

Review of Apartment Design Guide

9 Howard Avenue, 11 Howard Avenue, 15 Howard Avenue, 17 Howard Avenue, 14 Oaks Ave, 28 Oaks Avenue, 884 Pittwater Road, 888 Pittwater Road, 890 Pittwater Road, 892 Pittwater Road, 894 Pittwater Road, and 896 Pittwater Road, Dee Why, 2099

We create spaces people love.
SJB is passionate about the possibilities of architecture, interiors, urban design and planning.
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Prepared for
Meriton Group

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Design Statement

1

The purpose of this statement is to outline the design rationale and process that was adopted to prepare the application scheme.

Design Statement

Prepared to accompany the Development Application submitted to Council

20-04-2017

Project Address:
9 Howard Avenue, 11 Howard Avenue, 15 Howard Avenue, 17 Howard Avenue, 14 Oaks Ave, 28 Oaks Avenue, 884 Pittwater Road, 888 Pittwater Road, 890 Pittwater Road, 892 Pittwater Road, 894 Pittwater Road, and 896 Pittwater Road,
Dee Why
NSW 2099

Prepared on behalf:
Meriton Group

Prepared by:
SJB Architects NSW

Statement of Design

SJB have been appointed by Meriton Group to provide a comprehensive independent peer review of the proposed development in respect of compliance with the Apartment Design Guide. The proposed development has been designed to provide a development that is respectful of local planning and design controls and responds to the nine design quality principles of SEPP No. 65.

Key provisions of the ADG raised by Sydney North Planning Panel are addressed below.

Communal Open Space

The proposed development provides 17% communal open space, which is under the 25% requirement prescribed in the ADG.

The development proposes 15% of the site dedicated to a town square and pedestrian thoroughfare, providing essential connectivity from Oaks Avenue to Howard Avenue.

The town square is considered to provide immense public benefit and will publicly accessible 24/7. It has the potential to facilitate community events, markets and promote community cohesiveness and will be supported by public domain elements including seating, catenary lighting, sandstone embankment, turf sitting terraces and timber decking and stages.

The town square enables open space to be dispersed across the development to provide a combination of passive recreation and public domain activities.

We are satisfied that the arrangements made to provide a town square and pedestrian link facilitate a high quality mixed use development in Dee Why. Compliance with the 25% minimum communal open space is considered unnecessary in this instance.

Daylight Access

The proposed development provides 72% of units as solar compliant. 19% of units within the development are not provided with direct sunlight between 9am and 3pm at mid-winter.

The proposed development has been designed in consideration of its context including development and the public realm along Oaks Avenue to avoid unreasonable overshadowing impacts. As a consequence, south facing apartments within the development are unable to comply with sunlight requirements.

Measures taken include a ‘stepped back’ design to south facing apartments, which ensure they can obtain natural light and sky where possible. The design solution implemented to ensure high quality apartment development is retained and considered satisfactory, while maintaining 72% of apartments as solar compliant.

These units will also have access to the town square, which will provide high levels of solar access in mid-winter.

We are satisfied that the proposed development and the ‘stepped back’ design to the south has been made in consideration of a development that responds to its surrounding context. Compliance with the 15% maximum is considered unreasonable and unnecessary in this instance.

Common Circulation

As detailed within this review, the proposed development has internal corridors that exceed the requirement for the number of units accessed. A maximum of 9-12 units are located on each floor, with each building being served by two corridors off the core lift.

DA drawing CA3103 dated 19/04/17 indicates an additional lift has been provided in units facing Oaks Avenue to address common circulation.

We are satisfied the proposed common circulation and core areas for the development are satisfactory.

SJB verify that as required by the Clause 50 (1AB) of the Environmental Planning and Assessment Regulation 2000 the objectives in Part 3 and Part 4 of the Apartment Design Guide have been achieved for the proposed development as described in the following document.



Nick Hatzi
Director
Registered Architect NSW, No. 9380

ADG response table

The following content outlines the architectural scheme’s response to Part 3 & Part 4 of the Apartment Design Guide.

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies		
			Yes	No	Notes
3	SITING THE DEVELOPMENT				
3A	Site Analysis				
	3A-1	Site analysis illustrates that design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context	•		A site analysis has been submitted with the development application, demonstrating that the built form outcome responds to the site constraints, adjoining development and the Dee Why Town Centre. The analysis considers overshadowing of adjoining properties, topography, public domain interface, orientation and solar access. The analysis is consistent with the broader contextual status of Dee Why as a ‘Strategic Centre’ in accordance with the Draft North District Plan (2016) The site analysis is considered satisfactory.
		Each element in the Site Analysis Checklist should be addressed (see ADG Appendix 1)			Provided.
3B	Orientation				
	3B – 1	Building types and layouts respond to the streetscape and site while optimising solar access within the development			
		Buildings along the street frontage define the street, by facing it and incorporating direct access from the street (see figure 3B.1)	•		The development promotes amenity for both the proposed development and adjoining properties by providing a pedestrian link from Oaks Avenue to Howard Avenue. Development sited along Oaks Avenue has been designed at a scale to maintain solar access to public open space and retail strip, while taller development is sited along Howard Avenue. The proposed layout and building types are considered satisfactory.
		Where the street frontage is to the east or west, rear buildings should be orientated to the north	•		Buildings have been oriented north, where appropriate and are considered satisfactory.
		Where the street frontage is to the north or south, overshadowing to the south should be minimised and buildings behind the street frontage should be orientated to the east and west (see figure 3B.2)	•		Overshadowing to the south is minimised by locating lower building heights along Oaks Avenue and taller building heights along Howard Avenue. This ensures that solar access to Oaks Avenue and the public domain along this frontage is maintained. The proposed layout optimises solar access where possible and is considered satisfactory.
	3B-2	Overshadowing of neighbouring properties is minimised during midwinter			
		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	•		The proposal maintains appropriate levels of solar access during mid-winter where possible. See Part 4A Solar and Daylight access.
		Solar access to living rooms, balconies and private open spaces of neighbours should be considered	•		South eastern podium has been recessed to provide solar access to the podium unit of 10 Oaks Avenue. It is acknowledged that Stage 1 DA permits a higher walls to adjoining neighbours that the applicant is not proceeding with.
		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%	•		The proposed development has considered adjoining amenity to maintain building separation and solar access. It is noted that Stage 1 DA permitted higher walls to adjoining neighbours, which is not being undertaken to preserve amenity.
		If the proposal will significantly reduce the solar access of neighbours, building separation should be increased beyond minimums contained in section 3F Visual privacy	•		The proposed development has considered adjoining amenity to maintain building separation and solar access. It is noted that Stage 1 DA permitted higher walls to adjoining neighbours, which is not being undertaken to preserve amenity.

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies		
			Yes	No	Notes
3C	3C-1	Overshadowing should be minimised to the south or downhill by increased upper level setbacks			The proposed building envelope has been reduced on the southern boundary to enable solar access to neighbouring properties along Oaks Avenue. Arrangements to reduce overshadowing are considered satisfactory.
		It is optimal to orientate buildings at 90 degrees to the boundary with neighbouring properties to minimise overshadowing and privacy impacts, particularly where minimum setbacks are used and where buildings are higher than the adjoining development	•		The proposed envelopes are defined by the Approval Stage 1 DA and the LEP, which provides the framework for the built form on the site. The envelopes minimise overshadowing on neighbouring properties to the south and are considered satisfactory.
		A minimum of 4 hours of solar access should be retained to solar collectors on neighbouring buildings			N/A.
		Public Domain Interface			
		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	•		The proposed development provides ground and first level retail and commercial uses including a child care centre. This is supported by a pedestrian link and public domain space from Oaks Avenue to Howard Avenue. Apartments are accessed from a series of residential cores located around the development on the ground floor. The proposal is consistent with the nature of mixed use development and contributes to the character of the street.
		Changes in level between private terraces, front gardens and dwelling entries above the street level provide surveillance and improve visual privacy for ground level dwellings (see figure 3C.1)	•		The proposed development provides a four storey podium facing Howard Avenue, which creates visual privacy and improves passive surveillance along the Howard Avenue frontage. The proposed apartment scale along Oaks Ave enhances passive surveillance in and around the site. Surveillance and visual privacy are considered satisfactory.
		Upper level balconies and windows should overlook the public domain	•		Upper level balconies and windows overlook the public domain and are considered satisfactory.
		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	•		Development at the street frontages are identified for commercial and retail uses. This will activate the ground level and support the casual interaction between users of the pedestrian link and large public space in the form of a town square.
		Length of solid walls should be limited along street frontages	•		Length of solid walls have been limited along all street frontages.
		Opportties 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	•		The proposal provides a strong focus on casual interaction in the lift lobbies and corridors with areas to sit and generous spaces within the central ground floor area and public domain. The proposal succeeds in establishing significant public spaces and links within Dee Why Town Centre and provide a public benefit to residents and the wider community.
		In developments with multiple buildings and/or entries, pedestrian entries and spaces associated with individual buildings/entries should be differentiated to improve legibility for residents, using a number of the following design solutions: · architectural detailing · changes in materials · plant species · colours	•		The proposal is defined by a series of commercial and residential cores. The residential cores are defined by distinguishable detailing, materials and colours. This enhances the legibility of these cores for residents and is considered satisfactory.
		Opportunities for people to be concealed should be minimised	•		The public domain and pedestrian link eliminates potential for concealing undesirable or anti-social behaviour.

