



DORAN DRIVE PRECINCT

MIXED USE DEVELOPMENT

2 MANDALA PARADE, CASTLE HILL NSW 2154

ARCHITECTURAL STATEMENT DEVELOPMENT APPLICATION SUBMISSION

INCORPORATING:
SEPP 65 AND THE APARTMENT
DESIGN GUIDE

19TH JULY 2021
REVISION H



TURNER

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Proposed concept design - View from North West from metro station

This Architectural Statement and SEPP65 Design verification response is prepared by Turner on behalf of Deicorp Projects Showgrounds Pty Ltd, to support the detailed design development and construction of the Development Application at 2 Mandala Parade, Castle Hill, known as Doran Drive Precinct. This report is to be read in conjunction with the Design Integrity Report, Design Excellence Report and Architectural drawing package.

The proposal consists of four residential towers above a highly articulated podium containing retail units, a supermarket, entry lobbies, loading facilities and community spaces. As a mixed-use development it provides 430 residential dwellings and 10935sqm of non-residential uses. The proposal also delivers the new publicly accessible Doran Drive Plaza, which forms the active heart of the precinct.

The proposal has been developed in collaboration with a comprehensive consultant team to address both strategic and detailed issues associated with the site and overall context.

The project has been the subject to a design integrity process throughout the design development period which requires a review by the Government Architect NSW (State Design Review Panel) to ensure design excellence principles and objectives are realised.

This report is intended to be read in conjunction with the approved Concept State Significant Development Application (SSD-9653), MOD approval for commercial car parking dated 10.12.21, the architectural drawings prepared by Turner, landscape drawings prepared by Urbis and the Environmental Impact Statement with appendices prepared by Gyde.

2. DESIGN QUALITY PRINCIPLES



Proposed concept design - View from North East from De Clambe Drive

SEPP65 Design Verification

We confirm that James McCarthy has directed the DA design and documentation of the project.

The design has been prepared in accordance with the design quality principles set out in Part 2 of State Environmental Planning Policy No 65 - Design Quality of Residential Flat Development.

James McCarthy is a registered architect under the NSW Architects Act 2003, registration number 10759.

James McCarthy
Director at Turner
Registered Architect 10759

Design Quality Principle 1**CONTEXT AND NEIGHBORHOOD CHARACTER**

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

Responding to context involves identifying the desirable elements of an area's existing or future character. Well-designed buildings respond to and enhance the qualities and identity of the area including the adjacent sites, streetscape and neighbourhood. Consideration of local context is important for all sites, including sites in established areas, those undergoing change or identified for change.

The future vision for the Hills Showground Station Precinct anticipates an intensification of residential development around the Hills Showground Station. The Doran Drive Precinct will provide a variety and mix of housing choice, a publicly accessible plaza providing greenery within the ground plane with 50% canopy coverage and a mix of retail/commercial uses directly adjacent to the metro station. Collectively this will form the active heart of the precinct as a vibrant, activated centre, connecting the existing and future communities in the surrounding neighbourhoods. This aligns with the approved concept State Significant Development Application (SSD-9653) and Urban Design Guidelines, with further detail within the Urban Design Report.

The success of the mixed-use development will be driven by the meaningful activation of the primary streetscapes, and the permeability of the retail thresholds. The design team welcomes and fully embraces this design principle, which has shaped the current proposal. The previous suburban, single use, and car focused urban character is being reimagined as a more dynamic urban renewal centre with high amenity and generous parks, plazas and green links.

Located to the west of the Precinct, the Doran Drive Plaza is a place for the community to come together. It provides a green arrival from the metro station as well as a large open space area capable of hosting community events, along with daily recreation and respite.

Design Quality Principle 2**BUILT FORM & SCALE**

Good design also achieves an appropriate built form for a site and the building's purpose in terms of building alignments, proportions, building type, articulation and the manipulation of building elements.

Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook.

The design team acknowledges the importance of an appropriate scale and built form to the lower levels, and for meaningful activation of the streetscapes. The podium base avoids a single big box retail solution and has been designed as series of smaller scale buildings, ranging from two to four storeys, that are varied in character. Their palette is made up of a variety of brick colours that offer a robust, high quality and low maintenance finish. Collectively, this grouping of buildings creates a dynamic, fine-grain, and interesting street interface. This supports the future character of the precinct as outlined within the approved concept State Significant Development Application (SSD-9653) and Urban Design Guidelines.

The four towers anchor the corners of the development, with the south-east and north-west towers either integrated or set back from the podium base. These diagonally opposite towers have a strong horizontal emphasis in their façade design and building character.

As part of the desired diversity of architectural language and built form, the north-east and south-west towers are partly brought to ground. This gives a strong street identity, marks the primary entries to the precinct, and emphasises the vertical slender proportions of these two buildings. While both these towers are still partly wrapped by the podium, this varied approach to built form avoids the homogenous outcome of a continuous dominant podium with towers completely dislocated from the street below.

Design Quality Principle 3**DENSITY**

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

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

The Hills Showgrounds Station Precinct will contribute significantly in achieving the government's objectives to deliver more housing in new mixed-use communities close to public transport. As part of the North West Priority Growth Area, The Hills Showgrounds Station Precinct is well positioned to provide new homes, jobs, services and amenities, being strategically located along Metro North West Line with excellent access to employment. The result of this density is increased active street frontages, as per the approved concept State Significant Development Application (SSD-9653) and Urban Design Guidelines, and further elaborated on within the Urban design Report.

The catalyst for renewal is the new metro station, a key part of delivering the increased connectivity that will make the wider community part of the 30-minute city, connecting to opportunities for jobs, services, education and recreation. As part of the North West Priority Growth Area, The Hills Showgrounds Station Precinct is set within a context that is evolving from a car focused, low density, suburban character, to a new vibrant mixed use and pedestrian focused community, which will continue to grow and evolve into the future. Therefore, the quantum and types of housing, services and amenities provided should be diverse and flexible, allowing evolution over time to meet the needs of the growing and changing population.

