Edmondson Park
Affordable Rental Housing
Architectural Design Report

Application:
Amending Development Application

Address:
Lot 101 DP 1267563 Somme Avenue, Edmondson Park NSW

Client:
Croatia 88 Pty Ltd.

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Contents

Part 1:

Design Verification Statement

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AFFORDABLE RENTAL HOUSING
LOT 101 DP 1267563 SOMME AVENUE, EDMONDSON PARK NSW
AMENDING DEVELOPMENT APPLICATION FOR CROATIA 88 PTY LTD

DESIGN VERIFICATION STATEMENT

This project is a residential flat development to which the Environmental Planning and Assessment Regulation 2021, Part 3, Division 1, Cl29(2) applies.

I, Frank Stanisic, a registered architect in accordance with the Architects Act 2003, Registration No. 4480:

a. directed the design of the residential apartment development at Lot 101 DP 1267563 Somme Avenue, Edmondson Park;

b. (i) verify that the design principles for residential apartment development set out in State Environmental Planning Policy (Housing) 2021, Schedule 9 – design principles for residential apartment development have been achieved, with an explanation detailed in Part 3: Design Principles Compliance Statement of the Architectural Design Report; and

(ii) verify that the objectives of Parts 3 and 4 of the Apartment Design Guide have been achieved, with an explanation detailed in Part 4: ADG Compliance Table of the Architectural Design Report.

[redacted]

FRANK STANISIC LFRAIA NSW ARB 4480
Director

29 February 2024

Part 2:

Design Principles Compliance Statement

Overview

This amending development application seeks to amend DA 1320/2021 (PPSSWC-225 – Liverpool City Council) following recent changes to SEPP (Housing) 2021.

Below is a summary of the key benefits of the proposal to increase the density on the site:

1. Achieve 27 affordable housing apartments (2,380m² GFA) near the Edmondson Park Town Centre.

2. Consolidate affordable housing into one building - Building A (with a single apartment in Building B) that is managed by a social housing provider.

3. Create a diversity of building heights and more interesting urban form.

4. Strengthen the urban form with a taller building at the key corner of Bernera Road and Future Street – a key gateway site adjacent to the future parkland.

5. Increase the height of Building B from 6 to 8 storeys to better complement future 12 storey building forms on the Landcom site to the south and achieve a transition in building height down to 4 storeys.

6. Locate 4 storey building forms (Building A + B) adjacent to future 4 storey forms to the north.

7. Increase building heights without detrimentally affecting surrounding future development sites or their development potential; the additional built form to Building C will overshadow a large future park, and Building B will slightly increase overshadowing to Landcom site that is earmarked for 50% increase in density and height.

8. Increase the number of lifts to Building B and C (east) to accommodate an increase in population to improves the amenity of the development.

9. Locate a cross through level to Building C, at Level 4 to allow for redundancy if a lift is being serviced due to increased height.

10. Increase the communal roof terrace area of Building C roof terrace by relocating condenser units from the roof terrace to the upper roof.

11. Revise parking rates in accordance with the relevant policies to achieve residential parking within approved basements that will result in a neutral traffic impact on the surrounding street network.

Principle 1: Context + Neighbourhood Character

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

Responding to context involves identifying the desirable elements of an area's existing or future character. Well-designed buildings respond to and enhance the 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.

- Development is located at Lot 101 DP1267563 Somme Avenue, Edmondson Park, within 200m walking distance from the new Edmondson Park Train Station and bus interchange; and within close vicinity of the Future Edmondson Park Town Centre, schools, suburban and regional parks.
- The area is undergoing transition from rural to residential uses and parkland; the surrounding area is a mix of new two-storey dwellings, residential apartments, farming (grapes), native landscape and Maxwell Creek. Refer to DA 0004 Context Analysis Plan DA 0005 Site Analysis Plan DA 0005.
- Site has no buildings or improvements; it is covered with grasses and low-level shrubs; the total site area is 10,111.5 sqm.
- Site adjoins the Future Development State Significant Precinct (SSP) Edmondson Park South which includes future residential development, new streets, future Riparian Park to the south.
- Development site consists of two irregular shaped areas: Area 1 (north) fronting Passendale Road to the east, Somme Avenue to the west and a future development site to the south; and Area 2 (south) fronting Bernera Road and a future east-west street to the south adjacent to the future Riparian Park to the south.
- Total site has been established by a land swap which excises RE1 – Public Reservation to the south and adds a triangular site adjacent to Bernera Road to the north-east, and the removal of a future street in Area 2 (north).
- Site is constrained by the Asset Protection Zone (APZ) - a fuel reduced landscaped area - to the north and south; riparian zone incorporating Maxwell Creek to the south; flooding to the south; temporary accessway to the southern boundary of Area 1 (north); and road widening of Somme Avenue on the western boundary of site 1 (south) and 6m temporary accessway on the southern boundary connection Somme Ave and Pasendale Rd.
- Site is zoned R1 - General Residential with a 0.75:1 and 1.5:1 FSR and 12 and 21m HOB to the north portion; and 1.5:1 FSR and 21m HOB on the south portion. However, SEPP (Housing) 2021 allows for an increase in the maximum height of building and FSR by 130% if a minimum 10% of the total FSR is provided as affordable housing for a minimum of 15 years.
- Area 1 (north) adjoins one and two storey dwellings (and temporary farm) to the west and north (and residential apartment development (aka Costello, under construction) to the east.
- Area 1 (north) adjoins Costello, a contemporary 4 to 6 storey residential development under construction comprising 3 buildings which fronts Bernera Road, and new north-south street.
- Site has approx 5m fall from the north-west to the south-east corner of site 1 (south) and relatively flat area for site 2 (south): the two sites are joined by a narrow, 4m wide parcel of land that adjoins Passendale Road.

