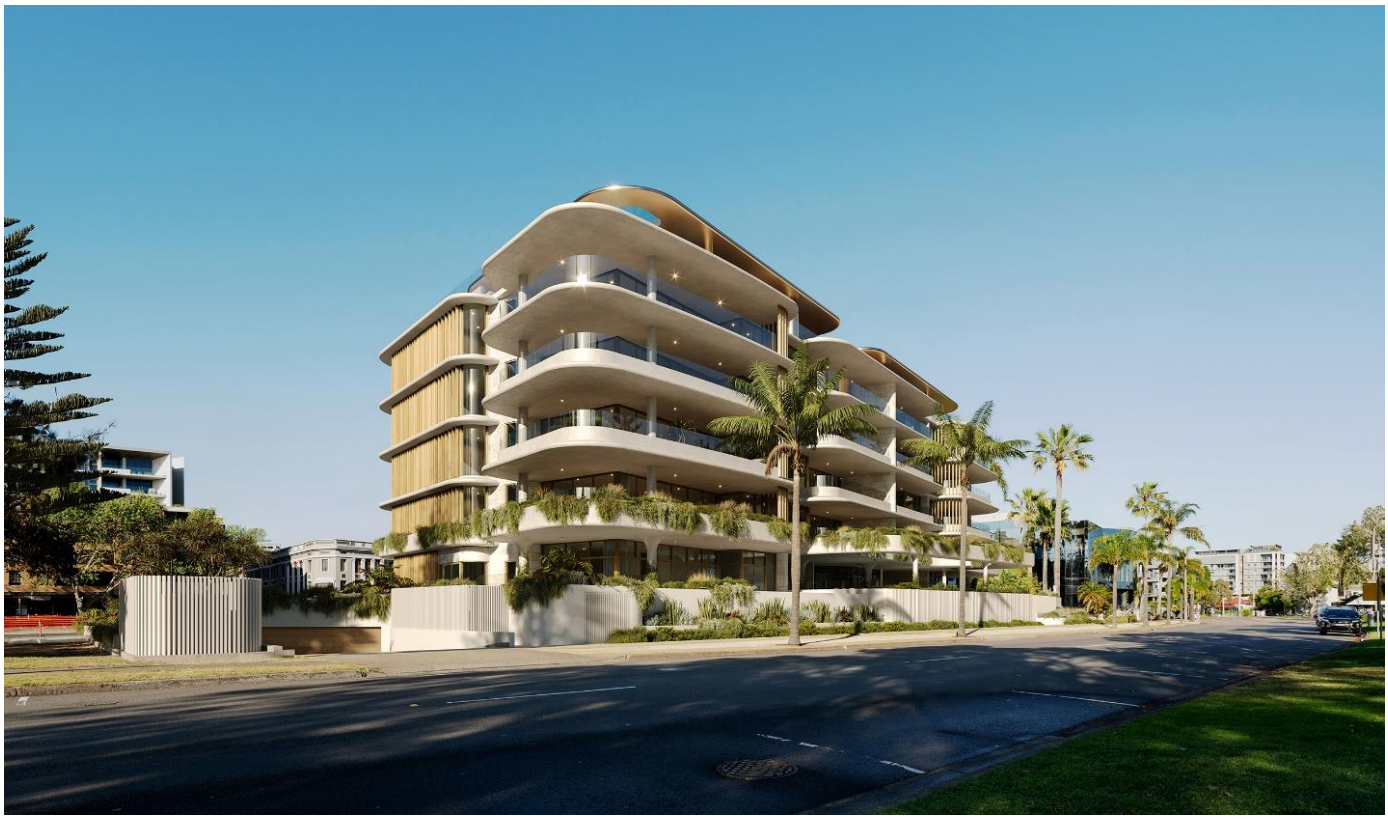
EJE Integrity Innovation Inspiration

HOUSING SEPP – DESIGN VERIFICATION STATEMENT

RESIDENTIAL APARTMENT DEVELOPMENT
237 Wharf Road
Newcastle NSW 2300



Prepared by EJE
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HOUSING SEPP 2021 – DESIGN VERIFICATION STATEMENT

Residential Apartment Development
237 Wharf Road
Newcastle NSW 2300

I, Brock Hall (NSW Architects Registration Board No. 11878) of EJE Architecture, verify that the residential apartment development proposed for 237 Wharf Road Newcastle was designed under my direction with regards to the State Environmental Planning Policy (Housing) 2021, The Apartment Design Guide and the repealed SEPP 65 – Design Quality of Residential Flat Development.

Yours Faithfully,

Brock Hall
Director
Registered Architect 11878 (NSWARB)

HOUSING SEPP 2021 – SCHEDULE 9 DESIGN PRINCIPLES FOR RESIDENTIAL APARTMENT DEVELOPMENT

1.0 PRINCIPLE 1: CONTEXT & NEIGHBOURHOOD CHARACTER

SEPP Objective

(1) *Good design responds and contributes to its context which is the key natural and built features of an area, their relationship and the character they create when combined and also includes social, economic, health and environmental conditions.*

(2) *Responding to context involves identifying the desirable elements of an area's existing or future character.*

(3) *Well designed buildings respond to and enhance the qualities and identity of the area including the adjacent sites, streetscape, and neighbourhood.*

(4) *Consideration of local context is important for all sites, including sites in the following areas – a) established areas, b) areas undergoing change, c) areas identified for change.*

Response

The subject site is located in the Civic Precinct of Newcastle with Newcastle Harbour to the north, Scott Street to the south and the Pacific Ocean to the east.

The development is located on a unique site that fronts Wharf Road, however it also looks back to the south over Scott Street and the CBD. The development is a centrally located site, amongst a diverse context including multi unit residential, commercial buildings, mixed use buildings, entertainment facilities and retail.

The site benefits from uninterrupted views to the north over Newcastle Harbour and to the north east to Nobbys Lighthouse.

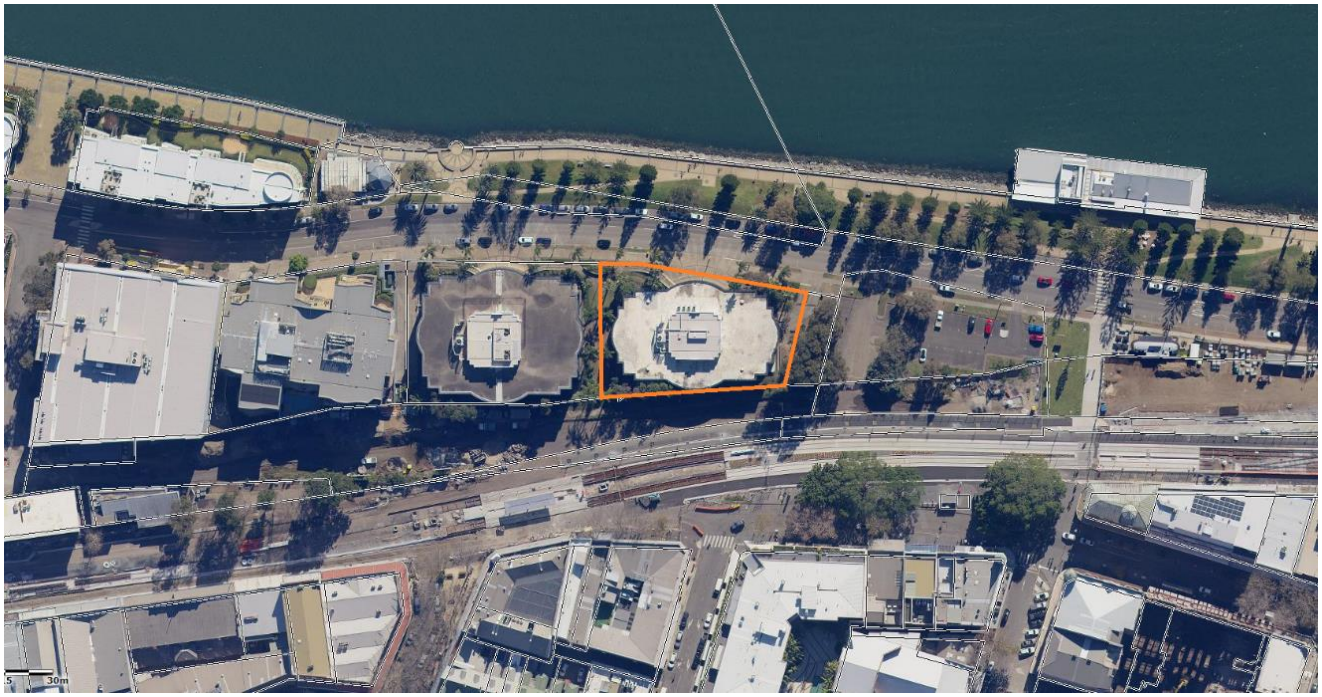

Figure 01: SITE LOCATION

2.0 PRINCIPLE 2: BUILT FORM & SCALE

SEPP Objective

(1) *Good design achieves a scale, bulk, and height appropriate to the existing or desired future character of the street and surrounding buildings.*

(2) *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.*

(3) *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.*

Response

The proposed residential development is a 6-storey building plus a basement carpark, it is within 12% of the allowable 20m height limit as identified in Newcastle Local Environmental Plan 2012. The building is designed with horizontal forms providing a strong element to the façade, broken by vertical elements, articulating the built forms and reducing the horizontal scale from Wharf Road and Scott Street.