The Doran Drive Precinct will allow new housing to be provided within its evolving context, with increased services, employment and recreational opportunities to support the needs of a growing community.

Doran Drive Precinct will provide 430 new residential dwellings, a publicly accessible plaza in excess of 1400 sqm and a wide mix of non-residential uses to create a true mixed-use village centre immediate adjacent to the metro station.

The proposed mix shows a diversity of 1 bed , 2 bed, and 3 bed [10%] apartments. Within these apartment types, there is a range of size and layouts that offer choice and amenity.

Large north facing family friendly 3bed apartment types are located in Buildings A & C overlooking the verdant context of the showgrounds. A large two storey townhouse typology is located along Andalusian Way that adds further to the housing diversity.

Design Quality Principle 4

SUSTAINABILITY

Good design combines positive environmental, social and economic outcomes. Good sustainable design includes use of natural cross ventilation and sunlight for the amenity and liveability of residents and passive thermal design for ventilation, heating and cooling reducing reliance on technology and operation costs. Other elements include recycling and reuse of materials and waste, use of sustainable materials, and deep soil zones for groundwater recharge and vegetation.

The Doran Drive Precinct is designed with sustainable initiatives to contribute positively to the environmental, social and economic aspects of the area as a green neighbourhood with great amenity. Arup have led the sustainable focus within the design team, identifying a series of Ecologically Sustainable Design (ESD) principles throughout the design process. Refer to Arup's report for further detail.

Sustainable Transport and Movement

The existing infrastructure of new streets and laneways within The Hills Showgrounds Station Precinct provide a high level of connection to the surrounding context. This is further amplified within the Doran Drive Precinct through the pedestrian connectivity included within the proposed retail component of the mixed-use development, as well as along the western edge, adjacent to the proposed publically accessible Doran Drive Plaza. Pedestrians and cyclists are prioritised with the establishment of a finer grain network of links, drawing people to the main open spaces and to the metro station. Doran Drive Plaza has been designed as a flexible public space that acts as an extension of the new dining precinct along its east edge, as a public transport hub for buses servicing the adjoining metro, as a green space with significant tree coverage, for art, and for other community uses such as markets, etc.

Reduce the Heat Island Effect

The provision of public infrastructure that increases the public domain through new open spaces, and meaningful landscape interventions provides for green photosynthetic infrastructure such as street trees and parks. The extensive canopy cover will provide respite from the heat of the summer sun and will shade the streets to reduce the effects of the urban heat island effect. The types and diversity of species provided support flora and fauna. The proposal achieves the deep soil and open space recommendations of the ADG and in doing so will provide a variety of open space and landscaped areas to enhance the overall amenity for the residents and assist in mitigating the heat island effect. Materials within the public domain and roof tops have been chosen to mitigate Heat Island Effect, in line with best practice design principles.

Stormwater

Incorporation of water sensitive urban design (WSUD) features will contribute to a green and resilient urban environment.

Reduce Resource Consumption

Passive design principles optimise natural daylighting and solar access to primary internal and external areas. Energy efficient appliances and water efficient devices will be specified to comply with BASIX requirements to minimise water consumption and resources. On-site energy generation will also contribute to reduce resource consumption.

Design Quality Principle 5**LANDSCAPE**

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

Good landscape design enhances the development's environmental performance by retaining positive natural features which contribute to the local context, co-ordinating water and soil management, solar access, micro-climate, tree canopy, habitat values, and preserving green networks. Good landscape design optimises usability, privacy and opportunities for social interaction, equitable access, respect for neighbours' amenity, provides for practical establishment and long-term management.

The Doran Drive Precinct is structured around a series of interconnected new open spaces as an extension of the broader Green Grid. A diverse network of open spaces make a more connected place.

A high performing public domain provides amenity and comfort for all users. The public domain strategy utilises and leverages the topography of the site to create a site-specific response that delivers a large publicly accessible plaza and a activated and permeable streetscape.

Private open space typologies provide increased greenery and amenity, connecting people to nature. Rooftop gardens on buildings increase communal access to open space and provide additional typologies to the open space network. Enhanced amenity is provided due to their location, including improved solar access and district views aligning with the approved concept State Significant Development Application (SSD-9653) and Urban Design Guidelines.

Refer to Landscape Design Report by Urbis for further detail.

Design Quality 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, and ease of access for all age groups and degree of mobility.

The proposal has been designed in line with the objectives and principles of the Apartment Design Guide (ADG), the requirements of the National Construction Code (NCC), and the approved concept State Significant Development Application (SSD-9653) and Urban Design Guidelines, among others.

The NSW Government Architect's 'Better Placed' document has informed the development of a number of strategies to ensure that the future natural and built environment will be healthy, responsive, integrated, equitable and resilient. Health and well-being are prioritised by providing open space access to both residents and the community. The extensive tree canopy coverage strategy creates a highly landscaped environment that connects people to nature and at a broader scale connects to the regional Green Grid.

The hierarchy of open spaces range from the publicly accessible Plaza at the arrival to the precinct, to the communal podium level gardens, and to a series of more intimate communal rooftop terraces. Each of these spaces have been orientated to maximise solar access and district views. The high performing and activation ready public domain and non-residential uses supports the everyday experience through active frontages, a pedestrian scale, diversity in materials, and finer grain of the urban and built form.

The diversity of housing typologies and layouts, including two-storey terraces, adaptable and livable apartments, and affordable housing, provides housing choice and equitable access to services and amenities. The proposed built form and dwellings satisfies SEPP65 and the Apartment Design Guide's objectives for building separation, apartment sizes, floor to ceiling heights, solar access, natural ventilation, and communal open space, among others.

