

CASE STUDY

Watermark Apartments, Huskisson



A thoughtfully conceived, small-footprint infill development that is a model for higher density in constrained suburban contexts

QUICK FACTS

APARTMENT BUILDING TYPE:
Narrow infill

LOCATION:
Huskisson, NSW, Regional

COUNTRY:
Yuin

LOCAL GOVERNMENT AREA:
City of Shoalhaven

ZONING:
B4 Mixed Use

APPLICABLE CONTROL:
2015 Apartment Design Guide (ADG)

CLIENT:
JACA Property Group

PROCUREMENT:
Design and construct

PROJECT DATA:
Site area 1,012 m²
Floor space ratio 1.43:1
12 apartments (2 x 2B, 10 x 3B)
4 storeys
25 car parking spaces
16 bicycle parking spaces

SITE DENSITY:
118 dwellings/ha

YEAR:
Completed 2019

PROJECT TEAM:
DESIGN ARCHITECT
DJRD Architects

DOCUMENTATION ARCHITECT
Spiral Architects Lab

LANDSCAPE ARCHITECT
Concept Landscape Architects

TOWN PLANNER
Lee Carmichael Town Planning

STRUCTURAL + CIVIL ENGINEER
Greenview Consulting

SERVICES ENGINEERING
Greenview Consulting

ACOUSTIC
Acoustic Solutions

BUSHFIRE CONSULTANT
Bushfire Assessment Consultants

BATHROOM PODS
Buildom

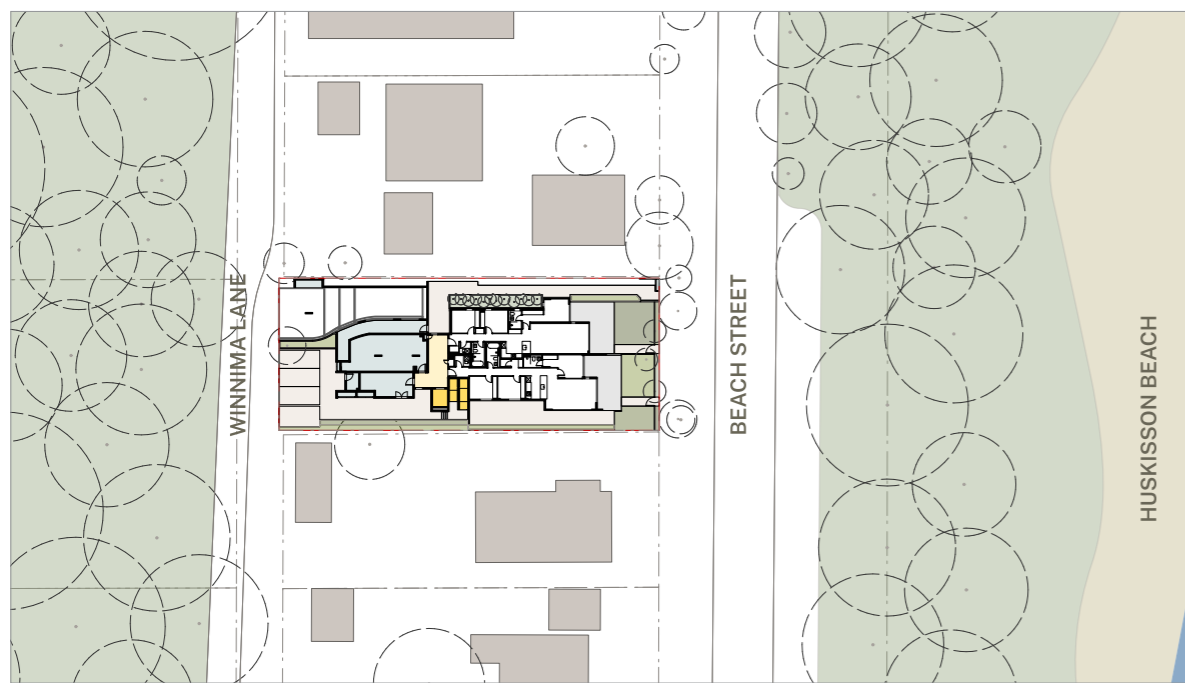
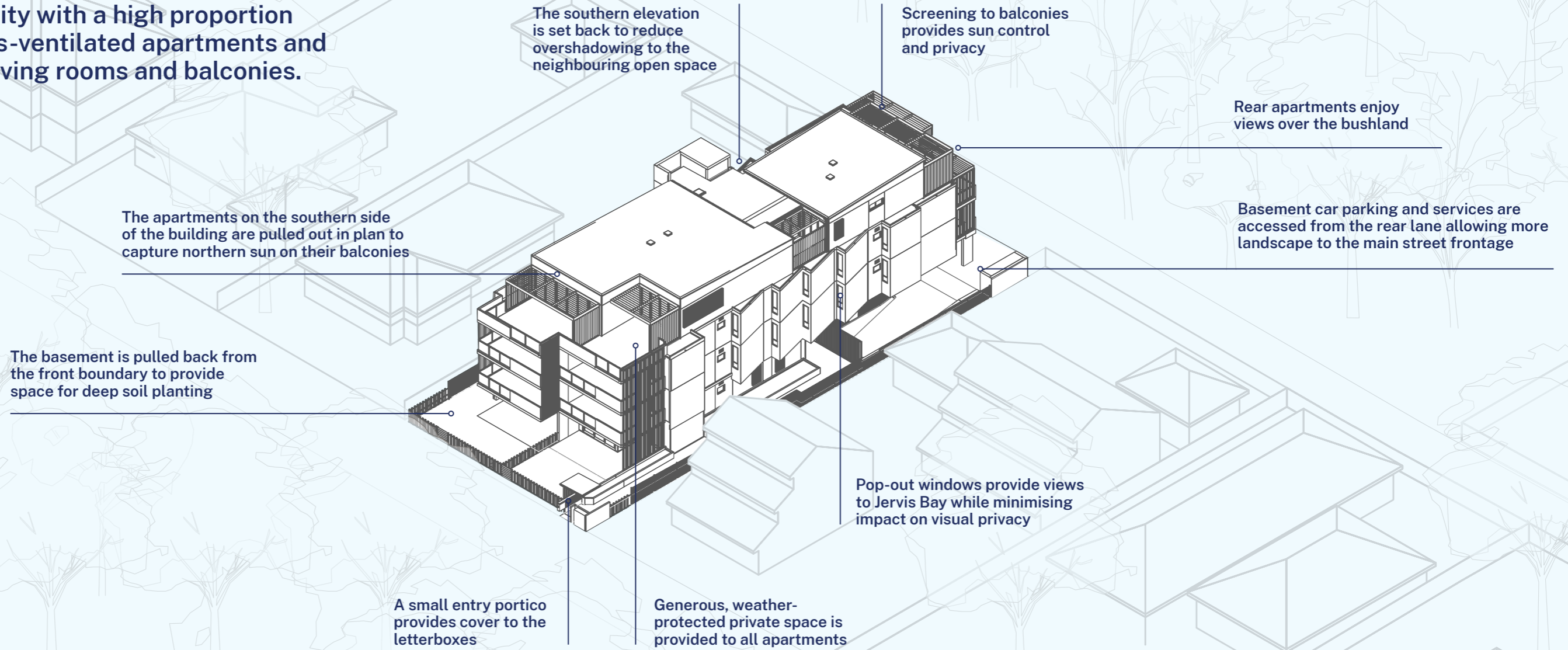
BUILDER
Australian First Construction

AWARDS:
2020 UDIA NSW, Excellence in NSW Regions & ACT Development, Finalist

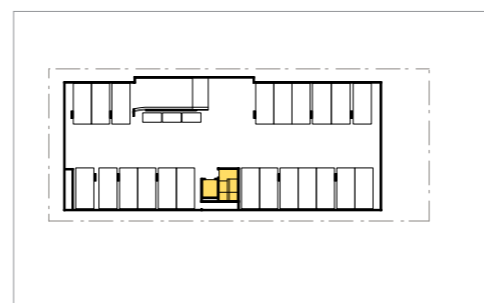
Holiday feeling
New apartments in a rezoned residential street, across the road from the white sand of Jervis Bay. All images: Real FX Photography, unless stated otherwise.



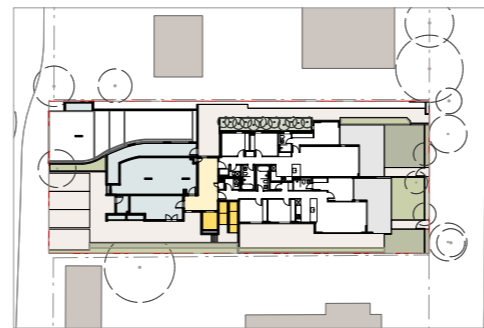
Watermark demonstrates that small-footprint buildings are able to deliver excellent residential amenity with a high proportion of naturally cross-ventilated apartments and solar access to living rooms and balconies.



