby or waiting area should be provided to lifts and stairs.</p> <p>For larger car parks, safe pedestrian access should be clearly defined and circulation areas have good lighting, colour, line marking and/or bollards.</p>	<p>Objective Achieved.</p> <p>All plant, storage rooms and garbage rooms are accessed off the main aisles.</p> <p>Clearly defined lift core adjacent accessible spaces allowing pedestrian access.</p> <p>Firestairs have direct access off the main aisles.</p>

OBJECTIVE 3J-4	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Visual and environmental impacts of underground car parking are minimised.		<p>Excavation should be minimised through efficient car park layouts and ramp design.</p> <p>Car parking layout should be well organised, using a logical, efficient structural grid and double loaded aisles.</p> <p>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.</p> <p>Natural ventilation should be provided to basement and sub basement car parking areas.</p> <p>Ventilation grills or screening devices for car parking openings should be integrated into the facade and landscape design.</p>	<p>Objective Achieved.</p> <p>The basement car park has been designed to minimise excavation and maximise the efficiency of its layout and use. There are no protrusion of car park elements above ground: the wall above the basement car park entry forms the edge of the terrace wall of the communal open space above.</p> <p>The steel framed security roller door is perforated for ventilation.</p>
OBJECTIVE 3J-5	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Visual and environmental impacts of on-grade car parking are minimised.		<p>On-grade car parking should be avoided.</p> <p>Where on-grade car parking is unavoidable, the following design solutions are used:</p> <ul style="list-style-type: none"> • parking is located on the side or rear of the lot away from the primary street frontage • cars are screened from view of streets, buildings, communal and private open space areas • safe and direct access to building entry points is provided • parking is incorporated into the landscape design of the site, by extending planting and materials into the car park space • stormwater run-off is managed appropriately from car parking surfaces • bio-swales, 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. 	<p>Objective Achieved.</p> <p>All car parking is located in the basement.</p>

OBJECTIVE 3J-6	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Visual and environmental impacts of above ground enclosed car parking are minimised.		Exposed parking should not be located along primary street frontages.	N/A
		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: <ul style="list-style-type: none"> • 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) 	
		Positive street address and active frontages should be provided at ground level.	

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PART 4 DESIGNING THE BUILDING

AMENITY

4A SOLAR AND DAYLIGHT ACCESS			
OBJECTIVE 4A-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space	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	The design maximises north aspect and the number of single aspect south facing apartments is minimised Single aspect, single storey apartments should have a northerly or easterly aspect Living areas are best located to the north and service areas to the south and west of apartments	Overall Objective Achieved. 36 of 45 units = 80% of apartments achieve minimum required solar access to living areas or POS. There are 6 single aspect south facing apartments. There are 4 dual aspect (south-east facing) apartments that should receive direct sunlight. However, the south-eastern corner is recessed and its outlook has been screened to avoid looking out onto the garbage truck turntable and collection area adjacent and below. The building has a north-south orientation. The west and east facing apartments should achieve maximum direct sunlight if building separation minimums are upheld by the neighbouring future developments. The street-facing north facing apartments achieve the maximum sunlight. The south-east apartments have been compromised in terms of direct sunlight. Due to the Council's policy of on-site garbage collection, the proposed building has been modified. The south-east corner should be flush with the north-east corner or built out to collect the sun. Instead it has been recessed to accommodate the garbage collection area at the rear of the site. This means the south-east apartments are overshadowed by the north-east apartments. Refer to Architectural Drawings No. A1.13 SOLAR ACCESS AND VENTILATION PLAN and No. A1.15 SHADOW DIAGRAMS
	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	To optimise 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	
	3. A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid winter	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	
		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 livingrooms 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	

OBJECTIVE 4A-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Daylight access is maximised where sunlight is limited		Courtyards, skylights and high level windows (with sills of 1,500mm or greater) are used only as a secondary light source in habitable rooms	Overall Objective Achieved.
		<p>Where courtyards are used :</p> <ul style="list-style-type: none"> • use is restricted to kitchens, bathrooms and service areas • building services are concealed with appropriate detailing and materials to visible walls • courtyards are fully open to the sky • access is provided to the light well from a communal area for cleaning and maintenance • acoustic privacy, fire safety and minimum privacy separation distances (see section 3F Visual privacy) are achieved <p>Opportunities for reflected light into apartments are optimised through:</p> <ul style="list-style-type: none"> • reflective exterior surfaces on buildings opposite south facing windows • positioning windows to face other buildings or surfaces (on neighbouring sites or within the site) that will reflect light • integrating light shelves into the design • light coloured internal finishes 	The lightwell provides additional solar access and ventilation to the internal habitable rooms, in addition to providing additional light and ventilation to the internal common areas within the building. As it is open to the sky, it will promote cross ventilation to the common areas and assist in expelling hot air during the warmer months.
OBJECTIVE 4A-3	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Design incorporates shading and glare control, particularly for warmer months		<p>A number of the following design features are used:</p> <ul style="list-style-type: none"> • balconies or sun shading that extend far enough to shade summer sun, but allow winter sun to penetrate living areas • shading devices such as eaves, awnings, balconies, pergolas, external louvres and planting • horizontal shading to north facing windows • vertical shading to east and particularly west facing windows • operable shading to allow adjustment and choice • high performance glass that minimises external glare off windows, with consideration given to reduced tint glass or glass with a reflectance level below 20% (reflective films are avoided) 	Overall Objective Achieved. A combination of high performance glass and shading elements, such as landscaping, blade walls, overhangs, sliding privacy screens and fixed timber battens, are used for privacy and shade. Covered balconies shade the north facing units.