Design Quality Principle 7

SAFETY

Good design optimises safety and security, within the development and the public domain. It provides for quality public and private spaces that are clearly defined and fit for the intended purpose. Opportunities to maximise passive surveillance of public and communal areas promote safety.

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

Doran Drive Precinct is designed to be a welcoming and safe place for people to live and visit. Direct, legible and safe movement for all users is provided with a focus on pedestrian priority across the precinct. Loading and service areas are designed to be consolidated and discrete, minimising the potential for conflict between users.

A physically well-connected neighbourhood

As a pedestrian priority environment, the proposal has carefully integrated ground level permeability. Safe movement, good connections and access are provided through public places that provide well defined routes and clear sightlines (day and night) so residents and visitors can see and be seen.

Well defined public and private spaces

Urban and built form elements, shaped by the open space and public domain configuration, promote a diversity of built form responses and clear definition of the public domain. Buildings define the public domain, reinforcing sightlines and strengthening views to and from key spaces, internal and external, allowing good passive surveillance.

Improved surveillance of public spaces.

Visibility and surveillance of the public environment is maximised by providing public places that are overlooked from adjoining buildings, for 'eyes on the street' or 'natural surveillance'. Ground level retail, dining, community uses, and residential lobbies, and living areas within the neighbourhood streets provide for good activation and connectivity – both physically and visually – with the street network and public domain.

Creating a sense of ownership

Clearly defined private and public space improve public safety and will encourage residents to take responsibility and pride in places they use and inhabit.

Management and maintenance

Attractive public places will encourage use of the spaces, a sense of ownership and improve people's perception of how safe a place is. This in-turn supports their desire to continue to occupy and use those places.

Design Quality Principle 8
HOUSING DIVERSITY & SOCIAL INTERACTION

Good design achieves a mix of apartment sizes, providing housing choice for different demographics, living needs and household budgets.

Well-designed apartment developments respond to social context by providing housing and facilities to suit the existing and future social mix. Good design involves practical and flexible features, including different types of communal spaces for a broad range of people, providing opportunities for social interaction amongst residents.

Doran Drive Plaza provides a diversity of housing typologies and uses that includes 430 dwellings and wide range of non-residential uses. Retail, employment and service opportunities are provided next to the metro station with the proposed publically accessible Doran Drive Plaza defining identity and legibility as the new centre.

Dwellings accommodate a range of types and sizes (1 bed, 2 bed and 3 bed apartments), allowing a variety of options for different demographics and price points to support housing diversity and affordability. A range of housing types are proposed including two storey terrace apartments, adaptable and liveable apartments, affordable housing, and market housing. All blocks contain a mix of housing types, as well as satisfy considerations for ground level activation, relationship to context, and solar access provisions to public, communal, and private open space.

Within the buildings, communal open spaces have been designed to engender community spirit for residents by offering a variety of open spaces including areas for groups to meet and socialise and also for more quiet individual activities. All common areas are designed for equitable access.

The orientation of buildings and apartments have been designed to leverage outlook onto the new public domain as well as district views to connect residents to nature. A diversity of character and architectural language provides a rich and diverse character. All apartments meet or exceed the minimum apartment size recommendations of the ADG and are designed with open plan layouts for ease of furnishing. Apartment layouts have been developed to maximise the number of north facing units and units with street and district views.

Design Quality Principle 9**AESTHETICS**

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

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

The locality is comprised of a mixture of existing residential buildings, low to medium residential and single dwellings, with the future vision of the area zoned to encourage an increased scale of higher density residential development adjacent to the Metro station. The proposal is designed with a number of different architectural strategies in order to achieve a well-balanced aesthetic and an appropriate presence across the site. The resulting dynamic streetscape complimented by the diversity in tower articulation, reinforce objectives highlighted within the approved concept State Significant Development Application (SSD-9653) and Urban Design Guidelines, with further detail within the Urban Design report.

Visual interest is achieved through scale, built form variation and character. Urban and built form elements, shaped by the open space and public domain configuration, promote a diversity of built form responses. The low scale buildings at podium level serve to give definition to the public domain – especially – whilst taller buildings provide arrival markers, and destination landmarks.

Upper level setbacks and/or changes in facade plane have been introduced along key streets to provide human scale to the street through reduced building heights and lengths at the interface between the public and private domain, as well as an appropriate transition in height and improved pedestrian experience through increased daylight access to the public domain.

The design methodology for the facades is to achieve an appropriate level of articulation and create expressive frontages to the public domain. Several architectural languages, taking inspiration both from the residential character of the surrounding context and the future desired character for the area have been developed for the facades and applied to building forms to reduce the perceived bulk and scale of the buildings into smaller discrete and interconnected forms.

Form and materiality have been varied to assist in reducing bulk and scale. Facade articulation is achieved through the breakup of materials, variation in balcony forms and the introduction of a defined rhythm in the architectural elements.



