DA-2022/714 37-39 Burelli Street Wollongong

Attachment 4 SEPP 65 Apartment Design Guide Compliance Table

Apartment Design Guide

Relevant controls are addressed below. Where the ADG specifies 'design criteria', the table comment is expressed in terms of compliance. Where the ADG provides 'design guidance', the comment indicates whether the proposal is satisfactory.

Standards/controls	*Comment*
Part 3 Siting the development **3D Communal and public open space** *Objective 3D-1* An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping ***Design criteria*** 1. Communal open space has a minimum area equal to 25% of the site (see figure 3D.3) 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)	**Does not comply** Communal open space (COS) is provided on Level 3 in the form of outdoor area. The Level 3 plans indicate an area of 750m^2 is provided. This calculation incudes landscaped areas and equates to 37% of the site area. The COS contains seating, tables, BBQ, planter beds and areas which are covered. Solar access for 2 continuous hours to the main part of the COS would not be achieved. The DRP recommended the proponent consider roof top COS which would overcome solar access challenges, however this has not been implemented in the design. Additionally, the COS would be overlooked by the adjoining office building to the west, missed use building on the northern side of Burelli Street and the car park to the south. This lack of privacy is likely to result in an uninviting space with poor amenity. The COS would also be exposed to wind effects. Safety aspects are compromised as access to the COS is via the internal corridor, rather than directly off the lift lobby. This prevents sightlines to the COS. A significant portion of the COS will not be seen from apartments.

Standards/controls	*Comment*
3E Deep soil zones *Objective 3E-1* Deep soil zones provide areas on the site that allow for and support healthy plant and tree growth. They improve residential amenity and promote management of water and air quality ***Design criteria*** 1. Deep soil zones are to meet the following minimum requirements:	**Does not comply** No deep soil zone is provided. The ADG design guidance acknowledges this may not be appropriate in a CBD setting. It is noted that the southern setbacks do not comply with ADG minimums. The landscape plan shows new trees to be planted on Level 3.

Site area	Minimum dimensions	Deep soil zone (% of site area)
less than 650m²	-	7%
650m² - 1,500m²	3m	
greater than 1,500m²	6m	
greater than 1,500m² with significant existing tree cover	6m	

Standards/controls	*Comment*
3F Visual privacy *Objective 3F-1* Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy ***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	**Does not comply** Habitable rooms and balconies The southern elevation habitable rooms and openings are set back 2.5m (Level 3) and 6m (Levels 4-13) from the boundary, where 6m, 9m and 12m is required. Non-habitable rooms The southern elevation is built to the boundary (Levels Ground-3) where 3m is required. The western elevation (Levels Ground-3) is built to the boundary where 3m is required.

Standards/controls	*Comment*
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 ***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 Bedrooms, living spaces and other habitable rooms should be separated from gallery access and other open circulation space by the apartment's service areas Balconies and private terraces should be located in front of living rooms to increase internal privacy Windows should be offset from the windows of adjacent buildings Recessed balconies and/or vertical fins should be used between adjacent balconies	**Satisfactory** Adequate access to the Level 3 COS area is provided. Where the COS adjoins apartments or private open space, gates, planters or walls have been provided. Balconies are offset or separated by walls.