Principle 2: Built Form + Scale

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.

- Built form contributes to the character of the street, providing internal amenity and outlook.
- Development consent has been achieved for three x 3 to 6 storey buildings which transition from the 2 storey dwellings to the future 6 storey residential apartment development.
- This proposal is for Building A fronting Somme Avenue at 4 storeys, Building B fronting Passendale Road at 4 and 8 storeys, and Building C fronting Bernera Road and the future north-south street has 6 and 8 storeys.
- Development retains the scale, bulk, and height of the existing and future residential apartment developments. The Landcom site to the south of the northern site is earmarked for a 50% increase in building height, anticipated to be 12 storeys.
- 4 and 8 storey hybrid form of buildings A and B define a transitional element that complements the adjoining 4 and 6 storey buildings.
- 6 and 8 storey linear built form of Building C located on Bernera Road is the cornerstone of the future street leading to the future built forms of the Future Development State Significant Precinct (SSP) Edmondson Park South to the west.
- The varied building form achieved by increased building heights is a positive characteristic and results in a more interesting urban form.
- Buildings A and B are generally setback 6m from street boundaries to define a zone for tree planting; Building C is setback approx 2 to 4m from the northern boundary to the future street and 4 to 6m from the eastern boundary for tree planting; Building C is setback 3m from the southern boundary and sits outside the 5m setback from the top of bank to Maxwell Creek (Category 2) and outside the APZ Zone.
- Buildings A and B are generally setback a minimum 6m from the side boundaries to define a perimeter zone for deep soil, outside the extent of the basement carpark.
- Building A defines a north facing linear communal courtyard; and Buildings A and B combine to define a central communal courtyard.
- Built form is modulated with recesses to create a vertical element which breaks down the mass and bulk. The building elements are further articulated with facetted walls and balconies, picket balustrades, and vertical battens to add architectural expression and shading to the facades.
- Street elevations to Buildings A and B are emphasised with facetted walls. deep recesses and canopies that highlight the interface of the buildings to the street.
- Wall and balustrades of all buildings are generally constructed from precast concrete panels, offset with aluminium picket balustrades and vertical aluminium batten screens. Face bricks are used at ground level to enclose terraces.
- Western portion of Building C on Level 7 is capped with a communal roof terrace. Building plant has been relocated from the roof terrace to the upper roof to improve the amenity of this important external space.

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.

- Dwelling density is appropriate to the site and its future context.
- Development has an FSR of 1.57:1 on a total site area of 10,111.5 sqm; the maximum permissible FSR for the blended site 1 (north) and site 2 (south) is 1.57:1 which is 130% of the maximum permissible GFA.
- Development has total GFA of 15,867sqm comprising 2,379.74sqm GFA in Building A, 5,537.77sqm in Building B and 7949.99sqm in Building C.
- Development has a total of 178 apartments comprising 50 x 1 bed (28%), 114 x 2 beds (64%) and 14 x 3 beds (8.0%).
- Density is easily sustained by the close proximity of the site to Edmondson Park Train Station, bus interchange and Edmondson Park Town Centre.
- Development suppports the NSW Government objective of increasing housing (including affordable housing) in town centres, next to rail stations.
- There is demand for this type of development in the local area being a mix of 1, 2 and 3 apartments.

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.

- Development makes efficient use of energy and water throughout its full life cycle. It will meet the benchmarks of 25% energy reduction and 40% water reduction set out in BASIX.
- Development incorporates sound ESD principles achieving 124/178 (69.7%) apartments with solar access between 9am and 3pm at mid-winter and 111/178 (62.4%) apartments that have natural cross ventilation in the 6 storey buildings.
- Residential lift lobbies are naturally lit.
- Precast concrete panels have good heat retaining performance in winter and reduce ongoing maintenance costs.
- Building utilises the northern orientation to optimise solar access to living rooms and private open space at mid-winter.
- Communal open space on level 7 roof terrace of Building C has north and west aspect that achieves solar access throughout the day and throughout the year; it is located with outlook over the future Riparian Park to the south.
- Energy efficient appliances and water efficient devices will be specified to minimise water consumption of resources.
- Inclusion of a rainwater retention tank for the collection and reuse of rainwater for irrigation reduces the ongoing water use on the site, as is the selection of drought resistant indigenous plants.
- Development has communal open space of 4,523 (44.7%) of the total site area (excluding new street reservations) located in the central communal and northern courtyards at ground level of Buildings A and B, and the roof terrace on level 7 of Building C.
- Apartments will be fitted with energy efficient, reverse cycle, split AC systems consisting of a single condenser unit and multiple fan coil units; individual controls in each room and the ability to run one room of the entire dwelling reduces energy consumption.
- Condenser units are located on the roof levels of Buildings A, B and C maximising the area of private open space.