Proposed concept design - View from South East at Carrington Road



Proposed concept design - View from East at Andalusian Way

Objective	Comment
3A Site analysis	
Objective 3A-1 <i>Site analysis illustrates that design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context</i>	Complies <ul style="list-style-type: none"> A site analysis plan is included in the architectural drawings. The proposal builds upon the principles of the Precinct Masterplan.
3B Orientation	
Objective 3B-1 <i>Building types and layouts respond to the streetscape and site while optimising solar access within the development</i>	Complies <ul style="list-style-type: none"> The proposal builds upon the strategies, objectives and massing of the Precinct Masterplan. The proposal includes a number of building typologies of varying heights and scales across the site. Retail tenancies and lobbies sleaving the ground plane create activation of streetscape and permeability through the site. Solar access maximised where possible to the publicly accessible Doran Drive Plaza, private community open space, station forecourt and station plaza.
Objective 3B-2 <i>Overshadowing of neighbouring properties is minimised during mid-winter:</i> <ul style="list-style-type: none"> Living areas, private open space and communal open space should receive solar access in accordance with sections 3D and 4A 	Complies <ul style="list-style-type: none"> The building forms are aligned with the Precinct Masterplan. The proposal maximises solar access to the publicly accessible Doran Drive Plaza, Private Community Open Space, Station Forecourt and Station Plaza. Refer to the shadow diagrams for further information.
3C Public Domain Interface	
Objective 3C-1 <i>Transition between private and public domain is achieved without compromising safety and security</i> <ul style="list-style-type: none"> Maximum 1m level change between private terraces, front gardens and dwelling entries above the street level The height of solid fences or walls should be limited to 1m 	Complies <p>The northern, southern, and eastern site, and north-eastern and south eastern corners are activated with retail uses across the ground level, upper ground level and Level 1, engaging the public domain.</p> <ul style="list-style-type: none"> Multiple public entry points provided to the retail complex, providing increased permeability. Residential access points are carefully located with secured and controlled access. Appropriate wayfinding signage proposed allowing for increased legibility for residents and visitors. Apartment windows and balconies enjoy aspects over the public domain to encourage passive surveillance
Objective 3C-2 <i>Amenity of the public domain is retained and enhanced</i>	Complies <ul style="list-style-type: none"> The site has been cleared and offers no existing public domain nor landscape The proposal builds upon the principles and objectives of the Precinct Masterplan to deliver an extensive, high quality new public domain to the precinct and broader community. The public domain offer includes a large publicly accessible plaza. The design minimises the prominence of service areas and carpark entries by consolidating these areas and locating them away from the primary public domain and pedestrian routes. <p>Refer to the landscape design report for further information.</p>
3D Communal and Public Open Space	

Objective	Comment
<p>Objective 3D-1 <i>An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping</i></p> <div data-bbox="225 383 751 589" style="border: 1px solid black; padding: 5px;"> <p>Design Criteria Communal open space has a minimum area equal to 25% of the site (see figure 3D.3) 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)</p> </div>	<p>Complies</p> <ul style="list-style-type: none"> • 36% of site area is provided as communal open space • The proposal provides a diversity of communal outdoor spaces for the amenity of residents and visitors to the site - on ground, at podium levels and on the certain rooftop levels. • The proposal achieves 50% sunlight to the <u>principal usable part</u> of the communal open space for a minimum of 2 hours of mid-winter sun between 9am-3pm. <p>Refer to the Communal Open Space Solar diagrams for further information.</p>
<p>Objective 3D-2 <i>Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting</i></p>	<p>Complies</p> <ul style="list-style-type: none"> • A range of spaces are provided within the communal open spaces that range from shaded areas for seating, BBQ and dining areas and opportunities for planting to increase the amenity for residents.
<p>Objective 3D-3 <i>Communal open space is designed to maximise safety</i></p>	<p>Complies</p> <ul style="list-style-type: none"> • The primary communal open space is located on podium level on Level 2, isolated from the public domain, with a secured fence and lobby control points.
<p>Objective 3D-4 <i>Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood</i></p>	<p>Complies</p> <ul style="list-style-type: none"> • Public open space is provided across the precinct in line with the Precinct Masterplan. • This public domain includes a large publicly accessible plaza at the western side of the site, which has multiple points of entry from various street frontages. • The public domain incorporates pedestrian networks and connections between the metro and Castle Hill Showground.
3F Visual Privacy	

Objective

Objective 3F-1

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

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

No separation is required between blank walls

Design Criteria		
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 + 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		

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

Comment

Complies with objectives

- Building separation is in line with the Precinct Masterplan and objectives of the ADG.
- The proposed layouts have been designed to avoid direct lines of sight between opposing buildings
- Additional design elements have been proposed to ensure visual privacy is achieved, including angled window orientations and opaque glazing (when a secondary window has been provided to a habitable area).

Refer to architectural drawings for further information.

Complies

- Outlook and privacy are managed by orientation, building articulation, and dividing walls.

3G Pedestrian Access and Entries	
Objective 3G-1 <i>Building entries and pedestrian access connects to and addresses the public domain</i>	Complies <ul style="list-style-type: none"> Residential lobbies are legible, have a direct connection to the street network or public domain.
Objective 3G-2 <i>Access, entries and pathways are accessible and easy to identify</i>	Complies <ul style="list-style-type: none"> All entry lobbies have at grade thresholds and accessible paths of travel for inclusive access.
Objective 3G-3 <i>Large sites provide pedestrian links for access to streets and connection to destinations</i>	Complies <ul style="list-style-type: none"> The site proposes a number of pedestrian movement corridors through the precinct that link the key arrival points and active nodes. These include the publicly accessible plaza – running north-south from Castle Hill Showground to the metro station and De Clambe Drive.
3H Vehicle Access	
Objective 3H-1 <i>Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes</i>	Complies <ul style="list-style-type: none"> The car park entry points aligned within the locations nominated in the Precinct Masterplan. Public vehicle access point is located on De Clambe Drive for public access and service vehicle and loading access is located on Andalusian Way. Crossings and driveways are located to allow the smooth ingress of traffic and to avoid conflicts with pedestrian routes. Servicing and carparking are separated to avoid internal traffic clashes Clear sight lines are provided at the carpark entry/exit point and vehicle crossings. Pedestrian and vehicle access points have been separated. <p>Refer to the traffic report submitted with this proposal for further information.</p>

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

Where a car share scheme operates locally, provide car share parking spaces within the development. Car share spaces, when provided, should be on site

Design Criteria

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

Complies

- Carparking is provided at rates as prescribed within the approved concept State Significant Development Application (SSD-9653) and Urban Design Guidelines
- Carshare spaces have been provided within B3

Refer to the traffic report submitted with this proposal for further information.

