SEPP 65 Design Verification Statement

Residential Flat Buildings
10-16 Pacific Drive
Port Macquarie NSW 2444

Project 22-020
12 May 2022
Rev B

Prepared by Dickson Rothschild
65-69 Kent Street
Millers Point NSW 2000

Rev	Description	DATE	AUTHOR	CHECKED
A	SEPP 65 Statement	27/04/2022	ND&KM	PO
B	For Panel lodgement	12/05/2022	ND&KM	PO
C	Final updates for panel	22/06/2022	ND	PO

Dickson Rothschild
D.R. Design (NSW) Pty Limited
ABN 35 134 237 540

65-69 Kent Street
Millers Point NSW 2000 Australia
Phone +612 8540 8720 www.dicksonrothschild.com.au

Nominated Architects:
Robert Nigel Dickson NSW ARB #5364 TAS #1306 APBSA #951
Fergus William Cumming NSW ARB #

Contents

1 Qualification and Design Verification

My full name is Robert Nigel Dickson. I am the Managing Director of Dickson Rothschild, a firm that specialises in Architecture, Urban Design and Planning. I have been Managing Director of this firm since 1993.

I have been instructed by Laurus Projects Pty Ltd to prepare a SEPP 65 Statement dealing with the urban design and architecture of the proposed development.

I hold the following qualifications:

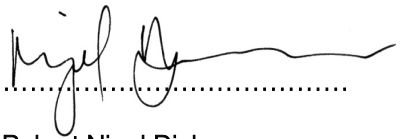
- Bachelor of Architecture (1st Class Hons.);
- Masters in City Planning; and
- Masters in Architecture.

I am an Associate of the Australian Institute of Architects and Member of the Planning Institute of Australia. I have 30 years practical experience in architecture, planning and urban design. I am also visiting professorial fellow at the University of New South Wales, Sydney in the Master of Urban Development and Design program. I am a Registered Architect in NSW (NSW ARB# 5364).

A copy of my Curriculum Vitae is provided within this design verification statement ('Statement').

I verify that:

- I directed the design of the development;
- that the nine design quality principles set out at Schedule 1 of SEPP 65 are achieved (and are addressed in this document); and
- the objectives in Parts 3 and 4 of the Apartment Design Guide are achieved (and detailed in this report).



..... 20/06/2022 .....

Robert Nigel Dickson Date

2 SEPP 65 Assessment

2.1 Introduction

Dickson Rothschild has prepared the architectural drawings and is satisfied that the drawings meet the intent of the design quality principles as set out in Schedule 1 of State Environmental Planning Policy No.65 - Design Quality of Residential Apartment Development ('SEPP 65').

This assessment of the proposal is made in accordance with Parts 3 and 4 of the *Apartment Design Guide – Tools for improving the design of residential apartment development* ('ADG'), which has been published to support the objectives and design quality principles of SEPP 65.

This assessment seeks to take into account these guiding principles, objectives, criteria and guidance in determining the quality of the design proposed.

2.2 Design Quality Principles

Principle 1 – Context and neighbourhood character

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

Responding to context involves identifying the desirable elements of an area's existing or future character. Well designed buildings respond to and enhance the qualities and identity of the area including the adjacent sites, streetscape and neighbourhood.

Consideration of local context is important for all sites, including sites in established areas, those undergoing change or identified for change.

Comment

The site is rectangular and slightly irregular in shape. It is oriented on the north-south axis with a frontage to a Council owned lot to the east which fronts Pacific Drive. The site is part of a corridor of lands zoned for medium density development including residential flat buildings along Pacific Drive. Some of the sites along this corridor comprise residential flat buildings while others, such as the site directly to the south are still single dwellings. Therefore the site is in a transitional area which is moving towards high density forms. The site adjoins a low density residential zone to the west, comprising one and two storey residential dwellings generally.

The site has an irregular topography with a cross fall from north east near a ridge to south west.

The proposed development fits within the existing and future context of the site from both a strategic context and a built form context.

The proposal is configured as two separate towers which breaks the length of built form when viewed from the lower density area to the west as well as Pacific Drive. The proposal has the form of two pavilions with the uppermost storey setback from a four storey form below, providing a predominantly four storey scale and limiting bulk and scale within its context. The built form is articulated and modulated with varying materials and textures, providing a human scale and visual interest within the streetscape. The proposal steps down in height with topography.

An additional 3m setback is provided to the western boundary above that suggested by Apartment Design Guide Criteria 3F to provide a transition to the lower density zone, allow for generous landscape planting, provide visual relief to existing dwellings and minimise overshadowing impacts. The proposal provides a generous 6-9m deep soil setback to the south to allow for planting and provide reasonable separation to the existing house to the south (which is zoned to allow a higher density form to be developed). The built form responds to its southern interface to limit adverse impacts on the existing house and ensure the site is not sterilized for future development.

The proposal responds to its site context in its placement of communal open space. Communal open space at ground level is co-joined with deep soil planting along the rear boundary. The open space is positioned between the buildings and near the rear boundary to capture sunlight while at the same time providing visual relief to neighbouring sites by balancing open space and built form around the centre of the site. Additional communal spaces are situated on the roof to maximise the benefit of high quality views while also achieving green roof elements, contributing to the landscape quality of the neighbourhood.

While the proposed development is great in bulk and scale to its neighbours, it responds to each interface to ensure compatibility is achieved in regard to building bulk, building orientation and privacy.

Each of the objectives set out in the Apartment Design Guide are achieved in regard to responding to site context, that being Part 3 of the ADG.

The proposed development is consistent with the SEPP 65 principle.

Principle 2 – Built form and scale

> *Good design achieves a scale, bulk and height appropriate to the existing or desired future character of the street and surrounding buildings.*
>
> *Good design also achieves an appropriate built form for a site and the building's purpose in terms of building alignments, proportions, building type, articulation and the manipulation of building elements.*
>
> *Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook.*

Comment

The proposed development responds to the site's north-south axis and the high quality views to the east by orienting built form and individual apartments to maximise the benefit of the eastern aspect. The proposal is broken into two buildings with a visual break between. The visual break between the buildings reduces visual impacts from the lower density zone to the west in particular but also views from Pacific Drive. The scale of built form is consistent with the desired future character of the area as anticipated in the LEP standards.

Each building has a limited floor plate with a maximum of 5 apartments per level. The buildings step down with topography to limit the impact of bulk and scale and to respond to the existing site topography. The fifth storey of both buildings is setback from the level below limiting its visual impact. Built form is softened by proposed landscape on structure and its setback zones.

