

CASE STUDY

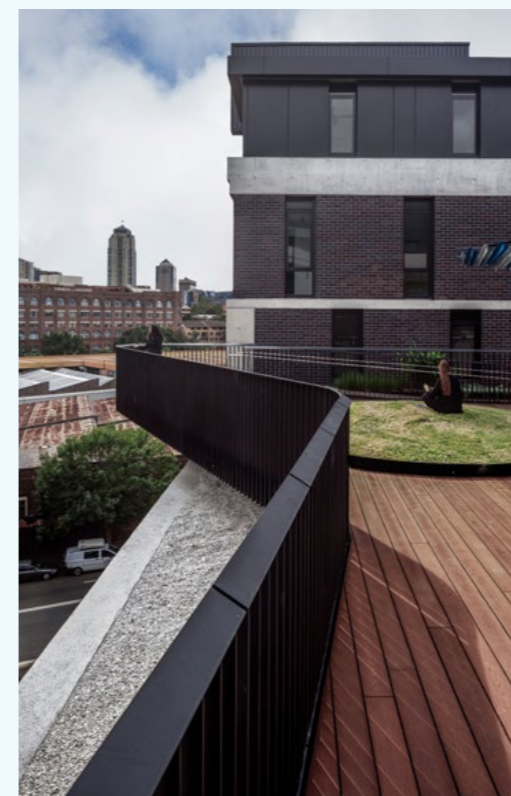
# Blackwattle Apartments, Glebe



**Corner statement**  
A masterwork of thoughtfully crafted material expression, setting a benchmark for affordable housing and for urban apartment buildings generally. Images: Brett Boardman Photography.

**Communal suntrap**  
Communal roof terrace high above the street, with district outlook.

**Street presence**  
Bold and robust signage.



A perimeter-block, shop-top housing development creating high-quality affordable housing in the inner city

**QUICK FACTS**

**APARTMENT BUILDING TYPE:**  
Perimeter block

**LOCATION:**  
Glebe, NSW, Urban

**COUNTRY:**  
Gadigal

**LOCAL GOVERNMENT AREA:**  
City of Sydney

**ZONING:**  
R1 General Residential

**APPLICABLE CONTROL:**  
2015 Apartment Design Guide (ADG)

**CLIENT:**  
City West Housing

**PROCUREMENT:**  
Full documentation and lump sum tender with architectural services throughout

**PROJECT DATA:**  
Site area 1,965 m<sup>2</sup>  
Floor space ratio 3.90:1  
99 apartments (51 x 1B, 39 x 2B, 9 x 3B)  
5-8 storeys  
31 car parking spaces  
132 bicycle parking spaces

**SITE DENSITY:**  
504 dwellings/ha

**YEAR:**  
Completed 2020

**PROJECT TEAM:**  
**ARCHITECTURE & INTERIORS**  
Turner  
**LANDSCAPE ARCHITECT**  
Sturt Noble Associates  
**TOWN PLANNER**  
Creative Planning Solutions  
**STRUCTURAL ENGINEER**  
Waterman Group  
**CIVIL ENGINEER**  
Woolacotts Consulting  
**HYDRAULIC ENGINEER**  
Waterman Group  
**MECHANICAL ENGINEER**  
Waterman Group  
**ELECTRICAL ENGINEER**  
Waterman Group  
**ACOUSTIC ENGINEER**  
Marshall Day Acoustics  
**SUSTAINABILITY**  
Waterman Group  
**TRAFFIC ENGINEER**  
Transport and Traffic Planning  
**ACCESS**  
BCA Logic  
**BUILDING CODE / CERTIFIER**  
Group DLA  
**QUANTITY SURVEYOR**  
Currie & Brown Group  
**PROJECT MANAGER**  
Altus Group  
**BUILDER**  
Kane Constructions

**AWARDS:**  
2020 AIA NSW, Residential Architecture — Multiple Housing, Commendation  
2020 UDIA NSW, Excellence in Medium Density Development — Above 75 Dwellings, Winner



**Blackwattle Apartments are an excellent example of 'tenure-blind' affordable housing. They respond to historic neighbourhood character through careful built form articulation, materials and interpretation.**

The courtyard of this project adjoins the neighbouring site's courtyard, to double the effective area of landscaped open space

The project is dedicated affordable housing, managed by a community housing provider (CHP), with 99 highly amenable apartments

Master plan volumes have been manipulated to provide solar access to the development on the south side of the site, and to create a strong base, middle and top

The 9th storey in the master plan has not been used to create a separately accessible extra level (over 25 m effective height) which would change the project classification, but is used for mezzanines within apartments

Residents' communal open space gets the best seat in the house, with northern sun exposure and city views

The facade to busy Bay Street is defensive and closed, in contrast to the northern facade