Objective 3J-2

Parking and facilities are provided for other modes of transport

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

Complies

- Bicycle parking is provided at rates as prescribed within the approved concept State Significant Development Application (SSD-9653) and Urban Design Guidelines

Refer to the traffic report submitted with this proposal for further information.

Objective 3J-3 <i>Car park design and access is safe and secure</i>	Complies <ul style="list-style-type: none"> Car park access is secured with separate entry points for residential and retail parking and service vehicles. With the combined residential and retail carpark entrance, clear wayfinding to be developed during the detailed design phase to establish clear vehicular routes to designated areas of the carpark, increasing legibility and safety.
Objective 3J-4 <i>Visual and environmental impacts of underground car parking are minimized</i> <i>Protrusion of car parks should not exceed 1m above ground level.</i>	Complies <ul style="list-style-type: none"> Car parking is located in basements and accessed off De Clambe Drive. The entries to the basement are minimised in width and are integrated into the façade expression.
Objective 3J-5 Visual and environmental impacts of on-grade car parking are minimised	N/A
Objective 3J-6 <i>Visual and environmental impacts of above ground enclosed car parking are minimised</i>	N/A
4A Solar and Daylight Access	
Objective 4A-1 <i>To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space</i> <div data-bbox="252 969 715 1406" style="border: 1px solid black; padding: 5px;"> <p>Design Criteria</p> <p>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</p> <p>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</p> <p>A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid winter</p> </div>	Complies <ul style="list-style-type: none"> The proposal achieves more than 70% solar access to apartment living areas and balconies between 9am-3pm in mid-winter 7% of apartments receive no-direct sunlight between 9am and 3pm mid winter across the precinct. <p>Refer to the architectural drawings for further information.</p>
Objective 4A-2 <i>Daylight access is maximised where sunlight is limited</i> <p>Courtyards, skylights and high level windows (with sills of 1,500mm or greater) are used only as a secondary light source in habitable rooms</p>	Complies <p>Where sunlight is limited, glazing has been proportioned to ensure daylight access is maximised.</p>
Objective 4A-3 <i>Design incorporates shading and glare control, particularly for warmer months</i>	Complies <ul style="list-style-type: none"> Solar control shading is provided through the design of the façade articulation, slab projections and the proportion of glazing to the north, east and western facades

4B Natural Ventilation

Objective 4B-1

All habitable rooms are naturally ventilated

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

Complies

- Habitable rooms are naturally ventilated
- Windows and doors are sized to allow the ADG and NCC requirements for natural ventilation

Objective 4B-2

The layout and design of single aspect apartments maximises natural ventilation

Apartment depths are limited to maximise ventilation and airflow (see also figure 4D.3)

Natural ventilation to single aspect apartments is achieved with the following design solutions:

Primary windows are augmented with plenums and light wells (generally not suitable for cross ventilation)

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

Complies

- Windows and doors are sized to allow the ADG and NCC requirements for natural ventilation

The overall building depth facilitates ventilation to habitable rooms.

Objective 4B-3

The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents

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

Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line

Complies

- More than 60% of apartments achieve natural cross ventilation.
- Cross through units are less than 18m in depth

Refer to apartment amenity drawings for further detail.

4C Ceiling Heights

Objective 4C-1

Ceiling height achieves sufficient natural ventilation and daylight access

Design Criteria	
Measured from finished floor level to finished ceiling level minimum ceiling heights are:	
Minimum Ceiling Height for Apartment and Mixed-use	
Habitable rooms	2.7m
Non-habitable	2.4m
For 2 storey apartments	2.7m for main living area 2.4m for second floor, where area does not exceed 50% of the apartment area
Attic spaces	1.8m at edge of room with a 30° minimum ceiling slope
If located in mixed use areas	3.3m for ground floor and first floor to promote future flexibility of use

Complies

- A minimum floor-to-floor height of 3.1m is used to allow the ADG recommendation of 2.7m ceiling height to be generally achieved in living, dining and bedroom areas. Kitchen will also generally aim to achieve 2.7m ceiling heights extend for localised mechanical and other services requirements overhead.

Objective 4C-2

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

Complies

The two storey apartments along Andalusian Way have increased ceiling heights to the habitable area as to provide a sense of space. This allows for increased solar access and a generous internal volume.

Objective 4C-3

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

Complies

The ceiling level at the ground, upper ground, and Level 1 of this site allows for 3.9m – 4.8m ceiling heights to enable ongoing flexibility of tenants over time.

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	
Apartments are required to have the following minimum internal areas:	
Apartment Type	Minimum Internal Area
Studio	35m ²
1 Bedroom	50m ²
2 Bedroom	70m ²
3 Bedroom	90m ²
The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5m ² each	
A fourth bedroom and further additional bedrooms increase the minimum internal area by 12m ² each	
Every habitable room must have a window in an external wall with a total minimum glass area of not less than 10% of the floor area of the room. Daylight and air may not be borrowed from other rooms	

Complies

- Apartments satisfy the requirements of the ADG.
- Two bedroom apartments with two bathrooms include an additional 5m² as per the ADG criteria.
- A range of apartment typologies are provided including two storey "terrace" apartments, apartments with street access, adaptable and liveable apartments.
- Habitable rooms include windows

Objective 4D-2

Environmental performance of the apartment is maximised

Complies

- Apartment depths to the primary living area generally satisfy ADG requirements

Design Criteria

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

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

Objective 4D-3

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

Design Criteria

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

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

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

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

Complies

- Bedrooms in all apartments are design to allow a minimum of 10m² in master bedrooms and 9m² in other bedrooms.
- Living rooms to 1-bedroom apartments have a minimum width of 3.6m
- Living rooms to 2 bedroom apartments have a minimum width of 4m
- The width of cross-through apartments are a minimum of 4m wide.
- All bedrooms have built-in robes with a minimum lineal dimension of 1.5m.
- Main bedrooms are provided with built in robes with a minimum lineal dimension of 1.8m.