The proposed development avoids blank walls and achieves articulation at each façade. The proposed design of the western facades not only provides shading from hot summer sun but seeks to limit overlooking and perceived overlooking of the residential areas to the west through its additional 3m setback beyond that sought by ADG criteria at 3F, by utilising solid balustrades, by positioning living rooms behind balconies and by providing screening devices.

The proposed vehicular access is from the lower part of the site to limit excavation. It is also well setback from the adjoining sites to limit potential impacts.

The proposed development achieves each of the objectives set out in the Apartment Design Guide relating to built form.

The proposed development is consistent with the SEPP 65 principle.

Principle 3 – Density

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

Appropriate densities are consistent with the area's existing or projected population. Appropriate densities can be sustained by existing or proposed infrastructure, public transport, access to jobs, community facilities and the environment.

Comment

The subject site is within a special precinct and in an R3 zone, suitable for the medium density development proposed. The site has good access to goods and services. The proposed density and mix of land uses is wholly appropriate to the sites level of accessibility to existing and proposed infrastructure, public transport, access to jobs, community facilities and the environment. The proposal complies with the applicable FSR standard set out in the LEP, the key arbiter of density. The proposal achieves a reasonable mix of units.

The proposed density is thus appropriate to the site and the proposed development meets the SEPP 65 principle.

Principle 4 – Sustainability

Good design combines positive environmental, social and economic outcomes.

Good sustainable design includes use of natural cross ventilation and sunlight for the amenity and liveability of residents and passive thermal design for ventilation, heating and cooling

reducing reliance on technology and operation costs. Other elements include recycling and reuse of materials and waste, use of sustainable materials and deep soil zones for groundwater recharge and vegetation.

Comment

The proposed development is designed to satisfy BASIX and a BASIX certificate will be provided with the application. The proposal performs exceptionally in terms of natural ventilation with 80% being dual aspect. Units are designed to locate non-habitable areas at the deeper parts of apartments and keep habitable spaces near glass lines to achieve good daylighting and natural ventilation.

The design takes a reasonable approach to solar access with a desire to maximise the eastern aspect to capture views and to ensure all units receive some direct solar access in mid-winter, with 75% of units receiving over 2.5hrs of sunlight to their principal living spaces.

The units are situated around two cores which limits the number of single aspect units, with only 9 apartments having a single aspect. There are no single aspect south facing units. Single aspect units have an efficient layout and are not too deep. Non-habitable spaces are positioned at the deeper parts units with habitable spaces having the benefit of good levels of natural light and air.

Proposed landscape is a mix of native and exotic species suitable for the proposed on-structure planting. The proposal has extensive green roof elements, which helps to mitigate the urban heat island effect, an important element of building resilience in the face of climate change and the Port Macquarie climate.

Waste collection is convenient with easy opportunity for recycling. Building materials are selected to be robust and limit maintenance.

The proposal meets each of the objectives of the Apartment Design Guide relating to Performance (4U-X).

Photovoltaic panels have been included in the project and are located on the rooftop of Building B.

The proposal is consistent with the SEPP 65 principle.

Principle 5 – Landscape

Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in attractive developments with good amenity. A positive image and contextual fit of well designed developments is achieved by contributing to the landscape character of the streetscape and neighbourhood.

Good landscape design enhances the development's environmental performance by retaining positive natural features which contribute to the local context, co-ordinating water and soil management, solar access, micro-climate, tree canopy, habitat values and preserving green networks.

Good landscape design optimises useability, privacy and opportunities for social interaction, equitable access, respect for neighbours' amenity and provides for practical establishment and long term management.

Comment

A landscape plan by Land Dynamics forms part of the application.

The proposal achieves a high quality landscape outcome with generous deep soil areas at the southern half of the site and to cojoin with proposed ground level communal open space. 24% of the site is deep soil with a minimum dimension of 6m. Deep soil areas are augmented by on-structure planting at ground level, podium level and roof level. A mix of native and exotic species are proposed to provide a visual interest. The proposed landscape theme follows the site's coastal setting with tropical/sub-tropical species dominating. The proposed landscape planting contributes to the urban tree canopy.

The design of on structure planting allows sufficient width and depth of planters to support the proposed landscape and objectives 4O and 4P of the ADG are satisfied.

The proposed development meets the SEPP 65 principle.

Principle 6 – Amenity

> *Good design positively influences internal and external amenity for residents and neighbours. Achieving good amenity contributes to positive living environments and resident well being.*
>
> *Good amenity combines appropriate room dimensions and shapes, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas and ease of access for all age groups and degrees of mobility.*

Comment

The form and orientation of the proposed development achieves a high degree of amenity, while limiting amenity impacts on neighbouring sites. Overall, the proposal satisfies each of the objectives relating to amenity set out in the Apartment Design Guide (4A-4J).

Eighty percent (80%) of units are cross ventilated via a dual aspect.

The site is on the north-south axis with the most desirable aspect being east. The site width is also limited and it is desirable to provide a generous rear setback to the adjoining R2-low density zone. The site also slopes down from north to south. These constraints, therefore, limit the extent of built form with a northern aspect and therefore limits the number of units that can achieve more than 3 hours direct solar access in mid-winter. The building layout responds to the particular site constraints by orienting units in a traditional manner towards the front (east) and rear (west) of the site. While this means that the number of units facing north is somewhat limited, it also means that no units are south facing. Therefore, all apartments receive at least some solar access in mid-winter. In this regard, 75% of units achieve 2.5 hours direct solar access, which achieves reasonable amenity, given the site's dimensions, orientation, context and topography.

Proposed floor-to-floor heights ensure habitable rooms can achieve a ceiling height of 2.7m, and non-habitable spaces 2.4m generally, limiting the need for large bulkheads and the like.

The pedestrian entry to the site must negotiate site topography and traverse the adjoining lot. The entry lands in a high quality landscaped area overlooking to the proposed pool and allows entry into either

Building A or B. Both common circulation cores in building A and B are limited in their length. The maximum number of units off a core is five. Each lift lobby has access to natural light and ventilation (except for the upper levels of Building B, which still achieve high amenity with only two units per core and a limited corridor length).

Generous communal open space is provided with good solar access. A pool surrounded by landscape, including deep soil, is proposed on ground level and roof gardens with amenities are provided at roof level of each building. This provides a variety of common open spaces with different activity settings.

Unit sizes and balconies meet minimum unit and balcony size criteria, with most units having larger areas than the minimum set out by the ADG and SEPP 65. Balconies are well proportioned to be usable and directly accessed from the main living area. Unit layouts meet minimum dimensions and room sizes. Ground floor apartments are provided with generous courtyards with a minimum dimension of 3m and 15m^2 size satisfying the objectives under 4L of the ADG.