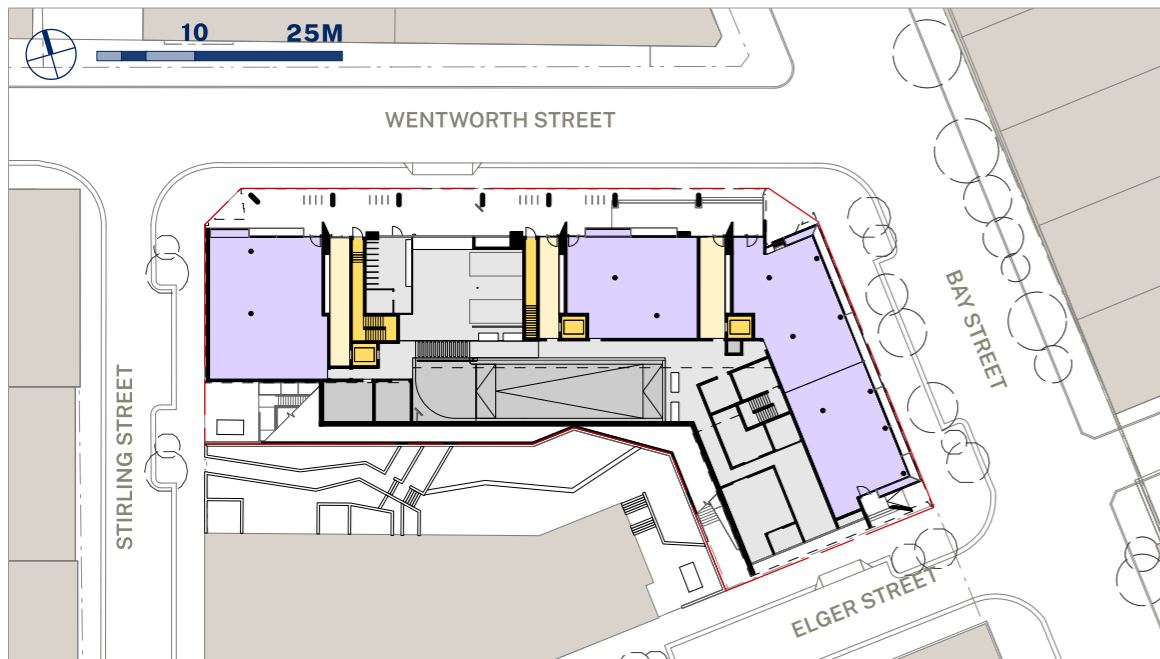
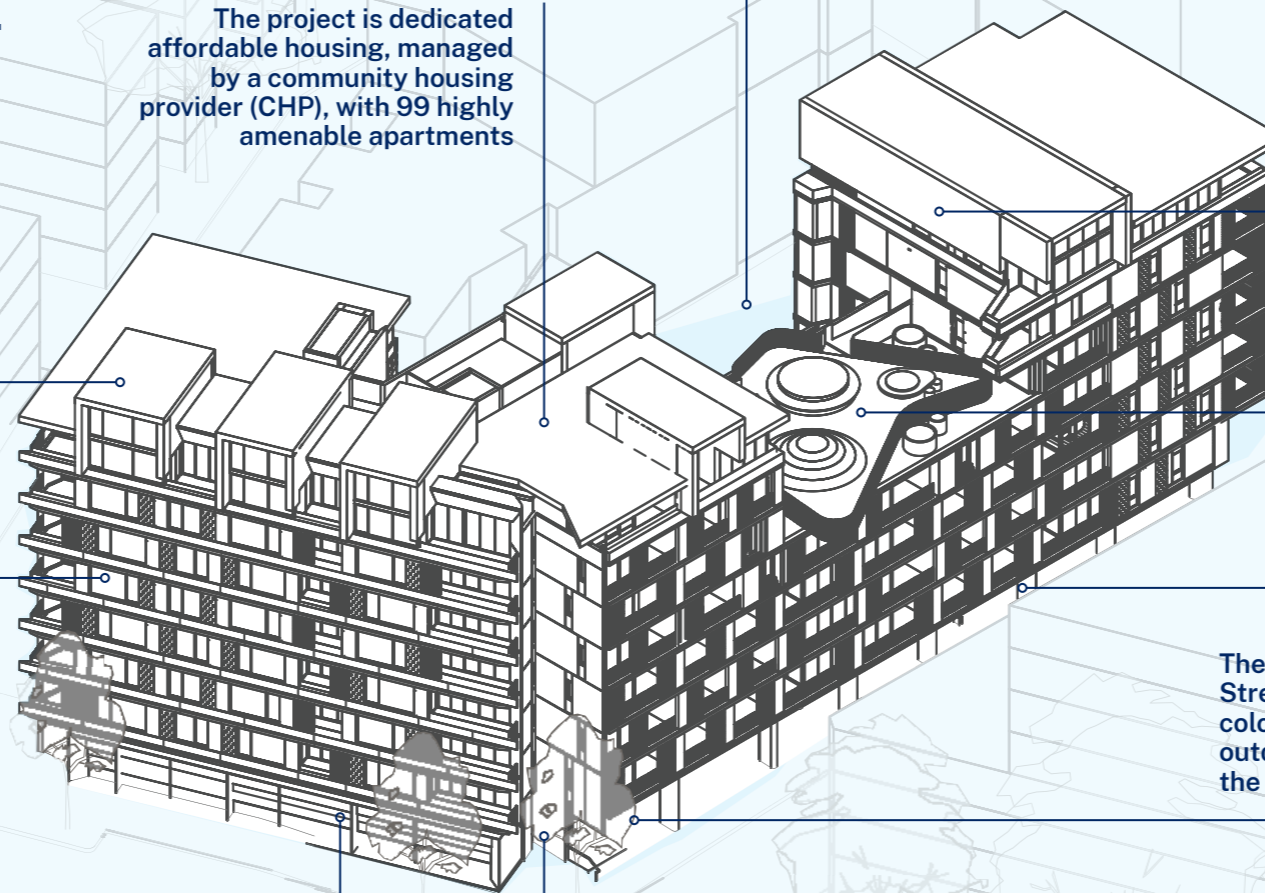
The northern facade is animated and enlivened by deep, coloured balconies

