Development Application for
26-30 Hope St, Penrith NSW 2750
Apartment Design Guide
Compliance Table for
State Environment Planning Policy No. 65

prepared by Zachary Hau Architect (#9914)

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

APARTMENT DESIGN GUIDE COMPLIANCE *(ADG)* TABLE FOR STATE ENVIRONMENT PLANNING POLICY NO.65 *(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 ADG set out objectives, design criteria and design guidance for the siting, design and amenity of residential apartment development.

ARCHITECT'S STATEMENT IN RESPONSE TO SEPP 65 – DESIGN QUALITY OF RESIDENTIAL APARTMENT DEVELOPMENT and THE APARTMENT DESIGN GUIDE

Design Verification Statement

The proposal has been designed by Mark Makhoul of Building Design & Technology, in association with Martha Strangas, registered Architect *(#6900)*. The ADG Compliance Table prepared by Zachary Hau, registered Architect *(#9914)* addresses Parts 3 and Part 4 of the ADG which also covers the nine design principles of SEPP 65.

The 9 Design Principles from SEPP 65 -

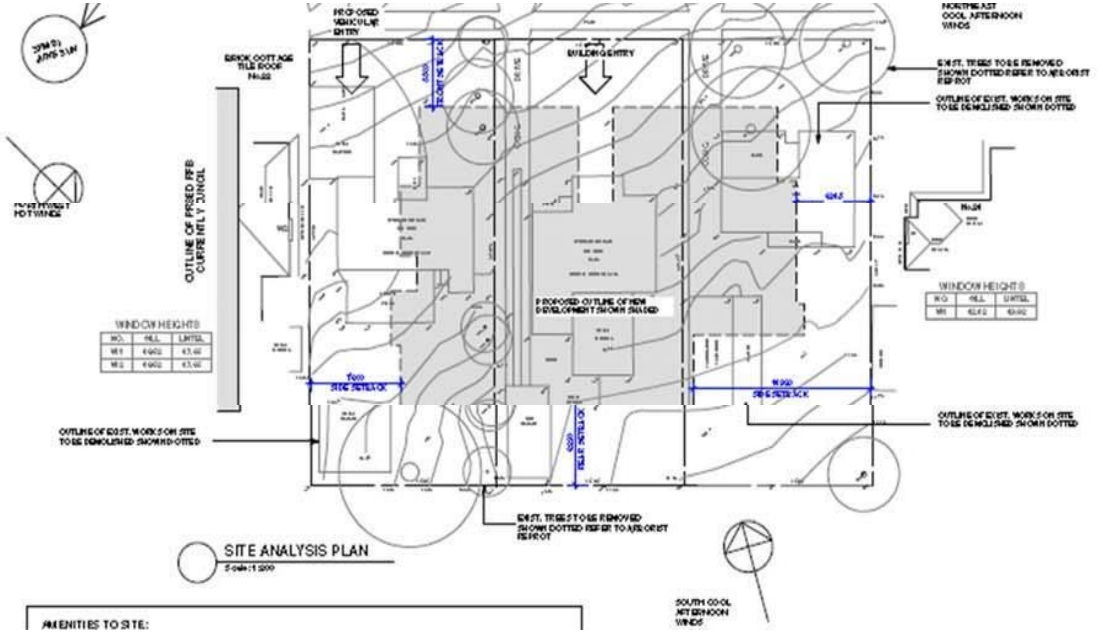
1. Context and Neigbourhood Character
2. Built Form and Scale
3. Density
4. Sustainability
5. Landscape
6. Amenity
7. Safety
8. Housing Diversity and Social Interaction
9. Aesthetics

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 – ADG DESIGN 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 & No. A0.02 SITE LEP CONTROLS & PHOTOS



3B ORIENTATION			
OBJECTIVE 3B-1	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Building types and layouts respond to the streetscape and site while optimizing solar access within the development.		Buildings along the street frontage define the street, by facing it and incorporating direct access from the street. Where the street frontage is to the east or west, rear buildings should be orientated to the north. Where the street frontage is to the north or south, overshadowing to the south should be minimized and buildings behind the street frontage should be orientated to the east and west.	Objective Achieved. The main entry and three ground floor apartments face the main street. All three apartments can access the street via their front courtyards as well as through the main building entry. There are 4 more apartments directly above the 3 ground floor units that also address the main street. The street frontage faces north and careful planning plus good design allow the surrounding neighbours to still receive required solar access. Refer to AMENDED Architectural Drawings No. A1.13 VENTILATION PLAN and No. A1.13A SOLAR ACCESS PLAN and No. A1.15 SHADOW DIAGRAMS
OBJECTIVE 3B-2	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Overshadowing of neighbouring properties is minimized during mid-winter.		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. Solar access to living rooms, balconies and private open spaces of neighbours should be considered. Where an adjoining property does not currently receive the required hours of solar access, the proposed building ensures solar access to neighbouring properties is not reduced by more than 20%. If the proposal will significantly reduce the solar access of neighbours, building separation should be increased beyond minimums contained in section 3F Visual privacy Overshadowing should be minimized to the south or downhill by increased upper level setbacks.	Objective Achieved. Refer to AMENDED Architectural Drawings No. A1.13 VENTILATION PLAN and No. A1.13A SOLAR ACCESS PLAN and No. A1.15 SHADOW DIAGRAMS The amended building footprint is smaller than the original proposal which ensures less overshadowing to the neighbouring properties, hence increasing their amenity. Required building separation has been proposed.

		t is optimal to orientate buildings at 90 degrees to the boundary with neighbouring properties to minimize overshadowing and privacy impacts, particularly where minimum setbacks are used and where buildings are higher than the adjoining development.	Currently, the east and west neighbours are individual dwellings that have development proposals for units of similar size and nature to this one *(26-30 Hope St)*. The southern neighbours still manage to achieve at least 3 hours sunlight.
		A minimum of 4 hours of solar access should be retained to solar collectors on neighbouring buildings	

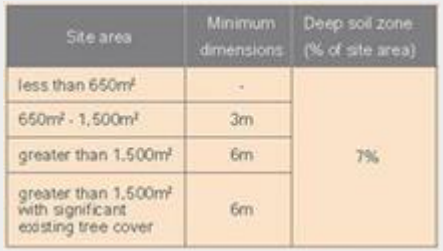
3C PUBLIC DOMAIN INTERFACE			
OBJECTIVE 3C-1	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Transition between private and public domain is achieved without compromising safety and security.		Terraces, balconies and courtyard apartments should have direct street entry, where appropriate.	Objective Achieved – As detailed in 3B.1. The street fencing has been designed to setback from the street boundary to allow for a landscaped zone. This acts as a buffer on top of the required front setback requirements. Behind this landscaped area, open Colorbond slat fencing, 1800mm high, enclose the street front courtyards of the three ground floor units. This permeable filter of the slat fencing not only provides security to the residents but also allows them some privacy while still enabling street surveillance. 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 street facing gates off clearly defined paths. Pedestrian and vehicular entry and exit points are also clearly defined as shown on the Ground Floor Plan.
		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.	
		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 several the following design solutions: • architectural detailing • changes in materials • plant species • colours	
		Opportunities for people to be concealed should be minimized.	
OBJECTIVE 3C-2	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Amenity of the public domain is retained and enhanced.		Planting softens the edges of any raised terraces to the street, for example above sub-basement car parking.	Objective Achieved – As detailed in 3C1. Main entry and letterboxes are clearly designated. Pedestrian and vehicular entry and exit points are clearly defined.
		Mailboxes should be in lobbies, perpendicular to the street alignment or integrated into front fences where individual street entries are provided.	