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies		
			Yes	No	Notes
3C	3C-2	Amenity of public domain is retained and enhanced			
		Planting softens the edges of any raised terraces to the street, for example above sub-basement car parking	•		Appropriate landscaping has been proposed, seeking to enhance the amenity of the public domain and minimise undesirable elements. Proposed planting across the site is considered satisfactory.
		Mail boxes should be located in lobbies, perpendicular to the street alignment or integrated into front fences where individual street entries are provided	•		Mail boxes are located in appropriate areas of the development and are considered satisfactory.
		The visual prominence of underground car park vents should be minimised and located at a low level where possible	•		Basement car parking areas are minimised and are designed to ensure minimal interference with the public domain. Minimising of visual prominence of car park vents are considered satisfactory.
		Substations, pump rooms, garbage storage areas and other service requirements should be located in basement car parks or out of view	•		A number of substation kiosks are located adjacent to residential lobbies however, these have been designed and integrated into the development to ensure minimal interaction and presence with the public domain. Suitable treatment can be provided to integrate these elements with the character of the development. The location of utility services are considered satisfactory.
		Ramping for accessibility should be minimised by building entry locations and setting ground floor levels in relation to footpath levels	•		Accessibility at building entry locations are considered satisfactory.
		Durable, graffiti resistant and easily cleanable materials should be used	•		Appropriate materials have been submitted with the development application and are considered satisfactory.
		Where development adjoins public parks, open space or bushland, the design positively addresses this interface and uses a number of the following design solutions: <ul style="list-style-type: none">• Street access, pedestrian paths and building entries which are clearly defined• Paths, low fences and plating that clearly delineate between communal/private open space and the adjoining public open space• Minimal use of blank walls, fences and ground level parking	•		The propose development positively address the public domain square through minimal use of blank walls and ground and first floor retail/commercial uses. The pedestrian link proposed is a central focus of the development and will enhance the interface of the public domain with residents and users. The proposed development succeeds in positively addressing the interface to the public domain and is considered satisfactory.
3D	3D-1	On sloping sites protrusion of car parking above ground level should be minimised by using split levels to step underground car parking	•		Basement parking is maintain below ground level and is considered satisfactory.
		Communal and public open space			
		An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping.			

ADG response table

Part No.	Objective No.	Objective	Complies		
		Design criteria Design guidance	Yes	No	Notes
3D-2		Communal open space has a minimum area equal to 25% of the site	•		<p>The proposed development provides approximately 17% of communal open space across the site area. This is largely presented in the form of podium terraces.</p> <p>The swimming pool and gym proposed provide common open space that could also be considered as providing a form of communal space for residents to enjoy.</p> <p>Despite this, the proposed development provides a significant town square approximately 2,250m2 (15.5%) fronting Howard Avenue, which will be publicly accessible. The town square is considered to provide significant public benefit not only for residents of the development, but for the broader community. The Landscape Plan prepared by Arcadia identifies a number of essential amenity benefits to support the town square including undercover seating, turf sitting terraces, timber decking, water play spaces, cultural tree plantings and seating areas.</p> <p>The proposed town square will publicly accessible 24/7. A VPA has been entered into with Council, providing the public to use the town square and allow Council to use it for 30 days per calendar year for community events.</p> <p>On this basis the provision of communal open space is considered satisfactory.</p>
		Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June (mid-winter)	•		<p>As a result of the proposed massing and orientation defined by relevant planning controls including the LEP, the communal open space could only be situated on the podium. Communal open space is considered acceptable in consideration of site constraints and allowing additional open space in the form of a town square at ground level.</p> <p>Additionally, the town square is likely to maintain appropriate levels of solar access, which faces north allowing the broader community to share the benefits of the space. Therefore the proposed solar access levels are considered satisfactory.</p>
		Communal open space should have a minimum dimension of 3m, and larger developments should consider greater dimensions	•		Communal open space dimensions are considered satisfactory.
		Communal open space should be co-located with deep soil areas	•		Planting integration across the development is provided and considered satisfactory.
		Direct, equitable access should be provided to communal open space areas from common circulation areas, entries and lobbies	•		All communal open space can be access from the main circulation areas, entries and lobbies and is considered satisfactory.
		Where communal open space cannot be provided at ground level, it should be provided on a podium or roof	•		Communal open space is provided on Level 2 and considered satisfactory.
		Where developments are unable to achieve the design criteria, such as on small lots, sites within business zones, or in a dense urban area, they should: <ul style="list-style-type: none">• provide communal spaces elsewhere such as a landscaped roof top terrace or a common room• provide larger balconies or increased private open space for apartments• demonstrate good proximity to public open space and facilities and/or provide contributions to public open space			The proposed development seeks to provide a prominent town square, is located close to Walter Gors Park and is considered to successfully address the objectives of communal open space pursuant to ADG. The town square complements new additions of open space within Dee Why Town Centre.
		3D-2	Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting		

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies		
			Yes	No	Notes
3C–3	3C–3	Facilities are provided within communal open spaces and common spaces for a range of age groups (see also 4F Common circulation and spaces), incorporating some of the following elements: <ul style="list-style-type: none">· seating for individuals or groups· barbecue areas· play equipment or play areas· swimming pools, gyms, tennis courts or common rooms	•		Appropriate amenity is provided within the communal open space areas including a pool and gym. Additionally, the town square will provide appropriate seating areas, shade and areas for socialising for both residents and the broader community. The facilities proposed within the development are considered satisfactory.
		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	•		Location of facilities responds to site conditions and are considered satisfactory.
		Visual impacts of services should be minimised, including location of ventilation duct outlets from basement car parks, electrical substations and detention tanks	•		Where possible, service areas have been designed to minimise prominence on the ground floor. The location of services is considered satisfactory.
		Communal open space is designed to maximise safety			
		Communal open space and the public domain should be readily visible from habitable rooms and private open space areas while maintaining visual privacy. Design solutions may include: <ul style="list-style-type: none">· bay windows· corner windows· balconies	•		Podium communal open space and the town square is visible from apartments. The proposed development has considered views to open space and communal areas from apartments and found to be satisfactory.
		Communal open space should be well lit	•		It is anticipated appropriate lighting will be installed within the proposed town square and communal open space areas.
		Where communal open space/facilities are provided for children and young people they are safe and contained	•		Appropriate facilities are suitable.
		3D–4 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	•		The town square addresses the Howard Avenue frontage and responds to the desired uses of the locality. The public open space is consistent with the principles of Dee Why Town Centre master plan.
		The public open space should be connected with nearby parks and other landscape elements	•		The development provides a strong focus on landscaped elements with the provision of the town square.
3E	3E–1	Public open space should be linked through view lines, pedestrian desire paths, termination points and the wider street grid	•		The proposed pedestrian link succeeds in achieving view lines and desired paths from Oaks Avenue to Howard Avenue.
		Solar access should be provided year round along with protection from strong winds	•		Solar access is likely to be retained in the proposed town square. The development has been sited in consideration of solar impacts to the south along Oaks Avenue and is considered acceptable.
		Opportunities for a range of recreational activities should be provided for people of all ages	•		Appropriate recreational activities are likely to be accommodated within the communal open space and town square. The town square will be able to provide hosting of community events, markets, art and craft events as well as a central meeting area.
		A positive address and active frontages should be provided adjacent to public open space	•		The proposed development appropriately addresses public open space through ground and first floor retail and commercial uses.
		Boundaries should be clearly defined between public open space and private areas	•		Boundaries will be clearly delineated through commercial uses at the ground floor.
		Deep soil zones			
		3E–1 Deep soil zones provide areas on the site that allow for and support healthy plant tree growth. They improve residential amenity and promote management of water and air quality			

ADG response table

Part No.	Objective No.	Objective	Complies														
		Design criteria Design guidance	Yes	No	Notes												
3F-1		Deep soil zones are to meet the following minimum requirements.															
		<table><tr><th>Site area</th><th>Minimum dimensions</th><th>Deep soil zone (% of site area)</th></tr><tr><td>Less than 650m²</td><td>–</td><td rowspan="4">7%</td></tr><tr><td>650m²– 1,500m²</td><td>3m</td></tr><tr><td>Greater than 1,500m²</td><td>6m</td></tr><tr><td>Greater than 1,500m² with significant existing cover</td><td>6m</td></tr></table>	Site area	Minimum dimensions	Deep soil zone (% of site area)	Less than 650m ²	–	7%	650m ² – 1,500m ²	3m	Greater than 1,500m ²	6m	Greater than 1,500m ² with significant existing cover	6m			<ul style="list-style-type: none">The site is unable to achieve compliance with the requirement for deep soil zones as it is located in an urbanised environment and the planning controls with the Stage 1 approval permits basement parking.Despite this, the proposal is able to provide adequate landscaping and planting taking into account existing planning constraints.The proposed development also provides for suitable stormwater treatment to facilitate drainage flow.Therefore the proposal is able to satisfy the objectives of deep soil zones pursuant to ADG and proposed arrangements are considered satisfactory.
	Site area	Minimum dimensions	Deep soil zone (% of site area)														
	Less than 650m ²	–	7%														
	650m ² – 1,500m ²	3m															
Greater than 1,500m ²	6m																
Greater than 1,500m ² with significant existing cover	6m																
	On some sites it may be possible to provide larger deep soil zones, depending on the site area and context: <ul style="list-style-type: none">· 10% of the site as deep soil on sites with an area of 650m²– 1,500m²· 15% of the site as deep soil on sites greater than 1,500m²			N/A - Deep soil zones not proposed (see above).													
	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: <ul style="list-style-type: none">· basement and sub-basement car park design that is consolidated beneath building footprints· use of increased front and side setbacks· adequate clearance around trees to ensure long term health· co-location with other deep soil areas on adjacent sites to create larger contiguous areas of deep soil			<ul style="list-style-type: none">Where possible, mature trees have been retained along frontages and is considered satisfactory.													
	Achieving the design criteria may not be possible on some sites including where: <ul style="list-style-type: none">· The location and building typology have limited or no space for deep soil at ground level (e.g. central business district, constrained sites, high density areas, or in centres)· There is 100% site coverage or non-residential uses at ground floor level· 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			<ul style="list-style-type: none">As identified, the site is unable to provide deep soil zones as a consequence of its location and the need to provide adequate basement car parking. Acceptable stormwater management arrangements have been made to integrate planting and are considered satisfactory.The site is located in a town centre that is already urbanised and cannot physically cater for deep soil.													
	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:																
	<table><tr><th>Building Height</th><th>Habitable Room and Balconies</th><th>Non Habitable</th></tr><tr><td>Up to 12 (4 storeys)</td><td>6m</td><td>3m</td></tr><tr><td>Up to 25m (5-8 storeys)</td><td>9m</td><td>4.5m</td></tr><tr><td>Over 25m (9+ storeys)</td><td>12m</td><td>6m</td></tr></table>	Building Height	Habitable Room and Balconies	Non Habitable	Up to 12 (4 storeys)	6m	3m	Up to 25m (5-8 storeys)	9m	4.5m	Over 25m (9+ storeys)	12m	6m			<ul style="list-style-type: none">The proposed separation distances have been established by virtue of Stage 1 DA and are considered satisfactory given the site orientation required under the relevant planning controls and the LEP.	
Building Height	Habitable Room and Balconies	Non Habitable															
Up to 12 (4 storeys)	6m	3m															
Up to 25m (5-8 storeys)	9m	4.5m															
Over 25m (9+ storeys)	12m	6m															
	Note: Separation distances between buildings on the same site should combine required building separations depending on the type of room (see figure 3F.2) Gallery access circulation should be treated as habitable space when measuring privacy separation distances between neighbouring properties																
	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			<ul style="list-style-type: none">The development provides appropriate setback arrangements fronting Oaks Avenue to portray a more pedestrian scale interface.													