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 useability, privacy and opportunities for social interaction, equitable access, respect for neighbours' amenity and provides for practical establishment and long-term management.

- Development supplements and preserves the existing natural landscape. Refer to Context Analysis Plan DA 0004 and Site Analysis Plan DA 0005 prepared by Stanisic Architects.
- Land swap excises the triangular portion of parkland in the RE1 – Public Reservation Zone and adds the triangular developable land in the R1 – General Residential Zone adjacent to Bernera Road. The excised land which contains Maxwell Creek will be regenerated and managed as part of the future Riparian Park by Liverpool Council.
- Building C in Area 2 (south) is sited outside the Riparian Zone and 5m setback from the top of the bank of Maxwell Creek (Category 2) and defines the new east-west site boundary. The building is sited outside the Asset Protection Zone (APZ).
- Zones for landscape planting are established on Site 1 (north) and Site 2 (south) by substantial front, rear and side setbacks that ring the new buildings and ground and roof level communal courtyards.
- Buildings A and B are setback 6m from Somme Avenue and Passendale Road to define zones for tree planting; building C is setback approx. 2 to 4m from the northern boundary to the future street and 4 to 6m from the east boundary for tree planting; building C is setback 3m from the southern boundary, adjacent to Riparian Zone.
- Development has a variety of landscaped communal open spaces for residents and visitors: northern linear courtyard adjacent to building A, central courtyard between buildings A and B, roof terrace on building C and perimeter deep soil zones.
- Total area of communal open space is 4,523sqm, (44.7%) of the site area of 10,111.5sqm comprising 2,782sqm at ground level communal courtyard on Site 1 (north); 1,0777sqm at ground level communal courtyard and 680sqm on the roof terrace of Site 2 (south); the ADG design guidance for minimum communal open space is 2,527.88sqm, i.e. 25 % of the site area of 10,111.5sqm.
- Development has deep soil of 2,283sqm (22.6% of site area); the ADG design criteria for deep soil zones (for sites over 1,500sqm) is 7,07.8sqm, i.e. 7% site area. Design guidance recommends 15% deep soil on sites over 1,500sqm.
- Accessible pathways on Site 1 (north) provide easy movement around the site and connect the communal courtyards and primary streets. A stair provides access form the central courtyard to the lower-level perimeter pathway.
- Large, medium, and small trees, low level shrubs, mass planting and grasses are planted in the communal open spaces. Refer to the Landscape Architect's plans.
- Communal roof terrace on level 7, Building C is accessed by a glazed, enclosed lobby with a single lift and corridor from a double lift; it receives direct sunlight all year round and has a shade canopy and planting.

Principle 6: Amenity

Good design positively influences internal and external amenity for residents and neighbours. Achieving good amenity contributes to positive living environments and resident well-being.

Good amenity combines appropriate room dimensions and shapes, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas and ease of access for all age groups and degrees of mobility.

- Development has good amenity for a positive living environment and resident well-being through the skilful design of the internal and external environment.
- Lift lobbies at each level have south facing, openable windows for daylight and natural ventilation.
- Apartments have been laid out to maximise living areas and minimise internal corridors.
- All living rooms achieve the minimum 3.6m width for 1 bed apartments and 4m width for 2 and 3 bed apartments. All apartments have at least one balcony opening directly off the living space.
- Development achieves 124/178 (69.7%) apartments with solar access between 9am and 3pm at mid-winter and 111/178 (62.4%) apartments that have natural cross ventilation. Apartments have been designed to optimise solar access within an existing approval.
- 12/178 (6.7%) apartments receive no direct sunlight between 9am and 3pm at mid-winter; the maximum of 27 (15%) in the ADG.
- Minimum 50% storage is provided within the apartment, the remaining 50% in provided in storage cages in a common residential storage area above the basement parking areas; bulky goods storage has also been provided.
- Development has 18 (10.1%) adaptable apartments in accordance with Council's controls and 42 (23.6%) silver level Liveable Housing apartments exceeding the ADG recommended guidelines.
- Minimum ceiling heights of living rooms is 2.7m; each dwelling has access to secure private open space or balcony with a minimum 8 sqm for 1 bed, 10sqm for 2 bed and 12sqm for 3 bed off the living area; the minimum depth is 2m for 1 and 2 bed and 2.4m for 3 bed.
- Development has incorporated the recommendations of the Acoustic Report about noise related to building material of external walls, windows, sliding doors and mechanical ventilation.

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.

- Residential entry lobbies are visible from Somme Avenue (building A), Passendale Road (building B) and the future east street building C and provide opportunities for casual interaction and surveillance.
- Communal open spaces at ground level and on the roof, terrace can be accessed by all residents. The courtyards on Site 1 (north) are overlooked by living areas, bedrooms, and balconies, providing casual surveillance.
- Crime Prevention through Environmental Design Assessment (CPTED) addressing the four key principles of surveillance, access control, territorial reinforcement and space management has been undertaken. Refer to CPTED Report.

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 and providing opportunities for social interaction among residents.

