WAHROONGA ESTATE

161-163 AND 167-169 FOX VALLEY ROAD ,

GroupGSA | 08 June 2023

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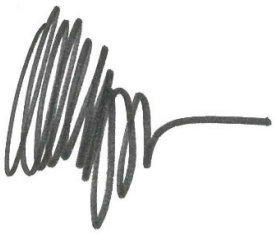
Design Verification Statement

09/06/2023

Pursuant to Section 102 of the Environmental Planning and Assessment Regulation 2021, effective from March 1, 2022: we confirm that Ms Lisa-Maree Carrigan of GroupGSA directed the design of the development application and proposed modification, and that Ms Carrigan is a qualified architect, which means a person registered as an architect in accordance with the Architects Act 1921 as defined by Schedule 7 of the Environmental Planning and Assessment Regulation 2021.

We affirm that the design achieves or is capable of achieving the design quality principles as set out in Schedule 1 of the State Environmental Planning Policy No. 65-Design quality of Residential Flat Development.

We confirm that the proposed modification to the approved development has the ability to provide a high design quality outcome, and will not compromise the design intent of the original development.



Name: Lisa-Maree Carrigan

Title: Director

Business name: GroupGSA Pty Ltd

NSW Architects' Registration Board Number: 7568

SEPP65 Assessment Report

Wahroonga Estate, Fox Valley Road, Wahroonga

19/05/2023

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SEPP 65 Design Quality of Residential Flat Development

Principle 1: Context and neighbourhood character	*Response*
Good design responds and contributes to its context. Context is the key natural and built features of an area, their relationship and the character they create when combined. It also includes social, economic, health and environmental conditions. Responding to context involves identifying the desirable elements of an area's existing or future character. Well designed buildings respond to and enhance the qualities and identity of the area including the adjacent sites, streetscape and neighbourhood. Consideration of local context is important for all sites, including sites in established areas, those undergoing change or identified for change.	Wahroonga is a leafy suburb located in the Upper North Shore region of Sydney. It is approximately 22 kilometers north-west of the Sydney Central Business District (CBD) and falls within the Ku-ring-gai local government area. Known for its tranquil and picturesque surroundings, Wahroonga is highly regarded as a desirable residential area. One of the defining features of Wahroonga is its abundance of natural beauty, and has been a key driver for the visioning of this new community. The suburb is characterized by tree-lined streets, lush gardens, and numerous parks and reserves, and immediate to our site is the natural setting of Çoups Creek', an extension of and contributory of the Lane Cove National Park. This natural asset is under owner of the Seventh-day Adventist Church and, as located on their doorstep, will be available for the future residents to enjoy on a daily basis, both with the visual amenity and recreation opportunities. The predominant architectural style in the area is a mix of Federation and contemporary homes with well-maintained gardens, which has informed the character of the proposed built form, with a domestic, yet contemporary, palette of materials, and has played into the design of the landscaped gardens and proposed streetscape. Wahroonga provides for a peaceful and family-friendly atmosphere, making it a sought-after place to live that attracts a mix of families, professionals, and retirees who appreciate its safe and serene environment. This is no more evidenced than within the Fox Valley Road and Wahroonga Estate context of this proposed development, where the adjacent & existing school has seen considerable growth as has the demand for further housing. As approved under the Part 3a approval and subsequent s75w modifications, a masterplan for further residential buildings will see further transformation of the surrounding context. The suburb also boasts convenient amenities and services, with local shopping areas of Thornleigh, Wahroonga and Turramurra providing residents with a range of boutique stores, cafes, restaurants, and essential services.