Solid upstands to balconies on level 1 to 4 align with the parapet height of the adjoining commercial building providing a solid base with the two upper floors having full height glass balustrades to provide a finer edge to the balconies.

Taking advantage of the existing excavation of the site, a basement carpark provides secured parking which is integrated into the building design, providing an elevated podium level.

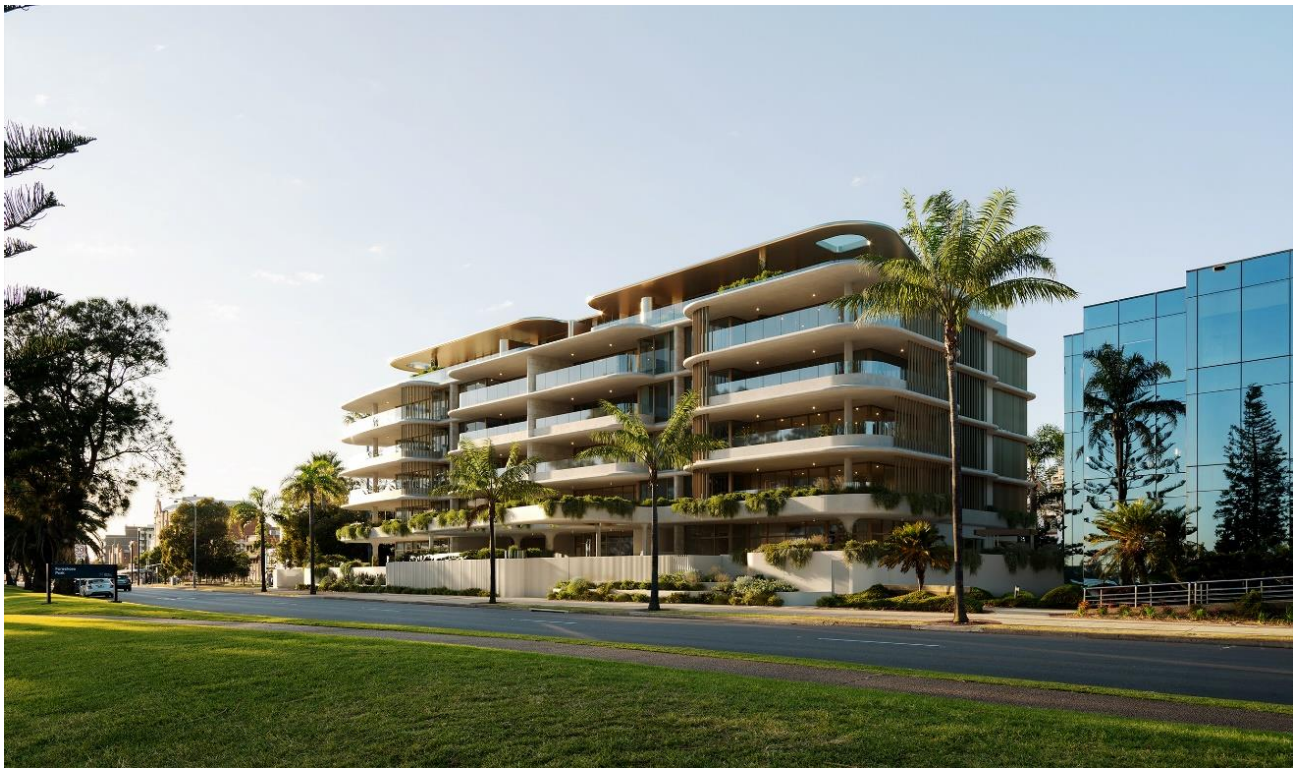

Figure 02: **View of development from Wharf Road highlighting the horizontal and vertical proportions.**

While the built form has a predominant horizontal design element, it is also broken down in scale vertically, through architectural articulation, and expressing the individuality of the apartments. The scale of the building sits well within the context resulting in a well-considered design for this site.

The proposed development site is an ideal opportunity for residential intensification and provides a variety of residential and commercial options for both existing and new residents of Newcastle.

3.0 PRINCIPLE 3: DENSITY

SEPP Objective

1. *Good design achieves a high level of amenity for residents and each apartment, resulting in a density appropriate to the site and its context.*

2. *Appropriate densities are consistent with the area's existing or projected population.*

3. *Appropriate densities can be sustained by the following - a) existing or proposed infrastructure, b) public transport, c) access to jobs, d) community facilities and f) the environment.*

Response

The site has a floor space ratio FSR of 1.5:1. The FSR is calculated as follows:

Basement	10.6m^2
Podium	805.4m^2
Level 1 to 4	3,534.4m^2
Penthouse Level	508.8m^2
Total Floor Area	4,859.2m2
Site Area	2,625.2m^2
FSR	1.85:1

The proposed density is consistent with surrounding residential mixed use developments

The site location has good access to existing infrastructure, public transport, and community facilities, with surrounding residential development (existing and proposed) reinforcing the appropriateness of the density in relation to the context.

4.0 PRINCIPLE 4: SUSTAINABILITY

SEPP Objective

1. *Good design combines positive environmental, social and economic outcomes.*

2. *Good sustainable design includes – a) use of natural cross ventilation and sunlight for the amenity and liveability of residents and b) passive thermal design for ventilation, heating and cooling which reduces reliance on technology and operation costs.*

3. *Good sustainable design also includes the following – a) recycling and reuse of materials and waste, b) use of sustainable materials, and c) deep soil zones for groundwater recharge and vegetation.*

Response

The existing site incorporates a 2 storey plus basement carpark commercial building which will be demolished in a manner to allow most elements of the building to be recycled. The proposed development will benefit from the existing excavated basement significantly reducing the amount of material to be removed from the site.

The layout, orientation and design of the building is such that the apartments share a high level of amenity through passive solar design principles with a combination of cross flow ventilation, wide frontage apartments, all bedrooms having direct access to natural light and significant overhangs and screening to protect glazed areas.

Large balcony and courtyard areas also contribute to the sense of amenity and sustainability for this development. The landscaped zones provide a buffer between the street, adjoining developments and the proposed building.

The proposed building will exceed minimum BASIX requirements and the building will contain energy and water efficient fittings and appliances. Water reuse will be implemented into the building with rainwater collected and stored in accordance with a stormwater management plan.

5.0 PRINCIPLE 5: LANDSCAPE

SEPP Objective

1. *Good design recognises that landscape and buildings operate together as an integrated and sustainable system, resulting in attractive developments with good amenity.*

2. *A positive image and contextual fit of well-designed developments is achieved by contributing to the landscape character of the streetscape and neighbourhood.*

3. *Good landscape design enhances the development's environmental performance by retaining positive natural features which contribute to the following – a) the local context, b) co-ordinating water and soil management, c) solar access, d) micro-climate, e) tree canopy, f) habitat values, and g) preserving green networks.*

4. *Good landscape design optimises the following – a) usability, b) privacy and opportunities for social interaction, c) equitable access, d) respect for neighbours' amenity.*

5. *Good landscape design provides for practical establishment and long-term management.*

Response

The site area for the development is 2,625.2m2 and cleverly incorporates a combination of public and private landscaped areas to soften the buildings appearance and provide screening for the occupants and adjoining developments.

The landscape design and planting selections will complement the context and their function to provide privacy and soften the built form.

6.0 PRINCIPLE 6: AMENITY

SEPP Objective

1. *Good design positively influences internal and external amenity for residents and neighbours.*

2. *Good amenity contributes to positive living environments and resident wellbeing.*

3. *Good amenity combines the following – a) appropriate room dimensions and shapes, b) access to sunlight, c) natural ventilation, d) outlook, e) visual and acoustic privacy, f) storage, g) indoor and outdoor space, h) efficient layouts and service areas, and i) ease of access for all age groups and degrees of mobility.*

Response

The proposed development meets the guidelines and intent of Apartment Design Guide for solar access (>70%), cross ventilation (>60%) and single aspect south facing apartments (<15%).

In that regard we confirm that 100% of the apartments receive a minimum of 3 hours solar access to private open spaces off the primary living area between 9am and 3pm mid winter, that 100% of apartments are cross ventilated, and 0% are single aspect south facing apartments. All apartments have wide frontages opening onto large balconies which face north to ensure solar access and a positive amenity achieved to all apartments.

There are no visual or acoustic privacy issues to or from the building. The proposed development does not directly impact any surrounding development due to the site location separating it to the north by Wharf Road, the south by Scott Street and neighbouring sites by generally maintaining the side setbacks to retain views between the buildings from the south and the view corridor from Brown Street. Double glazing and insulated facades are proposed to all apartments to enhance the acoustic privacy of the apartments from the harbour, tram line, and general inner city noise.