Apartment layouts allow flexibility over time, design solutions may include:

All bedrooms allow a minimum length of 1.5m for robes

The main bedroom of an apartment or a studio apartment should be provided with a wardrobe of a minimum 1.8m long, 0.6m deep and 2.1m high

Dimensions that facilitate a range of activities and privacy levels

4E Private Open Spaces and Balconies**Objective 4E-1****Design Criteria**

All apartments are required to have primary balconies as follows

Dwelling Type	Minimum Area	Minimum Depth
Studio	4m ²	-
1 Bedroom	8m ²	2m
2 Bedroom	10m ²	2m
3+ Bedroom	12m ²	2.4m

The minimum balcony depth to be counted as contributing to the balcony area is 1m

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

Complies

- Apartments meet or exceed the ADG requirements for balcony and terrace areas.
- All balconies meet or exceed the ADG recommended widths of 2m for 1 and 2 bedroom apartments and 2.4m for 3 bedroom apartments.
- Balconies have been integrated into the facade and building design, responding to the context and the desired objectives of the ADG.
- The varied balcony forms across the precinct enhance the facade articulation.

Objective 4E-2

Primary private open space and balconies are appropriately located to enhance liveability for residents

Complies

- All balconies connect directly to the primary living areas and generally located to maximise solar access and/or outlook
- Where possible, bedrooms also connect to the external space

Objective 4E-3

Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building

Complies

The proposal responds positively to this design criteria, with the balconies providing articulation, depth, shadow and activation across the facades

Objective 4E-4

Private open space and balcony design maximises safety

Complies

- Balcony design typically maximised the safety for the end-users.

4F Common Circulation and Spaces**Objective 4F-1**

Common circulation spaces achieve good amenity and properly service the number of apartments

Design Criteria

The maximum number of apartments off a circulation core on a single level is eight

For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40

Complies

- Circulation cores typically service 10 or less apartments per level. Each circulation core has access to natural light and ventilation.

Where design criteria 1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level

Objective 4F-2

Common circulation spaces promote safety and provide for social interaction between residents

Complies

- Common circulation spaces are designed to provide safe, legible spaces to foster interaction and harmony between residents.
- Lobbies are located off the street and active public domain to maximised visibility and legibility.

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

Objective	Comment																
4G Storage																	
<p>Objective 4G-1 <i>Adequate, well designed storage is provided in each apartment</i></p> <p>Storage is accessible from either circulation or living areas. Left over space such as under stairs is used for storage</p> <table border="1"> <thead> <tr> <th colspan="2">Design Criteria</th></tr> </thead> <tbody> <tr> <td colspan="2">In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided:</td></tr> <tr> <th>Dwelling Type</th><th>Storage Size (Volume)</th></tr> <tr> <td>Studio</td><td>4m³</td></tr> <tr> <td>1 Bedroom</td><td>6m³</td></tr> <tr> <td>2 Bedroom</td><td>8m³</td></tr> <tr> <td>3+ Bedroom</td><td>10m³</td></tr> <tr> <td colspan="2">At least 50% of the required storage is to be located within the apartment.</td></tr> </tbody> </table>	Design Criteria		In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided:		Dwelling Type	Storage Size (Volume)	Studio	4m ³	1 Bedroom	6m ³	2 Bedroom	8m ³	3+ Bedroom	10m ³	At least 50% of the required storage is to be located within the apartment.		<p>Complies</p> <ul style="list-style-type: none"> • Apartments are provided with storage facilities that satisfy ADG recommendations. • Apartments that do not accommodate the entire storage volume within the unit, locate a minimum of 50% of the required storage within the apartment with the remainder located in secure and accessible locations within the basement. <p>A variety of storage types are provided, accessed off living rooms and circulation corridors within the apartments.</p>
Design Criteria																	
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<p>Objective 4G-2 <i>Additional storage is conveniently located, accessible and nominated for individual apartments</i></p>	<p>Complies</p> <ul style="list-style-type: none"> • Additional storage is typically located in basement areas within consolidated storage areas. These areas will be individually attributed and secured. <p>Refer to the architectural drawings for further information.</p>																
4H Acoustic Privacy																	
<p>Objective 4H-1 <i>Noise transfer is minimised through the siting of buildings and building layout</i></p>	<p>Complies</p> <ul style="list-style-type: none"> • Adequate building separation is provided within the development in line with the approved concept State Significant Development Application (SSD-9653) and Urban Design Guidelines <p>Refer to the acoustic report for further information.</p>																
<p>Objective 4H-2 <i>Noise impacts are mitigated within apartments through layout and acoustic treatments</i></p>	<p>Complies</p> <ul style="list-style-type: none"> • Internal apartment layout separates noisy spaces from quiet spaces, rooms with similar noise requirements have been grouped together. • Storage, circulation areas and non-habitable rooms are located to buffer noise from external sources • The party walls (walls shared with other apartments) will be appropriately insulated in accordance with NCC requirements. 																

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

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**Objective 4J-2**

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

Complies

- Building location is in line with the Precinct Masterplan.

Complies

Refer to Acoustic Report.