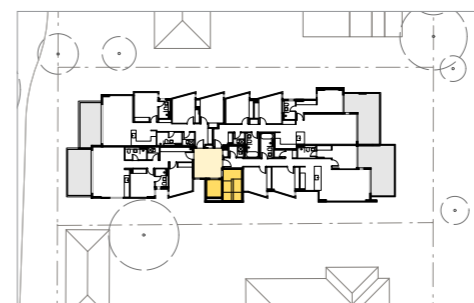
Site plan



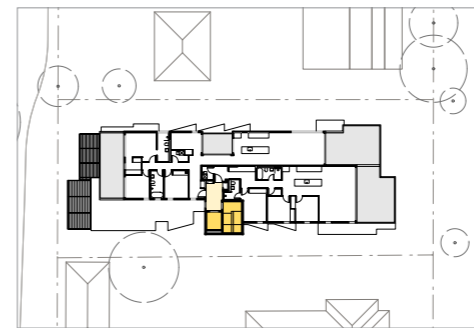
B01 basement plan



Ground floor plan



Level 2 plan (Level 1 plan similar)



Level 3 plan



Site constraints such as frontage and orientation have been used to develop site-specific design responses that solve visual privacy and solar access issues while generating a positive architectural expression.

The project contributes an attractive new building to a transitioning streetscape and sets a high-quality precedent for future neighbouring developments. The front setback is deep soil and provides adequate space for canopy tree planting to continue the landscape character of the street. A setback fence line with planting to the footpath further softens the street edge. The stepped front facade alignment breaks down the elevation into smaller components compatible with the domestic scale of nearby older properties. A setback topmost floor reduces the apparent height of the building in the streetscape and minimises overshadowing to the south.

Vehicular access, visitor parking and waste collection are appropriately located on the rear lane. The driveway ramp is reduced to a single lane width due to the low traffic volume. A highly efficient single-level basement car park is located predominantly below the building footprint, again to allow for deep soil in the front setback. An area dedicated to residential storage rooms is located at the rear of the ground floor adjacent to plant and waste rooms.

Achieving amenity – solar access

The north-south orientation of the street meant that solar access to east-west facing units would be challenging. Modulating the front and rear facades allowed the southern units on each floor to step forward to capture sunlight to balconies and living rooms in line with ADG criteria. Solar studies were produced to prove that neighbouring sites to the south would not be unreasonably overshadowed and could receive equivalent sunlight.

Achieving amenity – views and privacy

With the narrowness and depth of the pre-existing residential subdivision, and the scale of development envisaged by the local development controls, not all habitable rooms could be located on the front or rear facade facing the views. While all the living rooms are arranged on the street facades, the bedrooms which are further back in the body of the building faced the boundary with the neighbours. This created a poor visual privacy condition, even if set back 6 m from the side boundaries as recommended in the ADG. The architects proposed a reduced setback, with pop-out windows to direct views along the side passages to the front rather than over the adjacent properties. The resulting ‘serrated’ side elevation is a clever architectural solution that maintains an amenable outlook from bedrooms while simultaneously ensuring suitable privacy from neighbours.

The architects worked with council to understand the implications of the proposed development and demonstrate that it was appropriate for its context. Testing (some of which is shown here) was able to illustrate that adjoining blocks could be developed in a similar way and that visual privacy, views and solar access could still be provided on every site. This gave council the confidence that the proposal was a supportable application that could be replicated on comparable neighbouring sites for a similarly equitable outcome.



Streetscape study prepared by the architect
The architects worked closely with Shoalhaven City Council to demonstrate the proposed site density could be replicated along the street without loss of amenity, considering overshadowing, solar access, views and visual privacy. Currently only 1 Beach Street is developed, and the remainder are older 1-3 storey freestanding dwellings. Photomontages: DJRD.