Storage is provided in each unit and ancillary storage areas provided at parking levels.

Acoustic privacy is achieved through unit orientation and setbacks along with the glazing and wall specifications set out in the report by Acoustic Logic.

Privacy within the development is managed through unit layout, window type and placement, screening and building separation.

Units have easy access to parking areas and visitor parking is provided.

Access to and though the proposed development has been designed to ensure that all people (regardless of physical ability) are able to traverse the site. Adaptable units are proposed. Objectives under 4Q of the Apartment Design Guide are achieved.

The privacy and overlooking impacts on low density neighbours to the west have been mitigated through the use of solid balustrading to all west facing balconies, horizontal louvres around principal outdoor areas and dense tropical planting to the 9m set back along the western boundary.

The proposed development is consistent with the SEPP 65 principle.

Principle 7 – Safety

> *Good design optimises safety and security within the development and the public domain. It provides for quality public and private spaces that are clearly defined and fit for the intended purpose. Opportunities to maximise passive surveillance of public and communal areas promote safety.*
>
> *A positive relationship between public and private spaces is achieved through clearly defined secure access points and well lit and visible areas that are easily maintained and appropriate to the location and purpose.*

Comment

The proposed residential lobbies are secured via a gate at the eastern boundary of the site. Pedestrians entering from Pacific Drive will be able to maintain views to the secure gate area as the traverse Lot 101 towards the subject site. The proposed lobbies have good daylighting and high ceilings. Access from car parking areas to lift lobbies shall be secured. Potential concealment areas are avoided in the car parking design. Ceiling heights in the car parking areas are generous, avoiding a sense of enclosure, and sightlines can be maintained throughout the car parking areas.

The ground level façade design is such that it does not allow climbing and minimises opportunities for trespassing.

Proposed materials and finishes are of a high quality and landscape design creates a buffer around the building to limit opportunities for vandalism.

Territorial reinforcement will be focused on the common area through shared ownership which is encouraged by minimising the number of units off a single corridor and creating high-quality ground level and roof gardens.

The proposal is consistent with the SEPP 65 principle.

Principle 8 – Housing diversity and social interaction

> *Good design achieves a mix of apartment sizes, providing housing choice for different demographics, living needs and household budgets.*
>
> *Well designed apartment developments respond to social context by providing housing and facilities to suit the existing and future social mix.*
>
> *Good design involves practical and flexible features, including different types of communal spaces for a broad range of people and providing opportunities for social interaction among residents.*

Comment

The proposed development achieves a degree of housing diversity and choice including one-, two- and three-bedroom dwellings with varying unit sizes within each category, meeting different price-points. Adaptable units are proposed. Furthermore, adaptable units have been designed to minimise the amount of alteration required to convert from pre-to post-adaptation. Objectives 4K and 4Q of the ADG are thus satisfied.

A positive social impact arises from the level of accessibility of the site. Access to and though the proposed development has been designed to ensure that all people (regardless of physical ability) are able to traverse the site and access all levels of the development. The design has responded to the sloping topography of the site and ensured accessibility is achieved.

The communal open space will encourage a variety of recreational uses in a quality landscaped environment, encouraging use and social interaction. The podium and rooftop garden benefits form views and landscape and a bbq area and seating is provided. The proposed lobbies are also designed to allow for casual interaction being well-proportioned with high ceilings.

The proposed development achieves the SEPP 65 principle.

Principle 9 – Aesthetics

Good design achieves a built form that has good proportions and a balanced composition of elements, reflecting the internal layout and structure. Good design uses a variety of materials, colours and textures.

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

Comment

The proposed development achieves a built form with good proportions and a balanced composition. The design creates two pavilion forms with a visual break between the two buildings. Each building has a four storey scale with a fifth storey setback above.

The proposed materials provide a variety of textures while the modular composition and façade articulation break down bulk and scale and achieves a human scale within the streetscape. Materials include brick, paint and render and aluminium louvres. The colour palette is medium and light toned, responding to the coastal setting.

Horizontal and vertical elements are balanced overall. Balcony forms provide an integral part of each building composition clearly expressing the residential use of the building. Balconies and windows are composed in modules, breaking down bulk and scale. Landscape has a tropical, coastal theme and softens built form.

The proposed development is consistent with the SEPP 65 principle.

2.3 Curriculum Vitae

Nigel Dickson

Nigel is Managing Director of Dickson Rothschild and has over thirty years experience in Australia, Asia and the United States. Nigel acted as project architect on the Chifley Tower from 1988 to 1993 from inception to completion and from 1993-1995 he was the Urban Design Manager for the Homebush Olympic Site. He has served on numerous Urban Design Panels and has offered peer design reviews of important projects in the Sydney region.

As Visiting Professor at the University of New South Wales, Nigel ran the advanced urban design studio component of the Master of Urban Design and Development. Nigel's teaching duties have benefited his growing reputation in providing expert witness advice on local government, planning and environmental matters before the NSW Land and Environment Court.

Nigel Dickson
Managing Director

Qualifications

Master of Architecture 1983
Master of City Planning 1983
University of Pennsylvania

Bachelor of Architecture 1979
(Hons), University of Adelaide

Harvard Kennedy School
Leadership for the 21st
Century Delegate

Registered Architect
Registration No. 5364

AIA, MPIA, CPP

Awards

- Winner Tuanbo Lake Master Plan Competition, Tianjin China, 2004
- Winner Mafeng Mountain Sports Centre (Ping Pong) Masterplan Competition, China 2004
- Winner Xi Gu Park Master Plan Competition, China 2004
- Prize for South Sydney CBD Urban Design Competition, in Australia, 1988
- Winner of Battery Park City, NY USA - Marine & Waterfront Design Limited Competition, 1986
- University of Pennsylvania Travelling Award, 1983
- George Murray Scholarship, University of Adelaide, 1981
- Kenneth and Hazel Milne Scholarship, University of Adelaide, 1981
- The Clive Boyce Fellowship, 1981
- Royal Institute of Architects Scholarship Award, 1978

Major Project Experience

- Delhi International Airport Terminal 3, India 2006-2009
- Tuanbo Lake Master Plan, 170sqkm site, Tianjin China 2004-2010
- Najmat Master Plan, Abu Dhabi, 2007-2009
- Maya Island Master Plan, Abu Dhabi 2005-2007
- Al Khobar Gate Master Plan, Saudi Arabia 2007-2008
- International Broadcast Centre Sydney Olympic Park, NSW 1998-2000
- Homebush Bay Urban Design Plan and Structure Plan, NSW 1993-1995
- Chifley Tower, Sydney NSW 1988-1993
- Newport and Port Liberte, New York USA 1986-1988