Objective	Comment
4K Apartment Mix	
<p>Objective 4K-1 <i>A range of apartment types and sizes is provided to cater for different household types now and into the future</i></p> <p>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</p>	<p>Complies</p> <ul style="list-style-type: none"> • A variety of apartment types are provided including two-storey terrace apartments, courtyard apartments, adaptable and liveable apartments. • The sizing of apartments varies within each typology to allow multiple users including 1, 2 and 3 bedroom apartments, including those with study areas. • The proposed apartment mix complies the suggestion in the precinct Masterplan.
<p>Objective 4K-2 <i>The apartment mix is distributed to suitable locations within the building</i></p>	<p>Complies</p> <ul style="list-style-type: none"> • Different apartment types have been located to provide diversity across the precinct while contributing to facade composition and optimising solar access. • Larger apartment types have been located on the upper levels and corners of the building, where more building frontage is available for increased solar access and district views. Similarly, apartments placed at podium take advantage of increased area within terraces for open space.
4L Ground Floor Apartments	
<p>Objective 4L-1 <i>Street frontage activity is maximised where ground floor apartments are located</i></p> <p>Direct street access should be provided to ground floor apartments</p> <p>Activity is achieved through front gardens, terraces and the facade of the building. Design solutions may include:</p> <p>Both street, foyer and other common internal circulation</p> <p>Entrances to ground floor apartments</p> <p>Private open space is next to the street</p> <p>Doors and windows face the street</p>	N/A
<p>Objective 4L-2 <i>Design of ground floor apartments delivers amenity and safety for residents</i></p> <p>Privacy and safety should be provided without obstructing casual surveillance. Design solutions may include:</p> <p>Elevation of private gardens and terraces above the street level by 1-1.5m (see figure 4L.4)</p> <p>Landscaping and private courtyards</p> <p>Window sill heights that minimise sight lines into apartments</p> <p>Integrating balustrades, safety bars or screens with the exterior design</p>	N/A

4M Facades	
Objective 4M-1 <i>Building facades provide visual interest along the street while respecting the character of the local area</i>	Complies <ul style="list-style-type: none"> The proposal utilises a number of façade typologies across the precinct, responding to the building topography, orientation and interface with the surrounding context. The design of the facades incorporates variation of vertical and horizontal elements with suitable floor height to achieve better human scale for the end-users.
Objective	Comment
Objective 4M-2 <i>Building functions are expressed by the façade</i> 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	Complies <ul style="list-style-type: none"> Building lobbies are legible and well located, by providing a double height or expressive awnings as to differentiate between retail and residential lobbies The terrace apartments typologies are articulated through an expression of double height 'box' for visual prominence and improvement of apartment amenities. Refer to the architectural drawings and perspectives for further information.
4N Roof Design	
Objective 4N-1 Roof treatments are integrated into the building design and positively respond to the street	Complies <ul style="list-style-type: none"> Roof treatments have been integrated with the façade design as a continuation of the building with materials and pattern to compliment the architecture Service elements have been integrated into the roof design
Objective 4N—2 <i>Opportunities to use roof space for residential accommodation and open space are maximised</i>	Complies <ul style="list-style-type: none"> The proposal provides several communal roof gardens for residents.
Objective 4N—3 <i>Roof design incorporates sustainability features</i>	Complies <ul style="list-style-type: none"> The proposal provides solar panels across the rooftops to facilitate on-site renewable energy generation. Roof colours and treatments have been selected to minimise heat gain and sit sympathetically within the composition A number of buildings have rooftop communal areas that incorporate planting and shade structures that mitigate urban heat island effect while providing ecological benefits. These roof gardens include vegetable garden beds for planting by residents to encourage food production.
4O Landscape Design	
Objective 4O—1 <i>Landscape design is viable and sustainable</i>	Complies <ul style="list-style-type: none"> The design of the public domain and open space incorporates a diverse network of spaces that address the climatic conditions along with the selection of appropriate materials and finishes. A selection of plants, trees and materiality has been carefully considered to ensure that they are suited to the site conditions. Refer to the landscape design report for further information.
Objective 4O—2 <i>Landscape design contributes to the streetscape and amenity</i>	Complies Refer to the landscape design report for further information.

Objective	Comment																					
4P Planting on Structures																						
<p>Objective 4P—1</p> <p><i>Appropriate soil profiles are provided</i></p> <table><tr><th>Plant type</th><th>Soil Depth</th><th>Soil Area</th></tr><tr><td>Large Trees</td><td>1,200mm</td><td>10 x 10m or equivalent</td></tr><tr><td>Medium Trees</td><td>1,000mm</td><td>6 x 6m or equivalent</td></tr><tr><td>Small Trees</td><td>800mm</td><td>3.5 x 3.5m or equivalent</td></tr><tr><td>Shrubs</td><td>500-600mm</td><td></td></tr><tr><td>Ground Cover</td><td>300-450mm</td><td></td></tr><tr><td>Turf</td><td>200mm</td><td></td></tr></table>	Plant type	Soil Depth	Soil Area	Large Trees	1,200mm	10 x 10m or equivalent	Medium Trees	1,000mm	6 x 6m or equivalent	Small Trees	800mm	3.5 x 3.5m or equivalent	Shrubs	500-600mm		Ground Cover	300-450mm		Turf	200mm		<p>Complies</p> <p>The proposed development includes planting and provides appropriate soil volume to facilitate plant growth, including 1500mm beneath Doran Plaza to facilitate landscape growth.</p> <p>Refer to the landscape design report for further information and the DA submitted SESL Soil Specification Report.</p>
Plant type	Soil Depth	Soil Area																				
Large Trees	1,200mm	10 x 10m or equivalent																				
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<p>Objective 4P—2</p> <p><i>Plant growth is optimised with appropriate selection and maintenance</i></p>	<p>Complies</p> <p>Refer to the landscape design report for further information.</p>																					
<p>Objective 4P—3</p> <p><i>Planting on structures contributes to the quality and amenity of communal and public open spaces</i></p>	<p>Complies</p> <p>The proposed development incorporates planting on grade, roofs and podium structures which will contribute positively to the development.</p> <p>Refer to the landscape design report for further information.</p>																					
4Q Universal Design																						
<p>Objective 4Q—1</p> <p><i>Universal design features are included in apartment design to promote flexible housing for all community members</i></p> <p>Developments achieve a benchmark of 20% of the total apartments incorporating the Livable Housing Guideline's silver level universal design features</p>	<p>Complies</p> <ul style="list-style-type: none">20% of the apartments comply with the silver level universal design standard. <p>Refer to architectural package for further information.</p>																					
<p>Objective 4Q—2</p> <p><i>A variety of apartments with adaptable designs are provided</i></p> <p>Adaptable housing should be provided in accordance with the relevant council policy</p>	<p>Complies</p> <ul style="list-style-type: none">Adaptable apartments will be provided at a rate of 10% in the development to meet DCP requirements.Several different apartment types are used as adaptable apartments <p>Refer to architectural package for further information.</p>																					
<p>Objective 4Q—3</p> <p><i>Apartment layouts are flexible and accommodate a range of lifestyle needs</i></p> <p>Apartment design incorporates flexible design solutions which may include:</p> <ul style="list-style-type: none">Rooms with multiple functionsDual master bedroom apartments with separate bathroomsLarger apartments with various living space options <p>Open plan 'loft' style apartments with only a fixed kitchen, laundry and bathroom</p>	<p>Complies</p> <ul style="list-style-type: none">The apartment layouts are provided to be flexible and suitable for a wide demographic rangeSimple room shapes and clean lines are favoured, better facilitating room planning and interior design.																					