Wider lots providing an opportunity for L-shaped built form and generous open space

Avoid vehicle access from Beach Street for pedestrian priority – new path and kerb

Dotted lines represent 3 hours of AM and PM midwinter solar access

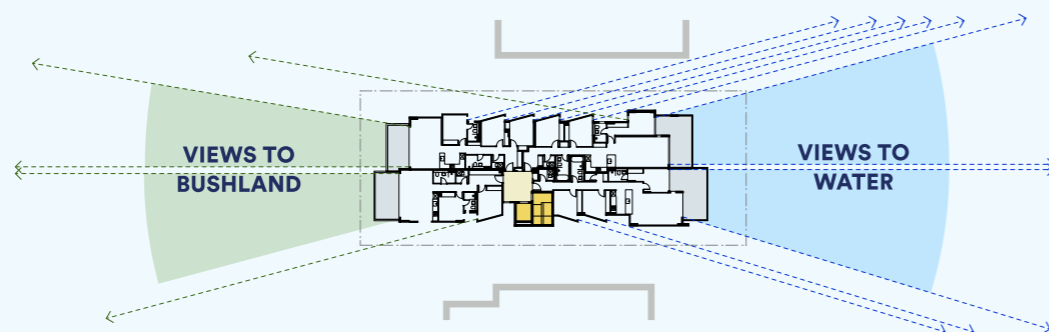
Typical 3 m side setback to side wall, consistent with local planning control

Buildings designed with primary outlook from living rooms, and private open space orientated east-west to achieve natural light and ventilation requirements and maximise privacy within the site

A variety of facade alignments and treatments mitigate the street wall effect. An alternative building form would be shorter, broader, 4 storeys with no top floor setback

Winnima Lane access for vehicles and services

Consolidated lots permit diverse building form possibilities



View study diagram
The architects successfully proposed ‘pop-out’ windows that direct views forward and back, and reduce the potential for overlooking.



Comfortable modern apartments with good light and air take best advantage of the location.

The entry to the building is clearly signalled at the street frontage with a welcoming entry portico. Letterboxes are sheltered and turned at 90 degrees to the footpath. A straight landscaped pathway within the side setback leads directly to a centrally located lift lobby. The common circulation on each floor is generous in dimension, has a window providing daylight and air, and serves only 2 or 4 units per floor. Ground floor units have direct access to the street from their private open space.

A variety of unit sizes are provided to meet different household sizes and price points, and apartments are generally larger than minimum, recognising the regional context and to attract downsizers. Two garden apartments are provided at the ground floor with 2 larger penthouses at roof level. All units are dual-aspect corner units able to provide natural cross-ventilation. Floor plans are highly livable and flexible with large open-plan living spaces. Built-in joinery along corridors within the units provides ample storage.



Stunning outlook
The eastern living rooms and balconies have unparalleled views of Jervis Bay. Partially solid balustrades provide some privacy from the street.

View in every room
Pop-out windows allow views to Jervis Bay from bedrooms located down each side.



Large balconies extend the living spaces to provide appealing, connected and usable indoor-outdoor areas. Balustrades are partially glazed to allow vistas out to the beach and bushland from within, and partially solid to provide visual privacy and screening of balcony contents from the street. The shifting pattern of solid and transparent elements enlivens the facade. Privacy screens to the balcony perimeter are composed of vertical angled louvres to prevent overlooking to neighbours but permit outwards glimpses.

The building is a conventional concrete structure with painted elements and cladding in fibre cement and metal sheet. While the materials are relatively common, they have been well detailed and careful consideration has been given to their distribution and proportioning to create an attractive composition with interest and variety. Colour-coordinated window frames, awnings, privacy screens, balustrades and fences provide a visual consistency and calmness.

The innovative use of 'bathroom pods', built off-site and delivered to be installed as completed wet areas, helped with managing construction quality in a regional context.

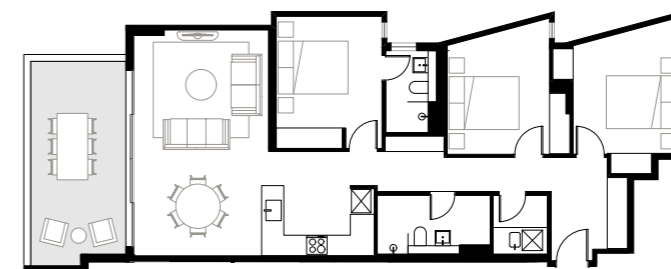
Typical apartment plans
The north point and scale bar for all plans is included below. Apartments feature bathroom pods and generous internal and external areas.

'All apartments benefit from natural cross-ventilation and midwinter solar access.'

