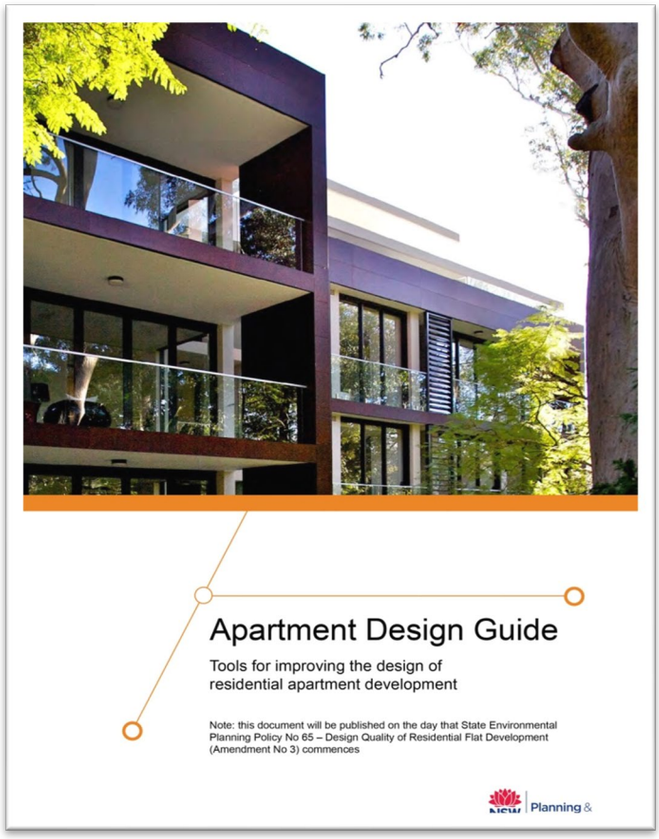
Apartment Design Guide (ADG) Workbook



Purpose of this workbook

This workbook is intended to be used by an applicant as an important tool in the design and preparation of applications for buildings which *State Environmental Planning Policy No.65 (Design Quality of Residential Apartment Development)* applies. This workbook is by no means intended to be onerous for the applicant nor Council, however is a tool which is aimed to help the architect demonstrate how they have achieved the 80 objectives found within Parts 3 and 4 of the ADG, particularly to demonstrate that adequate regard has been given to the design criteria, and to assist Council's Development Assessment Officers in illustrating how the proposal achieves the objectives.

How to use this workbook

Applicants are advised to fill in as much information as reasonably relevant to each stage of the DA process.

The first tab below has the 9 design principles as outlined in SEPP 65. The applicant is to address these 9 principles at each stage of the DA process.

Each following tab below will open a worksheet for each part, with the relevant Objectives, Design Criteria and Design Guidance for each. Applicants are to address how they achieve each of the Objectives referring, where relevant, to the Design Criteria and Guidance. Applicants may refer to drawing numbers or other documents to illustrate each objective.

The highlighted fields indicate objectives,and design criteria which applicants are to pay particular regard to when filling out the workbook.

This document is to be filled out as part of any Pre-lodgement Applications. As part of any DA, the applicant is to lodge a Design Verification Statement written by the architect which is to include verification that the design was designed (or overseen) by the architect, and demonstration as to how the proposal achieves the 9 design principles. The architect is also demonstrate how they achieve the 80 ADG objectives. This workbook is will not be accepted in place of a written document or statement from the architect. The applicant may address the above issues through the Design Verification Statement, or as an appendix to the Statement of Environmental Effects. *This workbook may be submitted as a supporting document* at DA lodgement.

It is advised that this document is submitted electronically, not in hard copy, at each stage of the process.

Notes:

- *Please be sure to fill out all Parts of the workbook (3A - 4X)*
- To start a new line of text within a cell, press ALT + ENTER.
- To create a bulleted list, insert symbol.
- Alternatively copy and paste text from a word document.

SEPP 65 Design 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 qualiites and identity of the area including 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.

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, buildng 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.

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 infrustructure, public transport, access to jobs, community facilities and the environment.

Principle 4: Sustainability

Good design combines positive environment, social and econmic outcomes. Good sustainable design includes use of natural cross ventilation and sunlight for the amenity and livability 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.

Principle 5: Landscape

Good design recognises that together landscape and buildings operate as an intergrated and sustainable system, resulting in attractive developments with good amenity. A postive 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 developent'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 usability, privacy and oppurtunites for social interaction, equitable access, respect for neighbours' amenity, provides for practical establishment and long term management.

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.

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. Opportunites 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.

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 socail mix. Good design involves practical and flexible features, including different types of communal spaces for a broad range of people, providing opportunities for social interaction amongst residents.

Principle : 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 well designed apartment development responds to the existing or future local context, particularly desirable elements and repetions of the streetscape.

3A Site analysis

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria.
Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

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	Yes
Design guidance	
Each element in the Site Analysis Checklist should be addressed (see Appendix 1)	Each element from the site analysis checklist has been checked and completed.