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Principle 2: Built form and scale	*Response*
Good design achieves a scale, bulk and height appropriate to the existing or desired future character of the street and surrounding buildings. *Good design also achieves an appropriate built form for a site and the building's purpose in terms of building alignments, proportions, building type, articulation and the manipulation of building elements.* *Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook.*	The site is surrounded by a mix of uses ranging from education, residential, commercial, places of worship, and health related buildings which, as result of their typology, vary in scale considerably. However, under the Part 3a approved masterplan, the 4 residential buildings (note, previously 5) that form the proposed development have been designed, and subsequently approved as ranging from 4/5-6 storeys across the site. To the Fox Valley Road frontage the buildings, with only 1x building immediately visible, they present as a smaller scale, with only 3 storeys being above street level, and rise up as they move away from this interface, transitioning to 6 storeys as the site falls down the sloping topography towards the Coups Creek bushland to the North. The building referred to as Building E, with the only public and only residential interface, was proposed has a sculpted form that would transition from the existing 1 & 2 storey adjacent context, providing a sensitive approach to the bulk and scale. It is noted that this building will be eventually be complimented with similar scaled residential flat buildings on neighbouring sites on both sides of the road when the future context and masterplan is realised in full. Overall the architecture, as developed within the Development Application and Land and Environment Court approved scheme, has been articulated to present as a boutique residential development of smaller scale buildings. Visually, each building has a subtle tripartite approach to the facades, organizing the massing into three sections, with a deep spandrel between ground and level one, the masonry body of the building, and an upper level composed of more lightweight materials and an expressive roof that provides gesture to the adjacent canopy of the adjacent woodland. A further rounding of the forms helps to soften the overall massing and to strengthen connection to the natural elements of the development's setting. We make note that all of the above intent has been carried through in the proposed modified buildings that form part of the s4.56 submission.

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Principle 3: Density	*Response*
Good design achieves a high level of amenity for residents and each apartment, resulting in a density appropriate to the site and its context. *Appropriate densities are consistent with the area's existing or projected population.* *Appropriate densities can be sustained by existing or proposed infrastructure, public transport, access to jobs, community facilities and the environment.*	The proposed density generally aligns with the approved scheme that we are seeking to modify. The client has received marketing input that has informed minor changes in unit count (becoming fewer) and unit mix (increasing larger units for local downsizers & families), and generally reduces the number of units by 11 from the approved scheme.
Principle 4: Sustainability	*Response*
Good design combines positive environmental, social and economic outcomes. *Good sustainable design includes use of natural cross ventilation and sunlight for the amenity and liveability of residents and passive thermal design for ventilation, heating and cooling reducing reliance on technology and operation costs. Other elements include recycling and reuse of materials and waste, use of sustainable materials and deep soil zone or groundwater recharge and vegetation.*	The development complies with the minimum requirements of NCC/BCA2016, BASIX and SEPP65. The development also provides additional ecologically sustainable development (ESD) benefits through the design, which will deliver significant reductions in energy. Consideration has been made to reduce water usage, improve ecological sustainability through material selections, and promote sustainable transport. The most significant ESD initiatives above the minimum requirements are: A- Passive Sustainable Design The orientation of the building maximises the number of north, east and west facing apartments while minimising the ones facing south. In terms of minimising the heat load on façades and subsequent air conditioning load, shading devices are provided to protect against overheating and glare on windows. The building construction will feature materials that have excellent thermal properties to ensure that the air conditioning plant is minimised and uses less energy.

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	B- Improved Natural Ventilation and Solar Access The proposed development complies with the minimum ESD benchmarks: NCC/BCA 2022 Section F4 and SEPP 65 Apartment Design Guide. C- Building Fabric and Materials As a part of the ESD initiatives proposed, insulation in all ceilings beneath exposed roofs/balconies shall meet or exceed the BASIX minimum requirements for thermal resistance. Low Volatile Organic Compounds (VOC) paints, carpets, adhesives and sealants will also be used in all indoor areas, improving indoor air quality. And where timber products are used, it is proposed that they shall be reuse/recycled timber or comply with a sustainably sourced and certified timber scheme such as: FSC, PEFFC, AFCS. D- Energy Improved energy efficiency and reduced power use from the incoming power authority supplier deliver environmental benefits. These include lower greenhouse gas emissions, fewer general pollutants, toxins and 'smog' from power stations, and reduced power infrastructure requirements. Refer BASIX Report, prepared by Cundall. The above noted items are proposed to be carried through in the proposed modified buildings that form part of the s4.56 submission.
Principle 5: Landscape	*Response*
Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in attractive developments with good amenity. A positive image and contextual fit of well-designed developments is achieved by contributing to the landscape character of the streetscape and neighbourhood. Good landscape design enhances the development's environmental performance by retaining positive natural features which contribute to the local context, co-	By referencing the local characteristics of surrounding streetscape and neighborhood character, this development pursues a contextual approach to the selection of trees and vegetation. The level of detail documented within the approved scheme is an outcome of negotiation with Council and the Bushfire Consultant, marrying a selection, quantity and spread of contextually appropriate trees and shrubs, along with the constraints of APZs that are applicable to this site. Significant landscaping is present on all boundaries of the site, providing a layered edge condition and a sensitive buffering of building approach. This is most noticeable along the southern boundary and interface with the school building.