Dickson Rothschild Project Experience

Urban Design and Master Planning

- Westfield City Centre Development, Sydney CBD, urban design advisors for major redevelopment of shopping centre.
- Legible Sydney, Wayfinding Strategy Sydney
- Heart of Willoughby, Seniors Housing and RSL redevelopment, North Willoughby
- Peach Tree Road, Macquarie Park, mixed use development
- Pacific Dunes Master Plan and Subdivision, Pacific Dunes, NSW
- Carlingford Precinct Master Plan, Carlingford, NSW
- Tuanbo Islands Masterplan, residential precinct with 1800 units
- South Deebing Creek Residential Community Master Plan and Subdivision, Deebing Creek, Qld.
- Hurstville City Centre Urban Form Study, NSW
- 89 George Street, Parramatta, Urban Design advice for Part 3(a) major project
- The Entrance Peninsula Planning Strategy, Central Coast NSW
- Glendale/Cardiff Town Centre and Urban Structure Plan, Lake Macquarie NSW
- Sandon Point Commission of Enquiry Report, Wollongong NSW
- Rouse Hill Regional Centre, NSW
- Orange Central Business District Strategic Action Plan, Orange NSW
- Morriset Town Centre Master Plan and Urban Design Strategy, Morriset NSW
- Toronto Town Centre Master Plan & Urban Design Strategy, Lake Macquarie NSW
- Rhodes Peninsula Residential Master Plan,
- Wollongong Railway Station Precinct Planning, Wollongong NSW
- Dee Why Town Centre, Dee Why NSW
- Hunter Street Mall Revitalisation, Newcastle
- Randwick Defence Site Master Plan for 1000 Houses, Randwick NSW
- Wolong Lake Residential Master Plan, China
- Shandong Teachers' University Master Plan
- Rouse Hill Golf Course Res. Master Plan

Architecture

- The Archibald, 110-118, Mann St & Donnison St, Gosford, 28 storeys mixed use, 342 units and 167 hotel rooms.
- The Capitol, 20 storey mixed use, Bondi Junction, Sydney
- Brick Lane, St. Peters, mixed use, 58 units
- The One, Hurstville, mixed use, 75 units
- Burwood Hotel, 8000 sqm retail, 20 storeys, 124 units
- 227-231 Victoria Road, Drummoyne, NSW, infill mixed use development
- The Phoenix, Rhodes, NSW, 18-storey mixed use, 201 units
- The Regent, Kogarah NSW, 11-storey residential flat building, 113 units
- Sussex Street, Sydney, adaptive reuse hotel
- Eastwood Central, Eastwood, NSW, mixed use development
- 176 Victoria Road, Potts Point, mixed use infill
- Port Vila Harbour Centre, Vanuatu, mixed use and retail
- Bayview 360, Bexley, NSW, Infill mixed use development, 20 units
- The Pinnacle, Miranda NSW, residential flat buildings, 79 units

- 635 New South Head Road, Rose Bay, infill boutique residential flat building, 5 units
- Hôtel du Gouvernement, Nouméa, New Caledonia, 18,000 sqm commercial tower.
- 211-223 Pacific Highway, North Sydney, mixed use urban infill, 144 units
- Akiriki Resort, 120 units, Port Vila, Vanuatu
- 3 Rawson Street, Wollongong, 5,500 sqm retail/commercial, 65 units, FSR of 5:1
- V601, 10,000 m² retail, 300 units, Abbotsford
- 82-84 Belmore Street, 267-unit residential waterfront development, Meadowbank
- Moss Vale Road and Bowral Street, Bowral, NSW, residential flat buildings,
- 12 Shirley Street, Carlingford, 10-storey residential tower, 72 apartments
- Artiste Apartments, Gymea, NSW, mixed use
- Cliff Road, Epping, NSW, RFBs
- Gardeners Road, Mascot, 13-storey mixed use development, 242 units
- 120 James Ruse Drive, 6-storey, 27-unit residential development, Rosehill NSW
- Belmont Christian College Library, Belmont
- 144 Glenmore Road, Paddington, NSW,
- 25 George Street, Paddington, NSW
- 159 King Street, Newtown, Mixed use infill including shop and affordable housing
- 5 Pacific Street, Wamberal, 5-bedroom beach-side holiday dwelling
- Prouds Jewelers Corporate Headquarters, Sydney NSW
- Cnr King & Howard Street, Warners Bay, NSW
- Crown Street, Wollongong NSW, 620 sqm retail space, 29 units
- Liverpool Road Ashfield NSW
- 2-12 James Street 44 units, Baulkham Hills
- Seaman Ave 26 units and 7 townhouses, Warners Bay NSW
- Benaara Gardens, Castle Hill NSW, 105 units
- Janell Crescent, Carlingford NSW, 236 units
- Avoca Palms, Avoca Beach NSW

Infrastructure

- St. Marys Advance Water Treatment Plant,
- Great Western Highway Detailed Design, Woodford to Hazelbrook NSW
- Windsor Road Upgrade, Boundary Road to Henry, Vineyard NSW
- Windsor Road Upgrade, Mile End Road to Boundary Road, Box Hill NSW
- Windsor Road Upgrade, Acres Road to Old Windsor Road, Kellyville NSW
- Bangor Bypass East West Link and North South Link, Bangor NSW
- Great Western Highway, Widening & Reconstruction, Warrimoo NSW
- Urban Design Evaluation of the Realignment of Castlereagh Highway, Lidsdale NSW
- Urban design Study, Donnybrook Reconstruction, Great Western Highway, Lithgow NSW

Olympics and Sports Facilities Experience

- New Doha Stadium, Doha, Qatar
- OmniSports, Multi-Sport Recreational Facility (architecture and landscape design), Port Vila, New Caledonia
- Paita Master Plan, New Caledonia
- Operational Planning for Homebush Bay, Darling Harbour, Main Press Centre, Sponsor Hospitality and Paralympics, Sydney 2000 Olympics NSW
- International Broadcast Centre Sydney Olympic Park 1998-2000
- Homebush Bay Urban Design Plan and Structure Plan 1993-1995
- Operational Planning for Homebush Bay, Darling Harbour, Press Centre, Sponsor Hospitality and Paralympics Sydney
- Generic Venue Operational Planning Model, Sydney Olympics, Sydney
- University of New South Wales Sports Facilities Masterplan and Devel. Strategy.