Within each apartment large built in robes are located in all bedrooms with additional linen / storage cupboards also provided. Unit layouts are very functional and efficient with all bedrooms and bathrooms located within proximity allowing for generously proportioned open plan kitchen, dining and living areas opening to the northern balconies.

The Apartment Design Guide states the communal open space should be 25% of the site area. The development offers a large north facing communal space including resident lounge, gym and a pool and terrace area at podium level, being 15.3% of the site area. Given the developments close proximity to the foreshore across Wharf Road and Foreshore Park to the east, the development has the benefit of ample access to open space and recreational areas both within the development and the immediate vicinity. In addition all apartments provide larger balconies with a combined minimum 40m^2 being provided.

7.0 PRINCIPLE 7: SAFETY

SEPP Objective

1. *Good design optimises safety and security, within the development and the public domain.*

2. *Good design provides for quality public and private spaces that are clearly defined and fit for the intended purpose.*

3. *Opportunities to maximise passive surveillance of public and communal areas promote safety.*

4. *A positive relationship between public and private spaces is achieved through clearly defined secure access points and well lit and visible areas that are easily maintained and appropriate to the location and purpose.*

Response

The proposed residential development provides a substantial increase to both safety and security in the area. By incorporating an active frontage and passive surveillance from the apartments, the development will positively contribute to safety and security of the area, along Wharf Road to the north and Scott Street to the south.

Carparking is in a secure carpark area accessed from the existing kerb crossing on Wharf Road, with lift access directly to all floors. A secured lobby is accessed via Wharf Road, with access also provided from Scott Street. All access points are clearly visible and will be well lit. There will be CCTV coverage for security purposes at all entry points to the building.

8.0 PRINCIPLE 8: HOUSING DIVERSITY & SOCIAL INTERACTION

SEPP Objective

1. *Good design achieves a mix of apartment sizes, providing housing choice for different demographics, living needs and household budgets.*
2. *Well-designed apartment developments respond to social context by providing housing and facilities to suit the existing and future social mix.*

3. *Good design involves practical and flexible features, including – a) different types of communal spaces for a broad range of people, b) opportunities for social interaction amongst residents.*

Response
The proposed development has been designed to cater for the owner/occupier, offering a boutique development with a high level of finish and amenity generally not on offer in apartment living within the Newcastle area. Apartments are larger than those typically being constructed in the current market and include 3 beds with ensuites, a second living space, butlers' pantries and large balconies as follows:

- 18 x 3 bed apartments
- 2 x 3 bed penthouse apartments

The units in this development will appeal to people wanting to live and work in Newcastle CBD while enjoying all the amenity that is on offer.

9.0 PRINCIPLE 9: AESTHETICS

SEPP Objective

1. *Good design achieves a built form that has good proportions and a balanced composition of elements, reflecting the internal layout and structure.*

2. *Good design uses a variety of materials, colours, and textures.*

3. *The visual appearance of well-designed apartment development responds to the existing or future local context, particularly desirable elements, and repetitions of the streetscape.*

Response
As the Civic Precinct and foreshore location is undergoing transition, the aesthetics are designed in keeping with the existing and the future character of the area and its foreshore location.

The design has been layered both horizontally and vertically to break down the scale of the building and provide elements of individuality to the apartments.

The combination of vertical screens, changes in materials, textures and finishes throughout provide a clean modern aesthetic that is well suited to its harbour location while contributing to the urban design of the area.

10.0 CONCLUSION

The proposed residential development at 237 Wharf Road Newcastle provides a development of quality design that suits Councils vision to be a Smart, Liveable and Sustainable City that will be an attractive city built around people and reflect our sense of identity.

The development will:

- Reinforce and continue to revitalise Newcastle City Centre
- Provide 20 quality new residential dwellings with communal open space.
- Introduction of residential development on this site will provide passive surveillance to the surrounding area
- Generally, comply with objectives of Newcastle DCP 2012, Newcastle LEP 2012 and SEPP Housing 2021 Guidelines.

On this basis, we therefore trust the Council would endorse the design and favourably support the application.

APARTMENT DESIGN GUIDE CHECKLIST

3 – SITING the DEVELOPMENT				
3A – SITE ANALYSIS				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**
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		Each element in the Site Analysis Checklist should be addressed (see Appendix 1)	**Yes**	Refer to Site Analysis plan. (A03, A04, A05, A06, A07, A08)
3B – ORIENTATION				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**
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)	**Yes**	The building addresses the main street frontage on Wharf Road as well as addressing Scott Street to the south. All apartments have northern aspect as they open to both the north and south.
		Where the street frontage is to the east or west, rear buildings should be orientated to the north		
		Where the street frontage is to the north or south, overshadowing to the south should be minimised and buildings behind the street frontage should be orientated to the east and west (see figure 3B.2)		
3B-2 Overshadowing of neighbouring properties is minimised during mid winter		Living areas, private open space and communal open space should receive solar access in accordance with sections 3D Communal and public open space and 4A Solar and daylight access	**Yes**	The orientation, massing and setbacks minimise any overshadowing impacts. Refer to Shadow Diagrams. (A23) indicating the extent of overshadowing. All apartments are north facing exceeding solar access requirements.
		Solar access to living rooms, balconies		

		and private open spaces of neighbours should be considered		
		Where an adjoining property does not currently receive the required hours of solar access, the proposed building ensures solar access to neighbouring properties is not reduced by more than 20%		
		If the proposal will significantly reduce the solar access of neighbours, building separation should be increased beyond minimums contained in section 3F Visual privacy		
		Overshadowing should be minimised to the south or downhill by increased upper level setbacks		
		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		
		A minimum of 4 hours of solar access should be retained to solar collectors on neighbouring buildings		
3C – PUBLIC DOMAIN INTERFACE				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**
3C-1 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	Yes	Secured pedestrian access is provided to the development from Wharf Road. Solid walls are broken up with material changes and landscaping to provide privacy for ground floor apartments and provide visual variety Recesses which allow for concealment are avoided.
		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)		Balconies and windows on all elevations allow for casual surveillance to the public domain.
		Upper level balconies and windows should overlook the public domain		
		Front fences and walls along street frontages should use visually permeable materials and treatments. The height of solid fences or walls should be limited to 1m		
		Length of solid walls should be limited along street frontages		
		Opportunities should be provided for casual interaction between residents and the public domain. Design solutions may include seating at building entries, near letter boxes and in private courtyards adjacent to streets		
		In developments with multiple buildings and/or entries, pedestrian entries and spaces associated with individual buildings/entries should be differentiated to improve legibility for residents, using a number of the following design solutions: • architectural detailing • changes in materials • plant species • colours		
		Opportunities for people to be concealed should be minimised		
3C-2 Amenity of the public domain is retained and enhanced		Planting softens the edges of any raised terraces to the street, for example above sub-basement car parking	Yes	Landscaping is incorporated in the setback providing terraced gardens from the podium level to the boundaries. Mailboxes are integrated with the covered main entrance off Wharf Road. Ground floor carparking ventilation is not
		Mailboxes should be located in lobbies, perpendicular to the street alignment or integrated into front fences where individual street entries are provided		
		The visual prominence of underground		

		car park vents should be minimised and located at a low level where possible		visible from the principle public domain. A ventilated roller door is used to screen the car park from the street. Service areas are located out of view. Robust and resilient materials are employed at the street interface.
		Substations, pump rooms, garbage storage areas and other service requirements should be located in basement car parks or out of view		
		Ramping for accessibility should be minimised by building entry location and setting ground floor levels in relation to footpath levels		
		Durable, graffiti resistant and easily cleanable materials should be used		
		Where development adjoins publicparks, open space or bushland, the design positively addresses this interface and uses a number of the following design solutions: ▪ street access, pedestrian paths and building entries which are clearly defined ▪ paths, low fences and planting that clearly delineate between communal/private open space and the adjoining public open space ▪ minimal use of blank walls, fences and ground level parking		
		On sloping sites protrusion of car parking above ground level should be minimised by using split levels to step underground car parking		

3D – COMMUNAL & PUBLIC OPEN SPACE				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**
3D-1 An adequate area of communal open space is provided to enhance residential	***1. Communal open space has a minimum area equal to 25% of the site (see figure 3D.3)***		**No**	The development includes 23.1% communal space in addition to large balconies and direct access to adjoining parkland as referenced below.
	2. Developments achieve a minimum		**Yes**	The communal space on the podium

amenity and to provide opportunities for landscaping	***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)***			level is all opening to the north.
		Communal open space should be consolidated into a well-designed, easily identified and usable area	**Yes**	
		Communal open space should have a minimum dimension of 3m, and larger developments should consider greater dimensions	**Yes**	
		Communal open space should be co-located with deep soil areas	**Yes**	There is extensive landscaping surrounding the pool area and to the entire development.
		Direct, equitable access should be provided to communal open space areas from common circulation areas, entries and lobbies	**Yes**	
		Where communal open space cannot be provided at ground level, it should be provided on a podium or roof	**Yes**	The communal space is provided at podium level.
		Where developments are unable to achieve the design criteria, such as on small lots, sites within business zones, or in a dense urban area, they should: • provide communal spaces elsewhere such as a • landscaped roof top terrace or a common room • provide larger balconies or increased private open space for apartments • demonstrate good proximity to public open space and facilities and/or provide contributions to	**Yes**	In addition to the communal space, large private balconies to each apartment are provided. The development also has direct access to Newcastle foreshore and surrounding parks.