		The visual prominence of underground car park vents should be minimized and located at a low level where possible.	No underground vents are visual from the street. All carpark mechanical vents will be taken through the building to the roof within the services zone indicated next to the lift. Services rooms and all garbage storage areas are in the basement and the garbage collection area is on the west side to the rear of the site at ground level out of street view. Locations of substation and fire hydrants to be determined by relevant authorities. Accessible ramped entry pathway is at the main entrance.
		Substations, pump rooms, garbage storage areas and other service requirements should be in basement car parks or out of view.	
		Ramping for accessibility should be minimized by building entry location and setting ground floor levels in relation to footpath levels.	
		Durable, graffiti resistant and easily cleanable materials should be used.	
		Where development adjoins public parks, open space or bushland, the design positively addresses this interface and uses several the following design solutions: • street access, pedestrian paths and building entries which are clearly defined • paths, low fences and planting that clearly delineate between • communal/private open space and the adjoining public open space • minimal use of blank walls, fences and ground level parking.	
		On sloping sites protrusion of car parking above ground level should be minimized by using split levels to step underground car parking.	

3D COMMUNAL AND PUBLIC OPEN SPACE			
OBJECTIVE 3D-1	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping.	1. Communal open space has a minimum area equal to 25% of the site *(see figure 3D.3)* 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).*	Communal open space should be consolidated into a well-designed, easily identified and usable area. Communal open space should have a minimum dimension of 3m, and larger developments should consider greater dimensions. Communal open space should be co-located with deep soil areas. Direct, equitable access should be provided to communal open space areas from common circulation areas, entries and lobbies. Where communal open space cannot be provided at ground level, it should be provided on a podium or roof. Where developments are unable to achieve the design criteria, such as on small lots, sites within business zones, or in a dense urban area, they should: • provide communal spaces elsewhere such as a landscaped roof top terrace or a common room • provide larger balconies or increased private open space for apartment • demonstrate good proximity to public open space and facilities • and/or provide contributions to public open space.	Overall Objective Achieved. Site Area = 1894.4 sqm. Required Communal Area = 473 sqm Proposed Communal Area = 513 sqm with minimum 3m width *(27%).* This consists of 133sqm of communal roof terrace on Level 5. The roof top communal area has ample all-day direct sunlight and exceeds the 50% direct sunlight requirement. 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. We have a further 669sqm of deep soil planted landscaped area at ground level to the front and rear of the site that will be enjoyed by all the residents.
OBJECTIVE 3D-2	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting		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: • seating for individuals or groups • barbecue areas	Objective Achieved. The proposed communal open space area located on the top level – Level 5 has shading, pergolas, timber tables, benches, seating and a

		• play equipment or play areas • swimming pools, gyms, tennis courts or common rooms	combined kitchenette-barbeque area. The communal areas are screened by landscaping and architectural elements for shade, privacy and wind. The proposed communal open space will provide a high level of amenity for the residents.
		The location of facilities responds to microclimate and site conditions with access to sun in winter, shade in summer and shelter from strong winds and down drafts.	
		Visual impacts of services should be minimized, including location of ventilation duct outlets from basement car parks, electrical substations and detention tanks	
OBJECTIVE 3D-3	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Communal open space is designed to maximize 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: • bay windows • corner windows • balconies	Objective achieved in principle. The Level 5 communal open spaces are visible and only accessible via lift. The communal open spaces will be well lit and safe.
		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 that stretches from the driveway on the north-west of the site to the north-east corner of the site 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 distinct public zone that leads to the semi-public and semi-private spaces.
		The public open space should relate to 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
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.	Deep soil zones are to meet the following minimum requirements: 	On some sites it may be possible to provide larger deep soil zones, depending on the site area and context: • 10% of the site as deep soil on sites with an area of 650m2 - 1,500m2 • 15% of the site as deep soil on sites greater than 1,500m2.	Overall Objective Achieved. Site Area = 1894.4 sqm. Required Deep Soil Area = 133 sqm = 7% Proposed Deep Soil Area = 288 sqm with minimum 6m width *(8.5%)*. The overall deep soil landscaped requirement is 35% of site area *(673 sqm)*. A total of 673 sqm *(35%)* of deep soil planted landscaped area at ground level consists of 185 sqm at the front of the site and 488 sqm to the rear of the site. 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.
		Deep soil zones should be located to retain existing significant trees and to allow for the development of healthy root systems, providing anchorage and stability for mature trees. Design solutions may include: • basement and sub-basement car park design that is consolidated beneath building footprints • use of increased front and side setbacks • adequate clearance around trees to ensure long term health • co-location with other deep soil areas on adjacent sites to create larger contiguous areas of deep soil	
		Achieving the design criteria may not be possible on some sites including where: • the location and building typology have limited or no space for deep soil at ground level *(e.g. central business district, constrained sites, high density areas, or in centres)* • there is 100% site coverage or non-residential uses at ground floor level.	
		Where a proposal does not achieve deep soil requirements, acceptable stormwater management should be achieved, and alternative forms of planting provided such as on structure.	

Site area	Minimum dimensions	Deep soil zone (% of site area)
less than 650m²	-	7%
650m² - 1,500m²	3m	
greater than 1,500m²	6m	
greater than 1,500m² with significant existing tree cover	6m	

3F VISUAL PRIVACY

OBJECTIVE 3F-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy.	Separation between windows and balconies is provided to ensure visual privacy is achieved. Minimum required separation distances from buildings to the side and rear boundaries are as follows: **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 on the same site should combine required building separations depending on the type of room *(see figure 3F.2)* Gallery access circulation should be treated as habitable space when measuring privacy separation distances between neighbouring properties.	Generally, one step in the built form as the height increases due to building separations is desirable. Additional steps should be careful not to cause a 'ziggurat' appearance. For residential buildings next to commercial buildings, separation distances should be measured as follows: • for retail, office spaces and commercial balconies use the habitable room distances • for service and plant areas use the non-habitable room distances New development should be located and oriented to maximize visual privacy between buildings on site and for neighbouring buildings. Design solutions include: • site layout and building orientation to minimize privacy impacts *(see also section 3B Orientation)* • on sloping sites, apartments on different levels have appropriate visual separation distances *(see figure 3F.4)* Apartment buildings should have an increased separation distance of 3m *(in addition to the requirements set out in design criteria 1)* when adjacent to a different zone that permits lower density residential development to provide for a transition in scale and increased landscaping *(figure 3F.5)* Direct lines of sight should be avoided for windows and balconies across corners. No separation is required between blank walls.	Objective Achieved. The minimum separation distances have been met.