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies		
			Yes	No	Notes
3F-2		For residential buildings next to commercial buildings, separation distances should be measured as follows: <ul style="list-style-type: none">· for retail, office spaces and commercial balconies use the habitable room distances· for service and plant areas use the non-habitable room distances	•		Building separation proposed is considered satisfactory and has been established by approval of Stage 1 DA.
		New development should be located and oriented to maximise visual privacy between buildings on site and for neighbouring buildings. Design solutions include: <ul style="list-style-type: none">· site layout and building orientation to minimise privacy impacts (see also section 3B Orientation)· on sloping sites, apartments on different levels have appropriate visual separation distances (see figure 3F.4)	•		Appropriate privacy screening and orientation has been implemented and considered satisfactory.
		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)	•		Separation distances are considered satisfactory, given the physical characteristics of the site being in an existing infill location.
		Direct lines of sight should be avoided for windows and balconies across corners	•		The proposed development provides appropriate location of balconies and windows and is considered satisfactory. Privacy can be maintained by incorporating upstands, glazing sill heights and balcony upstands.
		No separation is required between blank walls	•		Noted.
		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: <ul style="list-style-type: none">· setbacks· solid or partially solid balustrades to balconies at lower levels· fencing and/or trees and vegetation to separate spaces· screening devices· bay windows or pop out windows to provide privacy in one direction and outlook in another· raising apartments/private open space above the public domain or communal open space· planter boxes incorporated into walls and balustrades to increase visual separation· pergolas or shading devices to limit overlooking of lower apartments or private open space· on constrained sites where it can be demonstrated that building layout opportunities are limited, fixed louvres or screen panels to windows and/or balconies	•		Appropriate privacy mechanisms are proposed to ensure appropriate amenity and private space is protected. The location and building design elements are considered satisfactory.
		Bedrooms, living spaces and other habitable rooms should be separated from gallery access and other open circulation space by the apartment's service areas	•		Apartments have been designed to ensure appropriate separation from gallery access and other circulation space by the apartment's service area.
		Balconies and private terraces should be located in front of living rooms to increase internal privacy	•		Balconies and private terraces are largely located in front of living rooms.
		Windows should be offset from the windows of adjacent buildings	•		Windows have been appropriately situated to ensure appropriate privacy, whilst also maintaining amenity and views.
3G	3G-1	Recessed balconies and/or vertical fins should be used between adjacent balconies	•		Solid vertical fins have been introduced on south facing apartments.
		Pedestrian Access and Entries			
		Building entries and pedestrian access connects to and address the public domain			
		Multiple entries (including communal building entries and individual ground floor entries) are provided to activate the street edge	•		Multiple building entries are provided from the ground floor of the development. Communal open space (located on Level 2) is appropriately accessible and considered satisfactory. The location of various building entries activates all aspects of the ground floor of the development.
		Entry locations relate to the street and subdivision pattern and the existing pedestrian network	•		Entry locations are logical given the size and shape of the site and associated development.

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies		
			Yes	No	Notes
3G	3G-2	Building entries are clearly identifiable. Communal entries are clearly distinguishable from private entries	•		Building entries are clearly definable from the ground level and distinguishable from commercial entries. They are located along the main frontages of the development, enhancing their presence.
		Where street frontage is limited and multiple buildings are located on the site, a primary street address is provided with clear sight lines and pathways to secondary building entries	•		N/A
		Access, entries and pathways are equitable and easy to identify			
		Building access areas including lift lobbies, stairwells and hallways are clearly visible from the public domain and communal spaces	•		Building access areas are clearly located throughout the site.
		The design of ground floors and underground car parks minimise level changes along pathways and entries	•		The development provides attempts to minimise level changes across the site.
		Steps and ramps are integrated into the overall building and landscape design	•		Steps and ramps are appropriately integrated within the site and will be softened by a number of landscape treatments.
	3G-3	For large developments ‘way finding’ maps should be provided to assist visitors and residents (see figure 4T.3)			As required, subject to future design development
		For large developments electronic access and audio/video intercom should be provided to manage access			As required, subject to future design development
		Pedestrian links through developments provide access to streets and connect destinations			
		Pedestrian links through sites facilitate direct connections to open space, main streets, centres and public transport	•		A pedestrian site through link is proposed from Oaks Avenue to Howard Avenue. This proposed link is essential in establishing a more legible and connected town centre, close to proposed transport stops, retail and open space amenity. The proposed link is a key feature of the development and successfully enhances pedestrian links through the site.
		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	•		The pedestrian site through link is over looked by the habitable rooms on each side of the link and will be well lit.
3H	Vehicle Access				
	3H-1	Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes			
		Car park access is integrated with the building’s overall facade, design solutions may include: • the materials and colour palette minimise visibility from the street • security doors or gates at entries that minimise voids in the facade • where doors are not provided, the visible interior reflects the facade design and the building services, pipes and ducts are concealed	•		The car park entry is integrated into the landscape of the lot to minimise the visibility of the entry on the street. The design and arrangements for car parking within the development are considered satisfactory.
		Car park entries are located behind the building line	•		Entries have been located behind the building line.
		Vehicle entries are located at the lowest point of the site minimising ramp lengths, excavation and impacts on the building form and layout	•		Vehicular entries have been located in consideration of adjoining development, existing road network and pedestrian elements. The proposed location of vehicle entries are considered satisfactory given the site location and its local context.
		Car park entry and access is located on secondary streets or lanes where available	•		Car park entry is located on Oaks Avenue and Howard Avenue, which avoids the interruption of traffic along Pittwater Road. The location of car park entries are considered satisfactory.
		Vehicle standing areas that increase driveway width and encroach into setbacks should be avoided	•		Standing areas not proposed.
		Access point locations avoid headlight glare to habitable rooms	•		Access points are designed to ensure minimal glare to habitable rooms and is considered satisfactory.

ADG response table

Part No.	Objective No.	Objective	Complies		
		Design criteria Design guidance	Yes	No	Notes
		Adequate separation distances are provided between vehicular entries and street intersections	•		WSP Traffic Consultants are satisfied with vehicle access arrangements.
		The width and number of vehicle access points is limited to the minimum	•		Width and vehicle access points is considered satisfactory.
		Visual impact of long driveways is minimised through changing alignments and screen planting	•		Planting lines will be appropriately incorporated.
		The requirement for large vehicles to enter or turnaround within the site is avoided	•		Pick up of garbage is to occur within the waste loading and collection facilities located within the site. The site is large enough to accommodate this activity along with appropriate mixed use functions.
		Garbage collection, loading and servicing areas are screened	•		Garbage chutes are located in each building, which will enter the basement garbage compactors and be then collected in the waste loading/collecting area. This will adequately screen garbage collection from public view.
		Clear sight lines should be provided at pedestrian and vehicle crossings	•		Clear sight lines are provided on all site boundaries with vehicle crossings.
		Traffic calming devices such as changes in paving material or textures should be used where appropriate	•		Noted.
		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	•		Landscape is used to separate the pedestrian paths and the vehicle entry points as well as varying materials and finish to clearly distinguish the two entry points.
3J	Bicycle and Car Parking				
3J–1	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 metres of a railway station or light rail stop in the Sydney Metropolitan Area; or – on land zoned, and sites within 400 metres of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre The minimum car parking requirement for residents and visitors is set out in the Guide to Traffic Generating Developments, or the car parking requirement prescribed by the relevant council, whichever is less The car parking needs for a development must be provided off street	•		Car parking requirements provided satisfy Council's traffic requirements.
		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/ Car share schemes are not operating in the near vicinity.
		Where less car parking is provided in a development, council should not provide on street resident parking permits	•		Noted.
3J–2	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	•		Sufficient spaces provided in accordance with Council's traffic requirements.
		Secure undercover bicycle parking should be provided that is easily accessible from both the public domain and common areas	•		Secure undercover bicycle parking has been provided.
		Conveniently located charging stations are provided for electric vehicles, where desirable			N/A
3J–3	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	•		Supporting facilities are appropriately located within the car park and can be accessed without avoiding car parking spaces.
		Direct, clearly visible and well lit access should be provided into common circulation areas	•		Provided.
		A clearly defined and visible lobby or waiting area should be provided to lifts and stairs	•		Clear visible areas provided.