3B Orientation

	Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria. Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.
Objective 3B-1 Building types and layouts respond to the streetscape and site while optimising solar access within the development	Yes
Design guidance	
Buildings along the street frontage define the street, by facing it and incorporating direct access from the street (see figure 3B.1)	The site is access directly off Queenscliff Road. The buildings frontage is designed to maintain a relationship with Queenscliff Road, with soft greenery and an identifiable entry.
Where the street frontage is to the east or west, rear buildings should be orientated to the north	The street frontage faces the North-East.
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)	The street frontage faces the North-East. Design has been developed to minimise over shadowing to the properites in the south by terracing the balconies.
Objective 3B-2 Overshadowing of neighbouring properties is minimised during mid winter	Yes
Design guidance	
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	This has been provided. Refer to architectural documentation.
Solar access to living rooms, balconies and private open spaces of neighbours should be considered	This has been provided. Refer to architectural documentation.
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%	This has been provided. Refer to architectural documentation.
If the proposal will significantly reduce the solar access of neighbours, building separation should be increased beyond minimums contained in section 3F Visual privacy	Adequate building separation has been designed, as to allow visual privacy between neighbours.
Overshadowing should be minimised to the south or down hill by increased upper level setbacks	The design has been developed to minimise over shadowing to the properites in the south by terracing the balconies.
It is optimal to orientate buildings at 90 degrees to the boundary with neighbouring properties to minimise overshadowing and privacy impacts, particularly where minimum setbacks are used and where buildings are higher than the adjoining development	The building is orientated 90 degress to the boundary.
A minimum of 4 hours of solar access should be retained to solar collectors on neighbouring buildings	There are no solar collectors located on neighbouring buildings.

3C Public domain interface

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria.
Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

Objective 3C-1 Transition between private and public domain is achieved without compromising safety and security	
Design guidance	
Terraces, balconies and courtyard apartments should have direct street entry, where appropriate	A single entry has been provided to the lobby as access to the apartments via Queenscliff Road.
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)	This has been provided where possible
Upper level balconies and windows should overlook the public domain	This has been provided.
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	Low hegiht walls have been designed at the Queenscliff Road street frontage to provide a balance of priviacy and visual permeability.
Length of solid walls should be limited along street frontages	Street frontages are broken up with batton fences, vehicle access, padestrian access and greenery.
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	Opportunities for casual interaction has been provided within lobby spaces.
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	N/A.
Opportunities for people to be concealed should be minimised	This has been minimized where possible

Objective 3C-2 Amenity of the public domain is retained and enhanced	
Design guidance	
Planting softens the edges of any raised terraces to the street, for example above sub-basement car parking	Planting has been provided on balconies, roof terrace, against the building façade facing the street, along the street wall. Planters boxes have been provided to private open spaces.
Mail boxes should be located in lobbies, perpendicular to the street alignment or integrated into front fences where individual street entries are provided	This has been provided
The visual prominence of underground car park vents should be minimised and located at a low level where possible	Car park vent is located on roof top.
Substations, pump rooms, garbage storage areas and other service requirements should be located in basement car parks or out of view	Pump room, garbage room and other services areas are all located in the proposed basement.
Ramping for accessibility should be minimised by building entry location and setting ground floor levels in relation to footpath levels	Wheelchair lift has been provided to accommodate access into the building.
Durable, graffiti resistant and easily cleanable materials should be used	The boundary fence is comprised predominantly of rendered block work walls covered in plants, as well as aluminium batten fencing and the number of walls accessible to vandalism is kept to a minimum.
Where development adjoins public parks, 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	N/A
On sloping sites protrusion of car parking above ground level should be minimised by using split levels to step underground car parking	Car parking is access via a car lift.

3D Communal and public open space

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria. Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

Objective 3D-1 An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping	No
Design criteria	
1. Communal open space has a minimum area equal to 25% of the site (see figure 3D.3)	N/A
2. Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June (mid winter)	N/A
Design guidance	
Communal open space should be consolidated into a well designed, easily identified and usable area	N/A
Communal open space should have a minimum dimension of 3m, and larger developments should consider greater dimensions	N/A
Communal open space should be co-located with deep soil areas	N/A
Direct, equitable access should be provided to communal open space areas from common circulation areas, entries and lobbies	N/A
Where communal open space cannot be provided at ground level, it should be provided on a podium or roof	N/A
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 public open space	Large coutyards have been provided to ground level units, roof terraces have been provided to top level units. Balconies are increased for units in the middle. Site is in walking distance from parks and beaches.
Objective 3D-2 Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting	N/A
Design guidance	
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	N/A
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	N/A
Visual impacts of services should be minimised, including location of ventilation duct outlets from basement car parks, electrical substations and detention tanks	This has been minimized where possible
Objective 3D-3 Communal open space is designed to maximise safety	N/A
Design guidance	
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	N/A
Communal open space should be well lit	N/A
Where communal open space/facilities are provided for children and young people they are safe and contained	N/A

Objective 3D-4 Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood	
Design guidance	
The public open space should be well connected with public streets along at least one edge	N/A
The public open space should be connected with nearby parks and other landscape elements	N/A
Public open space should be linked through view lines, pedestrian desire paths, termination points and the wider street grid	N/A
Solar access should be provided year round along with protection from strong winds	N/A
Opportunities for a range of recreational activities should be provided for people of all ages	N/A
A positive address and active frontages should be provided adjacent to public open space	N/A
Boundaries should be clearly defined between public open space and private areas	N/A

3E Deep soil zone

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria. Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