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ordinating water and soil management, solar access, micro-climate, tree canopy, habitat values and preserving green networks. *Good landscape design optimises useability, privacy and opportunities for social interaction, equitable access, and respect for neighbours' amenity and provides for practical establishment and long term management.*	The positioning of Building E has been considered in respect of retaining a significant tree to its Eastern boundary which provides instant character, a beautiful feature to the pedestrian entry to this building, and contributes positively to the environment. Other than a cluster of significant fig trees to the Western Church boundary, and the preserved bushland to the North, the existing site is largely dominated by a bitumen car park and open detention basin, and is devoid of any other vegetation. New detention basins will be integrated with the woodland interface, becoming a feature of the new pathway and new entrance to the bushland trails. In addition to the reintroduction of vegetation across the site, to better integrate with the Wahrooga context, the scheme proposes for new communal gardens for all residents to enjoy. The communal open space provided at the base of Buildings A/B/C, which will be available for Building E residents, will also be replicated upon the site of Building E. Refer landscape plans and specifications produced by GroupGSA Landscape Architecture. Other than proposed changes to ground floor private open space / terrace gardens, there are no changes proposed to the landscaping within this modification application. The quantum of private open space is not proposed to be reduced, but realigned with the new mix of apartments that occur on this level.
Principle 6: Amenity	*Response*
Good design positively influences internal and external amenity for residents and neighbours. Achieving good amenity contributes to positive living environments and resident well being. *Good amenity combines appropriate room dimensions and shapes, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas and ease of access for all age groups and degrees of mobility.*	The proposed design is configured to best achieve the requirements outlined under SEPP 65 and provides a high level of amenity to each apartment. Due consideration has been given to solar access, cross ventilation, indoor and outdoor spaces, visual and acoustic privacy, efficient layouts, outlook and storage areas. Parking is provided on basement level 1 & 2, along with apartment storage cages, recycling and waste storage areas. In addition, two communal open spaces have been designed within the development to provide residents with spaces to socialise and relax. Balconies are designed to provide a usable outdoor space while maintaining privacy between units by limiting opportunities for overlooking. Additional consideration has been given to

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	connect living and kitchen areas with outside spaces, offering alfresco dining and entertaining opportunities. The individual apartment layouts are designed to ensure that the intent of the Apartment Design Guide (ADG) amenity criteria have been considered. The amenity of apartments is optimised in terms of room dimensions and arrangement, access to sunlight, natural ventilation, visual and acoustic privacy, indoor and outdoor space and storage to meet guidelines. Individual unit layouts have well-proportioned rooms (typically not more than 8m distance from glazing line to back of kitchen) and spacious balconies, which are arranged to maximise solar access and surrounding views, particularly of the bushland where orientation permits. SOLAR ACCESS + NATURAL VENTILATION Solar – 72.3 % Cross ventilation - 67% Natural light to common corridors and lift lobbies. To optimise required performance and amenity, the apartments have been designed with large operable windows, which provide solar access and natural ventilation, as well as shading devices.
Principle 7: Safety	*Response*
Good design optimises safety and security within the development and the public domain. *It provides for quality public and private spaces that are clearly defined and fit for the intended purpose. Opportunities to maximise passive surveillance of public and communal areas promote safety. A positive relationship between public and private spaces is achieved through clearly defined secure access points and well lit and visible*	The design of the safety and security features have been carefully considered. The ground floor, pathways, and communal areas will be well lit at night and are easily observable from surrounding buildings, which provides good passive surveillance. In addition, these spaces have been designed to avoid hidden or overly obscured areas which provides a further sense of safety and security. The primary entrances to Buildings A, B, and C1 are located behind a secure fence and within the garden. Core C2 also provides lobby access in a similar way, but has additional access from the private street upon which these buildings are proposed. All entrances have secure gate, surveillance and good site lines from the outside and detailed lighting for security.