Standards/controls	*Comment*
3G Pedestrian access and entries *Objective 3G-1* Building entries and pedestrian access connects to and addresses the public domain ***Design guidance*** Multiple entries (including communal building entries and individual ground floor entries) should be provided to activate the street edge Entry locations relate to the street and subdivision pattern and the existing pedestrian network Building entries should be clearly identifiable and communal entries should be clearly distinguishable from private entries Where street frontage is limited and multiple buildings are located on the site, a primary street address should be provided with clear sight lines and pathways to secondary building entries	**Unsatisfactory** Budling access was raised by the DRP. The only building access (lobby) is via Corrimal Street, which is not the dominant pedestrian route past the site. The proposed Corrimal Street entrance is exposed to impacts of vehicular traffic and does not take advantage of existing pedestrian movement patterns past the adjoining Council building, bus zone, Centrelink building and arts precinct. This limits activation of the street edge and is compounded by the entrance to the commercial tenancy in Burelli Street being elevated. Commercial tenancies are directly accessible via their shop front and no commercial lobby is provided. The applicant has indicated the terrace and alfresco area is to remain exclusive to the tenant of commercial space one.
Objective 3G-2 Access, entries and pathways are accessible and easy to identify ***Design guidance*** Building access areas including lift lobbies, stairwells and hallways should be clearly visible from the public domain and communal spaces The design of ground floors and underground car parks minimise level changes along pathways and entries Steps and ramps should be integrated into the overall building and landscape design For large developments 'way finding' maps should be provided to assist visitors and residents (see figure 4T.3) For large developments electronic access and audio/video intercom should be provided to manage access	**Unsatisfactory** The ground level includes separate entrances to two commercial premises and a main entrance lobby for residents, with each entrance raised from the street level by 1.1m creating a podium. The raised podium entrances create a challenging interface to the street and present DDA issues as separate entries have been provided for those less mobile or disabled. The main entrance to the residential lobby consists of a stair at the boundary line with 5x risers leading directly to the lift lobby. Another entrance is located to the north of the stair and this consists of a very narrow pedestrian access ramp with switchback. This ramp is located externally and extends deep into the building. The ramp, fire egress path to the commercial carpark, and main entrance is hidden from the street by a boundary wall and full-height vertical

Standards/controls	*Comment*
	louvre screening. This stair and ramp arrangement is inefficient, creates hiding spaces, does not incorporate natural overlooking, and due to the separate entrance paths from boundary line does not provide equitable access. Commercial Space 1 has two entrances being a corner stair entrance, and a separate secondary entrance with a platform lift only. The secondary entrance is hidden from view of the main entrance stair by a terrace level and planter boxes and is positioned directly adjacent to the vehicular entrance. The secondary entrance does not provide equal access or dignified entrance to the building, and therefore does not comply with DDA requirements.
3H Vehicle access *Objective 3H-1* Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes ***Design guidance*** Car park access should be integrated with the building's overall facade. Design solutions may include: • the materials and colour palette to minimise visibility from the street • security doors or gates at entries that minimise voids in the facade • where doors are not provided, the visible interior reflects the facade design and the building services, pipes and ducts are concealed	**Unsatisfactory** The vehicle access point is consistent with Transport for NSW requirements. However, the crossing is not perpendicular to the street and requires an extended crossover, which is likely to present some confusion for the visually impaired.

Standards/controls	*Comment*
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 ***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	**Satisfactory** The minimum required number of parking spaces has been provided. However, the development incorporates additional residential car parking, and whilst this is accounted for in floor space ratio calculations, it is questionable whether surplus parking is appropriate on a site in the CBD with close proximity to public transport.
Objective 3J-2 Parking and facilities are provided for other modes of transport ***Design guidance*** Conveniently located and sufficient numbers of parking spaces should be provided for motorbikes and scooters Secure undercover bicycle parking should be provided that is easily accessible from both the public domain and common areas Conveniently located charging stations are provided for electric vehicles, where desirable	**Satisfactory** The minimum required parking has been provided. Details of electric charging facilities have not been provided, however sufficient space for communal charging facilities should be achievable in the location of surplus parking.

Standards/controls	*Comment*
3J Bicycle and car parking *Objective 3J-3* Car park design and access is safe and secure ***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 Direct, clearly visible and well lit access should be provided into common circulation areas A clearly defined and visible lobby or waiting area should be provided to lifts and stairs For larger car parks, safe pedestrian access should be clearly defined and circulation areas have good lighting, colour, line marking and/or bollards	**Satisfactory** Compliance with the Building Code of Australia/National Construction Code is required. Lift lobbies are provided.