Objective 3E-1 Deep soil zones provide areas on the site that allow for and support healthy plant and tree growth. They improve residential amenity and promote management of water and air quality	Yes
Design criteria	
1. Deep soil zones are to meet the following minimum requirements: Site area: less than 650m²; Minimum dimensions: - Site area: 650m² - 1,500m²; Minimum dimensions: 3m Site area: greater than 1,500m²; Minimum dimensions: 6m Site area: greater than 1,500m² with significant existing tree cover; Minimum dimensions: 6m Deep soil zone (% of site area): 7%	Yes - Total deep soil - 279m2 (29%) Complaint - 66.5m2 (7%)
Design guidance	
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	The site area is 950m2. 279m2 (29%) of deep soil has been provided.
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	Building basement is set below building footprint. Adequate set backs front and sides have been provided. Tree protection zones labeled in documents and are clear of any major building works. Co-located with adjacent sites to create large contiguous areas of deep soil.
Achieving the design criteria may not be possible on some sites including where: • the location and building typology have limited or no space for deep soil at ground level (e.g. central business district, constrained sites, high density areas, or in centres) • there is 100% site coverage or non-residential uses at ground floor level Where a proposal does not achieve deep soil requirements, acceptable stormwater management should be achieved and alternative forms of planting provided such as on structure	N/A

3F Visual privacy

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria. Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

Objective 3F-1

Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy

No

Design criteria

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:

Building height	Habitable rooms and balconies	Non-habitable rooms
up to 12m (4 storeys)	6m	3m
up to 25m (5-8 storeys)	9m	4.5m
over 25m (9+ storeys)	12m	6m

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

Side set backs of 2.2m, 4.5m street set back, and 8.4m rear set back, which further increases as the building terraces back. These are inline with the DCP requirements.

Design guidance

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

A terraced design has been created in the rear of the 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

N/A

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 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)

This has been provided. The outlook for the apartments have been orientated to the North and South to provide privacy to the immediate neighbours on the East and West.

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)

N/A

Direct lines of sight should be avoided for windows and balconies across corners

No direct lines of sight have been provided.

No separation is required between blank walls

N/A

Objective 3F-2

Site and building design elements increase privacy without compromising access to light and air and balance outlook and views from habitable rooms and private open space

Yes

Design guidance

Communal open space, common areas and access paths should be separated from private open space and windows to apartments, particularly habitable room windows. Design solutions may include:

- setbacks
- solid or partially solid balustrades to balconies at lower levels
- fencing and/or trees and vegetation to separate spaces
- screening devices
- bay windows or pop out windows to provide privacy in one direction and outlook in another
- raising apartments/private open space above the public domain or communal open space
- planter boxes incorporated into walls and balustrades to increase visual separation
- pergolas or shading devices to limit overlooking of lower apartments or private open space
- on constrained sites where it can be demonstrated that building layout opportunities are limited, fixed louvres or screen panels to windows and/or balconies

No communal open space has been provided.

Bedrooms, living spaces and other habitable rooms should be separated from gallery access and other open circulation space by the apartment’s service areas	This has been provided.
Balconies and private terraces should be located in front of living rooms to increase internal privacy	This has been provided.
Windows should be offset from the windows of adjacent buildings	This has been provided.
Recessed balconies and/or vertical fins should be used between adjacent balconies	This has been provided.

3G Pedestrian access and entries

	Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria. Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.
Objective 3G-1 Building entries and pedestrian access connects to and addresses the public domain	Yes
Design guidance	
Multiple entries (including communal building entries and individual ground floor entries) should be provided to activate the street edge	A single entry has been provided to the lobby as access to the apartments along Queenscliff Road.
Entry locations relate to the street and subdivision pattern and the existing pedestrian network	This has been provided
Building entries should be clearly identifiable and communal entries should be clearly distinguishable from private entries	Only two entries are provided, one for padestrian into the property, the other to the car lift.
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	N/A
Objective 3G-2 Access, entries and pathways are accessible and easy to identify	Yes
Design guidance	
Building access areas including lift lobbies, stairwells and hallways should be clearly visible from the public domain and communal spaces	This has been provided
The design of ground floors and underground car parks minimise level changes along pathways and entries	This has been provided
Steps and ramps should be integrated into the overall building and landscape design	This has been provided
For large developments 'way finding' maps should be provided to assist visitors and residents (see figure 4T.3)	N/A
For large developments electronic access and audio/video intercom should be provided to manage access	N/A
Objective 3G-3 Large sites provide pedestrian links for access to streets and connection to destinations	N/A
Design guidance	
Pedestrian links through sites facilitate direct connections to open space, main streets, centres and public transport	N/A
Pedestrian links should be direct, have clear sight lines, be overlooked by habitable rooms or private open spaces of dwellings, be well lit and contain active uses, where appropriate	N/A

3J Bicycle and car parking

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria. Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