The City of Sydney extended and moved streets to create a fine-grained residential neighbourhood. Elger Street was extended here

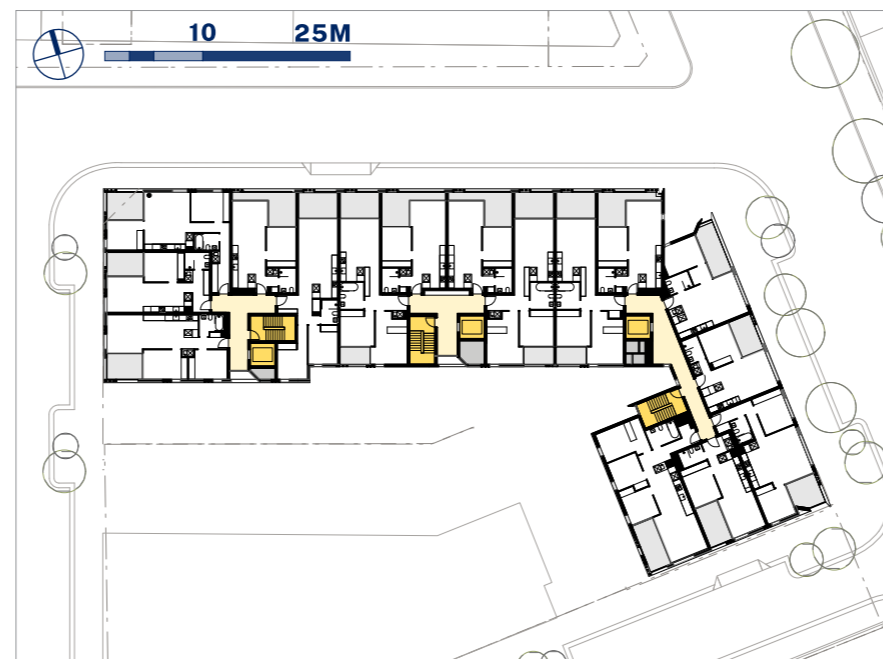
The ground floor on Wentworth Street is recessed behind a colonnade, providing a covered outdoor area for shopfronts and the 3 residential entries

Street-level shops create activation, employment and local services. Shopfronts are highly detailed, build in flood-proofing, and create visual delight at street level

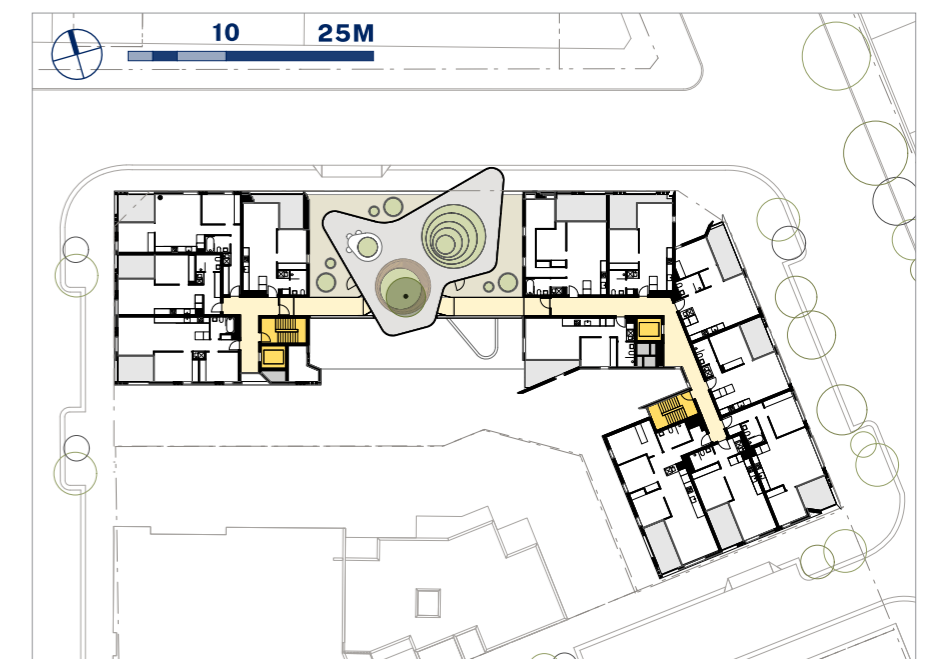
Building corners are recessed at footpath level in deference to pedestrian movement patterns