4B NATURAL VENTILATION

OBJECTIVE 4B-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
All habitable rooms are naturally ventilated		<p>The building's orientation maximises capture and use of prevailing breezes for natural ventilation in habitable rooms</p> <p>Depths of habitable rooms support natural ventilation</p> <p>The area of unobstructed window openings should be equal to at least 5% of the floor area served</p> <p>Light wells are not the primary air source for habitable rooms</p> <p>Doors and openable windows maximise natural ventilation opportunities by using the following design solutions:</p> <ul style="list-style-type: none"> • adjustable windows with large effective openable areas • a variety of window types that provide safety and flexibility such as awnings and louvres • windows which the occupants can reconfigure to funnel breezes into the apartment such as vertical louvres, casement windows and externally opening doors 	<p>Overall Objective Achieved.</p> <p>Refer to Architectural Drawings No. A1.13 SOLAR ACCESS AND VENTILATION PLAN</p>
OBJECTIVE 4B-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
The layout and design of single aspect apartments maximises natural ventilation		<p>Apartment depths are limited to maximise ventilation and airflow</p> <p>Natural ventilation to single aspect apartments is achieved with the following design solutions:</p> <ul style="list-style-type: none"> • primary windows are augmented with plenums and light wells (generally not suitable for cross ventilation) • stack effect ventilation / solar chimneys or similar to naturally ventilate internal building areas or rooms such as bathrooms and laundries • courtyards or building indentations have a width to depth ratio of 2:1 or 3:1 to ensure effective air circulation and avoid trapped smells 	<p>Overall Objective Achieved.</p> <p>All the apartment depths are well below the 18 metre maximum. 5 of 45 apartments which are single aspect do not achieve natural cross ventilation. Their natural ventilation has been maximised as these are shallow apartments that open directly onto courtyards and balconies.</p>
OBJECTIVE 4B-3	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents.	<p>1. At least 60% of apartments are naturally cross ventilated in the first nine storeys of the building.</p> <p>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</p>	<p>The building should include dual aspect apartments, cross through apartments and corner apartments and limit apartment depths</p> <p>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)</p>	<p>Overall Objective Achieved.</p> <p>40 of 45 apartments = 89% achieve natural cross ventilation</p>

OBJECTIVE 4B-3 continued	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
	2. Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line	Apartments are designed to minimise the number of corners, doors and rooms that might obstruct airflow Apartment depths, combined with appropriate ceiling heights, maximise cross ventilation and airflow	Overall Objective Achieved. All the apartment depths are well below the 18 metre maximum.

4C CEILING HEIGHTS

OBJECTIVE 4C-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS												
Ceiling height achieves sufficient natural ventilation and daylight access	<p>1. Measured from finished floor level to finished ceiling level, minimum ceiling heights are:</p> <table border="1"> <thead> <tr> <th colspan="2">Minimum ceiling height for apartment and mixed use buildings</th> </tr> </thead> <tbody> <tr> <td>Habitable rooms</td> <td>2.7m</td> </tr> <tr> <td>Non-habitable</td> <td>2.4m</td> </tr> <tr> <td>For 2 storey apartments</td> <td>2.7m for main living area floor 2.4m for second floor, where its area does not exceed 50% of the apartment area</td> </tr> <tr> <td>Attic spaces</td> <td>1.8m at edge of room with a 30 degree minimum ceiling slope</td> </tr> <tr> <td>If located in mixed used areas</td> <td>3.3m for ground and first floor to promote future flexibility of use</td> </tr> </tbody> </table> <p>These minimums do not preclude higher ceilings if desired</p>	Minimum ceiling height for apartment and mixed use buildings		Habitable rooms	2.7m	Non-habitable	2.4m	For 2 storey apartments	2.7m for main living area floor 2.4m for second floor, where its area does not exceed 50% of the apartment area	Attic spaces	1.8m at edge of room with a 30 degree minimum ceiling slope	If located in mixed used areas	3.3m for ground and first floor to promote future flexibility of use	Ceiling height can accommodate use of ceiling fans for cooling and heat distribution	Overall Objective Achieved. All habitable rooms have a minimum 2.7m ceiling height (3.1m slab to slab) and all non habitable rooms have a minimum of 2.4m height.
Minimum ceiling height for apartment and mixed use buildings															
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OBJECTIVE 4C-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS												
Ceiling height increases the sense of space in apartments and provides for well proportioned rooms		A number of the following design solutions can be used: <ul style="list-style-type: none"> the hierarchy of rooms in an apartment is defined using changes in ceiling heights and alternatives such as raked or curved ceilings, or double height spaces well proportioned rooms are provided, for example, smaller rooms feel larger and more spacious with higher ceilings ceiling heights are maximised in habitable rooms by ensuring that bulkheads do not intrude. The stacking of service rooms from floor to floor and coordination of bulkhead location above non-habitable areas, such as robes or storage, can assist 	Overall Objective Achieved.												
OBJECTIVE 4C-3	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS												
Ceiling heights contribute to the flexibility of building use over the life of the building		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	Overall Objective Achieved. The ground floor apartments enjoy higher ceilings than the minimum 2.7m ceiling height (3.24m slab to slab).												