Objective 3J-1 Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas	N/A
Design criteria	
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 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	N/A
Design guidance	
Where a car share scheme operates locally, provide car share parking spaces within the development. Car share spaces, when provided, should be on site	N/A
Where less car parking is provided in a development, council should not provide on street resident parking permits	N/A
Objective 3J-2 Parking and facilities are provided for other modes of transport	Yes
Design guidance	
Conveniently located and sufficient numbers of parking spaces should be provided for motorbikes and scooters	N/A - refer to traffic report
Secure undercover bicycle parking should be provided that is easily accessible from both the public domain and common areas	This has been provided
Conveniently located charging stations are provided for electric vehicles, where desirable	N/A - refer to traffic report
Objective 3J-3 Car park design and access is safe and secure	Yes
Design guidance	
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	This has been provided to the Basement.
Direct, clearly visible and well lit access should be provided into common circulation areas	This has been provided
A clearly defined and visible lobby or waiting area should be provided to lifts and stairs	This has been provided
For larger car parks, safe pedestrian access should be clearly defined and circulation areas have good lighting, colour, line marking and/or bollards	This has been provided
Objective 3J-4 Visual and environmental impacts of underground car parking are minimised	Yes
Design guidance	
Excavation should be minimised through efficient car park layouts and ramp design	This has been provided
Car parking layout should be well organised, using a logical, efficient structural grid and double loaded aisles	This has been provided
Protrusion of car parks should not exceed 1m above ground level. Design solutions may include stepping car park levels or using split levels on sloping sites	N/A
Natural ventilation should be provided to basement and sub basement car parking areas	The proposed basement is mechanically ventilated.
Ventilation grills or screening devices for car parking openings should be integrated into the facade and landscape design	N/A

Objective 3J-5 Visual and environmental impacts of on-grade car parking are minimised	N/A
Design guidance	
On-grade car parking should be avoided	Parking has been provided in basement
Where on-grade car parking is unavoidable, the following design solutions are used: • parking is located on the side or rear of the lot away from the primary street frontage • cars are screened from view of streets, buildings, communal and private open space areas • safe and direct access to building entry points is provided • parking is incorporated into the landscape design of the site, by extending planting and materials into the car park space • stormwater run-off is managed appropriately from car parking surfaces • bio-swales, rain gardens or on site detention tanks are provided, where appropriate • light coloured paving materials or permeable paving systems are used and shade trees are planted between every 4-5 parking spaces to reduce increased surface temperatures from large areas of paving	N/A

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

4A Solar and daylight access

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria. Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

Objective 4A-1 To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space	Yes
Design criteria	
1. Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid winter in the Sydney Metropolitan Area and in the Newcastle and Wollongong local government areas	This has been provided
2. In all other areas, living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 3 hours direct sunlight between 9 am and 3 pm at mid winter	N/A
3. A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid winter	4 of 6 units will receive compliant solar access on the 21st June.
Design guidance	
The design maximises north aspect and the number of single aspect south facing apartments is minimised	The design has incorporated north aspect where possible and openings to the East and West have been provided to south facing units.
Single aspect, single storey apartments should have a northerly or easterly aspect	The design has incorporated north aspect where possible and openings to the East and West have been provided to south facing units.
Living areas are best located to the north and service areas to the south and west of apartments	This has been provided where possible
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	Large sliding doors have been provided to all balconies to maximise sunlight.
To maximise the benefit to residents of direct sunlight within living rooms and private open spaces, a minimum of 1m^2 of direct sunlight, measured at 1m above floor level, is achieved for at least 15 minutes	This has been provided.
Achieving the design criteria may not be possible on some sites. This includes: • where greater residential amenity can be achieved along a busy road or rail line by orientating the living rooms away from the noise source • on south facing sloping sites • where significant views are oriented away from the desired aspect for direct sunlight Design drawings need to demonstrate how site constraints and orientation preclude meeting the design criteria and how the development meets the objective	N/A
Objective 4A-2 Daylight access is maximised where sunlight is limited	N/A
Design guidance	
Courtyards, skylights and high level windows (with sills of 1,500mm or greater) are used only as a secondary light source in habitable rooms	N/A
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	N/A

Opportunities for reflected 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	N/A
Objective 4A-3 Design incorporates shading and glare control, particularly for warmer months	Yes
Design guidance 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)	Balconies have been incorporated to help reduce solar intake in summer but receive adequate solar access in winter. Balconies also provide shading to the living spaces.

4B Natural ventilation

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria.
Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

Objective 4B-1 All habitable rooms are naturally ventilated	
Design guidance	
The building's orientation maximises capture and use of prevailing breezes for natural ventilation in habitable rooms	This has been provided
Depths of habitable rooms support natural ventilation	This has been provided
The area of unobstructed window openings should be equal to at least 5% of the floor area served	This has been provided
Light wells are not the primary air source for habitable rooms	N/A
Doors and openable windows maximise natural ventilation opportunities by using the following design solutions: • adjustable windows with large effective openable areas • a variety of window types that provide safety and flexibility such as awnings and louvres • windows which the occupants can reconfigure to funnel breezes into the apartment such as vertical louvres, casement windows and externally opening doors	Full height glazed sliding doors have been provided to living spaces, and operable windows to bedrooms.