Urban Planning

- Crane Road DCP, Castle Hill Town Centre
- Westfield Sydney City Stage 1 and 2 DA, Sydney NSW Westfield Sydney City Stage 1 and 2 DA, Sydney NSW
- Carlingford Precinct DCP and s94 Contributions Plan, Carlingford NSW
- North Willoughby Town Centre Precinct Plan,
- Kuringai Council, Provision of Site Specific Development Controls
- Baulkham Hills Multi Unit Residential DCP,
- Botany Bay Multi Unit DCP, Botany NSW
- Excelsior Avenue DCP, Castle Hill NSW
- Affordable Housing Study, Waverley NSW
- Kogarah Better Home Design Guidelines
- Gosford Multi Unit Residential Code 100
- Holroyd Gardens DCP, Holroyd NSW.
- Sandon Point 'Enquiry by Design' DCP

Urban Design Panel and Advice

- City of Ryde Council 2004-2005
- Lake Macquarie City Council 2003-2004
- Wollongong City Council 2001-2002
- Kogarah Municipal Council 2000-2001
- Baulkham Hills Shire Council 2000-2001
- Olympic Coordination Authority 1993 -1995

Expert Witness

Nigel Dickson has extensive experience as an expert witness in the NSW Land & Environment Court.

Previous Experience

- Yulara, Northern Territory Concept Design.
- North Cove Marina, Battery Park City, New York USA
- Arcorp Properties, New Jersey USA
- Seton Hall University Sports Complex, New Jersey USA

3 ADG Compliance Table

Note:

The objectives, design criteria and design guidance are cited below.

A development needs to demonstrate how it meets the objective and design criteria. The design criteria set a clear measurable benchmark for how the objective can be practically achieved. If it is not possible to satisfy the design criteria, applications must demonstrate what other design responses are used to achieve the objective and the design guidance can be used to assist in this.

Not all sections in the ADG specify design criteria. In these instances the design guidance should be referred to when demonstrating how an objective is being achieved.

	Design Guidance / Criteria	*Proposed Development*	*Comply?*
3A Site Analysis			
Objective 3A-1	Site analysis illustrates that design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context	Maximise eastern aspect, increased setback to rear.	✓
3B Orientation			
Objective 3B-1	Building Types and layouts respond to the streetscape and site while optimising solar access	Eastern aspect optimised for views. Solar shared equitably for the apartments by orienting them east and west. Generous setback to the west and upper level building setbacks limit overshadowing.	✓
Objective 3B-2	Overshadowing of neighbouring properties is minimised during mid winter	The built form limits building depth in the east-west direction to limit overshadowing. Generous rear setback limit overshadowing. Upper level setbacks also limit overshadowing.	✓
3C Public domain interface			

	Design Guidance / Criteria	*Proposed Development*	*Comply?*
Objective 3C-1	Transition between private and public domain is achieved without compromising safety and security.	The unique position of Lot 101 creates an a-typical relationship between the subject site and the public domain. The pedestrian to the public domain negotiates sloping topography and a clear transition is achieved between Pacific Drive and the site.	✓
Objective 3C-2	Amenity of the public domain is retained and enhanced	The proposed development is setback from Pacific Drive but still addresses and aligns with the street. Causal surveillance is achieved and a high quality facades are visible from the public domain.	✓
3D Communal and public open space			
Objective 3D-1	An adequate area of communal open space is provided to enhance residence amenity and to provide opportunities for landscaping.	Criteria achieved.	✓
Design Criteria	Communal open space has a minimum area equal to 25% of the site.	The area of communal open space meets the criterion. The proposed southern setback is also proposed as common landscape area (although not readily accessible for recreation) to ensure the quality of the site's landscaped areas are well maintained. The site also has excellent access to open space along the coast including the coastal walk.	✓
	Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9am and 3pm on 21 June (mid winter).	Communal open spaces are provided on ground level and roof and receive good solar access.	✓
Objective 3D-2	Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting.	Three communal open spaces are provided providing different characters. The main activity zone is on the ground level where COS is situated around a pool. Roof gardens are setback from the site boundaries and provide a high level of amenity including high quality views for residents.	✓

<table>
<tr><th></th><th>Design Guidance / Criteria</th><th>Proposed Development</th><th>Comply?</th></tr>
<tr><td>Objective 3D-3</td><td>Communal open space is designed to maximise safety</td><td>Common open space is secure while dark and blind corners avoided. Ground level COS is casually surveilled and also secured by fences and secure gates to the site. Roof gardens are secure being accessible from within each building.</td><td>✓</td></tr>
<tr><td>Objective 3D-4</td><td>Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood</td><td>Public open space is not provided.</td><td>N/A</td></tr>
<tr><td colspan="4">3E Deep soil zones</td></tr>
<tr><td>Objective 3E-1</td><td>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</td><td>Deep soil is proposed meeting the ADG criterion. Deep soil is concentrated in the rear setback and towards the southern portion of the site where it will provide the greatest benefit to the site as well as its neighbours.</td><td>✓</td></tr>
<tr><td>Design Criteria</td><td>Deep soil zones are to meet the following minimum requirements:
<table>
<tr><th>Site area</th><th>Minimum dimensions</th><th>Deep soil zone (% of site area)</th></tr>
<tr><td>Less than 650m^2</td><td>-</td><td rowspan="4">7%</td></tr>
<tr><td>650m^2 – 1,500m^2</td><td>3m</td></tr>
<tr><td>Greater than 1,500m^2</td><td>6m</td></tr>
<tr><td>Greater than 1,500m^2 with significant existing tree cover</td><td>6m</td></tr>
</table></td><td>At least 7% of site is deep soil with a minimum dimension of 6m. The total area of deep soil with a minimum dimension of 6m achieves 24% of the site.</td><td>✓</td></tr>
<tr><td colspan="4">3F Visual Privacy</td></tr>
</table>

<table>
<tr><th></th><th>Design Guidance / Criteria</th><th>Proposed Development</th><th>Comply?</th></tr>
<tr><td>Objective 3F-1</td><td>Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy.</td><td>Visual privacy is achieved by employing appropriate setbacks to windows and laying out apartments to minimise balconies and living rooms facing towards the existing residential flat buildings to the rear of the site.</td><td>✓</td></tr>
<tr><td>Design Criteria</td><td>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 (9+ storeys)</td><td>12m</td><td>6m</td></tr>
</table>
Note: Separation distances between buildings on the same site should combine required building separations depending on the type of room.