ADG response table

Part No.	Objective No.	Objective	Complies			
		Design criteria Design guidance	Yes	No	Notes	
4	3J–4	For larger car parks, safe pedestrian access should be clearly defined and circulation areas have good lighting, colour, line marking and/or bollards	•		Noted and can comply.	
		Visual and environmental impacts of underground car parking are minimised				
		Excavation should be minimised through efficient car park layouts and ramp design	•		Car park layouts and ramp design considered satisfactory. Approved by Council's traffic team.	
		Car parking layout should be well organised, using a logical, efficient structural grid and double loaded aisles	•		Car parking layout is well organised and considered satisfactory. Approved by Council's traffic team.	
		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			N/A. Protrusion of car parks not proposed.	
	3J–5	Natural ventilation should be provided to basement and sub-basement car parking areas	•		Due to the size of the basement parking areas and location of the entry points, natural ventilation is unable to be achieved. Despite this, appropriate mechanical ventilation solutions have been integrated and considered satisfactory.	
		Ventilation grills or screening devices for car parking openings should be integrated into the facade and landscape design	•		Appropriate gates are provided and setback from the boundary to reduce impact on building design.	
		Visual and environmental impacts of on-grade car parking are minimised				
		On-grade car parking should be avoided	•		No on-grade car parking proposed that is exposed to the outdoors. All parking is contained to the 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			N/A. All car parking is contained in the basement levels or well within the development and not viewed from public areas.	
3J–6	Visual and environmental impacts of above ground enclosed car parking are minimised					
	Exposed parking should not be located along primary street frontages	•		N/A. No exposed parking.		
	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)			N/A		
	Positive street address and active frontages should be provided at ground level	•		The proposed development provides positive and active street frontages at ground level in the form of retail and commercial floor space.		
DESIGNING THE BUILDING						
4A	Solar and daylight access					
4A–1	To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space					

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies		
			Yes	No	Notes
		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	•		72% of apartments are solar compliant.
		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	•		Submitted plans indicate the development is compliant.
		3. A maximum of 15% of apartments in a building receive no direct sunlight between 9am and 3pm at mid winter	•		<p>The proposed development provides that approximately 19% of units are not provided with no direct sunlight between 9am and 3pm at mid-winter.</p> <p>While unable to achieve the 15% requirement, the proposed development has been designed in consideration of the surrounding development and to provide a number of public benefits. These include provision of a large town square, generous apartment sizes and protection of solar access to Oaks Avenue. The 4% difference accounts for approximately 14 units within the 350 unit development, which is acceptable in the circumstances of the site and the prescribed planning controls.</p> <p>In addition, south facing units comprise stepped terraces, which allow these to be exposed to sky and other sources of light to compensate for their solar requirements.</p> <p>The proposal is able to provide 72% of solar compliant units and therefore is able to satisfy the objective of the ADG solar and daylight access requirements.</p>
		The design maximises north aspect and the number of single aspect south facing apartments is minimised	•		Proposed development maximises north aspect apartments, providing a minimal number of south facing apartments. The location and layout of the development is considered satisfactory.
		Single aspect, single storey apartments should have a northerly or easterly aspect	•		There are a small number of single aspect apartments that face north west. This is considered acceptable in consideration of the site, orientation and layout of the development.
		Living areas are best located to the north and service areas to the south and west of apartment	•		The proposed development seeks to maximise solar and daylight access within each unit, where possible. The proposed development is considered to achieve appropriate levels of solar access.
		<p>To optimise the direct sunlight to habitable rooms and balconies a number of the following design features are used:</p> <ul style="list-style-type: none">· dual aspect apartments· shallow apartment layouts· two storey and mezzanine level apartments· bay windows	•		A number of apartments are designed to be dual aspect, two storey and more shallow apartment layouts to reduce south facing units.
		To maximise the benefit to residents of direct sunlight within living rooms and private open spaces, a minimum of 1m² of direct sunlight, measured at 1m above floor level, is achieved for at least 15 minutes	•		This is achieved to the majority of apartments.

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies		
			Yes	No	Notes
4A-2		Achieving the design criteria may not be possible on some sites. This includes: <ul style="list-style-type: none">where greater residential amenity can be achieved along a busy road or rail line by orientating the living rooms away from the noise sourceon south facing sloping siteswhere 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	•		The Stage 1 approval and the LEP has largely resulted in the proposed location, orientation and massing of any building on the site. The design was developed in consideration of minimising overshadowing to Oaks Avenue in the south, while also providing a significant town square in the north. The 4% of apartments do not have direct sunlight are compensated through a number of key features including south facing views, closer relationship to the public domain and active street frontages and having larger private open space areas and two storey apartments. On this basis, the proposed solar access of the development achieve the underlying objectives of ADG and are considered satisfactory.
		Daylight access is maximised where sunlight is limited			
		Courtyards, skylights and high level windows (with sills of 1,500mm or greater) are used only as a secondary light source in habitable rooms	•		Noted.
		Where courtyards are used: <ul style="list-style-type: none">use is restricted to kitchens, bathrooms and service areasbuilding services are concealed with appropriate detailing and materials to visible wallscourtyards are fully open to the skyaccess is provided to the light well from a communal area for cleaning and maintenanceacoustic privacy, fire safety and minimum privacy separation distances (see section 3F Visual privacy) are achieved			N/A
4A-3		Opportunities for reflected light into apartments are optimised through: <ul style="list-style-type: none">reflective exterior surfaces on buildings opposite south facing windowspositioning windows to face other buildings or surfaces (on neighbouring sites or within the site) that will reflect lightintegrating light shelves into the designlight coloured internal finishes	•		The proposed development provides light coloured façades on mid-rise buildings, which will reflect the exterior surface onto south facing windows. The proposed opportunities to reflect light into apartments is considered satisfactory.
		Design incorporates shading and glare control, particularly for warmer months			
4B	4B-1	A number of the following design features are used: <ul style="list-style-type: none">balconies or sun shading that extend far enough to shade summer sun, but allow winter sun to penetrate living areasshading devices such as eaves, awnings, balconies, pergolas, external louvres and plantinghorizontal shading to north facing windowsvertical shading to east and particularly west facing windowsoperable shading to allow adjustment and choicehigh performance glass that minimises external glare off windows, with consideration given to reduced tint glass or glass with a reflectance level below 20% (reflective films are avoided)	•		The development incorporates a range of design features that seek to provide shading and glare control for warmer months and are considered to be satisfactory. This is also considered by BASIX.
		All habitable rooms are naturally ventilated			
		The building's orientation maximises capture and use of prevailing breezes for natural ventilation in habitable rooms	•		Building's orientation maximises prevailing breezes for natural ventilation in habitable rooms.
		Depths of habitable rooms support natural ventilation	•		Depth of habitable rooms support natural ventilation.

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies		
			Yes	No	Notes
4B-2		The area of unobstructed window openings should be equal to at least 5% of the floor area served	•		Noted. Can be dealt with as BCA requirement.
		Light wells are not the primary air source for habitable rooms			N/A. Light wells are not considered the main air source for habitable rooms.
		Doors and openable windows maximise natural ventilation opportunities by using the following design solutions: <ul style="list-style-type: none">• adjustable windows with large effective openable areas• a variety of window types that provide safety and flexibility such as awnings and louvres• windows which the occupants can reconfigure to funnel breezes into the apartment such as vertical louvres, casement windows and externally opening doors	•		A number of operable windows are proposed to maximise natural ventilation within the development.
		The layout and design of single aspect apartments maximises natural ventilation			
		Apartment depths are limited to maximise ventilation and airflow (see also figure 4D.3)	•		Complies. See 4D.3.

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies		
			Yes	No	Notes
4B-3		Natural ventilation to single aspect apartments is achieved with the following design solutions: <ul style="list-style-type: none">primary windows are augmented with plenums and light wells (generally not suitable for cross ventilation)stack effect ventilation / solar chimneys or similar to naturally ventilate internal building areas or rooms such as bathrooms and laundriescourtyards or building indentations have a width to depth ratio of 2:1 or 3:1 to ensure effective air circulation and avoid trapped smells	•		Ceiling fans can be provided on single aspect apartments to enhance existing ventilation. Single aspect apartments provide sufficient width to depth ratios to ensure adequate air flow. A number of single aspect apartments are double height, which assist with air flow.
		The number of apartments with natural cross ventilation is maximised 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	•		The current ADG requires at least 60% of apartments are naturally cross ventilated in the first 9 storeys. Under the ADG, our review indicates 56.5% achieve cross ventilation on the first 9 storeys. We have found this to be acceptable for the development in light of a combination of factors including site orientation, planning constraints and considerable site given back to public amenity. In this instance the 3.5% gap in natural cross ventilation is considered acceptable based on the complexities of the site and the ability to satisfy key LEP requirements. Overall the development achieves the objectives of the ADG in relation to natural cross ventilation and general amenity throughout. We note the building modelling for this site took place when the former Residential Flat Design Code was in place. The RFDC at the time permitted 60% compliance to all units. Under these circumstances, cross ventilation for the site would have been in compliance.
		2. Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line	•		No apartments exceed the 18m requirement.
		The building should include dual aspect apartments, cross through apartments and corner apartments and limit apartment depths	•		Dual aspect and corner apartments are proposed throughout the development where appropriate.
		In cross-through apartments external window and door opening sizes/areas on one side of an apartment (inlet side) are approximately equal to the external window and door opening sizes/areas on the other side of the apartment (outlet side) (see figure 4B.4)	•		Appropriate external window and door sizes are provided.
		Apartments are designed to minimise the number of corners, doors and rooms that might obstruct airflow	•		Provided.
		Apartment depths, combined with appropriate ceiling heights, maximise cross ventilation and airflow	•		Cross ventilation is maximised across the development.
4C	Ceiling heights				
	4C-1	Ceiling height achieves sufficient natural ventilation and daylight access			