Standards/controls	*Comment*
Objective 3J-4 Visual and environmental impacts of underground car parking are minimised	**Satisfactory** Façade treatment at the driveway entrance is acceptable .
Design guidance	
Excavation should be minimised through efficient car park layouts and ramp design	
Car parking layout should be well organised, using a logical, efficient structural grid and double loaded aisles	
Protrusion of car parks should not exceed 1m above ground level. Design solutions may include stepping car park levels or using split levels on sloping sites	
Natural ventilation should be provided to basement and sub basement car parking areas	
Ventilation grills or screening devices for car parking openings should be integrated into the facade and landscape design	
Objective 3J-6 Visual and environmental impacts of above ground enclosed car parking are minimised	**Unsatisfactory** The development proposes three levels of above ground parking, including at Ground level. It has not been demonstrated that the site constraints prevent all parking to be in basement levels. The applicant's decision to place parking at Ground level has created a raised podium, with associated accessibility and public domain impacts. It has not been demonstrated why Basement level 2 cannot be extended to accommodate parking spaces currently located on Levels 1 and 2.
Design guidance	
Exposed parking should not be located along primary street frontages	
Screening, landscaping and other design elements including public art should be used to integrate the above ground car parking with the facade. Design solutions may include: • car parking that is concealed behind the facade, with windows integrated into the overall facade design (approach should be limited to developments where a larger floor plate podium is suitable at lower levels) • car parking that is 'wrapped' with other uses, such as retail, commercial or two storey Small Office/Home Office (SOHO) units along the street frontage (see figure 3J.9)	
Positive street address and active frontages should be provided at ground level	
4A Solar and daylight access	

Standards/controls	*Comment*
Objective 4A-1 To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space ***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 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 3. A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid winter	**Complies** 72% of apartments achieve the required minimum solar access. All apartments receive the required minimum sunlight. The two storey apartments do not receive direct sunlight due to their recessed balcony. An alternative apartment design would avoid this outcome and provide greater amenity to residents.

Standards/controls	*Comment*
Objective 4A-2 **Daylight access is maximised where sunlight is limited** ***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 Where courtyards are used : • use is restricted to kitchens, bathrooms and service areas • building services are concealed with appropriate detailing and materials to visible walls • courtyards are fully open to the sky • access is provided to the light well from a communal area for cleaning and maintenance • acoustic privacy, fire safety and minimum privacy separation distances (see section 3F Visual privacy) are achieved Opportunities 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	**Satisfactory**

Standards/controls	*Comment*
Objective 4A-3 Design incorporates shading and glare control, particularly for warmer months ***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)	**Satisfactory** Balconies, louvres and awnings are employed and result in adequate glare control. However, full height glazing is not considered an optimal outcome due to sustainability, maintenance, summer heat gain requiring mechanical ventilation and lack of privacy for residents.
4B Natural ventilation	
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 Depths of habitable rooms support natural ventilation The area of unobstructed window openings should be equal to at least 5% of the floor area served Light wells are not the primary air source for habitable rooms Doors and openable windows maximise natural ventilation opportunities by using 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	**Satisfactory** The applicant's ventilation report relies upon a qualitative analysis of ventilation for the two-storey apartments. The report concludes 74% of total apartments would be cross-ventilated.

Standards/controls	*Comment*
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) 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	**Satisfactory** The applicant's ventilation report relies upon a qualitative analysis of ventilation for the two-storey apartments.
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 2. Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line	**Complies** The applicant's ventilation report relies upon a qualitative analysis of ventilation for the two-storey apartments.

Standards/controls	*Comment*
4C Ceiling heights ***Objective 4C-1*** Ceiling height achieves sufficient natural ventilation and daylight access ***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	**Complies** Ceiling heights are adequate.
Objective 4C-2 Ceiling height increases the sense of space in apartments and provides for well proportioned rooms ***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	**Satisfactory**

Standards/controls	*Comment*
Objective 4C-3 **Ceiling heights contribute to the flexibility of building use over the life of the building** ***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)	**Satisfactory** Commercial tenancies have a ceiling height of 3.7m. The Ground floor ceiling height is 4.5m.
4D Apartment size and layout	
Objective 4D-1 **The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity** ***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 2. Every habitable room must have a window in an external wall with a total minimum glass area of not less than 10% of the floor area of the room. Daylight and air may not be borrowed from other rooms	**Complies** Apartment layouts meet ADG minimum requirements.