- Development has a grand total of 178 apartments comprising 50 x 1 bed (28.0%), 114 x 2 beds (64.0%) and 14 x 3 beds (8.0%).
- Apartments sizes comply with the minimum design guidance for apartment sizes in the ADG.
- Communal open spaces have been designed to encourage social interaction within the provide spaces for relaxation, social interaction and meetings for residents and visitors; these comprise the northern linear courtyard adjacent to building A, central courtyard between buildings A and B, roof terrace on building C and perimeter deep soil zones.
- All communal spaces have equitable access and encourage social interaction.
- Apartments will cater to residents from a wide range of age groups; recent surveys have shown that typically in developments of this type new residents come from nearby suburb, enhancing the existing community.
- Development is located 200m walking distance from the new Edmondson Park Train Station; and within the vicinity of the Future Edmondson Park Town Centre, schools, shops, suburban and regional parks.

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

- Development is a carefully crafted, contemporary building that responds to its location and setting. It avoids the overworked, 'fruit salad,' approach of other recent apartment developments in the Edmondson Park Town Centre.
- External appearance of the buildings complements the expression of the adjoining apartment development, aka Costello.
- The aesthetic expresses the forward-looking aspirations of the project and its spirit of environmental excellence. The expression of the elevations responds to many factors including site, sun control, construction, technology, and apartment amenity.
- Development is an opportunity to create an aesthetic based on environmental and urban design principles, untainted by sentimentality and contextual gestures. The appearance of the buildings avoids the overused expression of cellular, crate-like elements. Special attention has been given to materiality of external elements.
- Built form is modulated with recesses to create vertical elements that break down the building's mass and bulk. The building elements are further articulated with facetted walls and balconies, picket balustrades, and vertical battens to add architectural expression and shading to the facades.
- Street elevations to buildings A and B are emphasised with facetted walls, deep recesses and canopies that highlight the interface of the buildings to the street.
- Wall and balustrades of all buildings are generally constructed from precast concrete panels, offset with aluminium picket balustrades and vertical aluminium batten screens. Face bricks are used at ground level to enclose private terraces.
- Western portion of building C on level 6 has a communal roof terrace.
- Buildings utilise window and balcony composition, and light and shade to achieve quality building aesthetic avoiding applied decoration and showy featurism.
- External precast concrete walls are painted in a concrete-like, mid-tone grey.
- Aluminium window and door frames have a dark bronze powdercoat finish; and aluminium picket balustrades and vertical batten screens have a medium bronze powdercoat finish.
- Off-form, in-situ concrete finish with vertical grooves is used around the car parking entries.
- The entry to Building B has been enhanced from the approved development application to reflect the increased population of the building and create a clear entry to the building.

Part 3:

ADG Compliance Table

Part 3: Siting the development

ADG OBJECTIVE	
3A SITE ANALYSIS	**DESIGN RESPONSE**
3A-1 Site analysis illustrates that design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context.	Site analysis is consistent with the requirements of Appendix 1, ADG; refer to Context Analysis Plan DA 0004 and Site Analysis Plan DA 0005 prepared by Stanisic Architects.
3B ORIENTATION	**DESIGN RESPONSE**
3B-1 Building types and layouts respond to the streetscape and site while optimising solar access within the development.	Residential entry lobbies are directly accessed at ground level from adjoining streets. Building A fronts Somme Avenue, Building B fronts Passendale Road and Building C fronts Bernera Road and the future east-west street.
3B-2 Overshadowing of neighbouring properties is minimised during mid-winter.	Most living areas and private open space are orientated to the north for solar access. Roof terrace on level 7, Building C receives solar access throughout the day, all year round. There is no impact on the solar access of neighbours. Refer to sun eye view diagrams prepared by Stanisic Architects. There is no overshadowing of neighbours. Buildings A and B are orientated to side boundaries to maximise solar access to apartments.
3C PUBLIC DOMAIN INTERFACES	**DESIGN RESPONSE**
3C-1 Transition between private and public domain is achieved without compromising safety and security.	Apartments at the street have level changes, private terraces, picket screens and planting for visual privacy. Upper-level apartments overlook streets and courtyards and have direct surveillance from windows and balconies. Letterboxes can be located inside the entry lobby allowing for casual interaction between residents and the public domain. Residential entries will have clear identification signage. There are no opportunities for concealment of people on the street frontages.
3C-2 Amenity of the public domain is retained and enhanced.	Mail boxes are located perpendicular to the street in front of or inside of the entry lobbies for opportunities for casual pedestrian interactions. Main carpark exhaust risers for site 1 (north) and site 2 (south) are discharged at roof level so as not to adversely impact on communal courtyards, neighbours, or the public domain. Kiosk substations are provided for both sites. Waste storage for residential is located within the buildings in the basements. Entry lobbies on Somme Avenue, Passendale Road and the future east-west street are level with the street and provide equitable access. Generally, there are no solid walls to the street; the precast concrete walls adjacent to carpark entries on Passendale Road and the future east-west street are detailed with vertical grooves at pedestrian level. Low wall and planting on the southern boundary of building C delineate the public Riparian Park.