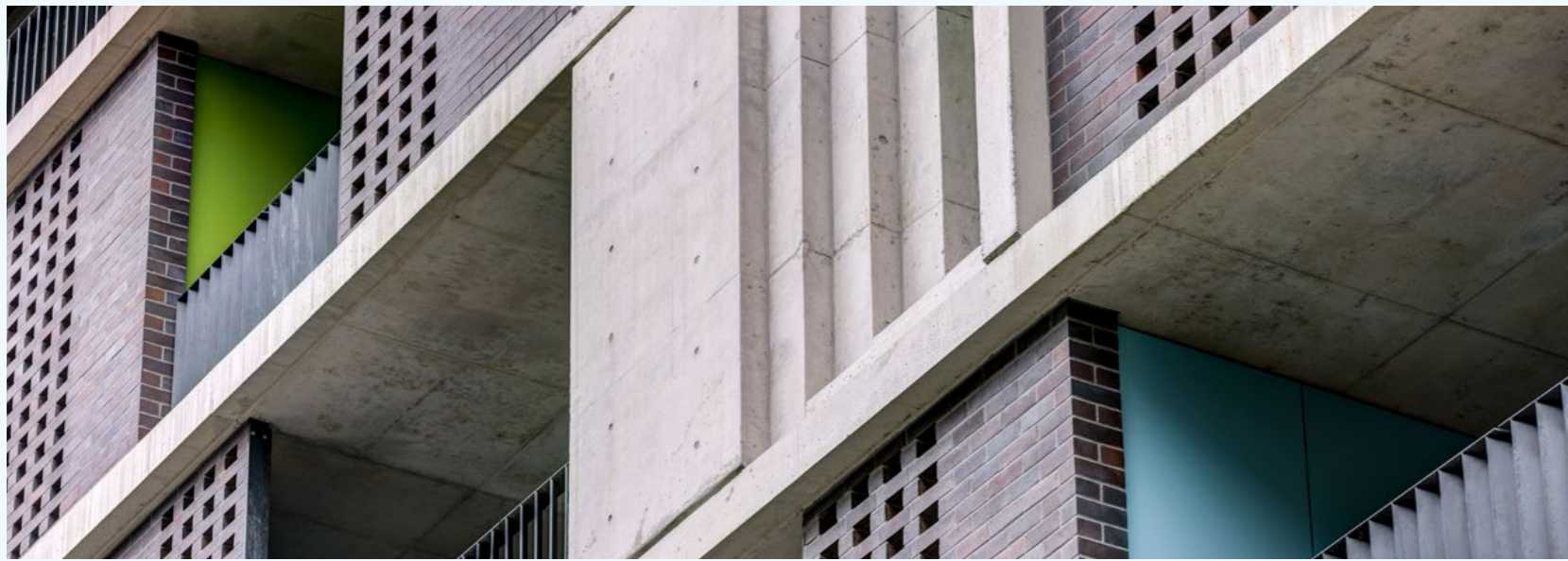
Ground floor plan



Level 3 plan (typical)



Level 5 plan



**Creating an identity**  
Colour is used to define each dwelling — a riff on the traditional coloured front door. Image (left): Brett Boardman Photography. Image below: web source unknown.



**This project demonstrates how public land can be responsibly redeveloped, with development uplift on part of the site paying for adjacent affordable housing which benefits the broader community.**

The site sits within a master plan for the Glebe Affordable Housing Project, the result of an innovative collaboration between local and state government to redevelop an ageing public housing estate with a mix of market, affordable and social housing.

Rezoning of the land set new densities and heights to increase yield. A comprehensive urban design framework incorporated new streets to improve local connectivity and set the block sizes, subdivision pattern and building envelopes. The project represents the affordable housing component of the master plan, with the land

vested in perpetuity by the State to a not-for-profit community housing provider (City West Housing). The building provides well-located new housing for people on very low to moderate incomes, allowing them to live close to their jobs, education, support services and facilities.

In response to the master plan, the built form delivers on key aspects such as the strong definition of streetscapes and building heights to match the large old woolstore warehouses nearby, but also finds many opportunities to architecturally enrich and improve the expression. Ground floor retail creates an attractive public realm interface, essential for street activation and to support local business. This also sets a sturdy base for the building, while at the top double-height roof elements create a dynamic silhouette against the sky. The double-height elements reflect apartments with mezzanines or double-height spaces internally; this was how the higher parts of the master plan envelope were used in a way that didn't impact project classification and therefore feasibility by creating a building over 25 m in effective height. Solar access is maintained to the neighbouring block on the south by reducing the building height in the centre of the block facing north. This in turn creates a suntrap: a perfect haven for an upper-level communal open space, high above the noise and activity of the street, and with impressive district views.