Standards/controls	*Comment*
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 2. In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window	**Complies** Dimensions comply with ADG requirements.
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) 2. Bedrooms have a minimum dimension of 3m (excluding wardrobe space) 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 4. The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts	**Complies** Dimensions comply with ADG requirements.

Standards/controls	*Comment*
4E Private open space and balconies	
Objective 4E-1 **Apartments provide appropriately sized private open space and balconies to enhance residential amenity**	**Complies** Dimensions comply with ADG requirements.
Design criteria	
1. All apartments are required to have primary balconies as follows: The minimum balcony depth to be counted as contributing to the balcony area is 1m	
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	
Objective 4E-2 **Primary private open space and balconies are appropriately located to enhance liveability for residents**	**Satisfactory** POS meets ADG requirements.
Design guidance	
Primary open space and balconies should be located adjacent to the living room, dining room or kitchen to extend the living space	
Private open spaces and balconies predominantly face north, east or 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	

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

Standards/controls	*Comment*
Objective 4E-3 **Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building**	**Satisfactory** POS meets ADG requirements.
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	
Full width full height glass balustrades alone are generally not desirable	
Projecting balconies should be integrated into the building design and the design of soffits considered	
Operable screens, shutters, hoods and pergolas are used to control sunlight and wind	
Balustrades are set back from the building or balcony edge where overlooking or safety is an issue	
Downpipes and balcony drainage are integrated with the overall facade and building design	
Air-conditioning units should be located on roofs, in basements, or fully integrated into the building design	
Where clothes drying, storage or air conditioning units are located on balconies, they should be screened and integrated in the building design	
Ceilings of apartments below terraces should be insulated to avoid heat loss	
Water and gas outlets should be provided for primary balconies and private open space	
Objective 4E-4 **Private open space and balcony design maximises safety**	**Satisfactory** POS meets ADG requirements.
Design guidance	
Changes in ground levels or landscaping are minimised	
Design and detailing of balconies avoids opportunities for climbing and falls	

Standards/controls	*Comment*
4F Common circulation and spaces ***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 2. For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40	**Does not comply** Level 1 has 15 apartments accessing the single circulation core. Compliance could be achieved by inverting 8 of the apartments so that their door was located on Level 2. The Level 1 corridor is long and narrow and does not have a continuous line of sight. Corridors exceed the maximum 12m length requirement.
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 Tight corners and spaces are avoided Circulation spaces should be well lit at night Legible signage should be provided for apartment numbers, common areas and general wayfinding Incidental spaces, for example space for seating in a corridor, at a stair landing, or near a window are provided 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 Where external galleries are provided, they are more open than closed above the balustrade along their length	**Unsatisfactory** The Level 1 corridor is long and without a clear line of sight. No incidental spaces have been provided.

Standards/controls	*Comment*
4G Storage	
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	**Complies** A storage schedule has been provided which shows storage in excess of minimum requirements.
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 Storage is provided for larger and less frequently accessed items Storage space in internal or basement car parks is provided at the rear or side of car spaces or in cages so that allocated car parking remains accessible If communal storage rooms are provided they should be accessible from common circulation areas of the building Storage not located in an apartment is integrated into the overall building design and is not visible from the public domain	**Satisfactory** Additional storage is provided in the basement levels.

Standards/controls	*Comment*
4H Acoustic privacy ***Objective 4H-1*** Noise transfer is minimised through the siting of buildings and building layout ***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) Window and door openings are generally orientated away from noise sources 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 Storage, circulation areas and non-habitable rooms should be located to buffer noise from external sources The number of party walls (walls shared with other apartments) are limited and are appropriately insulated 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	**Satisfactory** Noise transmission between apartments is satisfactory. However, apartments and the communal open space area are expected to be impacted by road noise. Compliance with acoustic limits detailed in SEPP Transport and Infrastructure 2021 is required.