4D APARTMENT SIZE AND LAYOUT

OBJECTIVE 4D-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS																									
<p>The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity</p>	<p>1. Apartments are required to have the following minimum internal areas:</p> <table border="1" data-bbox="521 276 954 464"> <thead> <tr> <th>Apartment type</th> <th>Minimum internal area</th> </tr> </thead> <tbody> <tr> <td>Studio</td> <td>35m²</td> </tr> <tr> <td>1 bedroom</td> <td>50m²</td> </tr> <tr> <td>2 bedroom</td> <td>70m²</td> </tr> <tr> <td>3 bedroom</td> <td>90m²</td> </tr> </tbody> </table> <p>The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5m² each.</p> <p>A fourth bedroom and further additional bedrooms increase the minimum internal area by 12m² each</p> <p>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</p>	Apartment type	Minimum internal area	Studio	35m ²	1 bedroom	50m ²	2 bedroom	70m ²	3 bedroom	90m ²	<p>Kitchens should not be located as part of the main circulation space in larger apartments (such as hallway or entry space)</p> <p>A window should be visible from any point in a habitable room</p> <p>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</p>	<p>Overall Objective Achieved.</p> <p>Kitchens are not part of the circulation spaces of any of the apartments.</p> <table border="1" data-bbox="1487 507 2092 703"> <thead> <tr> <th>Apartment type</th> <th>Minimum internal Area</th> <th>Proposed Minimum internal Areas</th> </tr> </thead> <tbody> <tr> <td>Studio</td> <td>35sqm</td> <td>35sqm</td> </tr> <tr> <td>1 bedroom</td> <td>50sqm</td> <td>50sqm</td> </tr> <tr> <td>2 bedroom</td> <td>70sqm</td> <td>83sqm</td> </tr> <tr> <td>3 bedroom</td> <td>90sqm</td> <td>115sqm</td> </tr> </tbody> </table>	Apartment type	Minimum internal Area	Proposed Minimum internal Areas	Studio	35sqm	35sqm	1 bedroom	50sqm	50sqm	2 bedroom	70sqm	83sqm	3 bedroom	90sqm	115sqm
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<p>OBJECTIVE 4D-2</p> <p>Environmental performance of the apartment is maximised</p>	<p>1. Habitable room depths are limited to a maximum of 2.5 x the ceiling height</p> <p>2. In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window</p>	<p>Greater than minimum ceiling heights can allow for proportional increases in room depth up to the permitted maximum depths</p> <p>All living areas and bedrooms should be located on the external face of the building</p> <p>Where possible:</p> <ul style="list-style-type: none"> • 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 	<p>Overall Objective Achieved.</p> <p>There are some apartments with rooms that have windows that open onto an internal lightwell that extends up the building from the large ground floor planter. The light well has 3 "green" walls and the 4th "edge" is screened vertically along the corridor side for privacy and safety from the first floor to the uppermost floor's ceiling.</p>																									

OBJECTIVE 4D-3	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Apartment layouts are designed to accommodate a variety of household activities and needs	1. Master bedrooms have a minimum area of 10m ² and other bedrooms 9m ² (excluding wardrobe space)	Access to bedrooms, bathrooms and laundries is separated from living areas minimising direct openings between living and service areas	Overall Objective Achieved. All proposed bedrooms are at least 11sqm and 3 metres wide.
	2. Bedrooms have a minimum dimension of 3m (excluding wardrobe space)	All bedrooms allow a minimum length of 1.5m for robes	All bedrooms have robes, either built-in or walk-in, of 1.5m and 1.8m minimum lengths
	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	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	Minimum living area width for studio or 1 bedroom apartments is 3.7m and for 2 and 3 bedrooms is 4.3m wide.
	4. The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts	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	Overall Objective Achieved.

4E PRIVATE OPEN SPACE AND BALCONIES

OBJECTIVE 4E-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS															
<p>Apartments provide appropriately sized private open space and balconies to enhance residential amenity</p>	<p>1. All apartments are required to have primary balconies as follows:</p>	<p>Increased communal open space should be provided where the number or size of balconies are reduced.</p>	<p>Overall Objective Achieved.</p>															
	<table border="1"> <thead> <tr> <th>Dwelling type</th> <th>Minimum area</th> <th>Minimum depth</th> </tr> </thead> <tbody> <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> </tbody> </table>	Dwelling type	Minimum area	Minimum depth	Studio apartments	4m ²	-	1 bedroom apartments	8m ²	2m	2 bedroom apartments	10m ²	2m	3+ bedroom apartments	12m ²	2.4m	<p>Storage areas on balconies is additional to the minimum balcony size</p>	<p>Minimum depth and area requirements of all apartment balconies, and ground floor POS, have been met or have been exceeded.</p>
	Dwelling type	Minimum area	Minimum depth															
	Studio apartments	4m ²	-															
1 bedroom apartments	8m ²	2m																
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3+ bedroom apartments	12m ²	2.4m																
<p>balcony depth to be counted as contributing to the balcony area is 1m</p>	<p>Balcony use may be limited in some proposals by:</p> <ul style="list-style-type: none"> 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 <p>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.</p> <p>Natural ventilation also needs to be demonstrated</p>	<p>N/A</p>																
<p>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</p>																		
OBJECTIVE 4E-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS															
<p>Primary private open space and balconies are appropriately located to enhance liveability for residents</p>		<p>Primary open space and balconies should be located adjacent to the living room, dining room or kitchen to extend the living space</p>	<p>Overall Objective Achieved. Private open spaces and balconies are located off the living areas, and where possible, secondary open spaces are accessed from bedrooms.</p>															
		<p>Primary open space and balconies should be located adjacent to the living room, dining room or kitchen to extend the living space</p>																
		<p>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</p>																
OBJECTIVE 4E-3	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS															
<p>Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building</p>		<p>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</p>	<p>Overall Objective Achieved. All private open spaces and balconies have been integrated into the overall architectural form. They comprise of a mixture of solid blade walls, glass and solid balustrades, with some partially screened for privacy and shading.</p>															
		<p>Full width full height glass balustrades alone are generally not desirable</p>																
		<p>Projecting balconies should be integrated into the building design and the design of soffits considered</p>																

OBJECTIVE 4E-3 continued	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
		Operable screens, shutters, hoods and pergolas are used to control sunlight and wind	As above
		Balustrades are set back from the building or balcony edge where overlooking or safety is an issue	
		Downpipes and balcony drainage are integrated with the overall facade and building design	
		Air-conditioning units should be located on roofs, in basements, or fully integrated into the building design	
		Where clothes drying, storage or air conditioning units are located on balconies, they should be screened and integrated in the building design	
		Ceilings of apartments below terraces should be insulated to avoid heat loss	
		Water and gas outlets should be provided for primary balconies and private open space.	
OBJECTIVE 4E-4	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Private open space and balcony design maximises safety		Changes in ground levels or landscaping are minimised	Overall Objective Achieved.
		Design and detailing of balconies avoids opportunities for climbing and falls.	