ADG response table

Part No.	Objective No.	Objective	Complies														
		Design criteria Design guidance	Yes	No	Notes												
		Measured from finished floor level to finished ceiling level, minimum ceiling heights are:	•		Floor to ceiling heights meet the prescribed 2.7m.												
		<table><tr><th colspan="2">Minimum ceiling height for apartment and mixed use buildings</th></tr><tr><td>Habitable rooms</td><td>2.7m</td></tr><tr><td>Non-habitable rooms</td><td>2.4m</td></tr><tr><td>For 2 storey apartments</td><td>2.7m for main living area floor 2.4m for second floor, where its apartment area does not exceed 50% of the apartment area</td></tr><tr><td>Attic spaces</td><td>1.8m at edge of room with a 30 people degree minimum ceiling slope</td></tr><tr><td>If located in mixed use areas</td><td>3.3m for ground and first floor to promote future flexibility of use</td></tr></table>			Minimum ceiling height for apartment and mixed use buildings		Habitable rooms	2.7m	Non-habitable rooms	2.4m	For 2 storey apartments	2.7m for main living area floor 2.4m for second floor, where its apartment area does not exceed 50% of the apartment area	Attic spaces	1.8m at edge of room with a 30 people degree minimum ceiling slope	If located in mixed use areas	3.3m for ground and first floor to promote future flexibility of use	The proposed ceiling heights comply with ADG requirements.
		Minimum ceiling height for apartment and mixed use buildings															
		Habitable rooms			2.7m												
		Non-habitable rooms			2.4m												
For 2 storey apartments	2.7m for main living area floor 2.4m for second floor, where its apartment area does not exceed 50% of the apartment area																
Attic spaces	1.8m at edge of room with a 30 people degree minimum ceiling slope																
If located in mixed use areas	3.3m for ground and first floor to promote future flexibility of use																
		These minimums do not preclude higher ceilings if desired															
		Ceiling height can accommodate use of ceiling fans for cooling and heat distribution	•		Noted. Capable of being provided.												
4C–2		Ceiling height increases the sense of space in apartments and provides for well-proportioned rooms															
		A number of the following design solutions can be used: <ul style="list-style-type: none">• The hierarchy of rooms in an apartment is defined using changes in ceiling heights and alternatives such as raked or curved ceilings, or double height spaces• Well-proportioned rooms are provided, for example, smaller rooms feel larger and more spacious with higher ceilings• Ceiling heights are maximised in habitable rooms by ensuring that bulkheads do not intrude. The stacking of service rooms from floor to floor and coordination of bulkhead location above non-habitable areas, such as robes or storage, can assist	•		Ceiling heights are considered to be appropriately portioned and located across the proposed development.												
4C–3		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 (see figure 4C.1)	•		Ground level and first floor of the proposed development comprises retail and commercial floor areas with appropriate ceiling heights suited to their use.												
4D		Apartment size and layout															
4D–1		The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity															

ADG response table

Part No.	Objective No.	Objective	Complies													
		Design criteria Design guidance	Yes	No	Notes											
4D–2		1. Apartments are required to have the following minimum internal areas:	<table><tr><th>Apartment Type</th><th>Minimum Internal Area</th></tr><tr><td>Studio</td><td>35m²</td></tr><tr><td>1 bedroom</td><td>50m²</td></tr><tr><td>2 bedroom</td><td>70m²</td></tr><tr><td>3 bedroom</td><td>90m²</td></tr></table>	Apartment Type	Minimum Internal Area	Studio	35m²	1 bedroom	50m²	2 bedroom	70m²	3 bedroom	90m²	•		Plans have been amended to ensure unit sizes comply.
		Apartment Type		Minimum Internal Area												
		Studio		35m²												
		1 bedroom		50m²												
		2 bedroom		70m²												
		3 bedroom		90m²												
		The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5m² each														
		A fourth bedroom and further additional bedrooms increase the minimum internal area by 12m² each														
		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																
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	•		Complies.													
Environmental performance of the apartment is maximised																
1. Habitable room depths are limited to a maximum of 2.5 x the ceiling height	•		Provided.													
2. In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window	•		Achieved.													
Greater than minimum ceiling heights can allow for proportional increases in room depth up to the permitted maxi-mum depths	•		Noted.													
All living areas and bedrooms should be located on the external face of the building	•		Achieved.													
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	•		Main living spaces are oriented towards the main outlook of the building orientation and aspect.													
4D–3		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)	•		Master bedrooms are able to provide a minimum are of 10m² and other bedrooms 9m².											
		2. Bedrooms have a minimum dimension of 3m (excluding wardrobe space)	•		Bedrooms are able to have a minimum dimension of 3 metres.											
		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	•		Living room and dining rooms (including combined) provide sufficient minimum widths to enable a function and usable space.											
		4. The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts	•		Provided.											

ADG response table

Part No.	Objective No.	Objective	Complies																	
		Design criteria Design guidance	Yes	No	Notes															
		Access to bedrooms, bathrooms and laundries is separated from living areas minimising direct openings between living and service areas	•		Achieved.															
		All bedrooms allow a minimum length of 1.5m for robes	•		Provided.															
		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	•		Provided.															
		Apartment layouts allow flexibility over time, design solutions may include: <ul style="list-style-type: none">• dimensions that facilitate a variety of furniture arrangements and removal• spaces for a range of activities and privacy levels between different spaces within the apartment• dual master apartments• dual key apartments• Note: dual key apartments which are separate but on the same title are regarded as two sole occupancy units for the purposes of the Building Code of Australia and for calculating the mix of apartments• room sizes and proportions or open plans (rectangular spaces (2:3) are more easily furnished than square spaces (1:1))• efficient planning of circulation by stairs, corridors and through rooms to maximise the amount of usable floor space in rooms	•		The proposed development provides generous apartment sizes in comparison to the minimum requirements set out by ADG. This enables most apartments to be adaptively reused over time to provide more flexible layouts and to cater for growing lifestyle changes.															
4E	Private Open Space and Balconies																			
4E-1	Apartments provide appropriately sized private open space and balconies to enhance residential amenity																			
		All apartments are required to have primary balconies as follows:	•		All apartments comply with the minimum balcony dimensions and depth.															
		<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>	Dwelling Type	Minimum Area	Minimum Depth	Studio Apartments	4m²	-	1 bedroom apartments	8m²	2m	2 bedroom apartments	10m²	2m	3+ bedroom apartments	12m²	2.4m			
Dwelling Type	Minimum Area	Minimum Depth																		
Studio Apartments	4m²	-																		
1 bedroom apartments	8m²	2m																		
2 bedroom apartments	10m²	2m																		
3+ bedroom apartments	12m²	2.4m																		
		The minimum balcony depth to be counted as contributing to the balcony area is 1m																		
		For apartments at ground level or on a podium or similar structure, a private open space is provided instead of a bal-cony. It must have a minimum area of 15m² and a minimum depth of 3m	•		Level 2 units provide a combination of external balconies and internal courtyards with a minimum depth of 3m.															
		Increased communal open space should be provided where the number or size of balconies are reduced			N/A															
		Storage areas on balconies is additional to the minimum balcony size			N/A															
		Balcony use may be limited in some proposals by: <ul style="list-style-type: none">• consistently high wind speeds at 10 storeys and above• close proximity to road, rail or other noise sources• exposure to significant levels of aircraft noise• heritage and adaptive reuse of existing buildings In these situations, Juliet balconies, operable walls, enclosed wintergardens or bay windows may be appropriate, and other amenity benefits for occupants should also be provided in the apartments or in the development or both. Natural ventilation also needs to be demonstrated			N/A															

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies		
			Yes	No	Notes
4E	4E-2	Primary private open space and balconies are appropriately located to enhance liveability for residents			
		Primary open space and balconies should be located adjacent to the living room, dining room or kitchen to extend the living space	•		Provided.
		Private open spaces and balconies predominantly face north, east or west	•		Provided, where units face north, east and west.
	4E-3	Primary open space and balconies should be orientated with the longer side facing outwards or be open to the sky to optimise daylight access into adjacent rooms	•		Provided, where possible. Site constraints and planning controls have limited opportunities for this to be achieved.
		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 de-signed 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	•		Materials and finishes have been appropriately selected to respond to the site location.
		Full width full height glass balustrades alone are generally not desirable	•		Glass balustrades are integrated with privacy fins within the development.
		Projecting balconies should be integrated into the building design and the design of soffits considered	•		The balconies are completely integrated and form part of the façade design
		Operable screens, shutters, hoods and pergolas are used to control sunlight and wind	•		Screens and hoods help to control the sunlight, where provided.
		Balustrades are set back from the building or balcony edge where overlooking or safety is an issue	•		In some areas, higher level balconies have their balustrades set back slightly of the face of the façade for safety.
		Downpipes and balcony drainage are integrated with the overall facade and building design	•		Provided.
		Air-conditioning units should be located on roofs, in basements, or fully integrated into the building design	•		Provided.
		Where clothes drying, storage or air conditioning units are located on balconies, they should be screened and inte-grated in the building design	•		Provided.
4F	4E-4	Ceilings of apartments below terraces should be insulated to avoid heat loss	•		Provided.
		Water and gas outlets should be provided for primary balconies and private open space	•		Provided.
		Private open space and balcony design maximises safety			
		Changes in ground levels or landscaping are minimised	•		Landscaping maximises safety.
		Design and detailing of balconies avoids opportunities for climbing and falls	•		Provided.
	Common Circulation and Spaces				
	4F-1	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	•		The proposed development provides access to all apartment floors via lifts located within the residential lobby areas of the development. An additional lift has been provided in units facing Oaks Avenue to address common circulation.
		2. For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40	•		The number of units per lift varies because of the varied building envelope. This is considered satisfactory.
		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	•		The development provides wide corridors and heights to facilitate comfortable movement and access within and around entry lobbies. Lift technology is proposed, which will limit the residents duration waiting in core areas. Small chairs and lounges can be provided to enhance amenity in these areas.
		Daylight and natural ventilation should be provided to all common circulation spaces that are above ground	•		Natural ventilation is provides opportunity for filtered natural light to some locations.