Standards/controls	*Comment*
Objective 4H-2 **Noise impacts are mitigated within apartments through layout and acoustic treatments** ***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 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	**Satisfactory** Council's environment officer has considered the potential acoustic impacts and has no objection.

Standards/controls	*Comment*
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 ***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	**Unsatisfactory** The site is located on a classified road and near a bus zone. It is likely that buses will queue with idling engines, and this potential noise impact has not been considered by the applicant's acoustic consultant. Additional adverse impacts of vehicle emissions combine to make this a hostile location for apartments. It is questionable whether residential uses at podium level are appropriate.
Objective 4J-2 Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission ***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	**Unsatisfactory** The impacts of traffic and bus idling has not been identified by the applicant as a constraint.

Standards/controls	*Comment*
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** ***Design guidance*** A variety of apartment types is provided 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 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	**Unsatisfactory** No 3 bedroom apartments have been provided, which is not supported.
Objective 4K-2 **The apartment mix is distributed to suitable locations within the building** ***Design guidance*** Different apartment types are located to achieve successful facade composition and to optimise solar access (see figure 4K.3) 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	Satisfactory

Standards/controls	*Comment*

4L Ground floor apartments

Objective 4L-1

Street frontage activity is maximised where ground floor apartments are located

Design guidance

Direct street access should be provided to ground floor apartments

Activity is achieved through front gardens, terraces and the facade of the building. Design solutions may include:

- both street, foyer and other common internal circulation entrances to ground floor apartments
- private open space is next to the street
- doors and windows face the street

Retail or home office spaces should be located along street frontages

Ground floor apartment layouts support small office home office (SOHO) use to provide future opportunities for conversion into commercial or retail areas. In these cases provide higher floor to ceiling heights and ground floor amenities for easy conversion

Objective 4L-2

Design of ground floor apartments delivers amenity and safety for residents

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

Solar access should be maximised through:

- high ceilings and tall windows
- trees and shrubs that allow solar access in winter and shade in summer

Standards/controls	*Comment*
4M Facades	
Objective 4M-1 **Building facades provide visual interest along the street while respecting the character of the local area**	**Satisfactory** The existing prevailing character is mixed residential /commercial.
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	
Building services should be integrated within the overall facade	
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	
Building facades relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights	
Shadow is created on the facade throughout the day with building articulation, balconies and deeper window reveals	
Objective 4M-2 **Building functions are expressed by the facade**	**Satisfactory**
Design guidance	
Building entries should be clearly defined	
Important corners are given visual prominence through a change in articulation, materials or colour, roof expression or changes in height	
The apartment layout should be expressed externally through facade features such as party walls and floor slabs	

Standards/controls	*Comment*
4N Roof design ***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 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	**Satisfactory** The roof level includes screening to plant areas.
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 Open space is provided on roof tops subject to acceptable visual and acoustic privacy, comfort levels, safety and security considerations	**Unsatisfactory** The DRP and Council's architect recommended that COS be located on the roof where overlooking, overshadowing, and impacts from road activity would be minimised. This has not been adopted by the applicant.

Standards/controls	*Comment*
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 Skylights and ventilation systems should be integrated into the roof design	**Satisfactory** Solar photo voltaics are provided.
4O Landscape design ***Objective 4O-1*** **Landscape design is viable and sustainable** ***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 Ongoing maintenance plans should be prepared Microclimate is enhanced by: • appropriately scaled trees near the eastern and western elevations for shade • a balance of evergreen and deciduous trees to provide shading in summer and sunlight access in winter • shade structures such as pergolas for balconies and courtyards Tree and shrub selection considers size at maturity and the potential for roots to compete (see Table 4)	**Satisfactory** It remains to be seen whether the proposed landscape design will be sustainable in the long term, due to the harsh microclimate at this location.