	Carparking is concealed, located entirely below ground level or skinned with apartments.
3D COMMUNAL AND PUBLIC OPEN SPACE	**DESIGN RESPONSE**
3D-1 An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping.	Total area of communal open space is 4,523 (44.7%) of the site area of 10,111.5sqm comprising 2,782sqm at ground level communal courtyard on Site 1 (north); 1077sqm at ground level communal courtyard and 680sqm on the roof terrace of Site 2 (south); the ADG design guidance for minimum communal open space is 2,527.88sqm, i.e. 25 % of the site area of 10,111.5sqm. Communal open spaces have been designed by the landscape architects to achieve well designed spaces suitable for a range of activities and user groups. Communal open space has a minimum dimension of 3m. Development has deep soil of 4,523sqm, (44.7% of site area); the ADG design criteria for deep soil zones (for sites over 1,500sqm) is 707.8sqm, i.e. 7% site area but the design guidance recommends 15% of the site area. Variety of landscaped communal open spaces have been provided for relaxation, social interaction and meetings for residents and visitors including the northern linear communal courtyard adjacent to Building A, central communal courtyard between Buildings A and B, roof terrace on level 7, Building C, and perimeter deep soil zones.
3D-2 Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting.	Communal open space at the level 1 courtyard of Buildings A and B has medium trees in deep soil, planters, and seating; the roof terrace has a sun shade structure, seating for individuals and groups integrated with planters, BBQ with fixed benches, timber decking and hard stand area. Refer to landscape architects plan and statement. Condenser units have been provided in screened enclosures on the roofs of Buildings A, B and C.
3D-3 Communal open space is designed to maximise safety.	Communal open space of Buildings A and B is overlooked by upper-level living area, balconies, and bedrooms of apartments. Communal open spaces are well lit, safe, and contained, allowing for a range of user groups.
3D-4 Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood.	The site is too small for public open space and none has been provided.
3D DEEP SOIL ZONES	**DESIGN RESPONSE**
3E-1 Deep soil zones provide areas on the site that allow for and support healthy plant and tree growth. They improve residential amenity and promote management of water and air quality.	Development has deep soil of 2,283sqm, (22.8% of site area); the ADG design criteria for deep soil zones (for sites over 1,500sqm) is 1,516sqm, i.e. 15% site area Minimum dimension is 6m. There are no existing trees on the site. Deep soil is provided in the 6m setback zone around the basement carpark of Buildings A, B and C.
3F VISUAL PRIVACY	**DESIGN RESPONSE**
3F-1 Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy.	8m building separation between 3 storey, Buildings A and B, on Site 1 north. 6m side setback between 8 storey component of Building B and the future 12 storey building to the south on Passendale Road with windows angled away from the side boundary to achieve visual privacy; privacy screens to bedrooms at Levels 5 and 8. Buildings A is a simple 4 storey form; Building B is a hybrid of simple 4 and 8 storey forms; and Building C is a simple 8 storey form with a single step at level 7 for a roof terrace; no ‘ziggurat’ appearance.

	Most living areas of apartments are orientated to the north, east and west to maximise solar access. The proposed and existing adjacent residential buildings are in a R1 - General Residential Zone and hence require no additional setbacks to the side boundaries; Building C is adjacent to RE1 – Public Reservation Zone which does not permit residential development. There are no direct sight lines for windows and balconies across corners.
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.	Communal open space located on Level 7 roof, Building C where there is no adjacent private open space; communal open space located on level 1, Buildings A and B is interfaced with level change, private terraces, picket screens and planting. Balustrades of balconies are aluminium picket and solid precast panels for visual privacy. No clear glass balustrades are provided Vertical, aluminium batten screen provide visual privacy to selected bedrooms. Balconies are located adjacent to living and dining rooms of all apartments Offset windows and recessed balconies or vertical fins are not required
3G PEDESTRAIN ACCESS AND ENTRIES	**DESIGN RESPONSE**
3G-1 Building entries and pedestrian access connects to and addresses the public domain.	There are separate entries from adjacent streets to Buildings A, B and C. Entry lobbies with increases glazing and letterboxes are clearly identifiable off adjacent streets.
3G-2 Access, entries and pathways are accessible and easy to identify.	Entries and letterboxes are accessed directly off adjacent streets Pedestrian access to the level 6, building C communal roof terrace is by two lifts that service all residential levels. Way finding maps will be provided if required. Electronic access and audio/video intercom will be provided to manage access to the carpark.
3G-3 Large sites provide pedestrian links for access to streets and connection to destinations.	No through-site link is identified in Council's planning controls.
3H VEHICLE ACCESS	**DESIGN RESPONSE**
3H-1 Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes.	Pedestrian entries on Somme Avenue, Passendale Road and the future east-west street are separate to the carpark entry/exits thus eliminating pedestrian/ car conflicts. Car park entries for the development are located on Passendale Road for Buildings A and B and the north-west corner of the future east-west street for Building C. Waste collection is from external waste collection areas on Passendale Road and the future east-west street adjacent to carpark entries at the north-west corner. A combined waste room for Buildings A and B is in basement/ level 1 adjacent to the Passendale Road and waste holding on level LG (B1); the waste rooms for Building C is in basement 1 and waste holding area on Level 1 (G). Pedestrian entries are separate to the carpark entries for Buildings A and B, and Building C eliminating pedestrian/ car conflicts.
3J BICYCLE AND CARPARKING	**DESIGN RESPONSE**
3J-1 Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas.	Car parking provision is based on rates for residential in Council's Town Centre DCP and Refer to the Traffic and Parking report. All car parking is located within basement and semi-basements or screened by apartments from public view.