**A slender perimeter block**

This is an ideal application of the perimeter block type. The sharp delineation between public and private land at the street edge establishes an



**The vision**  
City of Sydney prepared a specific development control plan and urban framework for the Glebe Affordable Housing precinct (subject site highlighted in pink). Image: Sydney DCP 2011 Glebe Affordable Housing Project, City of Sydney.

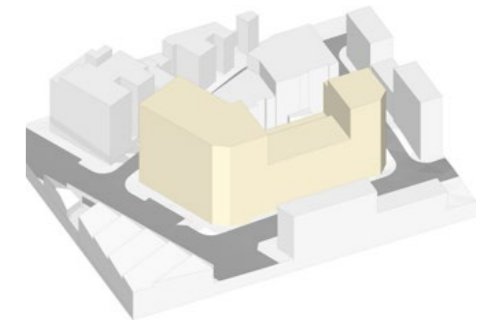
appropriate urban character. An overall building depth of 18 m (including balconies) ensures good internal amenity for every apartment. The landscaped courtyard in the centre of the block both borrows from and lends space to the neighbouring courtyard for the benefit of both properties, providing much-needed green outlook and visual privacy.

Provision of communal open space is 10% above the minimum suggested by the ADG at 35%. However, provision of deep soil was a more challenging metric on this constrained urban site. Council accepted a reduced provision: only 5.5% of deep soil was over 6 m wide, although if lesser widths were considered, the deep soil provision was over 10%. The driveway ramp to the basement could not be contained within the building footprint, which would have allowed more deep soil, without removing some retail provision at street level and creating a blank wall. Therefore, City of Sydney accepted planting on structure (green cover) as an alternative to deep soil.

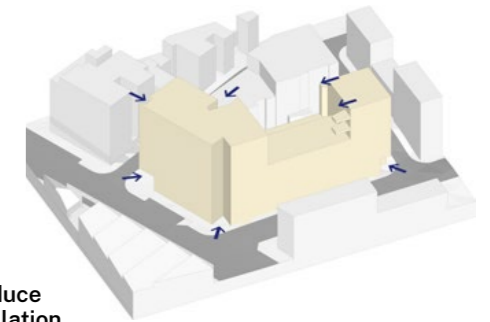


**Land redeveloped for good**  
The master plan redefined block edges, moving Stirling Street and extending Elger Street through to Bay Street. Image: Sydney DCP 2011 Glebe Affordable Housing Project, City of Sydney.

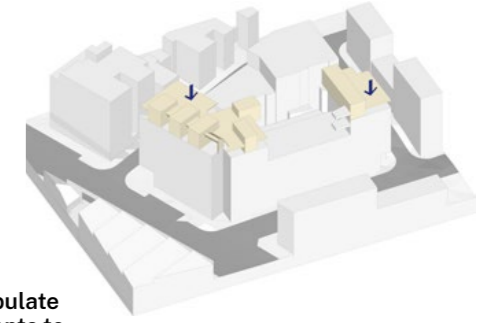
**Built form development**  
This series of diagrams explains the manipulation of the City of Sydney master plan envelope (top image) to arrive at the final form. Images: Turner.



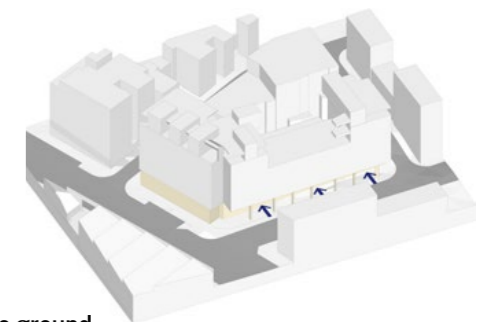
**The master plan**



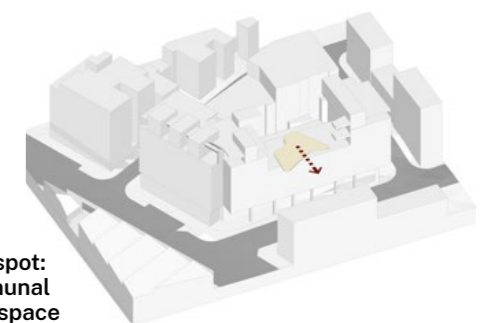
**Introduce articulation**



**Manipulate elements to create roofscape**



**Create ground floor colonnade**



**Best spot: communal open space**

## The 2 primary facades each have different characters in response to their particular street conditions.

The eastern facade to the wider, busy main street evokes surrounding warehouse buildings: monolithic and defensive, coupling solid concrete balustrades with detailed brick infill walls. Windows shift alignment subtly from floor to floor, hinting at a residential rather than industrial use. At ground level, commercial tenancies feature crafted large-format steel-framed bay windows. A glazed-brick base references traditional high-street retail shopfronts in the precinct.

The northern facade to the narrower street takes cues from nearby Glebe terrace houses, with a more open and finer grain expression given by thin slab edges, vertical steel balustrades and hit-and-miss brickwork screens to balconies. Balcony walls have different colours applied, like terrace house doors, suggesting the individuality of dwellings within the whole. Several heavy sculpted concrete elements are interspersed in the elevation as compositional counterpoints.