Standards/controls	*Comment*
Objective 4O-2 **Landscape design contributes to the streetscape and amenity** ***Design guidance*** Landscape design responds to the existing site conditions including: • changes of levels • views • significant landscape features including trees and rock outcrops Significant landscape features should be protected by: • tree protection zones (see figure 4O.5) • appropriate signage and fencing during construction Plants selected should be endemic to the region and reflect the local ecology	Landscaped planters are unlikely to be sustainable at this location due to the harsh microclimate created by the design. Further consideration and shielding is likely required. Plant selections need to be considered for tolerance of low levels of sunlight and for intense wind exposure.
4P Planting on structures ***Objective 4P-1*** Appropriate soil profiles are provided ***Design guidance*** Structures are reinforced for additional saturated soil weight Soil volume is appropriate for plant growth, considerations include: • modifying depths and widths according to the planting mix and irrigation frequency • free draining and long soil life span • tree anchorage Minimum soil standards for plant sizes should be provided in accordance with Table 5	

Standards/controls	*Comment*
Objective 4P-2 **Plant growth is optimised with appropriate selection and maintenance** ***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 A landscape maintenance plan is prepared Irrigation and drainage systems respond to: • changing site conditions • soil profile and the planting regime • whether rainwater, stormwater or recycled grey water is used	**Satisfactory** An existing street tree is proposed to be removed. Additional street trees are to be installed.
Objective 4P-3 **Planting on structures contributes to the quality and amenity of communal and public open spaces** ***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	**Satisfactory**

Standards/controls	*Comment*
4Q Universal design	
Objective 4Q-1 Universal design features are included in apartment design to promote flexible housing for all community members ***Design guidance*** Developments achieve a benchmark of 20% of the total apartments incorporating the Livable Housing Guideline's silver level universal design features	**Satisfactory** 7 apartments are identified as Liveable standard plus 8 are adaptable, thereby totalling 15 apartments.
Objective 4Q-2 A variety of apartments with adaptable designs are provided ***Design guidance*** Adaptable housing should be provided in accordance with the relevant council policy Design solutions for adaptable apartments include: • convenient access to communal and public areas • high level of solar access • minimal structural change and residential amenity loss when adapted • larger car parking spaces for accessibility • parking titled separately from apartments or shared car parking arrangements	**Satisfactory**
Objective 4Q-3 Apartment layouts are flexible and accommodate a range of lifestyle needs ***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	**Satisfactory**

Standards/controls	*Comment*
4S Mixed use	
Objective 4S-1 Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement	**Unsatisfactory** Blank walls are provided to ground level, which creates adverse laneway impacts. Two commercial spaces are provided at ground level, however these are accessed from a raised podium restricting accessibility. The site is suitable for the mixed-use development typology being proposed.
Design guidance	
Mixed use development should be concentrated around public transport and centres	
Mixed use developments positively contribute to the public domain. Design solutions may include: • development addresses the street • active frontages are provided • diverse activities and uses • avoiding blank walls at the ground level • live/work apartments on the ground floor level, rather than commercial	
Objective 4S-2 Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents	**Unsatisfactory** Refer 3C-2
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	
Landscaped communal open space should be provided at podium or roof levels	

Standards/controls	*Comment*
4T Awnings and signage ***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 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 Awnings should be located over building entries for building address and public domain amenity Awnings relate to residential windows, balconies, street tree planting, power poles and street infrastructure Gutters and down pipes should be integrated and concealed Lighting under awnings should be provided for pedestrian safety	**Unsatisfactory** Street awnings have been provided; however, the Burelli Street awning does not overhang the street, and does not provide suitable pedestrian amenity as it has been curved back towards the building. Also, a raised terrace has been included which means amenity benefits of providing an awning are not achieved. As Burelli Street is the predominant pedestrian path of travel this is unfortunate. The awning also does not extend to the boundary edge to the south along Corrimal Street.
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 Legible and discrete way finding should be provided for larger developments Signage is limited to being on and below awnings and a single facade sign on the primary street frontage	**Satisfactory**