	No car share scheme is proposed.
3J-2 Parking and facilities are provided for other modes of transport.	Charging facilities have been allowed for within basement carparks.
3J-3 Car park design and access is safe and secure.	Central waste rooms are in the basements. Lift lobbies are clearly defined and visible on each basement carpark level. Safe pedestrian access is provided. Basement carparks are rectangular shaped with efficiently laid out parking spaces. Carparks are below ground or screened with apartments, and will be mechanically ventilated with exhaust risers to the roofs.
3J-4 Visual and environmental impacts of underground car parking are minimised.	The basement ramp has been minimised, being a single lane with a car waiting bay to reduce the dominance of the gate and create a high-quality streetscape. The basement footprint achieves 44.7% landscape area that contains planting. There is a part nil setback along the southern boundary where the southern courtyard is located with planting on the built structure.
3J-5 Visual and environmental impacts of on-grade car parking are minimised.	No on-grade parking is proposed.
3J-6 Visual and environmental impacts of above ground enclosed car parking are minimised.	No parking is exposed on primary streets.

Part 4: Designing the Building

ADG OBJECTIVE	
4A SOLAR + DAYLIGHT ACCESS	**DESIGN RESPONSE**
4A-1 To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space.	The site at Edmondson Park is within the Sydney Metropolitan Area Development achieves 124 (69.7%) apartments with solar access between 9am and 3pm at mid-winter. 12 (6.7%) apartments receive no direct sunlight between 9am and 3pm at mid-winter; the maximum of 26.7 (15%) in the ADG. Apartments have access to communal open spaces on Level 1 courtyard, Buildings A and B, and Level 7 roof terrace of Building C with solar access more than the minimum guideline, accessed directly by lifts from each level. Many single and dual aspect apartments have northern aspect. Living areas and private open spaces are located to maximise sunlight. The development has single and dual aspect apartments with balconies.
4A-2 Daylight access is maximised where sunlight is limited.	No secondary light sources are relied on for habitable rooms. South-facing apartments on each level are provided with natural ventilation to the living areas.
4A-3 Design incorporates shading and glare control, particularly for warmer months.	North-facing windows to living rooms and bedrooms are screened. West facing windows have been minimised to reduce heat gain. Glass performance with reflectance levels to reduce external glare will be selected.
4B NATURAL VENTILATION	**DESIGN RESPONSE**
4B-1 All habitable rooms are naturally ventilated.	Buildings A, B and C have north-south orientation that maximises breezes for natural ventilation. All habitable rooms are naturally ventilated, exceeding the requirement of minimum 5% of the floor area served. No light wells are provided. Sliding and awning windows are used to capture prevailing breezes for natural ventilation to habitable rooms.
4B-2 The layout and design of single aspect apartments maximises natural ventilation.	Apartment depths to single aspect habitable rooms are maximum 8m. Layout and design of single aspect apartments maximize natural ventilation.
4B-3 The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents.	Natural cross ventilation is achieved to 111/178 (62.4%) apartments. There are no cross-over apartments. Building has dual aspect and corner apartments to achieve natural cross ventilation. Area of external window and door openings on opposite sides of cross-through apartments are approximately equal. Apartments have clearly defined layouts with minimised internal corners and doors to enhance air flow.

4C CEILING HEIGHTS	DESIGN RESPONSE
4C-1 Ceiling height achieves sufficient natural ventilation and daylight access.	Ceiling heights in habitable and non-habitable rooms comply with the minimum ceiling heights. Habitable rooms have 2.7m minimum ceiling. Floor-to-floor heights are 3.1m.
4C-2 Ceiling height increases the sense of space in apartments and provides for well-proportioned rooms.	Living rooms and bedrooms have 2.7m ceiling heights. Services are in bulkheads over robes and kitchen joinery, and over wet areas. Living and dining rooms are rectangular in shape.
4C-3 Ceiling heights contribute to the flexibility of building use over the life of the building.	Not applicable.
4D APARTMENT SIZE + LAYOUT	**DESIGN RESPONSE**
4D-1 The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity	Minimum internal areas are strictly in accordance with the ADG table. All habitable rooms windows in external walls with a total minimum glass area of not less than 10% of the floor area of the room. Kitchens are planned to be outside the main internal circulation spaces. Windows are visible from any point in habitable rooms. All apartment layouts meet minimum standards.
4D-2 Environmental performance of the apartment is maximised.	Bedrooms are under 6.75m depth (2.5 x 2.7 ceiling height) Open planned living areas are 8m from a window, including from the front face of kitchen cupboards. Living areas and bedrooms have external windows. All living areas and bedrooms are located on the external face. Main living spaces are oriented to the adjacent streets where there is the primary outlook and aspect or internal courtyards.
4D-3 Apartment layouts are designed to accommodate a variety of household activities and needs.	Bedrooms and living rooms comply with the minimum areas and dimensions. Living rooms and combined living/dining rooms comply with minimum widths. Bathrooms and laundries are separated from living areas. Robes in bedrooms have a minimum length of 1.5m. There are no studio apartments. Generally, apartment layouts are rectangular in shape and allow for a range of furniture layouts and uses.
4E PRIVATE OPEN SPACE AND BALCONIES	**DESIGN RESPONSE**
4E-1 Apartment layouts are designed to accommodate a variety of household activities and needs.	Primary balconies of apartments comply with minimum areas and depth and are generally more than minimum standards. Apartments at ground levels to courtyards and streets have private open spaces have minimum area of 15sqm an minimum depth of 3m comply with the minimum sizes.
4E-2 Primary private open space and balconies are appropriately located to enhance liveability for residents.	Primary open spaces and balconies are located adjacent to living spaces. Primary open spaces face adjacent streets or internal courtyards.
4E-3 Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building.	Aluminium picket balustrades to balconies and precast concrete panels provide visual privacy and sun shading. Downpipes and balcony drainage is concealed. Air conditioning condenser units are located on the roofs of each building and are fully integrated with the building design. Selected habitable rooms are screened by vertical aluminium battens integrated with the building design.