		public open space		
3D-2 Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting		Facilities are provided within communal open spaces and common spaces for a range of age groups (see also 4F - Common circulation and spaces), incorporating some of the following elements: ▪ seating for individuals or groups ▪ barbecue areas ▪ play equipment or play areas ▪ swimming pools, gyms, tennis courts or common rooms	**Yes**	The development incorporates a large pool with multiple seating areas, a gym, resident lounge or common area and a resident wine cellar and tasting room.
		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	**Yes**	
		Visual impacts of services should be minimised, including location of ventilation duct outlets from basement car parks, electrical substations and detention tanks	**Yes**	The visual impact of ventilation ducts and other services will be minimised.
3D-3 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: • bay windows • corner windows • balconies Communal open space should be well lit Where communal open space/facilities are provided for children and young people they are safe and contained	**Yes**	The communal space is located centrally on the podium level which is visible from all access points and the lobby.

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 public open space should be connected with nearby parks and other landscape elements Public open space should be linked through view lines, pedestrian desire paths, termination points and the wider street grid Solar access should be provided year round along with protection from strong winds Opportunities for a range of recreational activities should be provided for people of all ages A positive address and active frontages should be provided adjacent to public open space Boundaries should be clearly defined between public open space and private areas	**N/A**	

3E – DEEP SOIL ZONES

OBJECTIVE	DESIGN CRITERIA			DESIGN GUIDANCE	COMPLIES?	COMMENTS
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	***1. Deep soil zones are to meet the following minimum requirements:***				**Yes**	331.8m^2 of deep soil zone is provided however is exempt under NCC DCP 6.01.03 A9. Expensive garden beds and terraced gardens are provided with suitable planting selected to support healthy plant and tree growth, improve residential amenity and promote management of water and air quality.
	Site area	***Minimum dimensions***	***Deep soil zone (% of site area)***			
	less than 650m2	***-***				
	650m2 - 1,500m2	***3m***				
	greater	***6m***				

	than 1,500m2		***7%***			
	Greater than 1,500m2 with significant existing tree cover	***6m***				
				On some sites it may be possible to provide larger deep soil zones, depending on the site area and context: ▪ 10% of the site as deep soil on sites with an area of 650m2 - 1,500m2 ▪ 15% of the site as deep soil on sites greater than 1,500m2	**Yes**	
				Deep soil zones should be located to retain existing Significant trees and to allow for the development of healthy root systems, providing anchorage and stability for mature trees. Design solutions may include: ▪ basement and sub-basement car park design that is consolidated beneath building footprints ▪ use of increased front and side setbacks ▪ adequate clearance around trees to ensure long term health ▪ co-location with other deep soil areas on adjacent sites to create larger contiguous areas of deep soil		
				Achieving the design criteria may not be		

<table>
<tr><td></td><td></td><td>possible on some sites including where:
• the location and building typology have limited or no space for deep soil at ground level (e.g. central business district, constrained sites, high density areas, or in centres)
• there is 100% site coverage or non-residential uses at ground floor level

Where a proposal does not achieve deep soil requirements, acceptable stormwater management should be achieved and alternative forms of planting provided such as on structure</td><td></td><td></td></tr>
<tr><td colspan="5">3F – VISUAL PRIVACY</td></tr>
<tr><td>OBJECTIVE</td><td>DESIGN CRITERIA</td><td>DESIGN GUIDANCE</td><td>COMPLIES?</td><td>COMMENTS</td></tr>
<tr><td>3F-1
Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy</td><td>1. Separation between windows and balconies is provided to ensure visual privacy is achieved.

Minimum required separation distances from buildings to the side and rear boundaries are as follows:

<table><tr><th>Building height</th><th>Habitable rooms and balconies</th><th>Non-habitable rooms</th></tr><tr><td>up to 12m (4 storeys)</td><td>6m</td><td>3m</td></tr><tr><td>up to 25m (5-8 storeys)</td><td>9m</td><td>4.5m</td></tr><tr><td>over 25m</td><td>12m</td><td>6m</td></tr></table></td><td></td><td>Yes</td><td>Compliant separation exists for all apartments.</td></tr>
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	(9+ storeys)				
	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	**Yes**	The penthouse level is setback to reduce scale of building.
			For residential buildings next to commercial buildings, separation distances should be measured as follows: • for retail, office spaces and commercial balconies use the habitable room distances • for service and plant areas use the non-habitable room distances	**Yes**	
			New development should be located and oriented to maximise visual privacy between buildings on site and for neighbouring buildings. Design solutions include: • site layout and building	**Yes**	Apartments have been designed to maximise privacy and address the public streets.

		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)		
		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)	**Yes**	The development has maintained an increased setback to the eastern boundary adjoining the site identified in NCC DCP as a key site.
		Direct lines of sight should be avoided for windows and balconies across corners	**Yes**	
		No separation is required between blank walls	**Yes**	
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		Communal open space, common areas and access paths should be separated from private open space and windows to apartments, particularly habitable room windows. Design solutions may include: • setbacks • solid or partially solid balustrades to balconies at lower levels • fencing and/or trees and vegetation to separate spaces • screening devices • bay windows or pop out windows to provide privacy in one direction and outlook in another • raising apartments/private open	**Yes**	Private open spaces and windows have been separated from common areas and paths with solid walls, screens and landscaped garden beds. Pergolas and shading devices have been incorporated on the podium level to limit overlooking from balconies to upper levels.

		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 Bedrooms, living spaces and other habitable rooms should be separated from gallery access and other open circulation space by the apartment's service areas Balconies and private terraces should be located in front of living rooms to increase internal privacy Windows should be offset from the windows of adjacent buildings Recessed balconies and/or vertical fins should be used between adjacent balconies		
3G – PEDESTRIAN ACCESS & ENTRIES				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**

3G-1 Building entries and pedestrian access connects to and addresses the public domain		Multiple entries (including communal building entries and individual ground floor entries) should be provided to activate the street edge Entry locations relate to the street and subdivision pattern and the existing pedestrian network Entry locations relate to the street and subdivision pattern and the existing pedestrian network Building entries should be clearly identifiable and communal entries should be clearly distinguishable from private entries Where street frontage is limited and multiple buildings are located on the site, a primary street address should be provided with clear sight lines and pathways to secondary building entries	**Yes**	The main pedestrian access to the development is from a secured lobby fronting Wharf Road and incorporates an awning to identify the entrance point. An entry point is also provided to the south for residents to have direct access back to the city centre.
3G-2 Access, entries and pathways are accessible and easy to identify		Building access areas including lift lobbies, stairwells and hallways should be clearly visible from the public domain and communal spaces The design of ground floors and underground car parks minimise level changes along pathways and entries Steps and ramps should be integrated into the overall building and landscape design For largedevelopments 'way finding' maps should be provided to assist visitors and residents (see figure 4T.3) For large developments electronic access and audio/video intercom should be provided to manage access	**Yes**	The proposed plan is simple and logical, and all building access areas are clearly visible and accessible. Electronic access is provided to all lobbies.

3G-3 Large sites provide pedestrian links for access to streets and connection to destinations		Pedestrian links through sites facilitate direct connections to open space, main streets, centres and public transport 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	**N/A**	
3H – VEHICLE ACCESS				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**
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 should be integrated with the building's overall facade. Design solutions may include: • the materials and colour palette to minimise visibility from the street • security doors or gates at entries that minimise voids in the facade • ▪ where doors are not provided, the visible interior reflects the facade design and the building services, pipes and ducts are concealed Car park entries should be located behind the building line Vehicle entries should be located at the lowest point of the site minimising ramp lengths, excavation and impacts on the building form and layout Car park entry and access should be located on secondary streets or lanes where available Vehicle standing areas that increase driveway width and encroach into	**Yes**	The main proposed vehicular entry is recessed and integrated into the terraced gardens with access from Wharf Road. The provided car parking is securely located and separated from the main pedestrian access. Large vehicles are not required to access the site as there is a loading zone directly in front of the development on Wharf Road. Clear site lines are provided where the driveway crosses the pedestrian path along Wharf Road. Garbage areas are located in the basement carpark and screened.

		setbacks should be avoided Access point locations should avoid headlight glare to habitable rooms Adequate separation distances should be provided between vehicle entries and street intersections The width and number of vehicle access points should be limited to the minimum Visual impact of long driveways should be minimised through changing alignments and screen planting The need for large vehicles to enter or turn around within the site should be avoided Garbage collection, loading and servicing areas are screened Clear sight lines should be provided at pedestrian and vehicle crossings Traffic calming devices such as changes in paving material or textures should be used where appropriate		
		Pedestrian and vehicle access should be separated and distinguishable. Design solutions may include: • changes in surface materials • level changes • · the use of landscaping for separation	**Yes**	
3J – BICYCLE & CAR PARKING				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**

3J-1 Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas	***1. 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 (incl. Newc.)*** ***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***	Where a car share scheme operates locally, provide car share parking spaces within the development. Car share spaces, when provided, should be on site	**No**	The provided carpark is outlined in the Statement of Environmental Effects and meets the requirements of NCC DCP. The site is in close proximity to the public transport network.
		Where less car parking is provided in a development, council should not provide on street resident parking permits		
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 Secure undercover bicycle parking should be provided that is easily accessible from both the public domain and common areas Conveniently located charging stations are provided for electric vehicles, where desirable	**Yes**	Secured bicycle parking is possible within the secure carpark as each apartment is provided with large storage areas.