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies		
			Yes	No	Notes
4F-2	Common circulation spaces promote safety and provide for social interaction between residents	Windows should be provided in common circulation spaces and should be adjacent to the stair or lift core or at the ends of corridors	•		Provided, where possible.
		Longer corridors greater than 12m in length from the lift core should be articulated. Design solutions may include: <ul style="list-style-type: none">• a series of foyer areas with windows and spaces for seating• wider areas at apartment entry doors and varied ceiling heights	•		Corridors greater than 12m in length are articulated.
		Design common circulation spaces to maximise opportunities for dual aspect apartments, including multiple core apartment buildings and cross over apartments	•		Multiple core apartments buildings are proposed, where required.
		Achieving the design criteria for the number of apartments off a circulation core may not be possible. Where a development is unable to achieve the design criteria, a high level of amenity for common lobbies, corridors and apartments should be demonstrated, including: <ul style="list-style-type: none">• sunlight and natural cross ventilation in apartments• access to ample daylight and natural ventilation in common circulation spaces• common areas for seating and gathering• generous corridors with greater than minimum ceiling heights• other innovative design solutions that provide high levels of amenity	•		A high level of amenity had been designed for the apartments including; <ul style="list-style-type: none">• Cross ventilation to a majority of apartments• Common circulation spaces provide articulation• Common areas provide ample sunlight• Residential lobbies provide generous ceiling heights• Common areas aligned to appropriate access to outdoor communal open space
		Where design criteria 1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level	•		See comments above.
		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 con-trolled	•		Living room and bedroom windows do not open directly onto common circulation spaces.
		Direct and legible access should be provided between vertical circulation points and apartment entries by minimising corridor or gallery length to give short, straight, clear sight lines	•		Clear site lines are proposed up to 12m before providing articulation.
		Tight corners and spaces are avoided	•		Achieved.
		Circulation spaces should be well lit at night	•		Can comply.
		Legible signage should be provided for apartment numbers, common areas and general wayfinding	•		Noted.
		Incidental spaces, for example space for seating in a corridor, at a stair landing, or near a window are provided	•		The lift lobbies can provide additional space for furniture or seating if required.
		In larger developments, community rooms for activities such as owners corporation meetings or resident use should be provided and are ideally co-located with communal open space	•		A number of key amenities are provided in close proximity to the communal open space areas. These include <ul style="list-style-type: none">• Potential landscape area on Level 4 (subject to future design)• Gym, change rooms and sauna located on Level 2 near communal open space• Swimming pool on Level 2
		Where external galleries are provided, they are more open than closed above the balustrade along their length	•		Noted.
4G	Storage				
4G-1	Adequate, well designed storage is provided in each apartment				

ADG response table

Part No.	Objective No.	Objective	Complies												
		Design criteria Design guidance	Yes	No	Notes										
4G-2		In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided: <table><tr><th>Dwelling type</th><th>Storage size</th></tr><tr><td>Studio apartments</td><td>4m3</td></tr><tr><td>1 bedroom apart-ments</td><td>6m3</td></tr><tr><td>2 bedroom apart-ments</td><td>8m3</td></tr><tr><td>3 bedroom apart-ments</td><td>10m3</td></tr></table>	Dwelling type	Storage size	Studio apartments	4m3	1 bedroom apart-ments	6m3	2 bedroom apart-ments	8m3	3 bedroom apart-ments	10m3	•		The proposed development provides a mix of basement storage and storage within apartments. This is considered a suitable arrangement for storage for each resident.
	Dwelling type	Storage size													
	Studio apartments	4m3													
	1 bedroom apart-ments	6m3													
	2 bedroom apart-ments	8m3													
	3 bedroom apart-ments	10m3													
		At least 50% of the required storage is to be located within the apartment													
		Storage is accessible from either circulation or living areas	•		Can be provided.										
		Storage provided on balconies (in addition to the minimum balcony size) is integrated into the balcony design, weather proof and screened from view from the street	•		Can be provided.										
		Left over space such as under stairs is used for storage	•		Can be provided, if required.										
	Additional storage is conveniently located, accessible and nominated for individual apartments														
	Storage not located in apartments is secure and clearly allocated	•		Storage can be safely and securely placed within the basement parking area in dedicated storage units.											
	Storage is provided for larger and less frequently accessed items, where practical	•		Storage rooms are located in the basement for larger storage 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	•		Storage will not be designed to impede the car parking spaces.											
	If communal storage rooms are provided they should be accessible from common circulation areas of the building			N/A											
	Storage not located in an apartment is integrated into the overall building design and not visible from the public domain	•		Additional storage is located in the basement											
4H	Acoustic Privacy														
4H-1	Noise transfer is minimised through the siting of buildings and building layout														
	Adequate building separation is provided within the development and from neighbouring buildings / adjacent uses (also see section 2F Building separation and section 3F Visual Privacy)	•		Appropriate building separation is provided on all boundaries. Development adjoining the subject site to the east are appropriately treated with a number of visual privacy and screening mechanisms.											
	Window and door openings are generally orientated away from noise sources	•		Where possible, window and door openings are oriented away from noise sources. Measures have been made in consideration of existing controls and the general infill character of the site and locality.											
	Noisy areas within buildings including building entries and corridors are located next to or above each other and quieter areas next to or above quieter areas	•		The development has been designed to ensure sources of noise are concentrated such as around the lifts within the lobby areas to avoid a broader dispersement of noise within residential areas of the development.											
	Storage, circulation areas and non-habitable rooms are located to buffer noise from external sources	•		Service cupboards and circulation areas are centrally located, with bedrooms sitting on the outside of the apartments and non- habitable spaces on the inside of the apartments.											
	The number of party walls (walls shared with other apartments) are limited and are appropriately insulated	•		Provided.											
	Noise sources such as garage doors, driveways, service areas, plant rooms, building services, mechanical equipment, active communal open spaces and circulation areas are located at least 3m away from bedrooms	•		Plant rooms and service have been designed in the basement and hidden below the apartments so that noise doesn't travel to the bedrooms of the apartments on lower ground levels. Mechanical equipment has been placed on the roof and active communal spaces are more than 3 metres from windows.											
4H-2	Noise impacts are mitigated through internal apartment layout and acoustic treatments														

ADG response table

Part No.	Objective No.	Objective	Complies		
		Design criteria Design guidance	Yes	No	Notes
4J		Internal apartment layout separates noisy spaces from quiet spaces, using a number of the following design solutions: <ul style="list-style-type: none">rooms with similar noise requirements are grouped togetherdoors separate different use zoneswardrobes in bedrooms are co-located to act as sound buffers	•		Apartments are designed to mitigate noisy spaces from quiet spaces including grouping rooms with similar noise levels and providing doors to separate different functions within each apartment.
		Where physical separation cannot be achieved noise conflicts are resolved using the following design solutions: <ul style="list-style-type: none">double or acoustic glazingacoustic sealsuse of materials with low noise penetration propertiescontinuous walls to ground level courtyards where they do not conflict with streetscape or other amenity requirements	•		Appropriate acoustic measures can be introduced to comply with relevant Australian Standards if required. However, the proposed development is able to provide appropriate separation of noise within and around the development.
	Noise and Pollution				
	4J-1	In noisy or hostile environments the impacts of external noise and pollution are minimised through the careful siting and layout of buildings			
		To minimise impacts the following design solutions may be used: <ul style="list-style-type: none">physical separation between buildings and the noise or pollution sourceresidential uses are located perpendicular to the noise source and where possible buffered by other usesnon-residential buildings are sited to be parallel with the noise source to provide a continuous building that shields residential uses and communal open spacesNon-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 sourcesBuildings should respond to both solar access and noise. Where solar access is away from the noise source, nonhabitable rooms can provide a bufferWhere 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	•		The proposed development provides a physical separation of uses. Commercial and retail uses operate on the ground and first floors, while residential uses will be located on the above floors. This seeks to minimise noise and concentrate noise pollution to the lower levels of the development. It is acknowledged that within a mixed use scheme that noise cannot be entirely mitigated however, the proposed development is able to provide key elements, such as communal open space, solar access, cross ventilation and balconies away from potential noise sources. The proposed layout of units and arrangement of uses is considered satisfactory.
		Achieving the design criteria in this Apartment Design Guide may not be possible in some situations due to noise and pollution. Where developments are unable to achieve the design criteria, alternatives may be considered in the following areas: <ul style="list-style-type: none">solar and daylight accessprivate open space and balconiesnatural cross ventilation	•		Noted.
	4J-2	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: <ul style="list-style-type: none">limiting the number and size of openings facing noise sourcesproviding seals to prevent noise transfer through gapsusing double or acoustic glazing, acoustic louvres or enclosed balconies (wintergardens)using materials with mass and/or sound insulation or absorption properties e.g. solid balcony balustrades, external screens and soffits	•		Adjustable louvres and appropriate absorption materials can assist with shielding or attenuation techniques for the building design and constructed. Wintergardens are also proposed in some locations.