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areas that are easily maintained and appropriate to the location and purpose.	Both the carpark entry and residents' entry lobbies are electronically secured and only accessible by authorised persons in possession of an electronic key.
Principle 8: Housing diversity and social interaction	***Response***
Good design achieves a mix of apartment sizes, providing housing choice for different demographics, living needs and household budgets. *Well designed apartment developments respond to social context by providing housing and facilities to suit the existing and future social mix.* *Good design involves practical and flexible features, including different types of communal spaces for a broad range of people and providing opportunities for social interaction among residents.*	Generally, apartments are larger internally than the recommended minimums and all units have been designed for maximum flexibility and adaptability. The provided apartment mix and typologies will attract potential residents reflective of the demographic of the area, and the provision of outdoor communal areas and recreational facilities will further cater for this mix, creating opportunities for social interaction amongst the residents. The development will comprise 15.7% LHA Platinum level units, providing the highest level of accessibility and livability, and the remaining units achieving 84.3% LHA Silver, which ensures future flexibility and adaptability of the home. The development also contains lobbies with generous widths, which offers ease of accessibility with direct links to communal open spaces.
Principle 9: Aesthetics	***Response***
Good design achieves a built form that has good proportions and a balanced composition of elements, reflecting the internal layout and structure. Good design uses a variety of materials, colours and textures. *The visual appearance of a well designed apartment development responds to the existing or future local context, particularly desirable elements and repetitions of the streetscape.*	The architectural vision for this development is to provide a high-quality residential development which responds to the site, and the surrounding context. The built form responds contextually to adjacent buildings and the wider Wahroonga precinct. Key elements such as deep soil requirements, pedestrian and vehicular access, and landscaping with suitable native flora have all been incorporated into the design. The resulting proposal consists four buildings with communal open spaces, which will activate socialisation amongst the residents. The primary material, being masonry, and domestic by nature, has a market appropriateness, and selected as reference to the dominant material of this area.

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	To the North, the building proposes to leverage from the tranquil outlook of the existing bushland and associated canopy, maximising glazing opportunities, where appropriate. At lower levels, where privacy may be of more concern, a deep spandrel has been incorporated into the façade design (level 1) and at ground floor a combination of solid and palisade fencing and deep planting is proposed. With a southern interface with the School, the building has been designed with this sensitivity in mind. Despite the considerable setback from this boundary, the building design ensures apartments with a Southern orientation are minimised. Only 2 units on each level (Buildings A, B, C) have this orientation. As a further response to this condition, and despite the proposed taller trees to the boundary, plus no visible sightlines to school programme, the buildings have increased solidity & screening to the rear façade treatment. A brick selection that offers variety in tones has been selected as the primary material, providing subtle shifts across the façade, and will be highlighted with the metal detailing of sunshading & privacy screens. Expressed as a protective shell, or brick envelope, it is conceptually opened to the North, where its responds to views. Equally stopped short of the upper floor, the façade then uses a a smooth dark painted façade to provide a visual break and to allow for the roof slab to be accentuated, in reference to the canopy of the natural setting opposite. Relief to the longer of the facades is provided by visual or physical breaks in the linear nature of expressed floor slabs or brick spandrels, by alternative balcony treatment or a recessive area in the floorplan, and provides variety to the composition. All external materials specified will be durable and hard wearing ensuring that the development does not prematurely age. This will enhance and extend the long-term image of the building, allowing its careful composition of building elements, textures, colours and materialisation to contribute positively to the desired future character of the vicinity.