Standards/controls	*Comment*
4U Energy efficiency	
Objective 4U-1 Development incorporates passive environmental design ***Design guidance*** Adequate natural light is provided to habitable rooms (see 4A Solar and daylight access) Well located, screened outdoor areas should be provided for clothes drying	**Satisfactory**
Objective 4U-2 Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer ***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 Provision of consolidated heating and cooling infrastructure should be located in a centralised location (e.g. the basement)	**Satisfactory** Air condition plant is located externally on each level and screened in a louvred wall.
Objective 4U-3 Adequate natural ventilation minimises the need for mechanical ventilation ***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	**Satisfactory**

Standards/controls	*Comment*
4V Water management and conservation	
Objective 4V-1 Potable water use is minimised ***Design guidance*** Water efficient fittings, appliances and wastewater reuse should be incorporated Apartments should be individually metered Rainwater should be collected, stored and reused on site Drought tolerant, low water use plants should be used within landscaped areas	**Satisfactory** Two small capacity water tanks has been provided at the COS plant room on Level 3 presumably for landscape use, however this is an above-ground tank and could be incorporated into the basement. No consideration of water reuse is otherwise apparent, and consideration to rainwater use on WC's should be made.
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 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	**Satisfactory** As the development has 100% site coverage, no WSUD features have been incorporated.
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 On large sites parks or open spaces are designed to provide temporary on site detention basins	**Unsatisfactory** Rainwater detention tanks should be located under driveways or in basement areas. In the proposed design a flood plenum is proposed, however this has significant effects on the building design by requiring a raised podium level and with attached accessibility issues.

Standards/controls	*Comment*
4W Waste management ***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 Waste and recycling storage areas should be well ventilated Circulation design allows bins to be easily manoeuvred between storage and collection points Temporary storage should be provided for large bulk items such as mattresses A waste management plan should be prepared	**Unsatisfactory** On street waste bin collection is proposed for residential bins. Commercial collection would occur inside the building at parking areas on Ground level. On street collection is not considered acceptable due to the limited space available between traffic lights, street corner and the vehicular driveway, the frequency of pickup required, the busy pedestrian footpath use at the location, and the current existing use of buses idling at the proposed pickup location point. A dedicated residential waste room and collection point must be provided.
Objective 4W-2 Domestic waste is minimised by providing safe and convenient source separation and recycling ***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 Communal waste and recycling rooms are in convenient and accessible locations related to each vertical core For mixed use developments, residential waste and recycling storage areas and access should be separate and secure from other uses Alternative waste disposal methods such as composting should be provided	**Unsatisfactory** The applicant's waste consultant initially proposed compaction of both general waste and recycling , however Council does not support compaction of recycling due to difficulties removing the crushed recycled material from bins. The scheme does not appear to accommodate a FOGO system.

Standards/controls	*Comment*
4X Building maintenance ***Objective 4X-1*** Building design detail provides protection from weathering ***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	**Satisfactory** External finishes are generally pre-finished and the balcony design will assist in keeping water from facades.
Objective 4X-2 Systems and access enable ease of maintenance ***Design guidance*** Window design enables cleaning from the inside of the building Building maintenance systems should be incorporated and integrated into the design of the building form, roof and facade Design solutions do not require external scaffolding for maintenance access Manually operated systems such as blinds, sunshades and curtains are used in preference to mechanical systems Centralised maintenance, services and storage should be provided for communal open space areas within the building	**Unsatisfactory** It is assumed that abseiling will be required to clean full-height windows. There is a sub-level included for flood capture, however the flood capture level is accessed from behind stairs, is approximately 1m in height, and access to the concealed space appears minimal. It is likely that this area could become an area for debris to collect, and a place for vermin to thrive. There is also potential for debris lodged behind the entrance stair to wash-back to Corrimal Street, obstructing the stair.
Objective 4X-3 Material selection reduces ongoing maintenance costs ***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	**Satisfactory** Materials appear to be resilient.

Standards/controls	*Comment*