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 Direct, clearly visible and well lit access should be provided into common circulation areas A clearly defined and visible lobby or waiting area should be provided to lifts and stairs For larger car parks, safe pedestrian access should be clearly defined and circulation areas have good lighting, colour, line marking and/or bollards	**Yes**	Garbage access is provided in an appropriate location within the secured parking. All spaces will be well lit with clear and simple circulation paths. Lift lobbies are clearly defined.
3J-4 Visual and environmental impacts of underground car parking are minimised		Excavation should be minimised through efficient car park layouts and ramp design Car parking layout should be well organised, using a logical, efficient structural grid and double loaded aisles Protrusion of car parks should not exceed 1m above ground level. Design solutions may include stepping car park levels or using split levels on sloping sites Natural ventilation should be provided to basement and sub-basement car parking areas Ventilation grills or screening devices for car parking openings should be integrated into the facade and landscape design	**Yes**	The car park layout is very efficient minimising excavation as the existing development proposed for demolition already incorporated a basement carpark. A ventilated roller door is used to assist with ventilation and to screen the car park from the street. The opening is recessed and integrated into the façade.

3J-5 Visual and environmental impacts of on-grade car parking are minimised		On-grade car parking should be avoided 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	**Yes**	On site car parking is provided in the covered, secured basement carpark area only.

3J-6 Visual and environmental impacts of above ground enclosed car parking are minimised		Exposed parking should not be located along primary street frontages Screening, landscaping and other design elements including public art should be used to integrate the above ground car parking with the facade. Design solutions may include: ▪ car parking that is concealed behind the facade, with windows integrated into the overall facade design (approach should be limited to developments where a larger floor plate podium is suitable at lower levels) ▪ car parking that is 'wrapped' with other uses, such as retail, commercial or two storey Small Office/Home Office (SOHO) units along the street frontage (see figure 3J.9) Positive street address and active frontages should be provided at ground level	**N/A**	

4 – DESIGNING the BUILDING

4A – DAYLIGHT & SOLAR ACCESS

OBJECTIVE	DESIGN CRITERIA	DESIGN GUIDANCE	COMPLIES?	COMMENTS
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 3 hours direct sunlight between 9 am and 3 pm at mid winter***		**Yes***	All apartments benefit from direct sunlight and meet the minimum 3hrs due to the northern aspect.
	3. A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid winter		**N/A**	

		The design maximises north aspect and the number of single aspect south facing apartments is minimised Single aspect, single storey apartments should have a northerly or easterly aspect Living areas are best located to the north and service areas to the south and west of apartments To optimise the direct sunlight to habitable rooms and balconies a number of the following design features are used: • dual aspect apartments • shallow apartment layouts • two storey and mezzanine level apartments • bay windows 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		
		Achieving the design criteria may not be possible on some sites. This includes: • where greater residential amenity can be achieved along a busy road or rail line by orientating the living rooms away from the noise source • on south facing sloping sites • where significant views are oriented away from the desired aspect for direct sunlight. Design drawings need to demonstrate how site constraints and orientation preclude meeting the design criteria and	**N/A**	

		how the development meets the objective		
4A-2 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 Where courtyards are used: • use is restricted to kitchens, bathrooms and service areas • building services are concealed with appropriate detailing and materials to visible walls • courtyards are fully open to the sky • access is provided to the light well from a communal area for cleaning and maintenance • acoustic privacy, fire safety and minimum privacy • separation distances (see section 3F Visual privacy) are achieved • Opportunities forreflected light into apartments are optimised through: • reflective exterior surfaces on buildings opposite south facing windows • · positioning windows to face other buildings or surfaces (on neighbouring sites or within the site) that will reflect light • integrating light shelves into the design • light coloured internal finishes	**Yes**	All habitable rooms have large operable glazing opening onto balconies or terraces.

4A-3 Design incorporates shading and glare control, particularly for warmer months		A number of the following design features are used: • balconies or sun shading that extend far enough to shade summer sun, but allow winter sun to penetrate living areas • shading devices such as eaves, awnings, balconies, pergolas, external louvres and planting • horizontal shading to north facing windows • vertical shading to east and particularly west facing windows • operable shading to allow adjustment and choice • high performance glass that minimises external glare off windows, with consideration given to reduced tint glass or glass with a reflectance level below 20% (reflective films are avoided)	**Yes**	The majority of windows are provided with large balconies to moderate summer solar penetration. There is external screens to exposed windows and high performance glass will be incorporated to minimise glare off windows.
4B – NATURAL VENTILATION				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**
4B-1 All habitable rooms are naturally ventilated		The building's orientation maximises capture and use of prevailing breezes for natural ventilation in habitable rooms Depths of habitable rooms support natural ventilation The area of unobstructed window openings should be equal to at least 5% of the floor area served Light wells are not the primary air source for habitable rooms Doors and openable windows maximise natural ventilation opportunities by using	**Yes**	All habitable rooms support natural ventilation.

		the following design solutions: • adjustable windows with large effective openable areas • a variety of window types that provide safety and flexibility such as awnings and louvres • windows which the occupants can reconfigure to funnel breezes into the apartment such as vertical louvres, casement windows and externally opening doors		
4B-2 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) Natural ventilation to single aspect apartments is achieved with the following design solutions: • primary windows are augmented with plenums and light wells (generally not suitable for cross ventilation) • stack effect ventilation / solar chimneys or similar to naturally ventilate internal building areas or rooms such as bathrooms and laundries • courtyards or building indentations have a width to depth ratio of 2:1 or 3:1 to ensure effective air circulation and avoid trapped smells	**N/A**	There are no single aspect units in the development.

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***		**Yes**	100% of units are designed with an open plan and a wide frontage to facilitate natural cross ventilation.
	2. Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line		**Yes**	60% or 12 of the apartments have north – south cross ventilation as well as ventilation to the east or west façade achieving the 18m distance between windows. The 8 internal apartments slightly exceed 18m between the glass line from north to south.
		The building should include dual aspect apartments, cross through apartments and corner apartments and limit apartment depths 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) Apartments are designed to minimise the number of corners, doors and rooms that might obstruct airflow Apartment depths, combined with appropriate ceiling heights, maximise cross ventilation and airflow	**Yes**	
4C – CEILING HEIGHTS				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**

<table>
<tr>
<td rowspan="11">4C-1
Ceiling height achieves sufficient natural ventilation and daylight access</td>
<td colspan="2">1. Measured from finished floor level to finished ceiling level, minimum ceiling heights are:</td>
<td rowspan="10"></td>
<td rowspan="10">Yes</td>
<td rowspan="10">The proposal has a minimum of 2.7m to habitable rooms and 2.4m to non-habitable rooms.</td>
</tr>
<tr>
<td colspan="2">Minimum ceiling height for apartment and mixed use buildings</td>
</tr>
<tr>
<td>Habitable rooms</td>
<td>2.7m</td>
</tr>
<tr>
<td>Non-habitable</td>
<td>2.4m</td>
</tr>
<tr>
<td>For 2 storey apartments</td>
<td>2.7m for main living area floor

2.4m for second floor, where its area does not exceed 50% of the apartment area</td>
</tr>
<tr>
<td>Attic spaces</td>
<td>1.8m at edge of room with a 30 degree minimum ceiling slope</td>
</tr>
<tr>
<td>If located in mixed used areas</td>
<td>3.3m for ground and first floor to promote future flexibility of use</td>
</tr>
<tr>
<td colspan="2">These minimums do not preclude higher ceilings if desired</td>
</tr>
<tr>
<td colspan="2"></td>
<td>Ceiling height can accommodate use of ceiling fans for cooling and heat distribution</td>
<td>Yes</td>
<td></td>
</tr>
</table>