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SEPP 65 COMPLIANCE SCHEDULE

TABLE 1 – APARTMENT DESIGN GUIDE – DESIGN OBJECTIVES AND DESIGN CRITERIA

	OBJECTIVE	DESIGN CRITERIA	PROPOSED	COMMENT
PART 3 SITING THE DEVELOPMENT				
Site Analysis	**Objective 3A-1** Site analysis illustrates that design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context		Complies	Site analysis identifies views, solar access, sensitive edges, bushfire zones, all of which the design responds to.
Orientation	**Objective 3B-1** Building types and layouts respond to the streetscape and site while optimising solar access within the development		Complies	
	Objective 3B-2 Overshadowing of neighbouring properties is minimised during mid winter		Complies	Shadow Diagrams demonstrate the minimal impact the development will have on the adjacent properties.
Public Domain Interface	**Objective 3C-1** Transition between private and public domain is achieved without compromising safety and security		Complies	Appropriate fencing and balustrades are proposed around terraces and balconies to ensure safety and privacy. Added to this screening plants are proposed to further increase privacy without compromising visual premeability.
	Objective 3C-2 Amenity of the public domain is retained and enhanced		Complies	Connections to bushland are improved. New access road to the site is created improving connectivity.
Communal and Public Open Space	**Objective 3D-1** An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping	1. Communal open space has a minimum area equal to 25% of the site. 2. Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June (mid winter)	Complies Complies	Site exceeds the communal open space requirements with a large landscaped area to the north that receives direct sunlight all year. 6,713 (35.3%)
	Objective 3D-2 Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting		Complies	The communal space has been carefully designed and caters for resident socialisation within the development, areas to sit, eat, meet, and relax in a contained environment are provided.
	Objective 3D-3 Communal open space is designed to maximise safety		Complies	The communal space is provided with appropriate fencing and adequate lighting during day and night.
	Objective 3D-4 Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood		NA	

	OBJECTIVE	DESIGN CRITERIA	PROPOSED	COMMENT
Deep Soil Zones	**Objective 3E-1** Deep soil zones provide areas on the site that allow for and support healthy plant and tree growth. They improve residential amenity and promote management of water and air quality	Deep soil zones are to meet the following minimum requirements: Site Area / Min Dims / Deep soil zone (% of site area) Less than 650m2 – 7% 650m2 – 1500m2 3m Greater than 1500m2 6m Greater than 1500m2 with significant tree cover 6m	Complies	Care has been taken to centralise and limit the basement under the building foot print, there by maintaining the deep soil zone along the setback zone. Large trees and green buffers are proposed along the deep soil zone. The proposed deep soil area greatly exceeds 15%. Deep Soil : 4,516sqm (23.75% of Site Area)
Visual Privacy	**Objective 3F-1** Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy Note: Separation distances between buildings on the same site should combine required building separations depending on the type of room	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: Height / Habitable Rooms and balconies / Non-habitable rooms Up to 12m (4 storeys) 6m 3m Up to 25m (5-8 storeys) 9m 4.5m Over 25m (9+ storeys) 12m 6m	Complies	The windows and balconies are located to minimise overlooking and increase privacy. Privacy screens provides additional privacy in various locations. Building separation distances within the site also meets this objective.
	Objective 3F-2 Site and building design elements increase privacy without compromising access to light and air and balance outlook and views from habitable rooms and private open space		Complies	Care has been taken to place windows, louvres and balconies in locations that minimise privacy concerns for residents.
Pedestrian Access and Entries	**Objective 3G-1** Building entries and pedestrian access connects to and addresses the public domain		Complies	Building entries are marked using architectural features and landscape design.
	Objective 3G-2 Access, entries and pathways are accessible and easy to identify		Complies	Identifiable and expressed in the architecture and street landscape treatment.
	Objective 3G-3 Large sites provide pedestrian links for access to streets and connection to destinations		Complies	Pedestrian links provided between all buildings and to the streets.