OBJECTIVE 3F-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
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.		Communal open space, common areas and access paths should be separated from private open space and windows to apartments, particularly habitable room windows. Design solutions may include: • setbacks • solid or partially solid balustrades to balconies at lower levels • fencing and/or trees and vegetation to separate spaces • screening devices • bay windows or pop out windows to provide privacy in one direction and outlook in another • raising apartments / private open space above the public domain or communal open space • planter boxes incorporated into walls and balustrades to increase visual separation • pergolas or shading devices to limit overlooking of lower apartments or private open space • on constrained sites where it can be demonstrated that building layout opportunities are limited, fixed louvres or screen panels to windows and/or balconies	Objective Achieved. Privacy screens, planting and the orientation of open spaces protect the privacy and views. Details as outlined in 3C and 3D.
		Bedrooms, living spaces and other habitable rooms should be separated from gallery access and other open circulation space by the apartment's service areas	
		Balconies and private terraces should be in front of living rooms to increase internal privacy.	
		Windows should be offset from the windows of adjacent buildings.	
		Recessed balconies and/or vertical fins should be used between adjacent balconies.	

3G PEDESTRIAN ACCESS AND ENTRIES			
OBJECTIVE 3G-1	**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. Refer to AMENDED A1.03 GROUND FLOOR PLAN and BASEMENT PLANS.
		The design of ground floors and underground car parks minimize 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 accessed off a central path that runs along the street-front-private courtyards and is overlooked by the balconies of the units above.

3H VEHICLE ACCESS			
OBJECTIVE 3H-1	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Vehicle access points are designed and located to achieve safety, minimize conflicts between pedestrians and vehicles and create high quality streetscapes.		Car park access should be integrated with the building's overall facade. Design solutions may include: • the materials and colour palette to minimize visibility from the street • security doors or gates at entries that minimize voids in the façade • where doors are not provided, the visible interior reflects the façade design and the building services, pipes and ducts are concealed.	Objective achieved. There is a clearly identifiable vehicular access point onto the site located at the north-west corner, as the remaining street frontage is defined by 3m wide landscaping and a central pedestrian entry point into the site. The driveway widens to accommodate 2 distinct vehicular paths. The first is the garbage collection graded driveway that runs along the west boundary at ground level to the turntable and garbage collection zone to the rear of the building. The resident and visitor parking are an accessed via ramp down into the basement levels and runs parallel to the truck driveway. 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 pedestrian and vehicular zones are made distinct from each other using varying surfaces / materials and colour. The driveway is visually diminished by the layered and textural landscaped components of the street front setbacks.
		Car park entries should be located behind the building line.	
		Vehicle entries should be located at the lowest point of the site minimizing ramp lengths, excavation and impacts on the building form and layout.	
		Car park entry and access should be located on secondary streets or lanes where available.	
		Vehicle standing areas that increase driveway width and encroach into setbacks should be avoided.	
		Access point locations should avoid headlight glare to habitable rooms.	
		Adequate separation distances should be provided between vehicle entries and street intersections.	
		The width and number of vehicle access points should be limited to the minimum.	
		Visual impact of long driveways should be minimized through changing alignments and screen planting.	
		The need for large vehicles to enter or turn around within the site should be avoided.	
		Garbage collection, loading and servicing areas are screened.	
		Clear sight lines should be provided at pedestrian and vehicle crossings.	
		Traffic calming devices such as changes in paving material or textures should be used where appropriate.	
		Pedestrian and vehicle access should be separated and distinguishable. Design solutions may include: • changes in surface materials • level changes • the use of landscaping for separation	

3J BICYCLE AND CAR PARKING			
OBJECTIVE 3J-1	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas.	For development in the following locations: • on sites that are within 800 meters of a railway station or light rail stop in the Sydney Metropolitan Area; or	Where a car share scheme operates locally, provide car share parking spaces within the development. Car share spaces, when provided, should be on site.	N/A
	• on land zoned, and sites within 400 meters of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre		
	the minimum car parking requirement for residents and visitors is set out in the Guide to Traffic Generating Developments, or the car parking requirement prescribed by the relevant council, whichever is less	Where less car parking is provided in a development, council should not provide on street resident parking permits.	Resident car parking quotas have been met: 52 required and a total of 61 provided: Resident car spaces: 50 *(including 4 accessible)* Visitor car spaces: 10 and 1 Carwash / service vehicle bay = total 61 car spaces. 12 Bicycle racks / storage have been provided. 2 Motorbike parking have been provided.
	The car parking needs for a development must be provided off street.		
OBJECTIVE 3J-2	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Parking and facilities are provided for other modes of transport.		Conveniently located and sufficient numbers of parking spaces should be provided for motorbikes and scooters.	Objective Achieved.
		Secure undercover bicycle parking should be provided that is easily accessible from both the public domain and common areas.	Residents have allocated car spaces that they would use for scooters or motorbikes.
		Conveniently located charging stations are provided for electric vehicles, where desirable.	A bike rack on each level of the basement car park, adjacent to the lift, provide 12 bicycle spaces.

OBJECTIVE 3J-3	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Car park design and access is safe and secure.		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.	Objective Achieved. All plant, storage rooms and garbage rooms are accessed off the main aisles. Clearly defined lift core adjacent accessible spaces allowing pedestrian access. Fire stairs have direct access off the main aisles.
		Direct, clearly visible and well-lit access should be provided into common circulation areas.	
		A clearly defined and visible lobby or waiting area should be provided to lifts and stairs.	
		For larger car parks, safe pedestrian access should be clearly defined, and circulation areas have good lighting, colour, line marking and/or bollards.	
OBJECTIVE 3J-4	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Visual and environmental impacts of underground car parking are minimized.		Excavation should be minimized through efficient car park layouts and ramp design.	Objective Achieved. The basement car park has been designed to minimize excavation and maximize the efficiency of its layout and use. There is no protrusion of car park elements above ground: the wall above the basement car park entry forms the edge of the raised planter bed above. The steel framed security roller door is perforated to allow for ventilation.
		Car parking layout should be well organized, using a logical, efficient structural grid and double loaded aisles.	
		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.	
		Natural ventilation should be provided to basement and sub-basement car parking areas.	
		Ventilation grills or screening devices for car parking openings should be integrated into the facade and landscape design.	
OBJECTIVE 3J-5	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Visual and environmental impacts of on-grade car parking are minimized.		On-grade car parking should be avoided.	Objective Achieved. All car parking is in the 2 basement levels.
		Where on-grade car parking is unavoidable, the following design solutions are used: • parking is located on the side or rear of the lot away from the primary street frontage • cars are screened from view of streets, buildings, communal and private open space areas • safe and direct access to building entry points is provided	

		• parking is incorporated into the landscape design of the site, by extending planting and materials into the car park space • stormwater run-off is managed appropriately from car parking surfaces • 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.	
OBJECTIVE 3J-6	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Visual and environmental impacts of above ground enclosed car parking are minimized.		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: • 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.	