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies		
			Yes	No	Notes
4K	Apartment Mix				
	4K–1	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	•		1Bed + Study / 2 Bed + Study / 3 Bed + Study type units are proposed.
		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 group	•		1Bed + Study = 22.3% 2 Bed + Study = 46% 3 Bed + Study = 31.7% The apartment mix provided offers a generous number of larger units in the form of 3 bedrooms. The mix satisfies a range of household needs and requirements for the area.
		Flexible apartment configurations, such as dual key apartments, are provided to support diverse household types and stages of life including single person households, families, multi-generational families and group households	•		Flexible apartment plans have been designed.
	4K–2	The apartment mix is distributed to suitable locations within the building			
		Different apartment types are located to achieve successful facade composition and to optimise solar access. See figure 4A.3	•		A range of 1 Bed, 2 Bed and 3 Bed apartments are located across Level 2-7 of the development, with the remaining levels comprising 2 Bed and 3 Bed (these are a combination of units with studies).
		Larger apartment types are located on the ground or roof level where there is potential for more open space and on corners where more building frontage is available	•		Larger 3 Bedroom apartments exist on most lower floors of the proposed development.
4L	Ground Floor Apartments				
	4L–1	Street frontage activity is maximised where ground floor apartments are located			
		Direct street access should be provided to ground floor apartments			N/A
		Activity is achieved through front gardens, terraces and the facade of the building. Design solutions may include: · both street and foyer entrances to ground floor apartments · private open space is next to the street · doors and windows face the street	•		Terraces face the street and provide a element of activity around the streets and piazza.
		Retail or home office spaces are located along street frontages	•		Retail and commercial development is located on the ground floor fronting Oaks Avenue, Howard Avenue and within the proposed town square and pedestrian link.
		Ground floor apartment layouts support small office home office (SOHO) use to provide future opportunities for con-version into commercial or retail areas. In these cases provide higher floor to ceiling heights and ground floor ameni-ties for easy conversion			N/A
	4L–2	Design of ground floor apartments delivers amenity and safety for residents			
		Privacy and safety is provided without obstructing causal surveillance. Design solutions may include: · elevation of private gardens and terraces above the street level by 1m – 1.5m (see Figure 4L.4) · landscaping and private courtyards · window sill heights that minimise sight lines into apartments · integrating balustrades, safety bars or screens with the exterior design			N/A
		Solar access is maximised through: · high ceilings and tall windows · trees and shrubs that allow solar access in winter and shade in summer			N/A

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies		
			Yes	No	Notes
4M	Facades				
	4M–1	Building facades provide visual interest along the street respecting the character of the local area			
		Design solutions for front building facades may include: <ul style="list-style-type: none">• A composition of varied building elements• A defined base, middle and top of the buildings• Revealing and concealing certain elements• Changes in texture, material, detail and colour to modify the prominence of elements	•		The building façades provide visual interest along the streetscape and public domain by providing changes in material, colour and detail as the development transitions from ground and first floor retail/commercial uses towards the podium level and then mid-rise/tower style apartment development.
		Building services should be integrated within the overall façade	•		The materials and finishes proposed for the development are considered satisfactory. Services are integrated into building design.
		Building facades should be well resolved with an appropriate scale and proportion to the streetscape and human scale. Design solutions may include: <ul style="list-style-type: none">• Well composed horizontal and vertical elements• Variation in floor heights to enhance the human scale• Elements that are proportional and arranged in patterns• Public artwork or treatments to exterior blank walls• Grouping of floors or elements such as balconies and windows on taller buildings	•		The proposed development has an obvious rhythm of four separate, yet interconnected forms. The first comprising the pedestrian site link and town square. This is supported by ground and first floor retail and commercial uses, which will facilitate activation of the development beyond a typical residential complex. The second comprising the apartments to the south fronting Oaks Avenue. These seek to provide a human scale interaction with Oaks Avenue retail strip and facilitate a sense of entry into the pedestrian link. The mid-rise apartments, located centrally within the site provide well composed vertical elements that complement the increase height from the Oaks Avenue frontage. The ‘stepping up’ also ensures any solar impacts to Oaks Avenue are minimised and that the public realm is protected. The high rise buildings, located in the northern portion of the site are offset by a large generous town square than reduces the perceived bulk of the towers in relation to adjoining development. Overall, the scheme provides a well resolved and appropriate proportion to the surrounding context and is presented at a human scale.
		Building facades relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights	•		Provided.
		Shadow is created on the façade throughout the day with building articulation, balconies and deeper window reveals	•		A play of shadows can be seen through the screens
	4M–2	Building functions are expressed by the façade			
		Building entries should be clearly defined	•		Breaks in the façade highlight where the building entries exist. These are clearly defined at ground level.
		Important corners are given visual prominence through a change in articulation, materials or colour, roof expression or changes in height	•		Corners are given prominence through building articulation.
		The apartment layout should be expressed externally through façade features as party walls and floor slabs	•		Provided throughout the development.
4N	Roof Design				
	4N–1	Roof treatments are integrated into the building design and positively respond to the street			

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies		
			Yes	No	Notes
40	4N-2	Roof design relates to the street. Design solutions may include: <ul style="list-style-type: none">• Special roof features and strong corners• Use of skillion or very low pitch hipped roofs• Breaking down the massing of the roof by using smaller elements to avoid bulk• Using materials or a pitched form complementary to adjacent buildings	•		Flat roofs have been used throughout the development. The roof design does not overpower in mass, as the form of the development is broken down with articulated heights and towers. Additionally, the roof includes clerestory windows and ventilation mechanisms.
		Roof treatments should be integrated with the building design. Design solutions may include: <ul style="list-style-type: none">• Roof design proportionate to the overall building size, scale and form• Roof materials complement the building• Service elements are integrated	•		Roof treatments complement the proposed scale and form of the building.
		Opportunities to use roof space for residential accommodation and open space are maximised			
		Habitable roof space should be provided with good levels of amenity. Design solutions may include: <ul style="list-style-type: none">• Penthouse apartments• Dormer or clerestory windows• Openable skylights	•		Roof lights are proposed, which will deliver light into apartments that would normally depend on artificial light. Roof space is not accessible, other than for maintenance purposes and will not serve the residential component of the development.
		Open space is provided on roof tops subject to acceptable visual and acoustic privacy, comfort levels, safety and security considerations	•		Communal open space has been adequately located in consideration of surrounding development and ground/first floor uses.
		Roof design incorporates sustainability features			
	4N-3	Roof design maximises solar access to apartments during winter and provides shade during summer. Design solutions may include: <ul style="list-style-type: none">• The roof lifts to the north• Eaves and overhangs shade walls and windows from summer sun	•		Overhangs and deep balconies shade the walls in the summer
		Skylights and ventilation systems should be integrated into the roof design	•		Skylights are provided where appropriate.
	Landscape Design				
40-1	Landscape design is viable and sustainable				
		Landscape design should be environmentally sustainable and can enhance environmental performance by incorporating: <ul style="list-style-type: none">• Diverse and appropriate planting• Bio-filtration gardens• Appropriately planted shading trees• Areas for residents to plant vegetables and herbs• Composting• Green roofs or walls	•		Landscaping Plan prepared by Arcadia identifies appropriate and diverse planting for both the communal open space area and town square. This comprises native palm avenues, raised timber decks and streetscape planting. The communal open space areas provide open turf area, BBQ courtyards, mounded garden bed planting, access to private courtyards, outdoor gym with equipment and buffer planting. The Landscaping Plan by Arcadia successfully identifies appropriate landscaping and public domain elements for the development, which will provide a broader public benefit.
		Ongoing maintenance plans should be prepared	•		Landscaping maintenance will be handled by the building manager.
		Microclimate in enhanced by: <ul style="list-style-type: none">• Appropriately scaled trees near the eastern and western elevations for shade• A balance of evergreen and deciduous trees to provide shading in summer and sunlight access in winter• Shade structures such as pergolas for balconies and courtyards	•		The proposed Landscaping Plan provides appropriate measures to enhance micro-climate across the town square and communal open space on Level 2 and 4 of the proposed development. These include pergolas, BBQ areas and seating to be provided at podium level.
		Tree and shrub selection considers size at maturity and the potential for roots to complete (see table 4)	•		Tree and shrub selection is considered satisfactory.

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies		
			Yes	No	Notes
4P	4O-2	Landscape design contributes to the streetscape and amenity			
		Landscape design responds to the existing site conditions including: <ul style="list-style-type: none">• Changes of levels• Views• Significant landscape features including trees and rock outcrops	•		Landscape design provides appropriate design solutions to contribute to streetscape and amenity.
		Significant landscape features should be protected by: <ul style="list-style-type: none">• Tree protection zones (see figure 40.5)• Appropriate signage and fencing during construction	•		Noted. Appropriate signage and fencing can be applied during construction.
		Plants selected should be endemic to the region and reflect the local ecology	•		The Landscaping Plan provides appropriate species that reflect local ecology.
	Planting on Structures				
	4P-1	Appropriate soil profiles are provided			
		Structures are reinforced for additional saturated soil weight	•		Podium spaces will provide landscape with soil depths supporting 450mm turf and garden bed mounding for larger shrub and tree specimens.
		Soil volume is appropriate for plant growth, considerations include: <ul style="list-style-type: none">• Modifying depths and widths according to the planting mix and irrigation frequency• Free draining and long soil life span• Tree anchorage	•		Appropriate soil volume is provided.
		Minimum soil standards for plant sizes should be provided in accordance with Table 5	•		Provided where possible.
	4P-2	Plant growth is optimised with appropriate selection and maintenance			
		Plants are suited to site conditions, considerations include: <ul style="list-style-type: none">• Drought and wind tolerance• Seasonal changes in solar access• Modified substrate depths for diverse range of plants• Plant longevity	•		Noted.
		A landscape maintenance plan is prepared	•		Can be conditioned as part of the development consent.
		Irrigation and drainage systems respond to : <ul style="list-style-type: none">• Changing site conditions• Soil profile and the planting regime• Whether rainwater, stormwater r recycled grey water is used	•		Drainage and irrigation mechanisms will be provided. Rainwater collection will be via roof top where possible to assist with BASIX.
	4P-3	Planting on structure contributes to the quality and amenity of communal and public open spaces			
4Q		Building design incorporates opportunities for planting on structures. Design solutions may include: <ul style="list-style-type: none">• Green walls with specialised lighting for indoor green walls• All design that incorporates planting• Green roofs, particularly where roofs are visible form public domain• Planter boxes Note: structures designed to accommodate green walls should be integrated into the building façade and consider the ability of the façade to change over time	•		Planter boxes are proposed on the communal open space area at podium level including synthetic turf areas, mounted garden bed planting and garden beds in planter.
	Universal Design				