	OBJECTIVE	DESIGN CRITERIA	PROPOSED	COMMENT
Vehicle Access	**Objective 3H-1** Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes		Complies	Clear sight lines have informed the design ensuring safety for pedestrians.
Bicycle and Car Parking	**Objective 3J-1** Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas	For development in the following locations: – on sites that are within 800 meters of a railway station or light rail stop in the Sydney Metropolitan Area; or – on land zoned, and sites within 400 meters of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre The minimum car parking requirement for residents and visitors is set out in the Guide to Traffic Generating Developments, or the car parking requirement prescribed by the relevant council, whichever is less The car parking needs for a development must be provided off street.	Complies	Car parking has been based on appropriate parking rates informed by DCP, MOD8, SEPP 65 and ADG under which this DA is being lodged. This is a low traffic generating development.
	Objective 3J-2 Parking and facilities are provided for other modes of transport		Complies	Motorcycle parking are provided in the basement.
	Objective 3J-3 Car park design and access is safe and secure		Complies	Good sight lines and surveillance have been incorporated through out the design.
	Objective 3J-4 Visual and environmental impacts of underground car parking are minimised		Complies	Two levels of car-park have been provided at basement levels, appropriately ventilated. Car parking is not visible from the public street
	Objective 3J-5 Visual and environmental impacts of on-grade car parking are minimised		Complies	On-grade parking is kept to a minimum with visitor parking provided only.
	Objective 3J-6 Visual and environmental impacts of above ground enclosed car parking are minimised		N/A	Enclosed car parking spaces are proposed in the basement level and not visible from the ground level.

	OBJECTIVE	DESIGN CRITERIA	PROPOSED	COMMENT
PART 4 - DESIGNING THE BUILDING				
Solar and Daylight Access	**Objective 4A-1** To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space	1. Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid winter in the Sydney Metropolitan Area and in the Newcastle and Wollongong local government areas	Complies	120 (72.3%)apartments in the building receive a minimum of 2 hours direct sunlight during the required hours.
		2. In all other areas, 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	N/A	
		3. A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid winter	Complies	25 of the 166 apartments (15%) do not receive direct sunlight due to their orientation.
	Objective 4A-2 Daylight access is maximised where sunlight is limited		Complies	Large external fenestrations are proposed maximising the daylight access.
	Objective 4A-3 Design incorporates shading and glare control, particularly for warmer months		Complies	Roof canopies, window hoods and louvres and incorporated in the facade design to control glare.
Natural Ventilation	**Objective 4B-1** All habitable rooms are naturally ventilated		Complies	Adequate operable windows provided to all habitable rooms.
	Objective 4B-2 The layout and design of single aspect apartments maximises natural ventilation		Complies	Apartment layouts are generally open plan and minimise corners and corridors that could limit available air flow.
	Objective 4B-3 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	Complies	112 (67.46%) apartments achieve cross ventilation.
		2. Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line	N/A	

	OBJECTIVE	DESIGN CRITERIA		PROPOSED	COMMENT
Ceiling Heights	**Objective 4C-1** Ceiling height achieves sufficient natural ventilation and daylight access	Measured from finished floor level to finished ceiling level, minimum ceiling heights are:		Complies	All habitable rooms have a ceiling height of 2.7m
		Minimum ceiling height for apartment and mixed use buildings			
		Habitable Rooms	2.7m	Complies	
		Non-Habitable	2.4m	Complies	
		For 2 Storey Apartments	2.7m for main living area floor. 2.4m for second floor, where its area does not exceed 50% of the apartment area	N/A	
		Attic Spaces	1.8m at edge of room with a 30 degree minimum ceiling slope	N/A	
		If located in mixed use areas	3.3m for ground and first floor to promote future flexibility of use	N/A	
	Objective 4C-2 Ceiling height increases the sense of space in apartments and provides for well proportioned rooms			Complies	
	Objective 4C-3 Ceiling heights contribute to the flexibility of building use over the life of the building			Complies	
Apartment Size and Layout	**Objective 4D-1** The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity	1. Apartments are required to have the following minimum internal areas:			
		Studio	35m3		
		1 bedroom	50m3	Complies	1 Bedroom apartments are larger than minimum sizes required.
		2 bedroom	70m3	Complies	2 Bedroom apartments are larger than minimum sizes required.
		3 bedroom	90m3	Complies	3 Bedroom apartments are larger than minimum sizes required.
		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		Complies	External glazing to all habitable rooms is greater than the minimum 10% required.
	Objective 4D-2 Environmental performance of the apartment is maximised	1. Habitable room depths are limited to a maximum of 2.5 x the ceiling height		Complies	
		2. In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window		Complies	Living room depths do not exceed required minimum dimensions.