26-30 HOPE STREET, PENRITH NSW 2750 – ADG DESIGN COMPLIANCE TABLE FOR SEPP 65

PART 4 – DESIGNING THE BUILDING

AMENITY

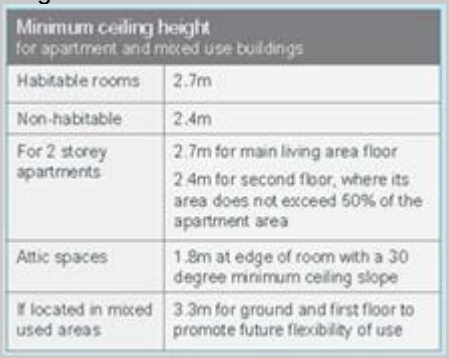
4A SOLAR AND DAYLIGHT ACCESS			
OBJECTIVE 4A-1	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
To optimize the number of apartments receiving sunlight to habitable rooms, primary windows and private open space.	1. Living rooms and private open spaces of at least 70% of apartments in 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 maximizes north aspect and the number of single aspects south facing apartments is minimized. 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. 32 of 38 units = 85% of apartments achieve minimum required solar access to living areas or POS. The 35th apartment on the fifth floor has a large skylight over the living area, achieving direct sunlight during 9am and 3pm in winter. There are 6 single aspect south facing apartment which get no direct sunlight *(15%)*. There are 20 corner apartments which enjoy dual aspects. The building has a north-south orientation. The east, west, south-east and south-west orientated 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.
	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 optimize the direct sunlight to habitable rooms and balconies a number of the following design features are used: • dual aspect apartments • shallow apartment layouts • two storey and mezzanine level apartments • bay windows	
	3. A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid-winter.	To maximize the benefit to residents of direct sunlight within living rooms and private open spaces, a minimum of 1m2 of direct sunlight, measured at 1m above floor level, is achieved for at least 15 minutes. Achieving the design criteria may not be possible on some sites. This includes: • where greater residential amenity can be achieved along a busy road • or rail line by orientating the living rooms away from the noise source • on south facing sloping sites	

		• where significant views are oriented away from the desired aspect for direct sunlight Design drawings need to demonstrate how site constraints and orientation preclude meeting the design criteria and how the development meets the objective.	Refer to AMENDED Architectural Drawings No. DA1.13 CROSS VENTILATION PLAN and No. DA1.14 SOLAR ACCESS PLAN and No. DA1.15 SHADOW DIAGRAMS
OBJECTIVE 4A-2	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Daylight access is maximized 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. Where courtyards are used: • use is restricted to kitchens, bathrooms and service areas • building services are concealed with appropriate detailing and materials to visible walls • courtyards are fully open to the sky • access is provided to the light well from a communal area for cleaning and maintenance • acoustic privacy, fire safety and minimum privacy separation distances *(see section 3F Visual privacy)* are achieved Opportunities for reflected light into apartments are optimized through: • 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	Overall Objective Achieved with the reconfiguration of apartments in the amended plans.
OBJECTIVE 4A-3	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Design incorporates shading and glare control, particularly for warmer months.		A number of the following design features are used: • balconies or sun shading that extend far enough to shade summer sun, but allow winter sun to penetrate living areas • shading devices such as eaves, awnings, balconies, pergolas, external louvres and planting • horizontal shading to north facing windows • vertical shading to east and particularly west facing windows • operable shading to allow adjustment and choice • high performance glass that minimizes 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.		The building's orientation maximizes capture and use of prevailing breezes for natural ventilation in habitable rooms.	Overall Objective Achieved. Refer to AMENDED Architectural Drawings No. DA1.13 CROSS VENTILATION PLAN and No. DA1.14 SOLAR ACCESS PLAN
		Depths of habitable rooms support natural ventilation	
		The area of unobstructed window openings should be equal to at least 5% of the floor area served	
		Light wells are not the primary air source for habitable rooms	
		Doors and openable windows maximize natural ventilation opportunities by using the following design solutions: • adjustable windows with large effective openable areas • a variety of window types that provide safety and flexibility such as awnings and louvres • windows which the occupants can reconfigure to funnel breezes into the apartment such as vertical louvres, Casement windows and externally opening doors	
OBJECTIVE 4B-2	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
The layout and design of single aspect apartments maximizes natural ventilation.		Apartment depths are limited to maximize ventilation and airflow.	Overall Objective Achieved. All the apartment depths are well below the 18 metre maximum. The natural ventilation of the single aspect apartments has been maximized as they are shallow apartments that open directly onto courtyards and balconies. Refer to AMENDED Architectural Drawings No. DA1.13 CROSS VENTILATION PLAN and No. DA1.14 SOLAR ACCESS PLAN
		Natural ventilation to single aspect apartments is achieved with the following design solutions: • primary windows are augmented with plenums and light wells *(generally not suitable for cross ventilation)* • stack effect ventilation / solar chimneys or similar to naturally ventilate internal building areas or rooms such as bathrooms and laundries	

		• courtyards or building indentations have a width to depth ratio of 2:1 or 3:1 to ensure effective air circulation and avoid trapped smells.	
OBJECTIVE 4B-3	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
The number of apartments with natural cross ventilation is maximized to create a comfortable indoor environment for residents.	1. At least 60% of apartments are naturally cross ventilated in the first nine storeys of the building. Apartments at ten storeys or greater are deemed to be cross ventilated only if any enclosure of the balconies at these levels allows adequate natural ventilation and cannot be fully enclosed. 2. Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line	The building should include dual aspect apartments, cross through apartments and corner apartments and limit apartment.	Overall Objective Achieved. There are 20 corner apartments with dual aspect and cross ventilation and 3 of the 8 articulated single aspect north facing apartments have cross ventilation.
		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).*	25 of 38 apartments = 65% achieve natural cross ventilation. The building design has been amended to allow a 3m separation for Units 2,6,13,22 to achieve cross ventilation. Unit 35 has operable roof skylights to create a stack effect achieve cross ventilation within the unit. Refer to AMENDED Architectural Drawings No. DA1.13 CROSS VENTILATION PLAN and No. DA1.14 SOLAR ACCESS PLAN.
		Apartments are designed to minimize the number of corners, doors and rooms that might obstruct airflow.	
		Apartment depths, combined with appropriate ceiling heights, maximize 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.	Measured from finished floor level to finished ceiling level, minimum ceiling heights are:  These minimums do not preclude higher ceilings if desired.	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 *(3.06m slab to slab)* and all non-habitable rooms have a minimum of 2.4m height. Please note that all internal floor plates to each unit are flat and not split level.

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: • 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 maximized 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. All habitable rooms have a minimum 2.7m ceiling height *(3.06m slab to slab)* and all non-habitable rooms have a minimum of 2.4m height.

4D APARTMENT SIZE AND LAYOUT

OBJECTIVE 4D-1	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
The layout of rooms within an apartment is functional, well organized and provides a high standard of amenity.	1. Apartments are required to have the following minimum internal areas: The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5m2 each. A fourth bedroom and further additional bedrooms increase the minimum internal area by 12m2 each. 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.	Kitchens should not be located as part of the main circulation space in larger apartments *(such as hallway or entry space).* A window should be visible from any point in a habitable room.	Overall Objective Achieved. Kitchens are not part of the circulation spaces of any of the apartments.