4R Adaptive Re-Use**Objective 4R—1****N/A**

New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense of place

Objective 4R—2**N/A**

Adapted buildings provide residential amenity while not precluding future adaptive reuse

Objective	Comment
4S Mixed Use	
Objective 4S-1 <i>Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement</i>	Complies <ul style="list-style-type: none"> The site is well serviced by the metro station. The proposal includes several building typologies of varying heights and scales across the site. Retail tenancies and lobbies sleaving the ground plane create activation of streetscape and permeability through the site. An internalised connection has been included within the retail mall, connecting the pedestrian movement from the metro station at ground level through to the level 01 entry/egress point on De Clambe Drive Solar access has been maximised where possible to the publicly accessible Doran Drive Plaza, private community open space, station forecourt and station plaza. Retail and Commercial floorspace is provided on-grade to the publicly accessible plaza
Objective 4S-2 <i>Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents</i>	Complies <ul style="list-style-type: none"> Secure residential lobbies and circulation routes are separated from the retail frontage and have direct street access. Commercial plates have dedicated lobbies accessed from Mandala Parade. Car park access is secured with separate entry points for residential and retail parking and service vehicles. With the combined residential and retail carpark entrance, clear wayfinding to be developed during the detailed design phase to establish clear vehicular routes to designated areas of the carpark, increasing legibility and safety.
4T Awnings and Signage	
Objective 4T-1 <i>Awnings are well located and complement and integrate with the building design</i>	Complies Continuous awnings and covered areas are provided around the active retail perimeter. These are integrated into the overall architectural expression
Objective 4T-2 <i>Signage responds to the context and desired streetscape character</i>	<ul style="list-style-type: none"> Signage will be submitted as a separate DA Application.
4U Energy Efficiency	
Objective 4U-1 <i>Development incorporates passive environmental design</i>	Complies <ul style="list-style-type: none"> Mechanical exhaust is located on rooftops, avoiding the output of warm air to habitable areas. In accordance with the ADG, units achieve cross ventilation, providing fresh air and cooling breezes to residents
Objective 4U-2 <i>Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer</i>	Complies <ul style="list-style-type: none"> To provide protection from the sun, awnings are provided along the publicly accessible plaza and activated street frontages. Other areas utilise the extensive canopy cover to provide refuge from the heat.
Objective 4U-3 <i>Adequate natural ventilation minimises the need for mechanical ventilation</i>	Complies <ul style="list-style-type: none"> Natural ventilation is generally provided to habitable rooms and to circulation spaces.

Objective	Comment
4V Water Management	
Objective 4V—1 <i>Potable water use is minimised</i>	Complies <ul style="list-style-type: none"> The development incorporates water efficient fittings, appliances and waste-water re-use. Plant selections are designed for the microclimate and are typically low-water use. Refer to the landscape design report for further information.
Objective 4V—2 <i>Urban stormwater is treated on site before being discharged to receiving waters</i>	Complies Refer to the stormwater and flood management report by Aecom.
Objective 4V—3 <i>Flood management systems are integrated into site design</i>	Complies Refer to the stormwater and flood management report by Aecom.
4W Waste Management	
Objective 4W-1 <i>Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents</i>	Complies <ul style="list-style-type: none"> A bulk-waste area for residents is provided. Garbage collection is centralised located within the building and integrated with the loading area.
Objective 4W-2 <i>Domestic waste is minimised by providing safe and convenient source separation and recycling</i>	Complies <ul style="list-style-type: none"> Communal waste rooms – housing a garbage chute and recycling bins – are provided for residents in convenient and accessible locations related to each vertical core. Waste and recycling storage areas are ventilated and have durable and washable finishes All dwellings have sufficient internal space for the holding of waste and recycling.
4X Building Maintenance	
Objective 4X-1 <i>Building design detail provides protection from weathering</i>	Complies <ul style="list-style-type: none"> Building materials are selected to withstand the demands of the environment and to weather gracefully. Painted and applied finishes are minimised
Objective 4X-2 <i>Systems and access enable ease of maintenance</i>	Complies <ul style="list-style-type: none"> Suitable access for cleaning is to be provided from the public domain or appropriately controlled roof access.
Objective 4X-3 <i>Material selection reduces ongoing maintenance costs</i>	Complies <ul style="list-style-type: none"> The use of applied finishes is minimised in the development. Communal areas are readily accessible for maintenance.



Proposed concept design - View from South at Doran Drive Plaza



Proposed concept design - View from West to Doran Drive Plaza



DORAN DRIVE PRECINCT

MIXED USE DEVELOPMENT

2 MANDALA PARADE, CASTLE HILL NSW 2154



TURNER