<table>
<tr><td>4C-2
Ceiling height increases the sense of space in apartments and provides for well proportioned rooms</td><td></td><td>A number of the following design solutions can be used:
• the hierarchy of rooms in an apartment is defined using changes in ceiling heights and alternatives such as raked or curved ceilings, or double height spaces
• well proportioned rooms are provided, for example, smaller rooms feel larger and more spacious with higher ceilings
• ceiling heights are maximised in habitable rooms by ensuring that bulkheads do not intrude. The stacking of service rooms from floor to floor and coordination of bulkhead location above non-habitable areas, such as robes or storage, can assist</td><td>Yes</td><td></td></tr>
<tr><td>4C-3
Ceiling heights contribute to the flexibility of building use over the life of the building</td><td></td><td>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)</td><td>Yes</td><td>The podium level has an increased floor to floor of 4m.</td></tr>
<tr><td colspan="5">4D – APARTMENT SIZE & LAYOUT</td></tr>
<tr><td>OBJECTIVE</td><td>DESIGN CRITERIA</td><td>DESIGN GUIDANCE</td><td>COMPLIES?</td><td>COMMENTS</td></tr>
<tr><td>4D-1
The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity</td><td>1. Apartments are required to have the following minimum internal areas:
<table>
<tr><td>Apartment type</td><td>Minimum internal area</td></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>
<tr><td colspan="2">The minimum internal areas include</td></tr>
</table></td><td></td><td>Yes</td><td>The apartment sizes are in excess of the minimum criteria.</td></tr>
</table>

	only one bathroom. Additional bathrooms increase the minimum internal area by 5m2 each. ***A fourth bedroom and further additional bedroom 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		**Yes**	
		Kitchens should not be located as part of the main circulation space in larger apartments (such as hallway or entry space)	**Yes**	
		A window should be visible from any point in a habitable room	**Yes**	
		Where minimum areas or room dimensions are not met apartments need to demonstrate that they are well designed and demonstrate the usability and functionality of the space with realistically scaled furniture layouts and circulation areas. These circumstances would be assessed on their merits	N/A	
4D-2 Environmental performance of the apartment is maximised	***1. Habitable room depths are limited to a maximum of 2.5 x the ceiling height***		**Yes**	All apartments are designed with an open plan layout
	2. In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window		**Yes ***	

		Greater than minimum ceiling heights can allow for proportional increases in room depth up to the permitted maximum depths All living areas and bedrooms should be located on the external face of the building Where possible: ▪ bathrooms and laundries should have an external openable window ▪ main living spaces should be oriented toward the primary outlook and aspect and away from noise sources	**Yes**	Some bathrooms and laundries are internal and will be mechanically ventilated. Natural ventilation is provided where possible. All living areas and bedrooms are located on the external face of the building.
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)***		**Yes**	
	2. Bedrooms have a minimum dimension of 3m (excluding wardrobe space)		**Yes**	
	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***		**Yes**	
	4. The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts		**Yes**	
		Access to bedrooms, bathrooms and laundries is separated from living areas minimising direct openings between living and service areas	**Yes**	
		All bedrooms allow a minimum length of	**Yes**	

		1.5m for robes		
		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	**Yes**	
		Apartment layouts allow flexibility over time, design solutions may include: • dimensions that facilitate a variety of furniture arrangements and removal • spaces for a range of activities and privacy levels between different spaces within the apartment • dual master apartments • dual key apartments Note: dual key apartments which are separate but on the same title are regarded as two sole occupancy units for the purposes of the Building Code of Australia and for calculating the mix of apartments • room sizes and proportions or open plans (rectangular spaces (2:3) are more easily furnished than square spaces (1:1)) • efficient planning of circulation by stairs, corridors and through rooms to maximise the amount of usable floor space in rooms	**Yes**	
4E – PRIVATE OPEN SPACE & BALCONIES				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**
4E-1 Apartments provide appropriately sized	***1. All apartments are required to have primary balconies as follows:***		**Yes**	All apartment balconies far exceed the minimum dimensions.

<table>
<tr>
<td rowspan="8">private open space and balconies to enhance residential amenity</td>
<td>
<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>
The minimum balcony depth to be counted as contributing to the balcony area is 1m
</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. For apartments at ground level or on a podium or similar structure, a private open space is provided instead of a balcony. It must have a minimum area of 15m2 and a minimum depth of 3m</td>
<td></td>
<td>Yes</td>
<td>Podium apartment private open space far exceeds the minimum area and depth.</td>
</tr>
<tr>
<td></td>
<td>Increased communal open space should be provided where the number or size of balconies are reduced</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Storage areas on balconies is additional to the minimum balcony size</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Balcony use may be limited in some proposals by:</td>
<td>N/A</td>
<td></td>
</tr>
</table>

		• consistently high wind speeds at 10 storeys and above • close proximity to road, rail or other noise sources • exposure to significant levels of aircraft noise • heritage and adaptive reuse of existing buildings In these situations, Juliet balconies, operable walls, enclosed wintergardens or bay windows may be appropriate, and other amenity benefits for occupants should also be provided in the apartments or in the development or both. Natural ventilation also needs to be demonstrated		
4E-2 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	**Yes**	
		Private open spaces and balconies predominantly face north, east or west	**Yes**	All apartments benefit from a north facing balcony.
		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	**Yes**	

4E-3 Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building		Solid, partially solid or transparent fences and balustrades are selected to respond to the location. They are designed to allow views and passive surveillance of the street while maintaining visual privacy and allowing for a range of uses on the balcony. Solid and partially solid balustrades are preferred. Full width full height glass balustrades alone are generally not desirable. Projecting balconies should be integrated into the building design and the design of soffits considered Operable screens, shutters, hoods and pergolas are used to control sunlight and wind Balustrades are set back from the building or balcony edge where overlooking or safety is an issue Downpipes and balcony drainage are integrated with the overall facade and building design Air-conditioning units should be located on roofs, in basements, or fully integrated into the building design Where clothes drying, storage or air conditioning units are located on balconies, they should be screened and integrated in the building design Ceilings of apartments below terraces should be insulated to avoid heat loss Water and gas outlets should be provided for primary balconies and private open space	**Yes**	Balustrades are partially solid to the lower level apartments to assist with visual privacy. Deep balcony depths assist with maintaining visual privacy. Air conditioning units are located on roofs and fully integrated into the building design. Water and gas outlets will be provided to northern balcony of all apartments.
4E-4 Private open space		Changes in ground levels or landscaping are minimised	**Yes**	

and balcony design maximises safety		Design and detailing of balconies avoid opportunities for climbing and falls	**Yes**	
4F – COMMON CIRCULATION & SPACES				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**
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***		**Yes**	The maximum number of units off a circulation core is 2.
	2. For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40.		N/A	
		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	**Yes**	
		Daylight and natural ventilation should be provided to all common circulation spaces that are above ground	**Yes**	
		Windows should be provided in common circulation spaces and should be adjacent to the stair or lift core or at the ends of corridors	**Yes**	
		Longer corridors greater than 12m in length from the lift core should be articulated. Design solutions may include: • a series of foyer areas with windows and spaces for seating • wider areas at apartment entry doors and varied ceiling heights	**N/A**	
		Design common circulation spaces to	**Yes**	

		maximise opportunities for dual aspect, including multiple core apartment buildings and cross over apartments		
		Achieving the design criteria for the number of apartments off a circulation core may not be possible. Where a development is unable to achieve the design criteria, a high level of amenity for common lobbies, corridors and apartments should be demonstrated, including: • sunlight and natural cross ventilation in apartments • access to ample daylight and natural ventilation in common circulation spaces • common areas for seating and gathering • generous corridors with greater than minimum ceiling heights • other innovative design solutions that provide high levels of amenity	**Yes**	Design achieves the design criteria for the number of apartments off a circulation core.
		Where design criteria 1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level	**N/A**	
		Primary living room or bedroom windows should not open directly onto common circulation spaces, whether open or enclosed. Visual and acoustic privacy from common circulation spaces to any other rooms should be carefully controlled	**Yes**	No unit windows open onto common circulation spaces.
4F-2 Common circulation spaces promote safety and provide for		Direct and legible access should be provided between vertical circulation points and apartment entries by minimising corridor or gallery length to	**Yes**	

social interaction between residents		give short, straight, clear sight lines		
		Tight corners and spaces are avoided	**Yes**	
		Circulation spaces should be well lit at night	**Yes**	
		Legible signage should be provided for apartment numbers, common areas and general wayfinding	**Yes**	
		Incidental spaces, for example space for seating in a corridor, at a stair landing, or near a window are provided	**Yes**	Can be achieved in main foyer at podium level.
		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	**Yes**	
		Where external galleries are provided, they are more open than closed above the balustrade along their length	**N/A**	
4G – STORAGE				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**
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:*** ***Dwelling type (Storage size volume)*** • ***Studio apartments (4m3)*** • ***1 bedroom apartments (6m3)*** • ***2 bedroom apartments (8m3)*** • ***3+ bedroom apartments (10m3)*** ***At least 50% of the required storage is to be located within the apartment***		**Yes**	The internal apartment storage requirements of this standard are met via a combination of: ▪ Full height built in dedicated storage cupboards ▪ Full height built in joinery components ▪ Storage co-located with laundry joinery ▪ Wardrobes in excess of minimum requirements ▪ Additional storage is also available in the carpark. Refer floor plans. Can be achieved.