4F COMMON CIRCULATION AND SPACES

OBJECTIVE 4F-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
<p>Common circulation spaces achieve good amenity and properly service the number of apartments</p>	<p>1. The maximum number of apartments off a circulation core on a single level is eight</p>	<p>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</p>	<p>Overall Objective Achieved. A centrally located lift services a wide corridor each level with windows or doors at each at end, adjacent each firestair. The firestair has window openings to promote regular use of the stairs, not just in case of a fire. The number of apartments off the circulation core varies from 4 to 9. The ground floor has a total of 7 apartments; levels 1 and 3 each have 9 apartments; levels 2 and 4 each have 8 apartments; and level 5 has 4 apartments. Levels 1 and 3 originally had a dual key apartment each, making a total of 8 apartments per level. As the proposal has been redesigned to accommodate the on-site garbage collection, compromises were made in the apartment mix and layouts.</p> <p>Refer to 4D.2</p>
	<p>2. For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40</p>	<p>Daylight and natural ventilation should be provided to all common circulation spaces that are above ground</p>	
		<p>Windows should be provided in common circulation spaces and</p>	
		<p>Longer corridors greater than 12m in length from the lift core should be articulated. Design solutions may include:</p> <ul style="list-style-type: none"> • a series of foyer areas with windows and spaces for seating • wider areas at apartment entry doors and varied ceiling heights 	
		<p>Design common circulation spaces to maximise opportunities for dual aspect apartments, including multiple core apartment buildings and cross over apartments</p>	
		<p>Achieving the design criteria for the number of apartments off a circulation core may not be possible. Where a development is unable to achieve the design criteria, a high level of amenity for common lobbies, corridors and apartments should be demonstrated, including:</p> <ul style="list-style-type: none"> • sunlight and natural cross ventilation in apartments • access to ample daylight and natural ventilation in common circulation spaces • common areas for seating and gathering • generous corridors with greater than minimum ceiling heights • other innovative design solutions that provide high levels of amenity 	
		<p>Where design criteria 1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level</p>	
	<p>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</p>		

OBJECTIVE 4F-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Common circulation spaces promote safety and provide for social interaction between residents		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	Overall Objective Achieved.
		Tight corners and spaces are avoided	
		Circulation spaces should be well lit at night	
		Legible signage should be provided for apartment numbers, common areas and general wayfinding	
		Incidental spaces, for example space for seating in a corridor, at a stair landing, or near a window are provided	
		In larger developments, community rooms for activities such as owners corporation meetings or resident use should be provided and are ideally co-located with communal open space	
		Where external galleries are provided, they are more open than closed above the balustrade along their length	

4G STORAGE

OBJECTIVE 4G-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS										
<p>Adequate, well designed storage is provided in each apartment</p>	<p>1. In addition to storage in kitchens, bathrooms and bedrooms, the following</p>	<p>Storage is accessible from either circulation or living areas</p>	<p>Overall Objective Achieved. Minimum storage requirements for each apartment have been met or exceeded.</p>										
	<table border="1"> <thead> <tr> <th data-bbox="524 255 734 288">Dwelling type</th> <th data-bbox="741 255 952 288">Storage size volume</th> </tr> </thead> <tbody> <tr> <td data-bbox="524 293 734 327">Studio apartments</td> <td data-bbox="741 293 952 327">4m³</td> </tr> <tr> <td data-bbox="524 331 734 365">1 bedroom apartments</td> <td data-bbox="741 331 952 365">6m³</td> </tr> <tr> <td data-bbox="524 370 734 403">2 bedroom apartments</td> <td data-bbox="741 370 952 403">8m³</td> </tr> <tr> <td data-bbox="524 408 734 442">3+ bedroom apartments</td> <td data-bbox="741 408 952 442">10m³</td> </tr> </tbody> </table>	Dwelling type		Storage size volume	Studio apartments	4m ³	1 bedroom apartments	6m ³	2 bedroom apartments	8m ³	3+ bedroom apartments	10m ³	<p>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</p>
	Dwelling type	Storage size volume											
	Studio apartments	4m ³											
	1 bedroom apartments	6m ³											
2 bedroom apartments	8m ³												
3+ bedroom apartments	10m ³												
<p>At least 50% of the required storage is to be located within the apartment</p>	<p>Left over space such as under stairs is used for storage</p>												
OBJECTIVE 4G-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS										
<p>Additional storage is conveniently located, accessible and nominated for individual apartments</p>		<p>Storage not located in apartments is secure and clearly allocated to specific apartments</p>	<p>Overall Objective Achieved. More storage and accessible storage is located in the Basement car park.</p>										
		<p>Storage is provided for larger and less frequently accessed items</p>											
		<p>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</p>											
		<p>If communal storage rooms are provided they should be accessible from common circulation areas of the building</p>											
		<p>Storage not located in an apartment is integrated into the overall building design and is not visible from the public domain</p>											

4H ACOUSTIC PRIVACY

OBJECTIVE 4H-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
<p>Noise transfer is minimised through the siting of buildings and building layout</p>		<p>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)</p>	<p>Overall Objective Achieved. Minimal party walls to each apartment a maximum of two.</p> <p>Noise sources such as lift, garbage chutes are to be acoustically treated to minimise noise. Habitable rooms alongside Garbage area to be acoustically treated.</p>
		<p>Window and door openings are generally orientated away from noise sources</p>	
		<p>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</p>	
		<p>Storage, circulation areas and non-habitable rooms should be located to buffer noise from external sources</p>	
		<p>The number of party walls (walls shared with other apartments) are limited and are appropriately insulated</p>	
		<p>Noise sources such as garage doors, driveways, service areas, plant rooms, building services, mechanical equipment, active communal open spaces and circulation areas should be located at least 3m away from bedrooms</p>	
OBJECTIVE 4H-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
<p>Noise impacts are mitigated within apartments through layout and acoustic treatments</p>		<p>Internal apartment layout separates noisy spaces from quiet spaces, using a number of the following design solutions:</p> <ul style="list-style-type: none"> • rooms with similar noise requirements are grouped together • doors separate different use zones • wardrobes in bedrooms are co-located to act as sound buffers 	<p>Overall Objective Achieved.</p> <p>Refer to Acoustic Assessment Report for treatments to reduce noise to apartments and dampen noise and vibration around lift core and garbage chute.</p>
		<p>Where physical separation cannot be achieved noise conflicts are resolved using the following design solutions:</p> <ul style="list-style-type: none"> • double or acoustic glazing • acoustic seals • use of materials with low noise penetration properties • continuous walls to ground level courtyards where they do not conflict with streetscape or other amenity requirements 	