Gallery access circulation should be treated as habitable space when measuring privacy separation distances between neighbouring properties.</td><td>Building setbacks respond to the particular site context. Additional setbacks are proposed to the rear to provide a transition to the low density zone to the west.

The fifth storey of each building is setback from the levels below to maintain privacy, consistent with the criteria. The setback to Lot 101 is reduced where the proposed driveway is positioned, to provide more relief to the rear of the site. This reduced setback will not compromise the amenity of any future development on Lot 101 because it is located adjacent to the easements across Lot 101.</td><td>✓</td></tr>
<tr><td>Objective 3F-2</td><td>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</td><td>Design elements to increase privacy include orientation of units, setbacks, strategic use of blank walls and balcony locations. Privacy is achieved without compromising access to light and air. Outlook from each apartment is maximised by oriented the units either to the front or the rear of the site.</td><td>✓</td></tr>
<tr><td colspan="4">3G Pedestrian access and entries</td></tr>
<tr><td>Objective 3G-1</td><td>Building entries and pedestrian access connects to and addresses the public domain.</td><td>The proposed site entry addresses the public domain being at the eastern boundary.</td><td>✓</td></tr>
</table>

	Design Guidance / Criteria	*Proposed Development*	*Comply?*
Objective 3G-2	Access, entries and pathways are accessible and easy to identify	The main entry is at the centre of the site, negotiating the irregular site topography and unit relationship to Pacific Drive given the position of Lot 101. Sightlines are maintained to the site's entry point. Once within the site wayfinding is direct and simple.	✓
Objective 3G-3	Large sites provide pedestrian links for access to streets and connection to destinations	NA	NA
Objective 3H-1	Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes.	Vehicle access is designed to minimise potential conflicts with traffic patterns, street landscape and pedestrian safety.	✓
3J Bicycle and car parking			
Objective 3J-1	Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas.	Parking requirements are determined in relation to the site context and meets DCP standards.	✓
Design Criteria	For development in the following locations: • On sites that are within 800m of a railway station or light rail stop in the Sydney Metropolitan Area, or • On land zoned, and sites within 400m of land zoned, B3 Commercial Core, B4 Mixed Use or equipment in a nominated regional centre The minimum car parking requirement for residents and visitors is set out in the Guide to Traffic Generating Developments, or the car parking requirement prescribed by the relevant council, whichever is less. The car parking needs for a development must be provided off street.	The proposal provides sufficient parking consistent with Council's requirements.	✓
Objective 3J-2	Parking and facilities are provided for other modes of transport	Car parking, motorcycle parking and bicycle parking are provided.	✓

	Design Guidance / Criteria	*Proposed Development*	*Comply?*
Objective 3J-3	Car park design and access is safe and secure	Car parking is secured. Concealment areas are avoided. Sufficient manoeuvring areas and aisle widths are provided. Access corridors are provided with direct sightlines.	✓
Objective 3J-4	Visual and environmental impacts of underground car parking are minimised	Excavation is minimised by stepping the buildings with topography.	✓
Objective 3J-5	Visual and environmental impacts of on-grade car parking are minimised	Car parking is located within the building and not visible from the public domain.	✓
Objective 3J-6	Visual and environmental impacts of above ground enclosed car parking are minimised	Car parking	✓
4A Solar and daylight access			
Objective 4A-1	To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space.	The proposal provides adequate solar access for habitable rooms and private open space. No unit faces south. Units are oriented north, east and west whereby all units receive some solar access in mid-winter. All units will achieve excellent natural daylighting.	✓
Design Criteria	Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9am and 3pm at mid winter in the Sydney Metropolitan Area and in the Newcastle and Wollongong local government areas.	N/A	N/A
	In all other areas, living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 3 hours of direct sunlight between 9am and 3pm at mind winter.	The site's orientation and dimensions are such that the building is oriented on the north-south axis with a relatively narrow building depth to provide suitable setbacks to neighbouring low density sites. This gives rise to units facing mostly east and west, which limits opportunities for 3 hours solar access to living rooms, particularly when living rooms are set behind balconies as recommended by the ADG. The development therefore achieves 2.5 hours of direct solar access to 75% of units. This is a high quality	Minor variation Objective met

	Design Guidance / Criteria	*Proposed Development*	*Comply?*
		outcome. Also, the development maximises the eastern aspect to capture views.	
	A maximum of 15% of apartments in a building receive no direct sunlight between 9am and 3pm at mid winter.	0% of units receive no sunlight.	✓
Objective 4A-2	Daylight access is maximised where sunlight is limited	All units have extensive glazing. No units face south.	✓
Objective 4A-3	Design incorporates shading and glare control, particularly for warmer months	Western and façade generally situates living rooms behind balconies and screening is provided.	✓
4B Natural ventilation			
Objective 4B-1	All habitable rooms are naturally ventilated.	Natural ventilation is achieved by all apartments and all habitable rooms are provided with operatable windows. A high proportion of units achieve cross ventilation at 80%.	✓
Objective 4B-2	The layout and design of single aspect apartments maximises natural ventilation	Single aspect apartments have articulated glasslines and reasonable unit depth. Window openings are generous to allow ventilation. Ceiling heights are generous.	✓
Objective 4B-3	The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents	Criteria is met	✓
Design Criteria	At least 60% of apartments are naturally cross ventilated in the first nine storeys of the building. Apartments at ten storeys or greater are deemed to be cross ventilated only if any enclosure of the balconies at these levels allows adequate natural ventilation and cannot be fully enclosed.	The proposal meets this criterion. 80% of the apartment building achieves cross ventilation.	✓
	Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line.	When cross-through apartments are proposed, the overall depth of the unit is less than 18m. Cross-over apartments are not proposed.	✓

	Design Guidance / Criteria		*Proposed Development*	*Comply?*
4C Ceiling heights				
Objective 4C-1	Ceiling height achieves sufficient natural ventilation and daylight access.		The ceiling height is designed at 2.7m for all habitable rooms.	✓
Design Criteria	Measured from finish floor level to finished floor level, minimum ceiling heights are:		The proposed floor-to-floor levels are 3.1 which provides tolerance to ensure a 2.7 m floor to ceiling height can be achieved for habitable rooms.	✓
	Minimum ceiling height (for apartment and mixed use buildings)			
	Habitable rooms	2.7m		
	Non-habitable	2.4m		
	For 2 storey apartments	2.7m for main living area floor 2.4m for second floor, where its area does not exceed 50% of the apartment area		
	Attic spaces	1.8m at edge of room with a 30 degree minimum ceiling slope		
	If located in mixed use areas	3.3m for ground and first floor to promote future flexibility of use		
	These minimums do not preclude higher ceilings if desired.			
Objective 4C-2	Ceiling height increases the sense of space in apartments and provides for well proportioned rooms.		The proposal meets ceiling height criteria.	✓
Objective 4C-3	Ceiling heights contribute to the flexibility of building use over the life of the building		Medium density zone. Ceiling heights of 2.7m are proposed and it is unlikely given the site location that non-residential uses would be appropriate on the site.	✓
4D Apartment size and layout				