		Storage is accessible from either circulation or living areas	**Yes**	
		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	**N/A**	
		Left over space such as under stairs is used for storage	**N/A**	
4G-2 Additional storage is conveniently located, accessible and nominated for individual apartments		Storage not located in apartments is secure and clearly allocated to specific apartments	**Yes**	
		Storage is provided for larger and less frequently accessed items	**Yes**	
		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	**Yes**	All carparks include storage at the rear of the space.
		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 is not visible from the public domain	**Yes**	
4H – ACOUSTIC PRIVACY				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**
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 (see also section 2F Building separation and section 3F - Visual privacy)	**Yes**	
		Window and door openings are generally orientated away from noise sources	**Yes**	
		Noisy areas within buildings including building entries and corridors should be located next to or above each other and	**Yes**	

		quieter areas next to or above quieter areas		
		Storage, circulation areas and non-habitable rooms should be located to buffer noise from external sources	**Yes**	
		The number of party walls (walls shared with other apartments) are limited and are appropriately insulated	**Yes**	
		Noise sources such as garage doors, driveways, service areas, plant rooms, building services, mechanical equipment, active communal open spaces and circulation areas should be located at least 3m away from bedrooms	**Yes**	
4H-1 Noise impacts are mitigated within apartments through layout and acoustic treatments		Internal apartment layout separates noisy spaces from quiet spaces, using a number of the following design solutions: • rooms with similar noise requirements are grouped together • doors separate different use zones • wardrobes in bedrooms are co-located to act as sound buffers	**Yes**	
		Where physical separation cannot be achieved noise conflicts are resolved using the following design solutions: • double or acoustic glazing • acoustic seals • use of materials with low noise penetration properties • continuous walls to ground level courtyards where they do not conflict with streetscape or other amenity requirements	**Yes**	
4J – NOISE & POLLUTION				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**
4J-1		To minimise impacts the following design	**Yes**	

In noisy or hostile environments the impacts of external noise and pollution are minimised through the careful siting and layout of buildings		solutions may be used: • physical separation between buildings and the noise or pollution source • residential uses are located perpendicular to the noise source and where possible buffered by other uses • non-residential buildings are sited to be parallel with the noise source to provide a continuous building that shields residential uses and communal open spaces • non-residential uses are located at lower levels vertically separating the residential component from the noise or pollution source. Setbacks to the underside of residential floor levels should increase relative to traffic volumes and other noise sources • buildings should respond to both solar access and noise • where solar access is away from the noise source, non-habitable rooms can provide a buffer • where solar access is in the same direction as the noise source, dual aspect apartments with shallow building depths are preferable (see figure 4J.4) • landscape design reduces the perception of noise and acts as a filter for air pollution generated by traffic and industry		
		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,	**N/A**	

		alternatives may be considered in the following areas: • solar and daylight access • private open space and balconies • natural cross ventilation		
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: • limiting the number and size of openings facing noise sources • providing seals to prevent noise transfer through gaps • using double or acoustic glazing, acoustic louvres or enclosed balconies (wintergardens) • using materials with mass and/or sound insulation or absorption properties e.g. solid balcony balustrades, external screens and soffits	**Yes**	
4K – APARTMENT MIX				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**
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	**No**	All apartments are 3 bedrooms.
		The apartment mix is appropriate, taking into consideration: • the distance to public transport, employment and education centres • the current market demands and projected future demographic trends • the demand for social and affordable housing • different cultural and socioeconomic groups	**Yes**	This is a boutique high end development offering only 20 apartments which is unique to Newcastle. There are many 1 and 2 bed apartments within the vicinity to meet demand.
		Flexible apartment configurations are provided to support diverse household	**Yes**	

		types and stages of life including single person households, families, multi-generational families and group households		
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 4K.3)	**Yes**	
		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	**Yes**	
4L – GROUND FLOOR APARTMENTS				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**
4L-1 Street frontage activity is maximised where ground floor apartments are located		Direct street access should be provided to ground floor apartments Activity is achieved through front gardens, terraces and the facade of the building. Design solutions may include: • both street, foyer and other common internal circulation entrances to ground floor apartments • private open space is next to the street • doors and windows face the street Retail or home office spaces should be located along street frontages Ground floor apartment layouts support small office home office (SOHO) use to provide future opportunities for conversion into commercial or retail areas. In these cases provide higher floor to ceiling heights and ground floor amenities for easy conversion	**N/A**	There are no ground floor apartments. The 2 podium level apartments are accessed from the podium level foyer providing privacy and safety.

4L-1 Design of ground floor apartments delivers amenity and safety for residents		Privacy and safety should be provided without obstructing casual surveillance. Design solutions may include: • elevation of private gardens and terraces above the street level by 1-1.5m (see figure 4L.4) • landscaping and private courtyards • window sill heights that minimise sight lines into apartments • integrating balustrades, safety bars or screens with the exterior design	**N/A**	There are no ground floor apartments. The 2 podium level apartments are accessed from the podium level foyer providing privacy and safety.
		Solar access should be maximised through: • high ceilings and tall windows • trees and shrubs that allow solar access in winter and shade in summer	**N/A**	
4M – FACADES				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**
4M-1 Building facades provide visual interest along the street while respecting the character of the local area **4M-2** Building functions are expressed by the facade		Design solutions for front building facades may include: • a composition of varied building elements • a defined base, middle and top of buildings • revealing and concealing certain elements • changes in texture, material, detail and colour to modify the prominence of elements	**Yes**	The proposal has been well designed with respect to the existing and desired future character of the area.
		Building services should be integrated within the overall facade	**Yes**	
		Building facades should be well resolved with an appropriate scale and proportion to the streetscape and human scale.	**Yes**	

		Design solutions may include: • well composed horizontal and vertical elements • variation in floor heights to enhance the human scale • elements that are proportional and arranged in patterns • public artwork or treatments to exterior blank walls • grouping of floors or elements such as balconies and windows on taller buildings		
		Building facades relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights	**Yes**	
		Shadow is created on the facade throughout the day with building articulation, balconies and deeper window reveals	**Yes**	
		Building entries should be clearly defined	**Yes**	
		Important corners are given visual prominence through a change in articulation, materials or colour, roof expression or changes in height	**Yes**	
		The apartment layout should be expressed externally through facade features such as party walls and floor slabs	**Yes**	
4N – ROOF DESIGN				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**

4N-1 Roof treatments are integrated into the building design and positively respond to the street		Roof design relates to the street. Design solutions may include: • special roof features and strong corners • use of skillion or 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 Roof treatments should be integrated with the building design. Design solutions may include: • roof design proportionate to the overall building size, scale and form • roof materials compliment the building • service elements are integrated	**Yes**	
4N-2 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: • penthouse apartments • dormer or clerestory windows • openable skylights Open space is provided on roof tops subject to acceptable visual and acoustic privacy, comfort levels, safety and security considerations	**Yes**	The penthouse apartments benefit from openable skylights over the living and dining area.
4N-3 Roof design incorporates sustainability features		Roof design maximises solar access to apartments during winter and provides shade during summer. Design solutions may include: • the roof lifts to the north • eaves and overhangs shade walls and windows from summer sun Skylights and ventilation systems should be integrated into the roof design	**Yes**	
4O – LANDSCAPE DESIGN				

OBJECTIVE	DESIGN CRITERIA	DESIGN GUIDANCE	COMPLIES?	COMMENTS
40-1 Landscape design is viable and sustainable		Landscape design should be environmentally sustainable and can enhance environmental performance by incorporating: • diverse and appropriate planting • bio-filtration gardens • appropriately planted shading trees • areas for residents to plant vegetables and herbs • composting • green roofs or walls Ongoing maintenance plans should be prepared Microclimate is enhanced by: • appropriately scaled trees near the eastern and western elevations for shade • a balance of evergreen and deciduous trees to provide shading in summer and sunlight access in winter • shade structures such as pergolas for balconies and courtyards Tree and shrub selection considers size at maturity and the potential for roots to compete (see Table 4)	**Yes**	The proposed landscaping will enhance the amenity of the building and complement the buildings material finishes selection.