Apartment type	Minimum internal area
Studio	35m²
1 bedroom	50m²
2 bedroom	70m²
3 bedroom	90m²

		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	
OBJECTIVE 4D-2	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Environmental performance of the apartment is maximized.	1. Habitable room depths are limited to a maximum of 2.5 x the ceiling height.	Greater than minimum ceiling heights can allow for proportional increases in room depth up to the permitted maximum depths.	Overall Objective Achieved. All bedrooms and living areas are located on the external face of the building. Complies with the maximum 8m apartment depth.
	2. In open plan layouts *(where the living, dining and kitchen are combined)* the maximum habitable room depth is 8m from a window.	All living areas and bedrooms should be located on the external face of the building. Where possible: • bathrooms and laundries should have an external openable window. • main living spaces should be oriented toward the primary outlook and aspect and away from noise sources.	
OBJECTIVE 4D-3	**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 10m2 and other bedrooms 9m2 *(excluding wardrobe space).*	Access to bedrooms, bathrooms and laundries is separated from living areas minimizing direct openings between living and service areas.	Overall Objective Achieved. All proposed bedrooms are at least 11sqm and 3 meters wide. All bedrooms have robes, either built- in or walk-in, of 1.5m and 1.8m minimum lengths
	2. Bedrooms have a minimum dimension of 3m *(excluding wardrobe space).*	All bedrooms allow a minimum length of 1.5m for robes.	

	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. Overall Objective Achieved.
	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 maximize the amount of usable floor space in rooms.	

<table>
<tr><th colspan="4">4E PRIVATE OPEN SPACE AND BALCONIES</th></tr>
<tr><th>OBJECTIVE 4E-1</th><th>DESIGN CRITERIA</th><th>DESIGN GUIDANCE</th><th>ARCHITECT'S COMMENTS</th></tr>
<tr><td rowspan="2">Apartments provide appropriately sized private open space and balconies to enhance residential amenity.</td><td>1. All apartments are required to have primary balconies as follows:
<table><tr><th>Dwelling type</th><th>Minimum area</th><th>Minimum depth</th></tr><tr><td>Studio apartments</td><td>4m²</td><td>-</td></tr><tr><td>1 bedroom apartments</td><td>8m²</td><td>2m</td></tr><tr><td>2 bedroom apartments</td><td>10m²</td><td>2m</td></tr><tr><td>3+ bedroom apartments</td><td>12m²</td><td>2.4m</td></tr></table></td><td>Increased communal open space should be provided where the number or size of balconies are reduced.</td><td rowspan="3">Overall Objective Achieved.

Minimum depth and area requirements of all apartment balconies, and ground floor POS, have been met or have been exceeded.

N/A</td></tr>
<tr><td>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.</td><td>Storage areas on balconies is additional to the minimum balcony size.

Balcony use may be limited in some proposals by:
• consistently high wind speeds at 10 storeys and above
• proximity to road, rail or other noise sources
• exposure to significant levels of aircraft noise
• heritage and adaptive reuse of existing buildings
• In these situations, Juliet balconies, operable walls, enclosed
• winter gardens or bay windows may be appropriate, and other amenity benefits for occupants should also be provided in the apartments or in the development or both.

Natural ventilation also needs to be demonstrated.</td></tr>
</table>

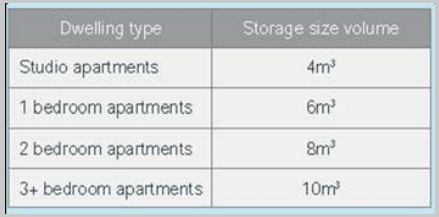
OBJECTIVE 4E-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Primary private open space and balconies are appropriately located to enhance livability for residents.		Primary open space and balconies should be located adjacent to the living room, dining room or kitchen to extend the living space.	Overall Objective Achieved. All private open spaces and balconies have been integrated into the overall architectural form. They compromise of a mixture of solid blade walls, glass and solid balustrades, with some partially screened for privacy and shading.
		Primary open space and balconies should be located adjacent to the living room, dining room or kitchen to extend the living space.	
		Primary open space and balconies should be orientated with the longer side facing outwards or be open to the sky to optimize daylight access into adjacent rooms.	
OBJECTIVE 4E-3	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building.		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.	As above.
		Full width full height glass balustrades alone are generally not desirable.	
		Projecting balconies should be integrated into the building design and the design of soffits considered.	
		Operable screens, shutters, hoods and pergolas are used to control sunlight and wind.	
		Balustrades are set back from the building or balcony edge where overlooking or safety is an issue.	

		Downpipes and balcony drainage are integrated with the overall facade and building design.	
		Air-conditioning units should be located on roofs, in basements, or fully integrated into the building design.	
		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 maximizes safety.		Changes in ground levels or landscaping are minimized	Overall Objective Achieved.
		Design and detailing of balconies avoid opportunities for climbing and falls.	

4F COMMON CIRCULATION AND SPACES			
OBJECTIVE 4F-1	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Common circulation spaces achieve good amenity and properly service the number of apartments.	1. The maximum number of apartments off a circulation core on a single level is eight.	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.	Overall Objective Achieved with minor noncompliance. A lift, adjacent a fire stair, off centre to the main entry, services a wide short corridor each level. The number of apartments off the circulation core varies from 3 to 9. The ground floor has a total of 3 apartments; level 1 has 7 apartments; levels 2 and 3 each have 9 apartments; levels 4 has 6 apartments and 5 has 4 apartments and the Communal Roof Terrace. As the proposal has been amended, the apartment mix and layouts have changed. No more than 9 apartments off a circulation core per single level as discussed above. Overall Objective Achieved. Refer to 4D.2.
		Daylight and natural ventilation should be provided to all common circulation spaces that are above ground.	
		Windows should be provided in common circulation spaces and	
		Longer corridors greater than 12m in length from the lift core should be articulated. Design solutions may include: • a series of foyer areas with windows and spaces for seating • wider areas at apartment entry doors and varied ceiling heights	
	2. For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40	Design common circulation spaces to maximize opportunities for dual aspect apartments, including multiple core apartment buildings and cross over apartments.	
		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: • sunlight and natural cross ventilation in apartments • access to ample daylight and natural ventilation in common • circulation spaces • common areas for seating and gathering • generous corridors with greater than minimum ceiling heights • other innovative design solutions that provide high levels of amenity	
		Where design criteria 1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level.	
		Primary living room or bedroom windows should not open directly onto common circulation spaces, whether open or enclosed. Visual and acoustic privacy from common circulation spaces to any other rooms should be carefully controlled.	

OBJECTIVE 4F-2	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 minimizing corridor or gallery length to give short, straight, clear sight lines	Overall Objective Achieved. Short main corridor off lift each level, with shorter intermediate corridors to apartment entries.
		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 owner's 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
Adequate, well designed storage is provided in each apartment.	In addition to storage in kitchens, bathrooms and bedrooms, the following  At least 50% of the required storage is to be located within the apartment.	Storage is accessible from either circulation or living areas. Storage provided on balconies *(in addition to the minimum balcony size)* is integrated into the balcony design, weatherproof and screened from view from the street. Left over space such as under stairs is used for storage.	Overall Objective Achieved. Minimum storage requirements for each apartment have been met or exceeded.