Objective 4B-2 The layout and design of single aspect apartments maximises natural ventilation	
Design guidance	
Apartment depths are limited to maximise ventilation and airflow (see also figure 4D.3)	This has been provided where possible
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	This has been provided where possible

Objective 4B-3 The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents	
Design criteria	
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	All apartments achieve cross ventilation.
2. Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line	N/A
Design guidance	
The building should include dual aspect apartments, cross through apartments and corner apartments and limit apartment depths	N/A
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)	N/A
Apartments are designed to minimise the number of corners, doors and rooms that might obstruct airflow	This has been provided where possible
Apartment depths, combined with appropriate ceiling heights, maximise cross ventilation and airflow	This has been provided where possible

4C Ceiling heights

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria.
Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

Objective 4C-1

Ceiling height achieves sufficient natural ventilation and daylight access

Yes

Design criteria

1. Measured from finished floor level to finished ceiling level, minimum ceiling heights are:

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 used areas	3.3m for ground and first floor to promote future flexibility of use

These minimums do not preclude higher ceilings if desired

A minimum 3100mm floor to floor level has been provided which will allow us to easily achieve 2.7m internally

Design guidance

Ceiling height can accommodate use of ceiling fans for cooling and heat distribution

This has been provided

Objective 4C-2

Ceiling height increases the sense of space in apartments and provides for well proportioned rooms

Yes

Design guidance

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

This has been provided

Objective 4C-3

Ceiling heights contribute to the flexibility of building use over the life of the building

N/A

Design guidance

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)

N/A

4D Apartment size and layout

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria. Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

Objective 4D-1

The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity

Yes

Design criteria

1. Apartments are required to have the following minimum internal areas:

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

The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5m² each

A fourth bedroom and further additional bedrooms increase the minimum internal area by 12m² each

All unit sizes comply or exceed the minimums outlined.

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

This has been provided

Design guidance

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

This has been provided

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

Objective 4D-2

Environmental performance of the apartment is maximised

Design criteria

1. Habitable room depths are limited to a maximum of 2.5 x the ceiling height

This has been provided

2. In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window

This has been provided

Design guidance

Greater than minimum ceiling heights can allow for proportional increases in room depth up to the permitted maximum depths

No habitable rooms exceed the maximum room depth.

All living areas and bedrooms should be located on the external face of the building

This has been provided

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

This has been provided where possible

Objective 4D-3

Apartment layouts are designed to accommodate a variety of household activities and needs

Design criteria

1. Master bedrooms have a minimum area of 10m² and other bedrooms 9m² (excluding wardrobe space)

This has been provided

2. Bedrooms have a minimum dimension of 3m (excluding wardrobe space)

This has been provided

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

This has been provided

4. The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts

N/A

Design guidance

Access to bedrooms, bathrooms and laundries is separated from living areas minimising direct openings between living and service areas	This has been provided
All bedrooms allow a minimum length of 1.5m for robes	This has been provided
The main bedroom of an apartment or a studio apartment should be provided with a wardrobe of a minimum 1.8m long, 0.6m deep and 2.1m high	This has been provided
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	This has been provided

4E Private open space and balconies

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria.
Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

Objective 4E-1 Apartments provide appropriately sized private open space and balconies to enhance residential amenity	Yes
Design criteria	
1. All apartments are required to have primary balconies as follows: Dwelling type / Minimum area / Minimum depth Studio apartments / 4m² / - 1 bedroom apartments / 8m² / 2m 2 bedroom apartments / 10m² / 2m 3+ bedroom apartments / 12m² / 2.4m The minimum balcony depth to be counted as contributing to the balcony area is 1m	All balconies to apartments comply.
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	This has been provided
Design guidance	
Increased communal open space should be provided where the number or size of balconies are reduced	N/A
Storage areas on balconies is additional to the minimum balcony size	This has been provided
Balcony use may be limited in some proposals by: • consistently high wind speeds at 10 storeys and above • close proximity to road, rail or other noise sources • exposure to significant levels of aircraft noise • heritage and adaptive reuse of existing buildings In these situations, juliet balconies, operable walls, enclosed wintergardens or bay windows may be appropriate, and other amenity benefits for occupants should also be provided in the apartments or in the development or both. Natural ventilation also needs to be demonstrated	N/A
Objective 4E-2 Primary private open space and balconies are appropriately located to enhance liveability for residents	Yes
Design guidance	
Primary open space and balconies should be located adjacent to the living room, dining room or kitchen to extend the living space	This has been provided
Private open spaces and balconies predominantly face north, east or west	Balconies face North-East and South-West
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	This has been provided where possible
Objective 4E-3 Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building	Yes
Design guidance	
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	Planter boxes are provided to block out views/noise to Queenscliff Road.
Full width full height glass balustrades alone are generally not desirable	Balustrades are recessed behind planter boxes.
Projecting balconies should be integrated into the building design and the design of soffits considered	Balconies are contained within the building form.
Operable screens, shutters, hoods and pergolas are used to control sunlight and wind	Window reveals will provide shading to windows. Balconies provide sun and wind control to living spaces.
Balustrades are set back from the building or balcony edge where overlooking or safety is an issue	Balustrades are recessed behind planter boxes.
Downpipes and balcony drainage are integrated with the overall facade and building design	This has been provided
Air-conditioning units should be located on roofs, in basements, or fully integrated into the building design	This has been provided.
Where clothes drying, storage or air conditioning units are located on balconies, they should be screened and integrated in the building design	N/A
Ceilings of apartments below terraces should be insulated to avoid heat loss	This has been provided