	OBJECTIVE	DESIGN CRITERIA	PROPOSED	COMMENT
	Objective 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)	Complies	Master bedrooms and bedrooms provided are larger than minimum size required.
		2. Bedrooms have a minimum dimension of 3m (excluding wardrobe space)	Complies	
		3. Living rooms or combined living/dining rooms have a minimum width of: 3.6m for studio and 1 bedroom apartments 4m for 2 and 3 bedroom apartments	Complies	
		4. The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts	Complies	
Private Open Space and Balconies	**Objective 4E-1** Apartments provide appropriately sized private open space and balconies to enhance residential amenity	1. All apartments are required to have primary balconies as follows: Dwelling type / Min Area / Min Depth Studio / 4m^2 / - 1 bedroom / 8m^2 / 2m 2 bedroom / 10m^2 / 2m 3+ bedroom / 12m^2 / 2.4m The minimum balcony depth to be counted as contributing to the balcony area is 1m	Complies	Apartments meets ADG minimum for internal and external areas.
		2. For apartments at ground level or on a podium or similar structure, a private open space is provided instead of a balcony. It must have a minimum area of 15m^2 and a minimum depth of 3m	Complies	Generous courtyards have been provided to all ground floor apartments.
	Objective 4E-2 Primary private open space and balconies are appropriately located to enhance liveability for residents		Complies	Balconies are located in front or adjacent to living spaces on all apartments.
	Objective 4E-3 Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building		Complies	All downpipes will be concealed and integrate into the design. No Air-conditioning units or Storage will be provided on balconies.
	Objective 4E-4 Private open space and balcony design maximises safety		Complies	Typical balcony balustrade heights are 1050mm.

	OBJECTIVE	DESIGN CRITERIA	PROPOSED	COMMENT
Common Circulation and Spaces	**Objective 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	Complies	
		2. For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40	N/A	
	Objective 4F-2 Common circulation spaces promote safety and provide for social interaction between residents		Complies	Tight corners and spaces are avoided, and legible way finding will be proposed. A generous lobby is proposed at ground and third floor, and promoting social interaction amongst residents.
Storage	**Objective 4G-1** Adequate, well designed storage is provided in each apartment	In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided	Complies	All Apartments exceed ADG minimum requirements for 50% of storage located within the apartment and 50% located in the basements.
		Dwelling Type — Storage size volume		
		Studio — 4m3		
		1 bedroom — 6m3		
		2 bedroom — 8m3		
		3+ bedroom — 10m3		
		At least 50% of the required storage is to be located within the apartment		
	Objective 4G-2 Additional storage is conveniently located, accessible and nominated for individual apartments		Complies	Extra storage is provided to all apartments on basement levels.