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies		
			Yes	No	Notes
4Q	4Q-1	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 apartment incorporating the Liveable Housing Guideline's silver level universal design features	<div>•</div>		All apartments incorporate the Liveable Housing Guideline's silver level universal design features.
	4Q-2	A variety of apartments with adaptable designs are provided			
		Adaptable housing should be provided in accordance with the relevant council policy	<div>•</div>		Adaptable units have been proposed within the development.
		Design solutions for adaptable apartments include: <ul style="list-style-type: none">• Convenient access to communal and public areas• High level of solar access• Minimal structural change and residential amenity loss when adapted• Larger car parking spaces for accessibility• Parking titled separately from apartments or shared car parking arrangements	<div>•</div>		Adaptable units are located across the development and provide adequate levels of solar access and convenient access to public areas and communal spaces.
	4Q-3	Apartment layouts are flexible and accommodate a range of lifestyle needs			
4R		Apartments design incorporates flexible design solutions which may include: <ul style="list-style-type: none">• Rooms with multiple functions• Dual master bedroom apartments with separate bathrooms• Larger apartments with various living space options• Open plan 'loft' style apartments with only a fixed kitchen, laundry and bathroom	<div>•</div>		The area of the apartments are generally larger than the minimums suggested in the ADG. This will enable a number of the apartments to be adaptable and robust in order to cater for different household needs and requirements within the family life cycle.
	Adaptive Reuse				
	4R-1	New additional to existing buildings are contemporary and complementary and enhance an area's identity and sense of place			
		Design solutions may include: <ul style="list-style-type: none">• New elements to align with the existing building• Additions that complement the existing character, siting, scale, proportion, pattern form and detailing• Use of contemporary and complementary materials, finishes, textures and colours			N/A
	4R-2	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: <ul style="list-style-type: none">• Generously sized voids in deeper buildings• Alternative apartment types when orientation is poor• Using additions to expand the existing building envelope			N/A

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies		
			Yes	No	Notes
4S		Some proposals that adapt existing buildings may not be able to achieve all of the design criteria in this Apartment Design Guide. Where developments are unable to achieve the design criteria, alternatives could be considered in the following areas: <ul style="list-style-type: none">Where there are existing higher ceilings, depths of habitable rooms could increase subject to demonstrating access to natural ventilation, cross ventilation (when applicable) and solar an daylight access (see also sections 4A Solar and daylight access and 4B Natural ventilation)Alternatives to providing deep soil where less than the minimum requirement is currently available on the siteBuilding and visual separation – subject to demonstrating alternative design approaches to achieving privacyCommon circulationCar parkingAlternative approaches to private open space and balconies			N/A
	Mixed Use				
	4S–1	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	•		The proposed development outcome is consistent with the future vision of the Dee Why Town Centre Master Plan. The proposed development is located in excellent proximity to public transport.
	4S–2	Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents			
4T		Residential circulation areas should be clearly defined. Design solutions may include: <ul style="list-style-type: none">Residential entries are separated from commercial entries and directly accessible from the streetCommercial service areas are separated from residential componentsResidential car parking and communal facilities are separated or securedConcealment opportunities are avoided	•		Residential areas are clearly defined and delineated from the commercial/retail aspects of the proposed development.
		Landscape communal open space should be provided at podium or roof levels	•		All sites have the communal open space at Level 2 and Level 4 of the development.
	Awnings and Signage				
	4T–1	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	•		Awnings are proposed on ground level to complement the pedestrian link, commercial uses and the town square.
		A number of the following design solutions are used: <ul style="list-style-type: none">Continuous awnings are maintained and provided in areas with existing patternHeight, depth, material and form complements the existing street characterProtection from the sun and rain is providedAwnings are wrapped around the secondary frontages of corner sitesAwnings are retractable in areas without an established pattern	•		Awnings will be continuous in most areas and establish a legible and coherent pattern. They will provide a prominent streetscape element and encourage pedestrian activity within the development.
		Awnings should be located over building entries for building address and public domain amenity	•		Provided within the proposed development.
		Awnings relate to residential windows, balconies, street tree planting, power poles and street infrastructure	•		Provided.
		Gutters and down pipes should be integrated and concealed	•		Can be provided.

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies		
			Yes	No	Notes
4U	4T-2	Lighting under awnings should be provided for pedestrian safety	•		Can be provided.
		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	•		Noted. Subject to future approval.
		Legible and discrete way finding should be provided for larger developments	•		Noted. Subject to future approval.
		Signage is limited to being on and below awnings and in single façade sign on the primary street frontage	•		Noted. Subject to future approval.
	Energy Efficiency				
	4U-1	Development incorporates passive environmental design			
		Adequate natural light is provided to habitable rooms (see 4A Solar and daylight access)	•		Provided.
	4U-2	Well located, screened outdoor areas should be provided for clothes drying			N/A. Communal clothes lines are not considered suitable for this style of development.
		Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer			
		A number of the following design solutions are used: <ul style="list-style-type: none">• The use of smart glass or other technologies on north and west elevations• Thermal mass in the floors and walls of north facing rooms is maximised• Polished concrete floor, 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	•		Screens are used on windows. Deep balconies maximise shading to sliding doors.
		Provision of consolidated heating and cooling infrastructure should be located in a centralised location (e.g. the basement)	•		Essential utilities and services provided within the basement.
	4U-3	Adequate natural ventilation minimises the need for mechanical ventilation			
		A number of the following design solution are used: <ul style="list-style-type: none">• Rooms with similar usage are grouped together• Natural cross ventilation for apartments is optimised• Natural ventilation is provided to all inhabitable rooms and as many non-habitable rooms, common areas and circulation spaces as possible	•		The proposed development provides apartments are cross ventilation compliant.
4V	Water Management and Conservation				
	4V-1	Potable water use is minimised			
		Water efficient fittings, appliances and wastewater reuse should be incorporated	•		Refer BASIX Certificate.
		Apartments should be individually metered	•		Noted.
		Rainwater should be collected, stored and reused on site	•		Refer BASIX Certificate
		Drought tolerant, low water use plants should be used within landscaped areas	•		Refer Landscape Design.
	4V-2	Urban stormwater is treated on site before being discharged to receiving waters			

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies		
			Yes	No	Notes
4W	4V-3	Water sensitive urban design systems are designed by a suitably qualified professional	•		Refer to Stormwater Management Plan, which proposes an on-site detention facility to be installed at basement level.
		A number of the following design solutions are used: <ul style="list-style-type: none">• Runoff is collected from roofs and balconies in water tanks and plumbed into toilets, laundry and irrigation• Porous and open paving materials is maximised• On site stormwater and infiltration, including bio-retention systems such as rain gardens or street tree pits	•		OSD system proposed.
		Flood management systems are integrated into site design			
		Detention tanks should be located under paved areas, driveways or in basement car parks	•		OSD located in basement.
		On large sites parks or open spaces are designed to provide temporary on site detention basins			N/A
	Waste Management				
	4W-1	Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents			
		Adequately sized storage areas for rubbish bins should be located discreetly away from the front of the development or in the basement car park	•		Provided.
		Waste and recycling storage areas should be well ventilated	•		Provided.
		Circulation design allows bins to be easily manoeuvred between storage and collection points	•		Provided.
		Temporary storage should be provided for large bulk items such as mattresses	•		Can be provided.
4X	4W-2	A waste management plan should be prepared	•		Provided.
		Domestic waste is minimised by providing safe and convenient source separation and recycling			
		All dwellings should have a waste and recycling cupboard or temporary storage area of sufficient size to hold two days' worth of waste and recycling	•		Kitchens will incorporate waste storage in the layout.
		Communal waste and recycling rooms are in convenient and accessible locations related to each vertical core	•		There are chutes and garbage rooms on each level near the common core.
		For mixed use developments, residential waste and recycling storage areas and access should be separate and secure from other uses	•		Provided.
	4X-1	Alternative waste disposal methods such as composting should be provided	•		Noted.
		Building design detail provides protection from weathering			
		A number of the following design solutions are used: <ul style="list-style-type: none">• Roof overhangs to protect walls• Hoods over windows and doors to protect openings• Detailing horizontal edges with drip lines to avoid staining of surfaces• Methods to eliminate or reduce planter box leaching• Appropriate design and material selection for hostile locations	•		Appropriate materials and finishes have been provided to ensure the proposed building is protected from weathering.
	Building Maintenance				

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies		
			Yes	No	Notes
	4X-2	Systems and access enable ease of maintenance			
		Window design enables cleaning from the inside of the building	•		Windows can be cleaned inside and outside by nominated contractor.
		Building maintenance systems should in incorporated and integrated into the design of the building form, roof and façade	•		Access has been allowed for in order to gain access to the roof areas.
		Design solutions do not require external scaffolding for maintenance access	•		Can be achieved.
		Manually operated systems such as blinds, sunshades and curtains are used in preference to mechanical systems	•		Can be achieved.
		Centralised maintenance, services and storage should be provided for communal open space areas within the building	•		Provided.
	4X-3	Material selection reduces ongoing maintenance costs			
		A number of the following design solutions are used: <ul style="list-style-type: none">• Sensors to control artificial lighting in common circulation and spaces• Natural materials that weather well and improve with time such as face brickwork• Easily cleaned surfaces that are graffiti resistant• Robust and durable materials and finished are used in locations which receive heavy wear and tear, such as common circulation areas and lift interiors	•		Schedule of Materials and Finishes ensures the building can provide longevity and sustainability.

SJB Architects

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