	Apartments below roofs will be insulated above the ceiling as required by BASIX. Balconies of apartments are provided with a rain water outlet.
4E-4 Private open space and balcony design maximises safety.	No changes in ground levels or landscaping. Balustrades are aluminium picket and precast concrete panels to avoid opportunities for climbing falls.
4F COMMON CIRCULATION AND SPACES	**DESIGN RESPONSE**
4F-1 Common circulation spaces achieve good amenity and properly service the number of apartments.	Building A which has a single lift serving 27 apartments with maximum 7 apartments per floor; Building B has two lifts serving 61 apartments with maximum 11 apartments per floor; and Building C has three lifts serving 90 apartments with maximum 14 apartments per floor organised into two separate modules with maximum 7 apartments per floor. All lift lobbies have natural daylight. Maximum length of common circulation corridor is 16m. Dual aspect apartments are provided. Primary living room or bedroom windows do not open directly onto common circulation spaces.
4F-2 Common circulation spaces promote safety and provide for social interaction between residents.	Legible signage will be provided for apartment numbers, common areas and general wayfinding; circulation spaces will have clear signage and lighting. Size of development does not require a community room.
4G STORAGE	**DESIGN RESPONSE**
4G-1 Adequate, well-designed storage is provided in each apartment.	50% required storage is provided within apartments and 50% within the basement carpark. Bulky goods storage is provided in the basement carparks of Buildings A and B; and Building C. No storage is provided on balconies. All storage is accessible from the circulation in living areas.
4G-2 Additional storage is conveniently located, accessible and nominated for individual apartments.	Additional storage is in cages in the basement carparks, accessible by lifts.
4H ACOUSTIC PRIVACY	**DESIGN RESPONSE**
4H-1 Noise transfer is minimised through the siting of buildings and building layout.	Habitable rooms of Buildings A and B that face neighbouring buildings to the north and south comply with minimum building separation distances, supplemented by screening at higher levels to achieve adequate visual privacy. Glazing specified in the Acoustic Report is used to mitigate external noise from traffic on the eastern boundary of Building C. Noise transfer has been minimised by placing bathrooms and kitchens against the corridor walls. Party walls will be appropriately insulated.
4H-2 Noise impacts are mitigated within apartments through layout and acoustic treatments.	Layouts of apartments, grouping bedrooms together, robes as buffers between bedrooms and wet areas mitigate noise impacts. Glazing will be used to address noise conflicts where required in accordance with the Acoustic Report.
4J NOISE AND POLLUTION	**DESIGN RESPONSE**
4J-1 In noisy or hostile environments the impacts of external noise and pollution are minimised through the careful siting and layout of buildings.	Glazing specified by the Acoustic Report will be used to mitigate noise from traffic on the east elevation of Building C.

4J-2 Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission.	Glazing specified by the Acoustic Report will be used to mitigate noise from traffic on the east elevation of Building C.
4K APARTMENT MIX	**DESIGN RESPONSE**
4K-1 A range of apartment types and sizes is provided to cater for different household types now and into the future.	Development has a range of apartments for owner occupiers, investors, and affordable housing. Development has a total of 178 apartments, comprising 50 x 1 bed (28.5%); 114 x 2 beds (64.2%); and 14 x 3 beds (7.3%). All 2 bed apartments have 2 x bathrooms.
4K-2 The apartment mix is distributed to suitable locations within the building.	Apartments are located to achieve a successful facade composition as well as access to daylight, cross ventilation, and private open space. Each level has a mix 1 bed, 2 bed and 3 bed apartments.
4L GROUND FLOOR APARTMENTS	**DESIGN RESPONSE**
4L-1 Street frontage activity is maximised where ground floor apartments are located.	Ground floor apartments in Buildings A, B and C have direct street access. No retail is provided. No home offices are provided. Residents enter the entry lobbies directly from the adjoining streets; letterboxes are set outside the main lobby, under cover, to encourage casual interaction of residents with the street.
4L-2 Design of ground floor apartments delivers amenity and safety for residents.	Ground floor apartments to Buildings A, B and C are elevated above the adjacent ground level.
4M FACADES	**DESIGN RESPONSE**
4M-1 Building facades provide visual interest along the street while respecting the character of the local area.	Front and rear elevations have a varied and fine grain expression that avoids the ‘fruit salad’ or ‘cut and paste’ appearance of many flat buildings in the Edmondson Park Town Centre. Built form is modulated with recesses to create a vertical element that break down the building’s mass and bulk. The building elements are further articulated with facetted walls and balconies, picket balustrades, and vertical battens to add architectural expression and shading to the facades.
4M-2 Building functions are expressed by the façade.	Built form is distinctive with modulated facades articulated with deep recesses, balconies to produce a vibrant, free-styled expression. Entry lift lobbies have increased glazing to highlight the entries from the street.
4N ROOF DESIGN	**DESIGN RESPONSE**
4N-1 Roof treatments are integrated into the building design and positively respond to the street.	Communal open space on level 6 roof terrace of building C has a sunshade structure; planting; facilities for well-being, relaxation, and social engagement; outlook and solar access.
4N-2 Opportunities to use roof space for residential accommodation and open space are maximised.	Communal open space is provided on the level 6 roof terrace of building C; it is safe and secure without impacting on the privacy of adjoining neighbours.
4N-3 Roof design incorporates sustainability features.	Level 7 roof terrace of Building C has a shade structure for residents and visitors. Ventilated skylights are provided over habitable rooms in the roofs of Buildings A, B and C to achieve cross ventilation and solar access to apartments.