Dwelling type	Storage size volume
Studio apartments	4m³
1 bedroom apartments	6m³
2 bedroom apartments	8m³
3+ bedroom apartments	10m³

OBJECTIVE 4G-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Additional storage is conveniently located, accessible and nominated for individual apartments.		Storage not located in apartments is secure and clearly allocated to specific apartments. Storage is provided for larger and less frequently accessed items. Storage space in internal or basement car parks is provided at the rear or side of car spaces or in cages so that allocated car parking remains accessible. If communal storage rooms are provided, they should be accessible from common circulation areas of the building. Storage not located in an apartment is integrated into the overall building design and is not visible from the public domain.	Overall Objective Achieved. More storage and accessible storage are in the Lower Basement Level car park.

4H ACOUSTIC PRIVACY			
OBJECTIVE 4H-1	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Noise transfer is minimized through the siting of buildings and building layout.		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).*	Overall Objective Achieved. Minimal party walls to each apartment. Noise sources such as lift, garbage chutes are to be acoustically treated to minimize noise. Habitable rooms alongside Garbage area to be acoustically treated.
		Window and door openings are generally orientated away from noise Sources.	
		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.	
		Storage, circulation areas and non-habitable rooms should be located to buffer noise from external sources.	
		The number of party walls *(walls shared with other apartments)* are limited and are appropriately insulated.	
		Noise sources such as garage doors, driveways, service areas, plant rooms, building services, mechanical equipment, active communal open spaces and circulation areas should be located at least 3m away from bedrooms.	
OBJECTIVE 4H-2	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Noise impacts are mitigated within apartments through layout and acoustic treatments.		Internal apartment layout separates noisy spaces from quiet spaces, using a number of the following design solutions: • rooms with similar noise requirements are grouped together • doors separate different use zones • wardrobes in bedrooms are co-located to act as sound buffers	Overall Objective Achieved. Refer to Acoustic Assessment Report for treatments to reduce noise to apartments and dampen noise and vibration around lift core and garbage chute.
		Where physical separation cannot be achieved noise, conflicts are resolved using the following design solutions: • double or acoustic glazing • acoustic seals • use of materials with low noise penetration properties • continuous walls to ground level courtyards where they do not conflict with streetscape or other amenity requirements	

4J NOISE AND POLLUTION			
OBJECTIVE 4J-1	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
In noisy or hostile environments, the impacts of external noise and pollution are minimized through the careful siting and layout of buildings.		To minimize impacts the following design solutions may be used: • physical separation between buildings and the noise or pollution source • residential uses are located perpendicular to the noise source and where possible buffered by other uses • non-residential buildings are sited to be parallel with the noise source to provide a continuous building that shields residential uses and communal open spaces • non-residential uses are located at lower levels vertically separating the residential component from the noise or pollution source. Setbacks to the underside of residential floor levels should increase relative to traffic volumes and other noise sources • buildings should respond to both solar access and noise. • Where solar access is away from the noise source, uninhabitable 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	Overall Objective Achieved.
		Achieving the design criteria in this Apartment Design Guide may not be possible in some situations due to noise and pollution. Where developments are unable to achieve the design criteria, alternatives may be considered in the following areas: • solar and daylight access • private open space and balconies • natural cross ventilation	
OBJECTIVE 4J-2	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission.		Design solutions to mitigate noise include: • limiting the number and size of openings facing noise sources • providing seals to prevent noise transfer through gaps • using double or acoustic glazing, acoustic louvres or enclosed balconies *(winter gardens)* • using materials with mass and/or sound insulation or absorption properties e.g. solid balcony balustrades, external screens and soffits	Overall Objective Achieved.

4K APARTMENT MIX			
OBJECTIVE 4K-1	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
A range of apartment types and sizes is provided to cater for different household types now and into the future.		A variety of apartment types is provided.	Overall Objective Achieved. A variety of apartment types is proposed to meet the socio-economic demand of the area. Each level varies its mix of 1 bedroom, 2 bedroom and 3-bedroom apartments.
		The apartment mix is appropriate, taking into consideration: • the distance to public transport, employment and education centres • the current market demands and projected future demographic • trends • the demand for social and affordable housing • different cultural and socioeconomic groups	
		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.	
OBJECTIVE 4K-2	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
The apartment mix is distributed to suitable locations within the building.		Different apartment types are located to achieve successful façade composition and to optimize solar access *(see figure 4K.3).*	Overall Objective Achieved.
		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.	

4L GROUND FLOOR APARTMENTS			
OBJECTIVE 4L-1	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Street frontage activity is maximized where ground floor apartments are located.		Direct street access should be provided to ground floor apartments.	Overall Objective Achieved. The main entry and three 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.
		Activity is achieved through front gardens, terraces and the facade of the building. Design solutions may include: • both street, foyer and other common internal circulation entrances to ground floor apartments • private open space is next to the street • doors and windows face the street	
		Retail or home office spaces should be located along street frontages Ground floor apartment layouts support small office home office *(SOHO)* use to provide future opportunities for conversion into commercial or retail areas. In these cases, provide higher floor to ceiling heights and ground floor amenities for easy conversion	
OBJECTIVE 4L-2	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Design of ground floor apartments delivers amenity and safety for residents		Privacy and safety should be provided without obstructing casual surveillance. Design solutions may include: • elevation of private gardens and terraces above the street level by 1-1.5m *(see figure 4L.4)* • landscaping and private courtyards • windowsill heights that minimize sight lines into apartments • integrating balustrades, safety bars or screens with the exterior design	Overall Objective Achieved. As detailed in Objectives 3B and 3C.
		Solar access should be maximized through: • high ceilings and tall windows • trees and shrubs that allow solar access in winter and shade in summer	

4M FACADES			
OBJECTIVE 4M-1	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Building facades provide visual interest along the street while respecting the character of the local area.		Design solutions for front building facades may include: • a composition of varied building elements • a defined base, middle and top of buildings • revealing and concealing certain elements • changes in texture, material, detail and colour to modify the prominence of elements	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 creates 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 existing and proposed future local area in terms of colours, materials and landscaping. This proposal is sympathetic to the proposed desired character, bulk and scale of the rezoned area.
		Building services should be integrated within the overall façade Building facades should be well resolved with an appropriate scale and proportion to the streetscape and human scale. Design solutions may include: • 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	
		Building facades relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights	
		Shadow is created on the facade throughout the day with building articulation, balconies and deeper window reveals	
OBJECTIVE 4M-2	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Building functions are expressed by the façade.		Building entries should be clearly defined	Overall Objective Achieved. As detailed in Objectives 3B and 3C
		Important corners are given visual prominence through a change in articulation, materials or colour, roof expression or changes in height	
		The apartment layout should be expressed externally through facade features such as party walls and floor slabs	