An angled concrete recess neatly resolves the facade treatments meeting at the street corner.

Three residential entry lobbies are located beneath a colonnade on the northern street frontage. An integrated concrete super-graphic street number is embedded within the facade of each entry, providing excellent address. Alternative informal access is provided to the courtyard via gates on the side streets, encouraging movement through and around the site.

### Communal open space

The rooftop communal open space provides a peaceful retreat above the activity of the street and capitalises on its sheltered location between buildings on either side. Barbecue facilities, a shade pavilion, built-in seats, a lawn area and planting on structure create a collection of smaller gathering spaces for residents to enjoy. A cantilevered balcony is dramatically suspended over the street reserve allowing oblique views back to the city skyline.

### Designed for the long term

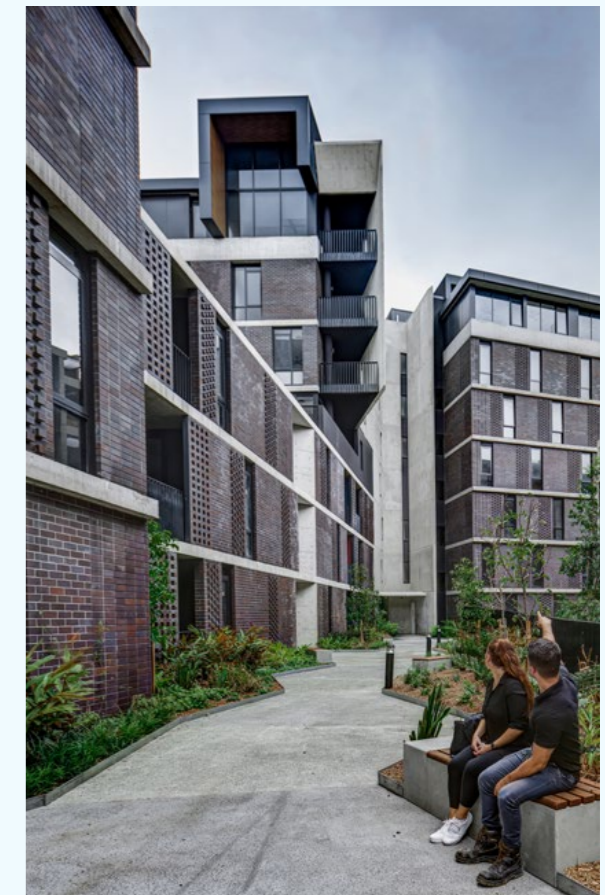
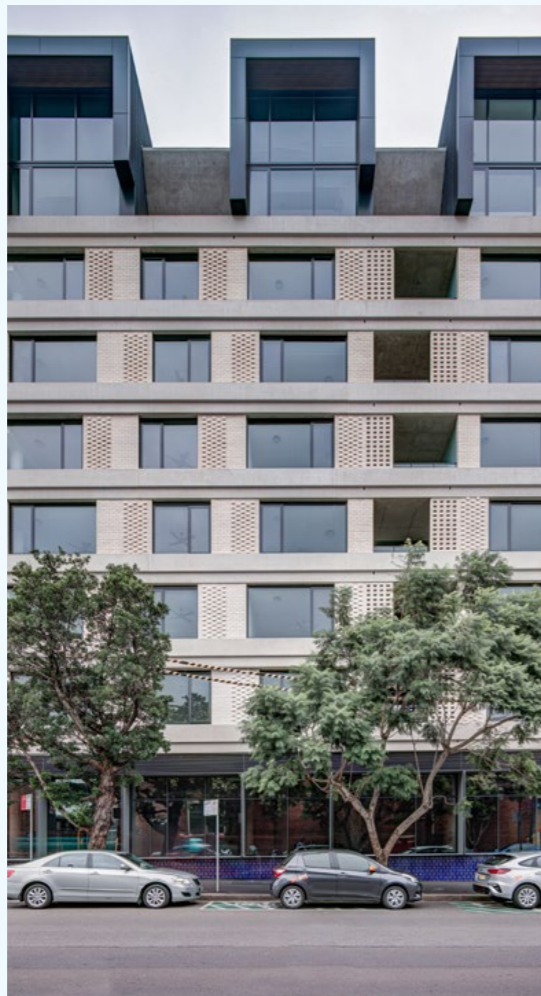
The project is designed to meet the needs of a responsible long-term landlord. Materials and finishes have been selected for longevity and low maintenance. Upfront investment in construction becomes a prudent decision to ensure savings over time. Inventive but direct detailing elevates common concrete and face brick to create striking elevations with shadow and texture.

Environmental initiatives include minimal car parking, abundant bicycle parking and end-of-trip facilities to encourage alternative transport modes, and provision for photovoltaic power for common-area lighting.

The history of the site is celebrated through storytelling in the communal spaces with interpretive elements integrated into stair risers within the courtyard.