	Design Guidance / Criteria		*Proposed Development*	*Comply?*
Objective 4D-1	The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity.		The design of apartment layout is an integration of reasonable function, location and dimension as well as amenity.	✓
Design Criteria	Apartments are required to have the following minimum internal areas:		All apartments meet minimum internal areas corresponding to number of bedrooms (and any additional bathrooms). Large operable glass windows will be provided in each habitable room being min 10% of the floor area of the room.	✓
	Apartment type	Minimum internal area		
	Studio	35m^2		
	1 bedroom	50m^2		
	2 bedroom	70m^2		
	3 bedroom	90m^2		
	The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 12m^2 each. 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.			
Objective 4D-2	Environmental performance of the apartment is maximised		Criteria met.	✓
Design Criteria	Habitable room depths are limited to a maximum of 2.5 x the ceiling height.		The proposal complies with maximum habitable room depth except in open plan areas as permitted below. In this regard, it should be noted that the units integrate an open plan living, dining and kitchen layout and has generous floor to finished floor level heights on residential levels.	✓
	In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window.		The internal areas are generous and combine kitchen, living and dining areas adjoining large private open space for daylighting and natural ventilation. In some instances kitchens are slightly more than 8 m from a window. However, these units are generally dual aspect which allows for good	✓

<table>
<tr><th></th><th>Design Guidance / Criteria</th><th>Proposed Development</th><th>Comply?</th></tr>
<tr><td></td><td></td><td>ventilation. Ceiling heights, living room widths and the open plan design allow for good daylighting. The additional depth allows for larger dining and living spaces while maintaining an open plan design.</td><td></td></tr>
<tr><td>Objective 4D-3</td><td>Apartment layouts are designed to accommodate a variety of household activities and needs</td><td>Criteria met.</td><td>✓</td></tr>
<tr><td rowspan="4">Design Criteria</td><td>Master bedrooms have a minimum area of 10m^2 and other bedrooms 9m^2 (excluding wardrobe space).</td><td>The proposal complies with this criterion.</td><td>✓</td></tr>
<tr><td>Bedrooms have a minimum dimension of 3m (excluding wardrobe space).</td><td>The proposal complies with this criterion.</td><td>✓</td></tr>
<tr><td>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.</td><td>The proposal complies with this criterion.</td><td>✓</td></tr>
<tr><td>The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts.</td><td>The proposal complies with this criterion.</td><td>✓</td></tr>
<tr><td colspan="4">4E Private open space and balconies</td></tr>
<tr><td>Objective 4E-1</td><td>Apartments provide appropriately sized private open space and balconies to enhance residential amenity.</td><td>The proposal provides balconies and terraces to enhance the amenity and outdoor lifestyle for residents.</td><td>✓</td></tr>
<tr><td>Design Criteria</td><td>All apartments are required to have primary balconies as follows:
<table>
<tr><th>Dwelling type</th><th>Minimum area</th><th>Minimum depth</th></tr>
<tr><td>Studio apartments</td><td>4m^2</td><td>-</td></tr>
<tr><td>1 bedroom apartments</td><td>8m^2</td><td>2m</td></tr>
<tr><td>2 bedroom apartments</td><td>10m^2</td><td>2m</td></tr>
</table></td><td>The proposal complies with this criterion with the majority of POS having depths greater than the minimum required.</td><td>✓</td></tr>
</table>

	Design Guidance / Criteria			*Proposed Development*	*Comply?*
	3+ bedroom apartments	12m^2	2.4m		
	The minimum balcony depths to be counted as contributing to the balcony area is 1m.				
Objective 4E-2	Primary private open space and balconies are appropriately located to enhance liveability for residents			Private open spaces are located with direct access from living rooms. Balconies maximise views where possible towards the east.	✓
Objective 4E-3	Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building			The balcony and open space design are integral to the overall building form and add to its composition and articulation.	✓
Objective 4E-4	Private open space and balcony design maximises safety			Balustrade design avoids footholds and balustrade heights suitable to meet safety standards.	✓
4F Common circulation and spaces					
Objective 4F-1	Common circulation spaces achieve good amenity and properly service the number of apartments.			Maximum 5 units off a core. Natural light and air to most levels. Upper level Building B only has 2 units and achieves good. amenity.	✓
Design Criteria	1. The maximum number of apartments off a circulation core on a single level is eight.			The proposal complies with this criterion. The maximum is 5.	✓
	2. For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40.			The proposal complies with this criterion. Fewer than 40 units share a lift.	✓
Objective 4F-2	Common circulation spaces promote safety and provide for social interaction between residents			Lobbies are well proportioned with high ceilings and direct sightlines between the lobby and the public domain. Lobbies have generous widths. Common open spaces are generous and conveniently located for all residents. Spaces are designed as outdoor rooms. A community garden is proposed. Spaces have a high quality design and avoid concealment areas.	✓

	Design Guidance / Criteria		*Proposed Development*	*Comply?*
4G Storage				
Objective 4G-1	Adequate, well designed storage is provided in each apartment.		Adequate storage is provided to all apartments and applicable criteria is met. Ancillary storage is also provided in the basement/parking levels. Generous wardrobe sizes in bedrooms are also provided, in most instances larger than the minimum criteria set out in the ADG.	✓
Design Criteria	In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided:		The proposal complies with this criterion. Units have at least 50% storage located within the apartment and some units have storage in the car parking levels.	✓
	Dwelling type	Storage size volume		
	Studio apartments	$4m^3$		
	1 bedroom apartments	$6m^3$		
	2 bedroom apartments	$8m^3$		
	3+ bedroom apartments	$10m^3$		
	At least 50% of the required storage is to be located within the apartment.			
Objective 4G-2	Additional storage is conveniently located, accessible and nominated for individual apartments		Additional storage is located at parking levels and easily accessible from the car parking areas.	✓
4H Acoustic privacy				
Objective 4H-1	Noise transfer is minimised through the siting of buildings and building layout.		Acoustic privacy has been protected through the arrangement of apartment layout and building setbacks and recommended wall and glazing specifications provided by Acoustic Logic.	✓