4J NOISE AND POLLUTION

OBJECTIVE 4J-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
<p>In noisy or hostile environments the impacts of external noise and pollution are minimised through the careful siting and layout of buildings</p>		<p>To minimise impacts the following design solutions may be used:</p> <ul style="list-style-type: none"> • physical separation between buildings and the noise or pollution source • residential uses are located perpendicular to the noise source and where possible buffered by other uses • non-residential buildings are sited to be parallel with the noise source to provide a continuous building that shields residential uses and communal open spaces • non-residential uses are located at lower levels vertically separating the residential component from the noise or pollution source. Setbacks to the underside of residential floor levels should increase relative to traffic volumes and other noise sources • buildings should respond to both solar access and noise. Where solar access is away from the noise source, nonhabitable rooms can provide a buffer • where solar access is in the same direction as the noise source, dual aspect apartments with shallow building depths are preferable (see figure 4J.4) • landscape design reduces the perception of noise and acts as a filter for air pollution generated by traffic and industry <p>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:</p> <ul style="list-style-type: none"> • solar and daylight access • private open space and balconies • natural cross ventilation 	<p>Overall Objective Achieved.</p>
OBJECTIVE 4J-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
<p>Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission</p>		<p>Design solutions to mitigate noise include:</p> <ul style="list-style-type: none"> • limiting the number and size of openings facing noise sources • providing seals to prevent noise transfer through gaps • using double or acoustic glazing, acoustic louvres or enclosed balconies (wintergardens) • using materials with mass and/or sound insulation or absorption properties e.g. solid balcony balustrades, external screens and soffits 	<p>Overall Objective Achieved.</p>

CONFIGURATION

4K APARTMENT MIX

OBJECTIVE 4K-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
<p>A range of apartment types and sizes is provided to cater for different household types now and into the future</p>		<p>A variety of apartment types is provided</p> <p>The apartment mix is appropriate, taking into consideration:</p> <ul style="list-style-type: none"> • the distance to public transport, employment and education centres • the current market demands and projected future demographic trends • the demand for social and affordable housing • different cultural and socioeconomic groups 	<p>Overall Objective Achieved.</p> <p>A variety of apartment types is proposed to meet the socio-economic demand of the area. Each level varies its mix of studio, 1 bedroom, 2 bedroom and 3 bedroom apartments.</p>
		<p>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</p>	
OBJECTIVE 4K-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
<p>The apartment mix is distributed to suitable locations within the building</p>		<p>Different apartment types are located to achieve successful facade composition and to optimise solar access (see figure 4K.3)</p> <p>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</p>	<p>Overall Objective Achieved.</p>

4L GROUND FLOOR APARTMENTS

OBJECTIVE 4L-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Street frontage activity is maximised where ground floor apartments are located		<p>Direct street access should be provided to ground floor apartments</p> <p>Activity is achieved through front gardens, terraces and the facade of the building. Design solutions may include:</p> <ul style="list-style-type: none"> • 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 <p>Retail or home office spaces should be located along street frontages</p> <p>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</p>	Overall Objective Achieved. The main entry and four ground floor apartments face the street and have direct access to their apartments from the street via their front courtyards. The apartments on the floors directly above them also address the street.
OBJECTIVE 4L-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Design of ground floor apartments delivers amenity and safety for residents		<p>Privacy and safety should be provided without obstructing casual surveillance. Design solutions may include:</p> <ul style="list-style-type: none"> • elevation of private gardens and terraces above the street level by 1-1.5m (see figure 4L.4) • landscaping and private courtyards • window sill heights that minimise sight lines into apartments • integrating balustrades, safety bars or screens with the exterior design <p>Solar access should be maximised through:</p> <ul style="list-style-type: none"> • high ceilings and tall windows • trees and shrubs that allow solar access in winter and shade in summer 	Overall Objective Achieved. As detailed in Objectives 3B and 3C.

4M FACADES

OBJECTIVE 4M-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
<p>Building facades provide visual interest along the street while respecting the character of the local area</p>		<p>Design solutions for front building facades may include:</p> <ul style="list-style-type: none"> • 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 	<p>Overall Objective Achieved. The proposed building envelope is an elegant, articulated, and textured composition of various architectural elements and colours. The repetition of strong vertical and horizontal elements create symmetry and balance. Balconies project out from the building and overhang those below. Others are stacked and enclosed within blade walls. The proposed building provides visual interest along the street while respecting the character of the local area in terms of colours, materials and landscaping.</p>
		<p>Building services should be integrated within the overall facade</p> <p>Building facades should be well resolved with an appropriate scale and proportion to the streetscape and human scale. Design solutions may include:</p> <ul style="list-style-type: none"> • 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 	
		<p>Building facades relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights</p>	
		<p>Shadow is created on the facade throughout the day with building articulation, balconies and deeper window reveals</p>	
OBJECTIVE 4M-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
<p>Building functions are expressed by the facade</p>		<p>Building entries should be clearly defined</p>	<p>Overall Objective Achieved. As detailed in Objectives 3B and 3C.</p>
		<p>Important corners are given visual prominence through a change in articulation, materials or colour, roof expression or changes in height</p>	
		<p>The apartment layout should be expressed externally through facade features such as party walls and floor slabs</p>	

4N ROOF DESIGN

OBJECTIVE 4N-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Roof treatments are integrated into the building design and positively respond to the street		<p>Roof design relates to the street. Design solutions may include:</p> <ul style="list-style-type: none"> • 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 <p>Roof treatments should be integrated with the building design. Design solutions may include:</p> <ul style="list-style-type: none"> • roof design proportionate to the overall building size, scale and form • roof materials compliment the building • service elements are integrated 	Overall Objective Achieved. The concrete roof design is integrated into the building design. The communal open space on the roof terrace is landscaped to enhance the amenity of the residents and the area.
Opportunities to use roof space for residential accommodation and open space are maximised		<p>Habitable roof space should be provided with good levels of amenity. Design solutions may include:</p> <ul style="list-style-type: none"> • penthouse apartments • dormer or clerestory windows • openable skylights <p>Open space is provided on roof tops subject to acceptable visual and acoustic privacy, comfort levels, safety and security considerations</p>	Overall Objective Achieved. Proposed are 4 penthouse apartments and a semi-covered communal terrace on the top level of the building.
Roof design incorporates sustainability features		<p>Roof design maximises solar access to apartments during winter and provides shade during summer. Design solutions may include:</p> <ul style="list-style-type: none"> • the roof lifts to the north • eaves and overhangs shade walls and windows from summer sun <p>Skylights and ventilation systems should be integrated into the roof design</p>	Overall Objective Achieved. Maximum solar access and shading have been utilised for the top floor apartments.