Water and gas outlets should be provided for primary balconies and private open space	This has been provided
Objective 4E-4 Private open space and balcony design maximises safety	Yes
Design guidance	
Changes in ground levels or landscaping are minimised	This has been provided
Design and detailing of balconies avoids opportunities for climbing and falls	This has been provided

4F Common circulation and spaces

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria. Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

Objective 4F-1 Common circulation spaces achieve good amenity and properly service the number of apartments	
Design criteria	
1. The maximum number of apartments off a circulation core on a single level is eight	Yes - The project only has two apartments per level.
2. For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40	N/A
Design guidance	
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	This has been provided where possible.
Daylight and natural ventilation should be provided to all common circulation spaces that are above ground	This has been provided where possible.
Windows should be provided in common circulation spaces and should be adjacent to the stair or lift core or at the ends of corridors	This has been provided - all corridors are naturally ventilated
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 maximise opportunities for dual aspect apartments, including multiple core apartment buildings and cross over apartments	N/A
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	N/A
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	This has been provided

Objective 4F-2 Common circulation spaces promote safety and provide for social interaction between residents	
Design guidance	
Direct and legible access should be provided between vertical circulation points and apartment entries by minimising corridor or gallery length to give short, straight, clear sight lines	This has been provided where possible.
Tight corners and spaces are avoided	This has been provided.
Circulation spaces should be well lit at night	This has been provided.
Legible signage should be provided for apartment numbers, common areas and general wayfinding	This has been provided.
Incidental spaces, for example space for seating in a corridor, at a stair landing, or near a window are provided	N/A
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	N/A
Where external galleries are provided, they are more open than closed above the balustrade along their length	N/A

4G Storage

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria. Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

Objective 4G-1 Adequate, well designed storage is provided in each apartment	
Design criteria	
1. 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 Yes - This has been provided
Design guidance	
Storage is accessible from either circulation or living areas	This has been provided
Storage provided on balconies (in addition to the minimum balcony size) is integrated into the balcony design, weather proof and screened from view from the street	N/A
Left over space such as under stairs is used for storage	N/A

Objective 4G-2 Additional storage is conveniently located, accessible and nominated for individual apartments	
Design guidance	
Storage not located in apartments is secure and clearly allocated to specific apartments	Yes - This has been provided
Storage is provided for larger and less frequently accessed items	This has not been provided
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	This has not been provided
If communal storage rooms are provided they should be accessible from common circulation areas of the building	This has not been provided
Storage not located in an apartment is integrated into the overall building design and is not visible from the public domain	This has been provided
	N/A

4H Acoustic privacy

	Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria. Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.
Objective 4H-1 Noise transfer is minimised through the siting of buildings and building layout	Yes
Design guidance	
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)	This has been provided, Proposed building is compliant with local DCP requirement. The visual privacy has been taken into account with the design.
Window and door openings are generally orientated away from noise sources	This has been provided where possible
Noisy areas within buildings including building entries and corridors should be located next to or above each other and quieter areas next to or above quieter areas	This has been provided where possible
Storage, circulation areas and non-habitable rooms should be located to buffer noise from external sources	This has been provided where possible
The number of party walls (walls shared with other apartments) are limited and are appropriately insulated	This has been provided.
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	This has been provided where possible
Objective 4H-2 Noise impacts are mitigated within apartments through layout and acoustic treatments	Yes
Design guidance	
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	This has been provided where possible
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	This has been provided where possible

4J Noise and pollution

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria. Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

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

Yes

Design guidance

To minimise impacts the following design solutions may be used:

- physical separation between buildings and the noise or pollution source
- residential uses are located perpendicular to the noise source and where possible buffered by other uses
- non-residential buildings are sited to be parallel with the noise source to provide a continuous building that shields residential uses and communal open spaces
- non-residential uses are located at lower levels vertically separating the residential component from the noise or pollution source. Setbacks to the underside of residential floor levels should increase relative to traffic volumes and other noise sources
- buildings should respond to both solar access and noise. Where solar access is away from the noise source, 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

This has been provided where possible

Achieving the design criteria in this Apartment Design Guide may not be possible in some situations due to noise and pollution. Where developments are unable to achieve the design criteria, alternatives may be considered in the following areas:

- solar and daylight access
- private open space and balconies
- natural cross ventilation

N/A

Objective 4J-2

Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission

Yes

Design guidance

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

This has been provided where possible with limited opening toward noise source.

4K Apartment mix

	Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria. Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.
Objective 4K-1 A range of apartment types and sizes is provided to cater for different household types now and into the future	Yes
Design guidance	
A variety of apartment types is provided	N/A
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
Flexible apartment configurations are provided to support diverse household types and stages of life including single person households, families, multi-generational families and group households	N/A
Objective 4K-2 The apartment mix is distributed to suitable locations within the building	Yes
Design guidance	
Different apartment types are located to achieve successful facade composition and to optimise solar access (see figure 4K.3)	This has been provided.
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	This has been provided.

4L Ground floor apartments

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria. Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

Objective 4L-1 Street frontage activity is maximised where ground floor apartments are located	Yes
Design guidance	
Direct street access should be provided to ground floor apartments	This has not been provided to allow security to residents and to maintain a clean visual aesthetic to the streetscape.
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	Private open spaces provided next to streets, doors and windows also face the street.
Retail or home office spaces should be located along street frontages	N/A
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

Objective 4L-2 Design of ground floor apartments delivers amenity and safety for residents	Yes
Design guidance	
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	This has been provided where possible.
Solar access should be maximised through: • high ceilings and tall windows • trees and shrubs that allow solar access in winter and shade in summer	This has been provided where possible.