40-2 Landscape design contributes to the streetscape and amenity		Landscape design responds to the existing site conditions including: • changes of levels • views • significant landscape features including trees and rock outcrops Significant landscape features should be protected by: • tree protection zones (see figure 40.5) • appropriate signage and fencing during construction Plants selected should be endemic to the region and reflect the local ecology	**Yes**	
4P – PLANTING ON STRUCTURES				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**
4P-1 Appropriate soil profiles are provided		Structures are reinforced for additional saturated soil weight Soil volume is appropriate for plant growth, considerations include: • modifying depths and widths according to the planting mix and irrigation frequency • free draining and long soil life span • tree anchorage Minimum soil standards for plant sizes should be provided in accordance with Table 5	**Yes**	Can be achieved

4P-2 Plant growth is optimised with appropriate selection and maintenance		Plants are suited to site conditions, considerations include: • drought and wind tolerance • seasonal changes in solar access • modified substrate depths for a diverse range of plants • plant longevity A landscape maintenance plan is prepared Irrigation and drainage systems respond to: • changing site conditions • soil profile and the planting regime • whether rainwater, stormwater or recycled grey water is used	**Yes**	Appropriate plant selections have been made with regard to the site context and constraints.
4P-3 Planting on structures contributes to the quality and amenity of communal and public open spaces		Building design incorporates opportunities for planting on structures. Design solutions may include: • green walls with specialised lighting for indoor green walls • wall design that incorporates planting • green roofs, particularly where roofs are visible from the public domain • planter boxes *Note: structures designed to accommodate green walls should be integrated into the building facade and consider the ability of the facade to change over time	**Yes**	
4Q – UNIVERSAL DESIGN				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**
4Q-1 Universal design features are included in apartment		Developments achieve a benchmark of 20% of the total apartments incorporating the Liveable Housing Guideline's silver level universal design features	**Yes**	Can be achieved

design to promote flexible housing				
4Q-2 A variety of apartments with adaptable designs are provided		Adaptable housing should be provided in accordance with the relevant council policy Design solutions for adaptable apartments include: • convenient access to communal and public areas • high level of solar access • minimal structural change and residential amenity loss when adapted • larger car parking spaces for accessibility • parking titled separately from apartments or shared car parking arrangements	**Yes**	Can be achieved
4Q-3 Apartment layouts are flexible and accommodate a range of lifestyle needs		Apartment design incorporates flexible design solutions which may include: • rooms with multiple functions • dual master bedroom apartments with separate bathrooms • larger apartments with various living space options • open plan 'loft' style apartments with only a fixed kitchen, laundry and bathroom	**Yes**	All apartments are designed with open plan living spaces for greater long-term flexibility for different lifestyles.
4R – ADAPTIVE REUSE				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**
4R-1 New additions to existing buildings are contemporary		Design solutions may include: • new elements to align with the existing building • additions that complement the existing character, siting, scale, proportion,	**N/A**	

and complementary and enhance an area's identity and sense of place		pattern, form and detailing • use of contemporary and complementary materials, finishes, textures and colours Additions to heritage items should be clearly identifiable from the original building		
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: • generously sized voids in deeper buildings • alternative apartment types when orientation is poor • using additions to expand the existing building envelope Some proposals that adapt existing buildings may not be able to achieve all of the design criteria in this Apartment Design Guide. Where developments are unable to achieve the design criteria, alternatives could be considered in the following areas: • where there are existing higher ceilings, depths of Habitable rooms could increase subject to demonstrating access to natural ventilation, cross ventilation (when applicable) and solar and daylight access (see also sections 4A Solar and daylight access and 4B Natural ventilation) • alternatives to providing deep soil where less than the minimum requirement is currently available on the site	**N/A**	

		• building and visual separation – subject to demonstrating alternative design approaches to achieving privacy • common circulation • car parking • alternative approaches to private open space and Balconies		
4S – MIXED USE				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**
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 Mixed use developments positively contribute to the public domain. Design solutions may include: • development addresses the street • active frontages are provided • diverse activities and uses • avoiding blank walls at the ground level • live/work apartments on the ground floor level, rather than commercial	**N/A**	

4S-2 Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents		Residential circulation areas should be clearly defined. Design solutions may include: • residential entries are separated from commercial entries and directly accessible from the street • commercial service areas are separated from residential components • residential car parking and communal facilities are separated or secured • security at entries and safe pedestrian routes are provided • concealment opportunities are avoided Landscaped communal open space should be provided at podium or roof levels	**Yes**	The residential entry is clearly defined and separated from service and vehicular entry points. The residential carpark is secure. All entries to the building will be secure with electronic access and security cameras located at all entry points. A large communal open space including a common pool area is located at podium level.

4T – AWNINGS & SIGNAGE				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**
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 A number of the following design solutions are used: • continuous awnings are maintained and provided in areas with an existing pattern • height, depth, material and form compliments the existing street character • protection from the sun and rain is provided • awnings are wrapped around the secondary frontages of corner sites • awnings are retractable in areas without an established pattern Awnings should be located over building entries for building address and public domain amenity Awnings relate to residential windows, balconies, street tree planting, power poles and street infrastructure Gutters and down pipes should be integrated and concealed Lighting under awnings should be provided for pedestrian safety	**Yes**	The streets are not high pedestrian activity frontages. Continuous awnings are not typical to this area. A covered awning is provided at the pedestrian street entrance off Wharf Road.

4T-2 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 Legible and discrete way finding should be provided for larger developments Signage is limited to being on and below awnings and a single facade sign on the primary street frontage	**Yes**	Signage will be located in accordance with the requirements of this standard.
4U – ENERGY EFFICIENCY				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**
4U-1 Development incorporates passive environmental design		Adequate natural light is provided to habitable rooms (see 4A Solar and daylight access) Well located, screened outdoor areas should be provided for clothes drying	**Yes**	Apartments are designed with maximum possible access to natural light and cross ventilation from habitable rooms.
4U-2 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: • the use of smart glass or other technologies on north and west elevations • thermal mass in the floors and walls of north facing rooms is maximised • polished concrete floors,tiles or timber rather than carpet • insulated roofs, walls and floors and seals on window and door openings • overhangs and shading devices such as awnings, blinds and screens Provision of consolidated heating and	**Yes**	The proposal has been designed to optimise thermal mass in order to normalise day/night temperature variations. Insulation and glazing will be selected to meet BASIX energy efficiency requirements. Refer BASIX Assessment for details.

		cooling infrastructure should be located in a centralised location (e.g. the basement)		
4U-3 Adequate natural ventilation minimises the need for mechanical ventilation		A number of the following design solutions are used: • rooms with similar usage are grouped together • natural cross ventilation for apartments is optimised • natural ventilation is provided to all habitable rooms and as many non-habitable rooms, common areas and circulation spaces as possible	**Yes**	All apartments have been designed to maximise access to natural ventilation. Refer drawings.
4V – WATER MANAGEMENT & CONSERVATION				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**
4V-1 Potable water use is minimised		Water efficient fittings, appliances and wastewater reuse should be incorporated Apartments should be individually metered Rainwater should be collected, stored and reused on site Drought tolerant, low water use plants should be used within landscaped areas	**Yes**	Refer BASIX Assessment for details.
4V-2 Urban stormwater is treated on site before being discharged to receiving waters		Water sensitive urban design systems are designed by a suitably qualified professional A number of the following design solutions are used: • runoff is collected from roofs and balconies in water tanks and plumbed into toilets, laundry and irrigation • porous and open paving materials is maximised • on site stormwater and infiltration, including bio-retention systems such as rain gardens or street tree pits	**Yes**	Appropriate WSUD measures will be integrated into the development.

4V-3 Flood management systems are integrated into site design		Detention tanks should be located under paved areas, driveways or in basement car parks On large sites parks or open spaces are designed to provide temporary on site detention basins	**Yes**	Refer Civil Engineering drawings for design.
4W – WASTE MANAGEMENT				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**
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 Waste and recycling storage areas should be well ventilated Circulation design allows bins to be easily manoeuvred between storage and collection points Temporary storage should be provided for large bulk items such as mattresses A waste management plan should be prepared	**Yes**	Waste storage is appropriately sized with safe, discreet access located within the carpark area. 2 large bin rooms are provided in the basement carpark which can accommodate large bulky items.
4W-2 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 Communal waste and recycling rooms are in convenient and accessible locations related to each vertical core For mixed use developments, residential waste and recycling storage areas and access should be separate and secure from other uses Alternative waste disposal methods such as composting should be provided	**Yes**	Integrated waste and recycling storage will be provided in all apartment kitchens.

4X – BUILDING MAINTENANCE				
OBJECTIVE	**DESIGN CRITERIA**	**DESIGN GUIDANCE**	**COMPLIES?**	**COMMENTS**
4X-1 Building design detail provides protection from weathering		A number of the following design solutions are used: • roof overhangs to protect walls • hoods over windows and doors to protect openings • detailing horizontal edges with drip lines to avoid staining of surfaces • methods to eliminate or reduce planter box leaching • appropriate design and material selection for hostile locations	**Yes**	
4X-2 Systems and access enable ease of maintenance		Window design enables cleaning from the inside of the building Building maintenance systems should be incorporated and integrated into the design of the building form, roof and facade Design solutions do not require external scaffolding for maintenance access Manually operated systems such as blinds, sunshades and curtains are used in preference to mechanical systems Centralised maintenance, services and storage should be provided for communal open space areas within the building	**Yes**	The roof is accessible for maintenance only with the provision of safe access systems to comply with Australian Standards and WH&S regulations.
4X-3 Material selection reduces ongoing maintenance costs		A number of the following design solutions are used: • sensors to control artificial lighting in common circulation and spaces • natural materials that weather well and improve with time such as face brickwork • easily cleaned surfaces that are graffiti resistant • robust and durable materials andfinishes are used in locations which receive heavy wear	**Yes**	Natural, well-weathering materials with integral surface colours have been selected to reduce ongoing maintenance costs.

		and tear, such as common circulation areas and lift interiors		