40 LANDSCAPE DESIGN

OBJECTIVE 40-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Landscape design is viable and sustainable		Landscape design should be environmentally sustainable and can enhance environmental performance by incorporating: <ul style="list-style-type: none"> • diverse and appropriate planting • bio-filtration gardens • appropriately planted shading trees • areas for residents to plant vegetables and herbs • composting • green roofs or walls 	Overall Objective Achieved. Please refer to the LANDSCAPE PLANS prepared by a Landscape Architect. The site will be generously landscaped along the site's boundaries, in the communal open areas and in private courtyards. The ground floor apartments will enjoy private landscaped courtyards while the upper level south facing apartments each enjoy large balconies looking out to the site's communal landscaping area. This proposal maintains the existing biodiversity and seeks further facilitate biodiversity with the proposed amount of native plants which not only require less irrigation, but also reduce the amount of stormwater runoff, erosion and sedimentation.
		Ongoing maintenance plans should be prepared	
		Microclimate is enhanced by: <ul style="list-style-type: none"> • appropriately scaled trees near the eastern and western elevations for shade • a balance of evergreen and deciduous trees to provide shading in summer and sunlight access in winter • shade structures such as pergolas for balconies and courtyards 	
		Tree and shrub selection considers size at maturity and the potential for roots to compete (see Table 4)	
OBJECTIVE 40-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Landscape design contributes to the streetscape and amenity		Landscape design responds to the existing site conditions including: <ul style="list-style-type: none"> • changes of levels • views • significant landscape features including trees and rock outcrops 	Overall Objective Achieved. Please refer to the LANDSCAPE PLANS prepared by a Landscape Architect. The extensive landscaped areas proposed provide enhanced amenity for the residents and neighbours and is in keeping with the local area.
		Significant landscape features should be protected by: <ul style="list-style-type: none"> • tree protection zones (see figure 4O.5) • appropriate signage and fencing during construction 	
		Plants selected should be endemic to the region and reflect the local ecology	

4P PLANTING ON STRUCTURES

OBJECTIVE 4P-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS																																			
<p>Appropriate soil profiles are provided</p> <p>Table 5 Minimum soil standards for plant types and sizes</p> <table border="1" data-bbox="69 233 952 536"> <thead> <tr> <th>Plant type</th> <th>Definition</th> <th>Soil volume</th> <th>Soil depth</th> <th>Soil area</th> </tr> </thead> <tbody> <tr> <td>Large trees</td> <td>12-18m high, up to 16m crown spread at maturity</td> <td>150m³</td> <td>1,200mm</td> <td>10m x 10m or equivalent</td> </tr> <tr> <td>Medium trees</td> <td>8-12m high, up to 8m crown spread at maturity</td> <td>35m³</td> <td>1,000mm</td> <td>6m x 6m or equivalent</td> </tr> <tr> <td>Small trees</td> <td>6-8m high, up to 4m crown spread at maturity</td> <td>9m³</td> <td>800mm</td> <td>3.5m x 3.5m or equivalent</td> </tr> <tr> <td>Shrubs</td> <td></td> <td></td> <td>500-600mm</td> <td></td> </tr> <tr> <td>Ground cover</td> <td></td> <td></td> <td>300-450mm</td> <td></td> </tr> <tr> <td>Turf</td> <td></td> <td></td> <td>200mm</td> <td></td> </tr> </tbody> </table> <p><small>Note: The above has been calculated assuming fortnightly irrigation. Any sub-surface drainage requirements are in addition to the above minimum soil depths.</small></p>	Plant type	Definition	Soil volume	Soil depth	Soil area	Large trees	12-18m high, up to 16m crown spread at maturity	150m ³	1,200mm	10m x 10m or equivalent	Medium trees	8-12m high, up to 8m crown spread at maturity	35m ³	1,000mm	6m x 6m or equivalent	Small trees	6-8m high, up to 4m crown spread at maturity	9m ³	800mm	3.5m x 3.5m or equivalent	Shrubs			500-600mm		Ground cover			300-450mm		Turf			200mm			<p>Structures are reinforced for additional saturated soil weight</p> <p>Soil volume is appropriate for plant growth, considerations include:</p> <ul style="list-style-type: none"> • modifying depths and widths according to the planting mix and irrigation frequency • free draining and long soil life span • tree anchorage <p>Minimum soil standards for plant sizes should be provided in accordance with Table 5</p>	<p>Overall Objective Achieved.</p> <p>Please refer to the LANDSCAPE PLANS prepared by a Landscape Architect. This application proposes to retain two mature trees to the rear of the site and establish 2 new large and 10 new medium trees.</p>
Plant type	Definition	Soil volume	Soil depth	Soil area																																		
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Turf			200mm																																			
<p>Plant growth is optimised with appropriate selection and maintenance</p>		<p>Plants are suited to site conditions, considerations include:</p> <ul style="list-style-type: none"> • drought and wind tolerance • seasonal changes in solar access • modified substrate depths for a diverse range of plants • plant longevity <p>A landscape maintenance plan is prepared</p> <p>Irrigation and drainage systems respond to:</p> <ul style="list-style-type: none"> • changing site conditions • soil profile and the planting regime • whether rainwater, stormwater or recycled grey water is used 	<p>Overall Objective Achieved. Please refer to the LANDSCAPE PLANS prepared by a Landscape Architect.</p>																																			
<p>Planting on structures contributes to the quality and amenity of communal and public open spaces</p>		<p>Building design incorporates opportunities for planting on structures. Design solutions may include:</p> <ul style="list-style-type: none"> • green walls with specialised lighting for indoor green walls • wall design that incorporates planting • green roofs, particularly where roofs are visible from the public domain • planter boxes <p>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</p>	<p>Overall Objective Achieved. Please refer to the LANDSCAPE PLANS prepared by a Landscape Architect. Green walls framing the internal lightwell are to run from the ground floor to the uppermost floor.</p>																																			