	Design Guidance / Criteria	*Proposed Development*	*Comply?*
Objective 4H-2	Noise impacts are mitigated within apartments through layout and acoustic treatments	The proposed development limits acoustic impacts on neighbours by careful consideration of window position and type, unit orientation and setbacks. The proposal protects the acoustic privacy of the proposed development, particularly noise intrusion from Pacific Highway by maximising dual aspect units, having a reasonable setback to Pacific Drive and shall adopt the wall and glazing specifications set out in the report by Acoustic Logic which forms part of this application.	✓
4J Noise and pollution			
Objective 4J-1	In noisy or hostile environments the impacts of external noise and pollution are minimised through the careful siting and layout of buildings	The building is well setback from Pacific Drive. Dual aspect apartments are maximised. The proposal shall adopt the wall and glazing specifications set out in the report by Acoustic Logic which forms part of this application.	✓
Objective 4J-2	Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission	Acoustic privacy is achieved through building design, orientation and setbacks. The proposal shall adopt the wall and glazing specifications set out in the report by Acoustic Logic which forms part of this application to mitigate potential impacts from Pacific Drive.	✓
4K Apartment Mix			
Objective 4K-1	A range of apartment types and sizes is provided to cater for different household types now and into the future	The proposal provides a range of 1, 2 and 3 bedroom units.	✓
4L Ground floor apartments			

	Design Guidance / Criteria	*Proposed Development*	*Comply?*
Objective 4L-1	Street frontage activity is maximised where ground floor apartments are located	The proposed ground floor apartments are unable to have a direct street frontage and access but the courtyards are designed to achieve a high level of amenity.	✓
Objective 4L-2	Design of ground floor apartments delivers amenity and safety for residents	Ground floor apartment design, particularly the fence design balances privacy and casual surveillance	✓
4M Facades			
Objective 4M-1	Building facades provide visual interest along the street while respecting the character of the local area	The proposed façades are well articulated and compatible with the existing and emerging character of the area.	✓
Objective 4M-2	Building functions are expressed by the facade	The façade expresses its function, particularly the expressed balcony forms. The vertical circulation is also expressed in the façade.	✓
4N Roof design			
Objective 4N-1	Roof treatments are integrated into the building design and positively respond to the street	The flat roof allows for common open space, green roof elements and is consistent with the overall aesthetic of the building.	✓
Objective 4N-2	Opportunities to use roof space for residential accommodation and open space are maximised	A central common open space cojoined with deep soil areas is proposed with a pool to enhance amenity. Communal roof gardens are proposed at the rooftop.	✓
4O Landscape design			
Objective 40-1	Landscape design is viable and sustainable	The landscape design is environmentally sound and sustainable. The design includes low maintenance and water demand species.	✓

	Design Guidance / Criteria	*Proposed Development*	*Comply?*
Objective 40-2	Landscape design contributes to the streetscape and amenity	Proposed landscape sets the building in a garden with a combination of deep soil and on structure planting to soften built form, provide visual interest and enhance amenity.	✓
4P Planting on structures			
Objective 4P -1	Appropriate soil profiles are provided	Soil profiles are set out in the landscape plans.	✓
Objective 4P-2	Plant growth is optimised with appropriate selection and maintenance	Proposed landscape species are located appropriate to the site orientation with sun loving plants at the northern aspect and shade tolerant plants at the southern façade. Drought and wind tolerant species are proposed.	✓
Objective 4P-3	Planting on structures contributes to the quality and amenity of communal and public open spaces	The proposed planting contributes significantly to and is integral to the amenity of the proposed common open spaces.	✓
4Q Universal design			
Objective 4Q -1	Universal design features are included in apartment design to promote flexible housing for all community members	Adaptable units are provided.	✓
Objective 4Q-2	A variety of apartments with adaptable designs are provided	Adaptable units are provided.	✓
Objective 4Q-3	Apartment layouts are flexible and accommodate a range of lifestyle needs	Apartments are open plan	✓
4R Adaptive reuse			
Objective 4R-1	New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense of place	N/A	N/A

	Design Guidance / Criteria	*Proposed Development*	*Comply?*
Objective 4R-2	Adapted buildings provide residential amenity while not precluding future adaptive reuse	N/A	N/A
4S Mixed use			
Objective 4S-1	Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement	R3 zone, not appropriate for mixed use	N/A
Objective 4S-2	Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents	N/A	N/A
4T Awnings and signage			
Objective 4T-1	Awnings are well located and complement and integrate with the building design	Weather protection is provided at building entry.	✓
Objective 4T-2	Signage responds to the context and desired streetscape character	Signage will be limited within its residential context and will be detailed at CC.	✓
4U Energy efficiency			
Objective 4U-1	Development incorporates passive environmental design	Development performs well with a high proportion of units having direct solar access and being cross ventilated. Unit depths are limited. Facades are well articulated. Operable glazing is proposed.	✓
Objective 4U-2	Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer	Building will have good thermal mass. All units receive some direct sunlight. 80% of units are cross ventilated. Balconies positioned to contribute to passive solar design.	✓

	Design Guidance / Criteria	*Proposed Development*	*Comply?*
Objective 4U-3	Adequate natural ventilation minimises the need for mechanical ventilation	Natural ventilation is achieved on the site, including to apartments and common circulation. 80% of units are dual aspect.	✓
4V Water management and conservation			
Objective 4V-1	Potable water use is minimised	A BASIX certificate will form part of the application.	✓
Objective 4V-2	Urban stormwater is treated on site before being discharged to receiving waters	Stormwater management plans will form part of the application to meet Council requirements.	✓
Objective 4V-3	Flood management systems are integrated into site design	Site is not flood prone	N/A
4W Waste management			
Objective 4W-1	Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents	Waste storage areas are located within the building screened from the public domain and waste is to be collected from Pacific Drive with a temporary waste enclosure.	✓
Objective 4W-2	Domestic waste is minimised by providing safe and convenient source separation and recycling	Waste chutes are provided at each residential lobby maximising convenience.	✓
4X Building maintenance			
Objective 4X-1	Building design detail provides protection from weathering.	Good quality materials are proposed which are low maintenance, robust and climate-appropriate.	✓
Objective 4X-2	Systems and access enable ease of maintenance	Proposed materials are robust and low maintenance. Periodic façade cleaning by the building manager will be needed for some glazing but these areas are limited.	✓

	Design Guidance / Criteria	*Proposed Development*	*Comply?*
Objective 4X-3	Material selection reduces ongoing maintenance costs	Proposed materials are durable and will not require frequent maintenance.	✓

End of Table