**‘Inspiration is drawn from the immediately surrounding area with the form of warehouses and the detail of terrace houses echoed in the design.’**

— Dan Szwaj, Turner



**Facades respond to streets**  
The facades differ based on street activity. The facade to Bay Street is more defensive (left image), whereas balconies proliferate on the quieter, north-facing Wentworth Street (right). Images: Brett Boardman Photography.

**Refuge for residents**  
The communal roof space is a retreat above the city streets, with district views and plenty of sun. Closer to ground level, a courtyard shares green space with the neighbouring development. Images: Brett Boardman Photography.



**Clean living**  
Interiors are bright, fresh and easy to maintain. Images: Ryan Linnegar.

### Achieving residential amenity

Each lift core serves 4 to 7 apartments and is serviced by short corridors with windows to the courtyard for light and air. The lift core and fire stair are cleverly used to resolve apartments being in close proximity across the inside corner of the L-shaped block.

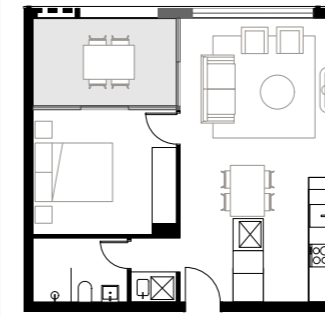
The planning responds to the affordable housing brief: apartments are compact in size, only have one bathroom, and the unit mix favours smaller households with over 50% of apartments single bedroom, and nearly 40% 2 bedroom. Interiors are utilitarian and easily maintained with floor tiles provided throughout. Open shelves are integrated into built-in joinery which adds to the impression of homeliness. Large windows take in city views. Ceiling fans are provided in every living room and bedroom to improve cooling and comfort.



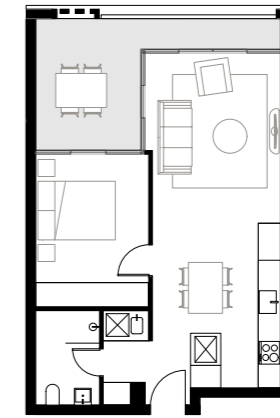
**Clever planning**  
Privacy between apartments is solved on the difficult internal corner through clever planning of the lift and fire stair. Both the lobby and the fire stair have natural light, and serve a maximum of 7 apartments per floor.



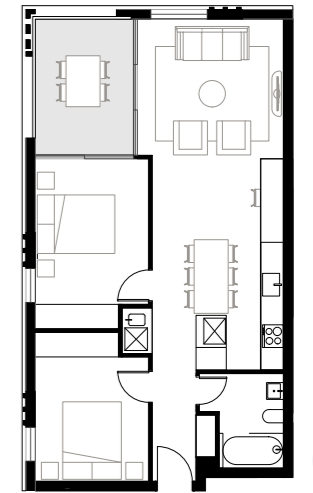
**Extra height**  
Top floor apartments use 'pop-up' elements in the roofscape for double-height spaces or mezzanine floors. Image: Ryan Linnegar.



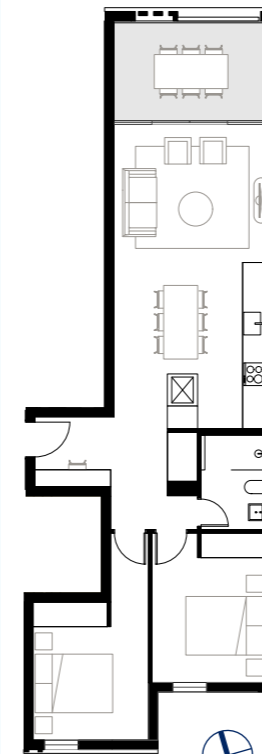
**1 bedroom**  
50 m<sup>2</sup> + 10 m<sup>2</sup> private open space



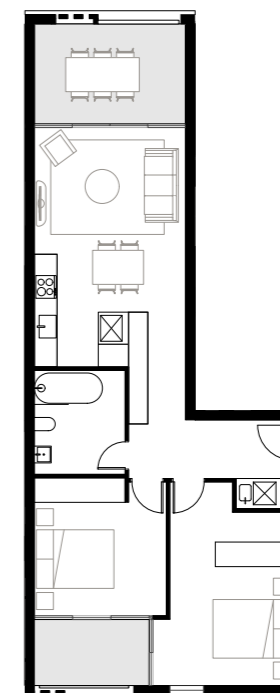
**1 bedroom**  
Livable Housing Design Guidelines silver level  
52 m<sup>2</sup> + 12 m<sup>2</sup> private open space



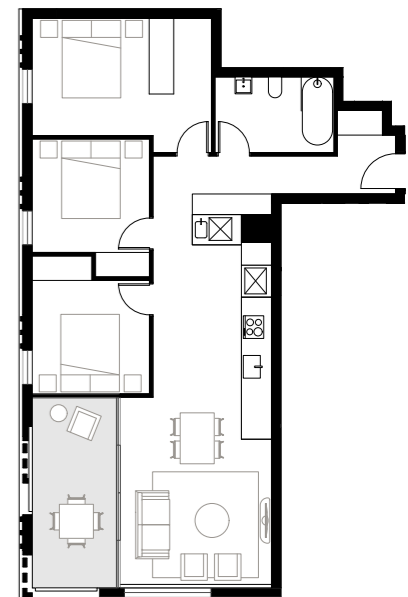
**2 bedroom**  
70 m<sup>2</sup> + 10 m<sup>2</sup> private open space