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.		Roof design relates to the street. Design solutions may include: • special roof features and strong corners • use of skillion or extremely 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	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.
		Roof treatments should be integrated with the building design. Design solutions may include: • roof designs proportionate to the overall building size, scale and form • roof materials compliment the building • service elements are integrated	
OBJECTIVE 4N-2	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Opportunities to use roof space for residential accommodation and open space are maximized.		Habitable roof space should be provided with good levels of amenity. Design solutions may include: • penthouse apartments • dormer or clerestory windows • openable skylights	Overall Objective Achieved. There is a semi-covered communal open space terrace proposed on the top level of the building.
		Open space is provided on roof tops subject to acceptable visual and acoustic privacy, comfort levels, safety and security considerations.	
OBJECTIVE 4N-3	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Roof design incorporates sustainability features.		Roof design maximizes solar access to apartments during winter and provides shade during summer. Design solutions may include: • the roof lifts to the north • eaves and overhangs shade walls and windows from summer sun	Overall Objective Achieved. Maximum solar access and shading have been utilized for the top floor apartments. The south facing top floor apartment has a large skylight over the living areas to enjoy direct sunlight throughout the day.
		Skylights and ventilation systems should be integrated into the roof design.	

4O LANDSCAPDE DESIGN			
OBJECTIVE 4O-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: • 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: • 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 consider size at maturity and the potential for roots to compete *(see Table 4).*	
OBJECTIVE 4O-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: • 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: • 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
Appropriate soil profiles are provided.		Structures are reinforced for additional saturated soil weight	Overall Objective Achieved. 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.
		Soil volume is appropriate for plant growth, considerations include: • modifying depths and widths according to the planting mix and irrigation frequency • free draining and long soil life span • tree anchorage	
		Minimum soil standards for plant sizes should be provided in accordance with Table 5.	

Table 5 Minimum soil standards for plant types and sizes

Plant type	Definition	Soil volume	Soil depth	Soil area
Large trees	12-18m high, up to 16m crown spread at maturity	150m³	1,200mm	10m x 10m or equivalent
Medium trees	8-12m high, up to 8m crown spread at maturity	35m³	1,000mm	6m x 6m or equivalent
Small trees	6-8m high, up to 4m crown spread at maturity	9m³	800mm	3.5m x 3.5m or equivalent
Shrubs			500-600mm	
Ground cover			300-450mm	
Turf			200mm	

Note: The above has been calculated assuming fortnightly irrigation. Any sub-surface drainage requirements are in addition to the above minimum soil depths

OBJECTIVE 4P-2	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Plant growth is optimized with appropriate selection and maintenance.		Plants are suited to site conditions, considerations include: • drought and wind tolerance • seasonal changes in solar access • modified substrate depths for a diverse range of plants • plant longevity	Overall Objective Achieved. Please refer to the LANDSCAPE PLANS prepared by a Landscape Architect.
		A landscape maintenance plan is prepared.	
		Irrigation and drainage systems respond to: • changing site conditions • soil profile and the planting regime • whether rainwater, stormwater or recycled grey water is used	

OBJECTIVE 4P-3	DESIGN CRITERIA	DESIGN GUIDANCE	ARCHITECT'S COMMENTS
Planting on structures contributes to the quality and amenity of communal and public open spaces.		Building design incorporates opportunities for planting on	Overall Objective Achieved.

		structures. Design solutions may include: • green walls with specialized lighting for indoor green walls • wall design that incorporates planting • green roofs, particularly where roofs are visible from the public domain • planter boxes Note: structures designed to accommodate green walls should be integrated into the building facade and consider the ability of the facade to change over time	Please refer to the LANDSCAPE PLANS prepared by a Landscape Architect.

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. 35 of 38 *(92%)* apartments meet or exceed the seven core Livable Housing design elements of the Silver level that are applicable to apartment design. There are 3 adaptable units *(8%)* plus 32 one, two- and three-bedroom apartments *(80%)* which meet this criterion. The bathrooms of 3 one-bedroom apartments have showers over bathtubs. In the larger apartments where there are two bathrooms, the ensuites have hobless showers.
OBJECTIVE 4Q-2	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
A variety of apartments with		Adaptable housing should be provided in accordance with the relevant council policy Design solutions for adaptable apartments include: • convenient access to communal and public areas • high level of solar access • minimal structural change and residential amenity loss when adapted • larger car parking spaces for accessibility • • parking titled separately from apartments or shared car parking arrangements	Overall Objective Achieved. There are 3 adaptable units *(12%)* comprised of 1 one-bedroom apartments and 2 two-bedroom apartments. All the adaptable units are located on the first 4 levels *(ground to third)*. The 3 street facing *(north)* apartments are in the same position on each of the floor plates. The other 1 adaptable unit is south facing, on level 3 and adjacent to the lift. The 2 ground floor adaptable apartments opens on to their own large landscaped courtyards. The other 1 adaptable apartments open out onto large balconies with a view to the landscaped rear boundary *(south)*.

			4 accessible car spaces are located adjacent to the lift in the 2 basement levels 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.		Apartment design incorporates flexible design solutions which may include: • rooms with multiple functions • dual master bedroom apartments with separate bathrooms • larger apartments with various living space options • open plan 'loft' style apartments with only a fixed kitchen, laundry and bathroom	Overall Objective Achieved. A variety of apartment layouts, outdoor areas and features have been proposed. Apartment Type / Numbers 1 Bedroom / 12 1 Bedroom + Study / 1 2 Bedrooms / 19 3 Bedrooms / 6 Total / 38

4R ADAPTIVE REUSE			
OBJECTIVE 4R-1	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense of place.		Design solutions may include: • new elements to align with the existing building • additions that complement the existing character, siting, scale, • proportion, pattern, form and detailing • use of contemporary and complementary materials, finishes, textures and colours Additions to heritage items should be clearly identifiable from the original building New additions allow for the interpretation and future evolution of the Building.	N/A
OBJECTIVE 4R-2	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Adapted buildings provide residential amenity while not precluding future adaptive reuse.		Design features should be incorporated sensitively into adapted buildings to make up for any physical limitations, to ensure residential amenity is achieved. Design solutions may include: • generously sized voids in deeper buildings • alternative apartment types when orientation is poor • using additions to expand the existing building envelope Some proposals that adapt existing buildings may not be able to achieve all the design criteria in this Apartment Design Guide. Where developments are unable to achieve the design criteria, alternatives could be considered in the following areas: • where there are existing higher ceilings, depths of habitable rooms • could increase subject to demonstrating access to natural ventilation, • cross ventilation *(when applicable)* and solar and daylight access *(see also, sections 4A Solar and daylight access and 4B Natural ventilation)* • alternatives to providing deep soil where less than the minimum requirement is currently available on the site • building and visual separation – subject to demonstrating alternative design approaches to achieving privacy • common circulation • car parking • alternative approaches to private open space and balconies	N/A