4M Facades

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria. Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

Objective 4M-1 Building facades provide visual interest along the street while respecting the character of the local area	Yes
Design guidance	
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	A simple and classical façade palette has been chosen to create subtle contrast to complement the natural background. Greenery is used to drape the façade, and soften the building into the landscape.
Building services should be integrated within the overall facade	This has been provided
Building facades should be well resolved with an appropriate scale and proportion to the streetscape and human scale. Design solutions may include: • well composed horizontal and vertical elements • variation in floor heights to enhance the human scale • elements that are proportional and arranged in patterns • public artwork or treatments to exterior blank walls • grouping of floors or elements such as balconies and windows on taller buildings	Planter boxes are used to break down the verticality of the building.
Building facades relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights	N/A
Shadow is created on the facade throughout the day with building articulation, balconies and deeper window reveals	Window revels provide shading and articulation to the building façade. Balcony planter boxes with planting also provide articulation and shading.
Objective 4M-2 Building functions are expressed by the facade	Yes
Design guidance	
Building entries should be clearly defined	This has been provided with a break on the street wall, with greenery on either side to indicate an entry.
Important corners are given visual prominence through a change in articulation, materials or colour, roof expression or changes in height	N/A
The apartment layout should be expressed externally through facade features such as party walls and floor slabs	The placement of party walls, floor slabs and windows all help to define the various apartments and their functions.

4N Roof design

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria. Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

Objective 4N-1 Roof treatments are integrated into the building design and positively respond to the street	
Design guidance	
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	A upper roof terrace has been designed to provide a spot for the scenic view, as well as a place to enjoy the sun for the top level residents. The planter boxes and planting will drape over the building façade to soften the building into the landscape.
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	The roof has been design to be consistent with the other horizontal elements in the building as a whole.

Objective 4N-2 Opportunities to use roof space for residential accommodation and open space are maximised	
Design guidance	
Habitable roof space should be provided with good levels of amenity. Design solutions may include: • penthouse apartments • dormer or clerestory windows • openable skylights	Habitable roof space has a spa, bbq and seating area, as we as landscape.
Open space is provided on roof tops subject to acceptable visual and acoustic privacy, comfort levels, safety and security considerations	Privacy has been taken into account with orientation.

Objective 4N-3 Roof design incorporates sustainability features	
Design guidance	
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	This has been provided where possible.
Skylights and ventilation systems should be integrated into the roof design	This has not been provide.

4O Landscape design

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria. Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

Objective 4O-1 Landscape design is viable and sustainable	Yes
Design guidance	
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	This has been provided - refer to landscaping scheme
Ongoing maintenance plans should be prepared	This has been provided- refer to landscaping scheme
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	This has been provided- refer to landscaping scheme
Tree and shrub selection considers size at maturity and the potential for roots to compete (see Table 4)	This has been provided- refer to landscaping scheme
Objective 4O-2 Landscape design contributes to the streetscape and amenity	Yes
Design guidance	
Landscape design responds to the existing site conditions including: • changes of levels • views • significant landscape features including trees and rock outcrops	This has been provided- refer to landscaping scheme
Significant landscape features should be protected by: • tree protection zones (see figure 4O.5) • appropriate signage and fencing during construction	This has been provided- refer to Arborist report
Plants selected should be endemic to the region and reflect the local ecology	This has been provided- refer to landscaping scheme

4P Planting on structures

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria. Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

Objective 4P-1 Appropriate soil profiles are provided	Yes
Design guidance	
Structures are reinforced for additional saturated soil weight	This has been provided
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	This has been provided
Minimum soil standards for plant sizes should be provided in accordance with Table 5	This has been provided
Objective 4P-2 Plant growth is optimised with appropriate selection and maintenance	Yes
Design guidance	
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	This has been provided, refer to landscape architects drawings
A landscape maintenance plan is prepared	This has not been provided
Irrigation and drainage systems respond to: • changing site conditions • soil profile and the planting regime • whether rainwater, stormwater or recycled grey water is used	This has been provided
Objective 4P-3 Planting on structures contributes to the quality and amenity of communal and public open spaces	Yes
Design guidance	
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	Planter boxes and opportunities for a wall design that incorporates planting have been provided.

4Q Universal design

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria. Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

Objective 4Q-1 Universal design features are included in apartment design to promote flexible housing for all community members	Yes
Design guidance	
Developments achieve a benchmark of 20% of the total apartments incorporating the Livable Housing Guideline's silver level universal design features	This has been provided where required.
Objective 4Q-2 A variety of apartments with adaptable designs are provided	Yes
Design guidance	
Adaptable housing should be provided in accordance with the relevant council policy	This has been provided where applicable, refer to Accessibility report
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	This has been provided where applicable, refer to Accessibility report
Objective 4Q-3 Apartment layouts are flexible and accommodate a range of lifestyle needs	No
Design guidance	
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	This has not been provided.