— Andrew Hipwell, DJRD



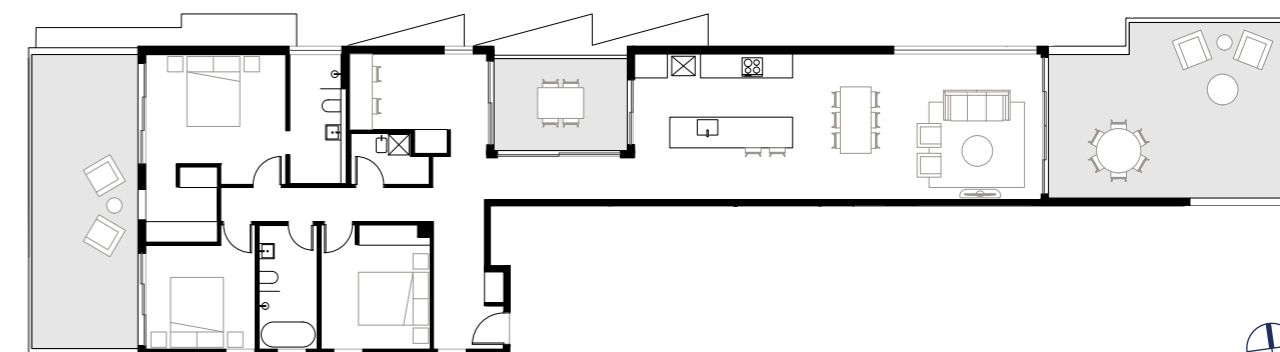
2 bedroom
82 m² + 19 m² private open space



3 bedroom
98 m² + 17 m² private open space



3 bedroom
106 m² + 26 m² private open space



3 bedroom and study
141 m² + 74 m² private open space



1 2 5M

LINE OF SIGHT TO THE APARTMENT DESIGN GUIDE (ADG)

ADG 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

With a deep, narrow block the minimum separation distance of 6 m from each side boundary to a habitable room rendered the project unfeasible. Bedrooms by necessity had windows facing the side boundary, because the narrow block could not accommodate all functions in the width, and the bedrooms were pushed back away from the street frontages.

A solution was agreed with council (as consent authority), whereby the minimum distance to the side boundary followed the Shoalhaven DCP suggestion of between 2 and 3 m. Council agreed on 2.5 m, contingent on the windows being popped out to face the street, rather than facing the neighbouring site. It was assumed this strategy would also be applied to future redevelopment of adjoining sites.

Sawtooth elevation

Pop-out windows capture views.



ADG 4A SOLAR AND DAYLIGHT ACCESS

OBJECTIVE 4A-1:

To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space

OBJECTIVE 4A-3:

Design incorporates shading and glare control, particularly for warmer months

ADG 4B NATURAL VENTILATION

OBJECTIVE 4B-1:

All habitable rooms are naturally ventilated

OBJECTIVE 4B-3:

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

All 12 apartments in this development are dual aspect and naturally cross-ventilated. In addition, all apartments benefit from 3 hours of midwinter solar access to living rooms and private open space. Glazing and private open space is screened for both privacy and summer glare/sun control – critical in this seaside location. Where bathrooms are on the external wall, they are fitted with operable windows. All of these measures are critically important for providing thermal comfort and amenity, and reducing reliance on artificial heating and cooling.

Parking from the rear

Rear apartments overlook the rear lane to deep bushland.



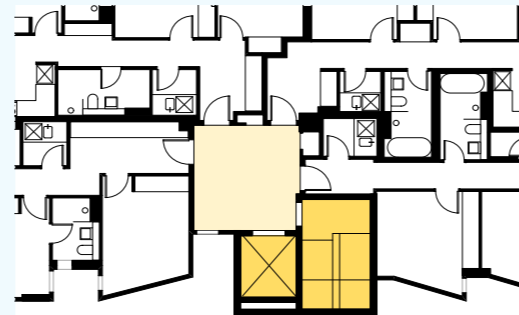
ADG 4F COMMON CIRCULATION AND SPACES

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

OBJECTIVE 4F-2:

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

A maximum of 4 apartments per floor are served by the common lift and stair core. The spaces are square or rectangular, so present no safety risks, and include daylight and natural ventilation with an operable window. There is over 3 m in front of the lift on each level, which makes furniture removal an easier proposition. With only 12 apartments in total, common facilities are direct and discreet, with a good level of separation provided to private space.



Made welcome

An entry portico provides cover for letterboxes and a straight path to the central core. Generous front-setback deep soil planting will provide privacy at maturity.