4S MIXED USED			
OBJECTIVE 4S-1	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement.		Mixed use development should be concentrated around public transport and centres.	N/A
		Mixed use developments positively contribute to the public domain. Design solutions may include: • development addresses the street • active frontages are provided • diverse activities and uses • avoiding blank walls at the ground level • live/work apartments on the ground floor level, rather than commercial	
OBJECTIVE 4S-2	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Residential levels of the building are integrated within the development, and safety and amenity are maximized for residents.		Residential circulation areas should be clearly defined. Design solutions may include: • residential entries are separated from commercial entries and directly accessible from the street • commercial service areas are separated from residential components • residential car parking and communal facilities are separated or secured • security at entries and safe pedestrian routes are provided • concealment opportunities are avoided	N/A
		Landscaped communal open space should be provided at podium or roof levels	

4T AWNINGS AND SIGNAGE			
OBJECTIVE 4T-1	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Awnings are well located and complement and integrate with the building design.		Awnings should be located along streets with high pedestrian activity and active frontages.	Overall Objective Achieved. There is no street awning proposed, only a clear "Colorbond" awning that spans from the letterbox canopy to the main entry over the main pathway.
		Several the following design solutions are used: • continuous awnings are maintained and provided in areas with an existing pattern • height, depth, material and form complement 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	
		Awnings should be located over building entries for building address and public domain amenity.	
		Awnings relate to residential windows, balconies, street tree planting, power poles and street infrastructure.	
		Gutters and down pipes should be integrated and concealed.	
		Lighting under awnings should be provided for pedestrian safety.	
OBJECTIVE 4T-2	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Signage responds to the context and desired streetscape character.		Signage should be integrated into the building design and respond to the scale, proportion and detailing of the development.	Overall Objective Achieved.
		Legible and discrete way finding should be provided for larger developments.	
		Signage is limited to being on and below awnings and a single façade sign on the primary street frontage.	

4U ENERGY EFFICIENCY			
OBJECTIVE 4U-1	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Development incorporates passive environmental design.	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.	Adequate natural light is provided to habitable rooms *(see 4A Solar and daylight access)* Well located, screened outdoor areas should be provided for clothes drying.	Overall Objective Achieved. Refer to AMENDED Architectural Drawings No. DA1.13 CROSS VENTILATION PLAN and No. DA1.14 SOLAR ACCESS PLAN. As per the DCP requirement, balconies have moveable or fixed screens.
OBJECTIVE 4U-2	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Development incorporates passive solar design to optimize heat storage in winter and reduce heat transfer in summer.	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.	Several the following design solutions are used: • the use of smart glass or other technologies on north and west elevations • thermal mass in the floors and walls of north facing rooms is maximized • 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 Provision of consolidated heating and cooling infrastructure should be in a centralized location *(e.g. the basement)*	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. Refer to AMENDED Architectural Drawings No. DA1.13 CROSS VENTILATION PLAN and No. DA1.14 SOLAR ACCESS PLAN.
OBJECTIVE 4U-3	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Adequate natural ventilation minimizes the need for mechanical ventilation.		Several the following design solutions are used: • rooms with similar usage are grouped together • natural cross ventilation for apartments is optimized • 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 AMENDED Architectural Drawings No. DA1.13 CROSS VENTILATION PLAN and No. DA1.14 SOLAR ACCESS 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 minimized.		Water efficient fittings, appliances and wastewater reuse should be incorporated. Apartments should be individually metered. Rainwater should be collected, stored and reused on site. Drought tolerant, low water use plants should be used within landscaped areas.	Overall Objective Achieved. Water efficient fittings and appliances will be installed. Apartments will be individually metered. Appropriate plants selected.
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. Several the following design solutions are used: • runoff is collected from roofs and balconies in water tanks and plumbed into toilets, laundry and irrigation • porous and open paving materials is maximized • on site stormwater and infiltration, including bio-retention systems such as rain gardens or street tree pits	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.
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. On large sites parks or open spaces are designed to provide temporary on-site detention basins.	Overall Objective Achieved.

4W WASTE MANAGEMENT			
OBJECTIVE 4W-1	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**ARCHITECT'S COMMENTS**
Waste storage facilities are designed to minimize 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 maneuvered 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 minimized 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.		Several the following design solutions are used: • roof overhangs to protect walls • hoods over windows and doors to protect openings • detailing horizontal edges with drip lines to avoid staining of surfaces • methods to eliminate or reduce planter box leaching • • appropriate design and material selection for hostile locations	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 façade.	
		Design solutions do not require external scaffolding for maintenance access.	
		Manually operated systems such as blinds, sunshades and curtains are used in preference to mechanical systems.	
		Centralized 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.		Several the following design solutions are used: • sensors to control artificial lighting in common circulation and spaces • natural materials that weather well and improve with time such as face brickwork • easily cleaned surfaces that are graffiti resistant • robust and durable materials and finishes are used in locations which receive heavy wear and tear, such as common circulation areas and lift interiors	Overall Objective Achieved.

JUNE 2020 revision of the ADG Compliance Table for SEPP 65 refers to the amended plans of 26-30 HOPE STREET, PENRITH NSW 2750 showing the following changes to respond to the reasons of refusal:

Ground Floor

- Split level of floor plan to better suit natural ground levels,
- Amended turn table size to suit smaller 10m garbage truck;
- Increased floor level height (550mm) to this area for the truck as new smaller truck has less head height requirements,
- Removal of a further unit- Resulting in resolution to the 'subterranean' unit issue and extent of cut at the rear noting the use of a common room leading to the rear COS area at the GF,

1st/ 2nd/ 3rd Floors

- Redesign of foyer area to make it more open and make entries move visible where possible- to respond to the concern about the separate foyer space raised by the panel,
- Renumbered units,
- Redesign of unit layouts along eastern façade to increase solar access, primarily revising balcony locations and also cutting back the unit on the corner of the building to enable the balcony edges to be pulled out and get the living room windows to 'see' the sun to the back units,
- Adjustment to Unit 10 to adopt a 1.5m frosted glass screen and planter bed to separate from the common area,
- The inclusion of a window to the foyer area,
- Split level of floor plan to follow ground floor plan,

4th/ 5th floors

- Renumbered units,
- Redesign of unit layouts along eastern façade to increase solar access, primarily revising balcony locations,
- Deletion of full rooftop COS and replacement with COS on the north-western corner with associated facilities with an area of 133sqm,
- Split level of floor plan to follow ground floor plan,

Elevations

- Split level of floor plan to each level to better suit natural ground levels,
- Amended floor-floor heights to lower the overall building height,
- The revision to the building and removal of the full rooftop common area means that the elevations have been revised and the extent of departure to the height limit is significantly reduced noting the only areas of departure are to the very top of Unit 36 owing to the cross-fall on the site and these departures are centrally located to the building. The variation is now only 150mm.

Please refer to the SOLAR PLAN which demonstrates which units will achieve a minimum of 2 hours direct solar access. The changes have resulted in 32 out of a total of 38 units are achieving direct solar access. (85% x 38 Units is 32.3 units)

Please refer to the VENITLATION PLAN which demonstrates which units will achieve cross ventilation. The changes have resulted in 25 out of 38 units achieving cross ventilation. (Min 60% x 38 units is 22.8 units)

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

Yours sincerely,

ZACHARY HAU

ARCHITECT NSW ARB 9914