4R Adaptive reuse

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria. Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

Objective 4R-1 New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense of place	N/A
Design guidance	
Design solutions may include: • new elements to align with the existing building • additions that complement the existing character, siting, scale, proportion, pattern, form and detailing • use of contemporary and complementary materials, finishes, textures and colours	N/A
Additions to heritage items should be clearly identifiable from the original building	N/A
New additions allow for the interpretation and future evolution of the building	N/A
Objective 4R-2 Adapted buildings provide residential amenity while not precluding future adaptive reuse	N/A
Design guidance	
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	N/A
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 • building and visual separation – subject to demonstrating alternative design approaches to achieving privacy • common circulation • car parking • alternative approaches to private open space and balconies	N/A

4S Mixed use

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria. Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

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

4T Awnings and signage

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria.
Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

Objective 4T-1 Awnings are well located and complement and integrate with the building design	
Design guidance	
Awnings should be located along streets with high pedestrian activity and active frontages	N/A
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 complements 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	N/A
Awnings should be located over building entries for building address and public domain amenity	N/A
Awnings relate to residential windows, balconies, street tree planting, power poles and street infrastructure	N/A
Gutters and down pipes should be integrated and concealed	N/A
Lighting under awnings should be provided for pedestrian safety	N/A

Objective 4T-2 Signage responds to the context and desired streetscape character	
Design guidance	
Signage should be integrated into the building design and respond to the scale, proportion and detailing of the development	N/A
Legible and discrete way finding should be provided for larger developments	N/A
Signage is limited to being on and below awnings and a single facade sign on the primary street frontage	N/A

4U Energy efficiency

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria.
Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

Objective 4U-1 Development incorporates passive environmental design	Yes
Design guidance	
Adequate natural light is provided to habitable rooms (see 4A Solar and daylight access)	This has been provided.
Well located, screened outdoor areas should be provided for clothes drying	This has been provided.
Objective 4U-2 Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer	Yes
Design guidance	
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	Thermal mass has been provided with concrete floors.
Provision of consolidated heating and cooling infrastructure should be located in a centralised location (e.g. the basement)	The location of the AC condenser units have been placed on balconies to provide efficiency rather than a central location.
Objective 4U-3 Adequate natural ventilation minimises the need for mechanical ventilation	Yes
Design guidance	
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	This has been provided where possible

4V Water management and conservation

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria.
Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

Objective 4V-1 Potable water use is minimised	
Design guidance	
Water efficient fittings, appliances and wastewater reuse should be incorporated	This has been provided - refer to BASIX certificate
Apartments should be individually metered	This has been provided
Rainwater should be collected, stored and reused on site	Refer to BASIX certificate and Stormwater report
Drought tolerant, low water use plants should be used within landscaped areas	This has been provided - refer landscape architects drawings

Objective 4V-2 Urban stormwater is treated on site before being discharged to receiving waters	
Design guidance	
Water sensitive urban design systems are designed by a suitably qualified professional	Refer to BASIX certificate and Stormwater report
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	Refer to BASIX certificate and Stormwater report

Objective 4V-3 Flood management systems are integrated into site design	
Design guidance	
Detention tanks should be located under paved areas, driveways or in basement car parks	This has been provided
On large sites parks or open spaces are designed to provide temporary on site detention basins	This has been provided

4W Waste management

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria.
Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

Objective 4W-1 Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents	
Design guidance	
Adequately sized storage areas for rubbish bins should be located discreetly away from the front of the development or in the basement car park	This has been provided at the basement level.
Waste and recycling storage areas should be well ventilated	This has been provided
Circulation design allows bins to be easily manoeuvred between storage and collection points	This has been provided
Temporary storage should be provided for large bulk items such as mattresses	This has been provided
A waste management plan should be prepared	Refer to Waste Management Report.

Objective 4W-2 Domestic waste is minimised by providing safe and convenient source separation and recycling	Yes
Design guidance	
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	This has been provided
Communal waste and recycling rooms are in convenient and accessible locations related to each vertical core	This has been provided
For mixed use developments, residential waste and recycling storage areas and access should be separate and secure from other uses	N/A
Alternative waste disposal methods such as composting should be provided	This has not been provided

4X Building maintenance

Applicant to demonstrate how the proposal achieves the Objectives, and relevant design guidance and criteria.
Where relevant, demonstrate why the design criteria and guidance are not achieved and what alternate approach has been taken to meet the objective.

Objective 4X-1 Building design detail provides protection from weathering	Yes
Design guidance	
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	Slabs on each level overhang with drip edge grooves to protect walls from wandering water.
Objective 4X-2 Systems and access enable ease of maintenance	Yes
Design guidance	
Window design enables cleaning from the inside of the building	This has been provided where possible.
Building maintenance systems should be incorporated and integrated into the design of the building form, roof and facade	This has been not provided
Design solutions do not require external scaffolding for maintenance access	This has been provided
Manually operated systems such as blinds, sunshades and curtains are used in preference to mechanical systems	This has been provided
Centralised maintenance, services and storage should be provided for communal open space areas within the building	This has not been provided
Objective 4X-3 Material selection reduces ongoing maintenance costs	Yes
Design guidance	
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 and finishes are used in locations which receive heavy wear and tear, such as common circulation areas and lift interiors	Sensors have been provided to lighting in common areas. Aluminium batten fence is proposed along the street wall, as well as planting which can prevent graffiti.