	OBJECTIVE	DESIGN CRITERIA	PROPOSED	COMMENT
Acoustic Privacy	**Objective 4H-1** Noise transfer is minimised through the siting of buildings and building layout		Complies	Care has been taken within the layout of apartment to locate non-habitable rooms to act as buffer noise to common corridors where possible.
	Objective 4H-2 Noise impacts are mitigated within apartments through layout and acoustic treatments		Complies	Construction methods that minimise noise impact will be proposed.
Noise and Pollution	**Objective 4J-1** In noisy or hostile environments the impacts of external noise and pollution are minimised through the careful siting and layout of buildings		Complies	
	Objective 4J-2 Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission		Complies	Double glazing is generally proposed to each facade taking into consideration it's exposure to noise.
Apartment Mix	**Objective 4K-1** A range of apartment types and sizes is provided to cater for different household types now and into the future		Complies	1 Bedroom , 2 Bedroom, 3 Bedroom and a 4 bedroom unit have been provided
	Objective 4K-2 The apartment mix is distributed to suitable locations within the building		Complies	A variety of apartments has been provided within a floor plate. .
Ground Floor Apartments	**Objective 4L-1** Street frontage activity is maximised where ground floor apartments are located		Complies	
	Objective 4L-2 Design of ground floor apartments delivers amenity and safety for residents		Complies	
Façades	**Objective 4M-1** Building façades provide visual interest along the street while respecting the character of the local area		Complies	The facade treatment draws on local residential character through materiality choice, expressed in varying complimentary ways across the development.
	Objective 4M-2 Building functions are expressed by the facade		Complies	Bedrooms and living areas are uniquely expressed on the building facade

	OBJECTIVE	DESIGN CRITERIA	PROPOSED	COMMENT
Roof Design	**Objective 4N-1** Roof treatments are integrated into the building design and positively respond to the street		Complies	
	Objective 4N-2 Opportunities to use roof space for residential accommodation and open space are maximised		Complies	
	Objective 4N-3 Roof design incorporates sustainability features		Complies	
Landscape Design	**Objective 4O-1** Landscape design is viable and sustainable		Complies	
Planting on Structures	**Objective 4P-1** Appropriate soil profiles are provided		Complies	
	Objective 4P-2 Plant growth is optimised with appropriate selection and maintenance		Complies	Landscape architects have designed a suitable solution taking into consideration available light levels and wind effects to choose appropriate planting species.
	Objective 4P-3 Planting on structures contributes to the quality and amenity of communal and public open spaces		Complies	
Universal Design	**Objective 4Q-1** Universal design features are included in apartment design to promote flexible housing for all community members		Complies	
	Objective 4Q-2 A variety of apartments with adaptable designs are provided		Complies	
	Objective 4Q-3 Apartment layouts are flexible and accommodate a range of lifestyle needs		Complies	
Adaptive Reuse	**Objective 4R-1** New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense of place		N/A	
	Objective 4R-2 Adapted buildings provide residential amenity while not precluding future adaptive reuse		N/A	

	OBJECTIVE	DESIGN CRITERIA	PROPOSED	COMMENT
Mixed Use	**Objective 4S-1** Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement		N/A	
	Objective 4S-2 Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents		N/A	
Awnings and Signage	**Objective 4T-1** Awnings are well located and complement and integrate with the building design		Complies	
	Objective 4T-2 Signage responds to the context and desired streetscape character		Complies	
Energy Efficiency	**Objective 4U-1** Development incorporates passive environmental design		Complies	The majority of apartments enjoy good solar amenity.
	Objective 4U-2 Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer		Complies	
	Objective 4U-3 Adequate natural ventilation minimises the need for mechanical ventilation		Complies	All apartments have natural ventilation. 67.46% achieve cross ventilation
Water Management and Conservation	**Objective 4V-1** Potable water use is minimised		Complies	
	Objective 4V-2 Urban stormwater is treated on site before being discharged to receiving waters		Complies	
	Objective 4V-3 Flood management systems are integrated into site design		Complies	
Waste Management	**Objective 4W-1** Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents		Complies	The waste holding room is located within the basement for building A,B & C. For building E the waste holding area is located in lower ground floor.
	Objective 4W-2 Domestic waste is minimised by providing safe and convenient source separation and recycling		Complies	There is a waste room in each level that provides access to a garbage chute general waste and bins for recycling waste.
Building Maintenance	**Objective 4X-1** Building design detail provides protection from weathering		Complies	
	Objective 4X-2 Systems and access enable ease of maintenance		Complies	
	Objective 4X-3 Material selection reduces ongoing maintenance costs		Complies	