4Q UNIVERSAL DESIGN																			
OBJECTIVE 4Q-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS																
Universal design features are included in apartment design to promote flexible housing for all community members		Developments achieve a benchmark of 20% of the total apartments incorporating the Livable Housing Guideline's silver level universal design features	Overall Objective Achieved. 30 (67%) apartments meet or exceed the seven core Livable Housing design elements of the Silver level that are applicable to apartment design. There are five adaptable units (11%) plus 25 two and three bedroom apartments (56%) that meet this criteria. The main bathrooms of 15 apartments have showers over bath tubs, however, the larger apartments with ensuites have hobless showers.																
OBJECTIVE 4Q-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS																
A variety of apartments with adaptable designs are provided		<p>Adaptable housing should be provided in accordance with the relevant council policy</p> <p>Design solutions for adaptable apartments include:</p> <ul style="list-style-type: none"> • convenient access to communal and public areas • high level of solar access • minimal structural change and residential amenity loss when adapted • larger car parking spaces for accessibility • parking titled separately from apartments or shared car parking arrangements 	Overall Objective Achieved. There are five adaptable units (11%) composed of 4 one bedroom apartments and 1 two bedroom apartment. The four adaptable one bedroom apartments are located in the same position on four levels- opposite the lift and with a northern aspect. Both the ground floor adaptable one and two bedroom apartments open out to generously landscaped courtyards. The two bedroom has a dual aspect: south-west. Five accessible car spaces are located adjacent to the lift in the basement as well as additional accessible storage areas.																
OBJECTIVE 4Q-3	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS																
Apartment layouts are flexible and accommodate a range of lifestyle needs		<p>Apartment design incorporates flexible design solutions which may include:</p> <ul style="list-style-type: none"> • rooms with multiple functions • dual master bedroom apartments with separate bathrooms • larger apartments with various living space options • open plan 'loft' style apartments with only a fixed kitchen, laundry and bathroom 	<p>Overall Objective Achieved. A variety of apartment layouts, outdoor areas and features have been proposed.</p> <table border="1"> <thead> <tr> <th>Apartment type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Studio</td> <td>1</td> </tr> <tr> <td>1 bedroom</td> <td>17</td> </tr> <tr> <td>1 bedroom + study</td> <td>1</td> </tr> <tr> <td>2 bedroom</td> <td>21</td> </tr> <tr> <td>2 bedroom + study</td> <td>3</td> </tr> <tr> <td>3 bedroom</td> <td>2</td> </tr> <tr> <td>TOTAL</td> <td>45</td> </tr> </tbody> </table>	Apartment type	Number	Studio	1	1 bedroom	17	1 bedroom + study	1	2 bedroom	21	2 bedroom + study	3	3 bedroom	2	TOTAL	45
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3 bedroom	2																		
TOTAL	45																		

4R ADAPTIVE REUSE

OBJECTIVE 4R-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
<p>New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense of place</p>		<p>Design solutions may include:</p> <ul style="list-style-type: none"> • new elements to align with the existing building • additions that complement the existing character, siting, scale, proportion, pattern, form and detailing • use of contemporary and complementary materials, finishes, textures and colours 	<p>N/A</p>
		<p>Additions to heritage items should be clearly identifiable from the original building</p>	
		<p>New additions allow for the interpretation and future evolution of the building</p>	
OBJECTIVE 4R-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
<p>Adapted buildings provide residential amenity while not precluding future adaptive reuse</p>		<p>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:</p> <ul style="list-style-type: none"> • generously sized voids in deeper buildings • alternative apartment types when orientation is poor • using additions to expand the existing building envelope 	<p>N/A</p>
		<p>Some proposals that adapt existing buildings may not be able to achieve all of the design criteria in this Apartment Design Guide. Where developments are unable to achieve the design criteria, alternatives could be considered in the following areas:</p> <ul style="list-style-type: none"> • where there are existing higher ceilings, depths of habitable rooms could increase subject to demonstrating access to natural ventilation, cross ventilation (when applicable) and solar 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 	

4S MIXED USE

OBJECTIVE 4S-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
<p>Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement</p>		<p>Mixed use development should be concentrated around public transport and centres</p>	<p>N/A</p>
		<p>Mixed use developments positively contribute to the public domain. Design solutions may include:</p> <ul style="list-style-type: none"> • development addresses the street • active frontages are provided • diverse activities and uses • avoiding blank walls at the ground level • live/work apartments on the ground floor level, rather than commercial 	
OBJECTIVE 4S-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
<p>Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents</p>		<p>Residential circulation areas should be clearly defined. Design solutions may include:</p> <ul style="list-style-type: none"> • residential entries are separated from commercial entries and directly accessible from the street • commercial service areas are separated from residential components • residential car parking and communal facilities are separated or secured • security at entries and safe pedestrian routes are provided • concealment opportunities are avoided 	<p>N/A</p>
		<p>Landscaped communal open space should be provided at podium or roof levels</p>	

4T AWNINGS AND SIGNAGE

OBJECTIVE 4T-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
<p>Awnings are well located and complement and integrate with the building design</p>		<p>Awnings should be located along streets with high pedestrian activity and active frontages</p>	<p>Overall Objective Achieved. There is no street awning proposed, only a clear "Suntuf" awning that spans from the letterbox canopy to the main entry over the main pathway.</p>
		<p>A number of the following design solutions are used:</p> <ul style="list-style-type: none"> • 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 	
		<p>Awnings should be located over building entries for building address and public domain amenity</p>	
		<p>Awnings relate to residential windows, balconies, street tree planting, power poles and street infrastructure</p>	
		<p>Gutters and down pipes should be integrated and concealed</p>	
		<p>Lighting under awnings should be provided for pedestrian safety</p>	
OBJECTIVE 4T-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
<p>Signage responds to the context and desired streetscape character</p>		<p>Signage should be integrated into the building design and respond to the scale, proportion and detailing of the development</p>	<p>Overall Objective Achieved.</p>
		<p>Legible and discrete way finding should be provided for larger developments</p>	
		<p>Signage is limited to being on and below awnings and a single facade sign on the primary street frontage</p>	