**2 bedroom cross-through**  
72 m<sup>2</sup> + 10 m<sup>2</sup> private open space



**2 bedroom cross-through (Adaptable to AS4299)**  
73 m<sup>2</sup> + 15 m<sup>2</sup> private open space



**3 bedroom (Adaptable to AS4299)**  
90 m<sup>2</sup> + 12 m<sup>2</sup> private open space

**Typical apartment plans**  
Drawings are all to scale as indicated below. The north point for each plan is true for the individual apartment shown, but may vary where this plan has been repeated in the project.

## LINE OF SIGHT TO THE APARTMENT DESIGN GUIDE (ADG)

### ADG 3G PEDESTRIAN ACCESS AND ENTRIES OBJECTIVE 3G-2:

Access, entries and pathways are accessible and easy to identify

### ADG 4S MIXED USE OBJECTIVE 4S-1:

Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement

### OBJECTIVE 4S-2:

Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents

This development has excellent street address, with a number of retail tenancies taking up the ground floor between the clearly defined residential entries. This ensures active frontages in line with the development control plan, eschewing blank walls to incorporate diverse uses. A colonnade on the quieter northern street provides weather-protected areas for bike parking and possible outdoor seating. The 'rear' of the project is accessible and includes residential lobby entries, again providing activation. Secure residential lobbies feature super-graphic numbering, with tenant letterboxes inside lobbies for safety. The 'corners' of the development are all chamfered or recessed, to smooth pedestrian transitions.

### ADG 4Q UNIVERSAL DESIGN OBJECTIVE 4Q-1:

Universal design features are included in apartment design to promote flexible housing for all community members

### OBJECTIVE 4Q-2:

A variety of apartments with adaptable designs are provided

In addition to meeting basic requirements for universal access to all public areas, common circulation and residential facilities, this project incorporates almost double the number of *Livable Housing Design Guidelines* silver-level apartments called for in the ADG, as well as providing 16% of apartments as adaptable, slightly above council requirements. This high level of inclusion for diverse tenants is appropriate for affordable housing, where residents are often aged or have mobility challenges. A range of dwelling types have been selected to be adaptable or silver level to provide placement options for the community housing provider managing the building. Some of these are shown in the typical plans provided on the previous page. Apartments, though compact, have joinery with shelves built in for display, and open-plan living areas that allow different furniture arrangements depending on resident preferences.

### ADG 4M FACADES OBJECTIVE 4M-1:

Building facades provide visual interest along the street while respecting the character of the local area

With a small palette of materials, the architect has manipulated and detailed the facades to tremendous affect, with extraordinary depth and articulation. A high level of visual interest is achieved without overshadowing the context — this is a building that helps knit the city fabric rather than making a hole in it.

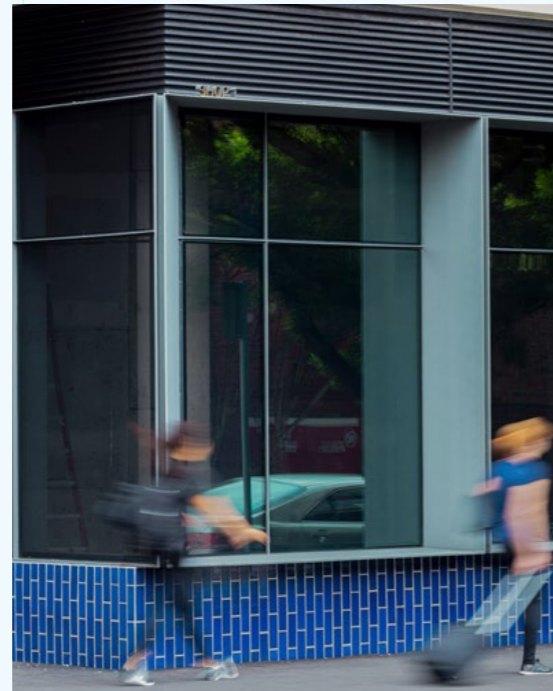
### ADG 4N ROOF DESIGN OBJECTIVE 4N-1:

Roof treatments are integrated into the building design and positively respond to the street

### OBJECTIVE 4N-2:

Opportunities to use roof space for residential accommodation and open space are maximised

Height available in the master plan, but not used for an extra level, became an opportunity for 'pop-ups' which generate an animated roofline (see image on first page). These volumes are used within apartments for double-height spaces or for mezzanines. Again to provide articulation as well as solar access to the site on the south, a portion of the northern perimeter block is set down and becomes a roof terrace with a sunny communal open space.



**Designed to last**  
Face brick, off-form concrete and steel detailing provide robust, low-maintenance and long-life quality. Images Brett Boardman Photography.