4U ENERGY EFFICIENCY

OBJECTIVE 4U-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Development incorporates passive environmental design	<i>Passive environmental and energy efficient design is about the ability of an apartment to manage thermal performance (thermal comfort) and daylight access, providing increased amenity to occupants and reducing energy costs.</i>	<p>Adequate natural light is provided to habitable rooms (see 4A Solar and daylight access)</p> <p>Well located, screened outdoor areas should be provided for clothes drying</p>	<p>Overall Objective Achieved. Refer to Architectural Drawings No. A1.13 SOLAR ACCESS AND VENTILATION PLAN</p> <p>As per the DCP requirement, balconies have moveable or fixed screens.</p>
OBJECTIVE 4U-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer	<i>This section offers guidance on meeting BASIX sustainability requirements and other rating systems through better design practice. For additional design practice linked to passive environmental design and energy efficiency see sections 4A Solar and daylight access, 4B Natural ventilation and 4D Apartment size and layout.</i>	<p>A number of the following design solutions are used:</p> <ul style="list-style-type: none"> • 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 <p>Provision of consolidated heating and cooling infrastructure should be located in a centralised location (e.g. the basement)</p>	Overall Objective Achieved. There are a mixture of design measures and technologies used to achieve the best possible passive environmental design outcome for this development.
OBJECTIVE 4U-3	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Adequate natural ventilation minimises the need for mechanical ventilation		<p>A number of the following design solutions are used:</p> <ul style="list-style-type: none"> • 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 	Overall Objective Achieved. Refer to Architectural Drawings No. A1.13 SOLAR ACCESS AND VENTILATION PLAN . Mechanical ventilation used for non habitable rooms such as bathrooms. Habitable rooms achieve required natural ventilation.

4V WATER MANAGEMENT AND CONSERVATION

OBJECTIVE 4V-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Potable water use is minimised		Water efficient fittings, appliances and wastewater reuse should be incorporated	Overall Objective Achieved. Water efficient fittings and appliances will be installed. Apartments will be individually metered. Appropriate plants selected.
		Apartments should be individually metered	
		Rainwater should be collected, stored and reused on site	
		Drought tolerant, low water use plants should be used within landscaped areas	
OBJECTIVE 4V-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Urban stormwater is treated on site before being discharged to receiving waters		Water sensitive urban design systems are designed by a suitably qualified professional	Overall Objective Achieved. There is a Hydraulic Plan submitted as part of this application. Future water design solutions will be provided as part of construction documentation.
		A number of the following design solutions are used: <ul style="list-style-type: none"> • runoff is collected from roofs and balconies in water tanks and plumbed into toilets, laundry and irrigation • porous and open paving materials is maximised • on site stormwater and infiltration, including bio-retention systems such as rain gardens or street tree pits 	
OBJECTIVE 4V-3	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Flood management systems are integrated into site design		Detention tanks should be located under paved areas, driveways or in basement car parks	Overall Objective Achieved.
		On large sites parks or open spaces are designed to provide temporary on site detention basins	

4W WASTE MANAGEMENT

OBJECTIVE 4W-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents		Adequately sized storage areas for rubbish bins should be located discreetly away from the front of the development or in the basement car park	Overall Objective Achieved. There has been extensive Waste and Garbage Collection discussions with Council. All recommendations have been adopted in this application.
		Waste and recycling storage areas should be well ventilated	
		Circulation design allows bins to be easily manoeuvred between storage and collection points	
		Temporary storage should be provided for large bulk items such as mattresses	
		A waste management plan should be prepared	
OBJECTIVE 4W-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Domestic waste is minimised by providing safe and convenient source separation and recycling		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	Overall Objective Achieved. There has been extensive Waste and Garbage Collection discussions with Council. All recommendations have been adopted in this application.
		Communal waste and recycling rooms are in convenient and accessible locations related to each vertical core	
		For mixed use developments, residential waste and recycling storage areas and access should be separate and secure from other uses	
		Alternative waste disposal methods such as composting should be provided	

4X BUILDING MAINTENANCE			
OBJECTIVE 4X-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Building design detail provides protection from weathering		A number of the following design solutions are used: <ul style="list-style-type: none"> • roof overhangs to protect walls • hoods over windows and doors to protect openings • detailing horizontal edges with drip lines to avoid staining of surfaces • methods to eliminate or reduce planter box leaching • appropriate design and material selection for hostile locations 	Overall Objective Achieved.
OBJECTIVE 4X-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Systems and access enable ease of maintenance		Window design enables cleaning from the inside of the building	Overall Objective Achieved.
		Building maintenance systems should be incorporated and integrated into the design of the building form, roof and facade	
		Design solutions do not require external scaffolding for maintenance access	
		Manually operated systems such as blinds, sunshades and curtains are used in preference to mechanical systems	
		Centralised maintenance, services and storage should be provided for communal open space areas within the building	
OBJECTIVE 4X-3	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Material selection reduces ongoing maintenance costs		A number of the following design solutions are used: <ul style="list-style-type: none"> • sensors to control artificial lighting in common circulation and spaces • natural materials that weather well and improve with time such as face brickwork • easily cleaned surfaces that are graffiti resistant • robust and durable materials and finishes are used in locations which receive heavy wear and tear, such as common circulation areas and lift interiors 	Overall Objective Achieved.

I believe that the design of this residential apartment development achieves the design quality principles set out in SEPP 65 and Sections 3 and 4 of the Apartment Design Guide. Signed



Martha Strangas
NSW Architects Registration Number 6900