4O LANDSCAPE DESIGN	DESIGN RESPONSE
4O-1 Landscape design is sustainable.	Landscape design is environmentally sustainable, with most of the planting being indigenous Australian natives. Landscape is an integral part of the architectural concept to create a landscaped development where landscaped communal open spaces are an essential experience for residents, tempering the harsh urban reality, reducing heat gain, improving air quality, and projecting a sense of greenness and sustainability. Communal open space at Level 1 courtyard, Buildings A and B, has large and medium sized trees and planters; and the roof terrace at Level 7, Building C has planters with low and medium sized shrubs. Refer to landscape architects plans and statement.
4O-2 Landscape design contributes to the streetscape and amenity.	Landscape design responds to orientation and topography. No existing trees on the site.
4P PLANTING ON STRUCTURE	**DESIGN RESPONSE**
4P-1 Appropriate soil profiles are provided.	Deep soil zones are provided on the northern and southern site.
4P-2 Plant growth is optimised with appropriate selection and maintenance.	50% planting will be indigenous and drought tolerant. Rainwater will be captured and reused for irrigation to common areas. Planting will by supported by irrigation and drainage systems.
4P-3 Planting on structures contributes to the quality and amenity of communal and public open spaces.	There is substantial planting on Level 1 communal courtyards on the northern site, and perimeter and street setback zones to Buildings A, B and C. Refer to landscape plans and statement.
4Q UNIVERSAL DESIGN	**DESIGN RESPONSE**
4Q-1 Universal design features are included in apartment design to promote flexible housing for all community members.	Development has 42 (23.6%) silver level Liveable Housing apartments (including the adaptable apartments).
4Q-2 A variety of apartments with adaptable designs are provided.	Development has 18 (10.1%) adaptable apartments. Refer to adaptable and liveable accommodation diagrams and the Accessibility Report. All communal open spaces are accessible. Larger car spaces for accessibility are provided in the basement carparks.
4Q-3 Apartment layouts are flexible and accommodate a range of lifestyle needs.	Development has a range of apartment types and layouts: 1 bed, 1 bed + study, 2 bed; and 3 bed.
4R ADAPTIVE REUSE	**DESIGN RESPONSE**
4R-1 New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense of place.	Not applicable.
4R-2 Adapted buildings provide residential amenity while not precluding future adaptive reuse.	Not applicable.
4S MIXED USE	**DESIGN RESPONSE**
4S-1 Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement	No retail is provided. Carpark driveways are located on Passendale Road and east-west future street to minimise disruption to free pedestrian movement along the public domain. Development is a positive contribution to the public domain.

4S-2 Residential levels of the building are integrated within the development, and safety and amenity are maximised for residents.	The residential entries are clearly defined on the primary streets. Landscaping is provided on both the level 1 communal courtyard on Site 1 (north) and level 6 roof terrace on Site 2 (south).
4T AWNINGS AND SIGNAGE	**DESIGN RESPONSE**
4T-1 Awnings are well located and complement and integrate with the building design.	No street awnings have been provided on adjoining sites. Gutters and downpipes are concealed. No street awnings are provided.
4T-2 Signage responds to the context and desired streetscape character.	Residential building identification will be included over the letterboxes and clearly visible from the streets.
4U ENERGY EFFICIENCY	**DESIGN RESPONSE**
4U-1 Development incorporates passive environmental design.	All apartments achieve the minimum required access to natural daylight. Clothes drying space is located within the laundry and on screened balconies; clothes dryers will be provided.
4U-2 Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer.	Smart glass will be used as required by BASIX. Acoustic glazing will be provided as required by the Acoustic Report. Flooring of living areas will be timber-like tiles on acoustic mat and carpet. Apartment will be fitted with energy efficient, reverse cycle, split AC systems consisting of a single condenser unit and multiple fan coil units; individual controls in each room and the ability to run one room of the entire dwelling reduces energy consumption.
4U-3 Adequate natural ventilation minimises the need for mechanical ventilation.	Natural cross ventilation is achieved to 111/178 (62.4%) apartments. Adequate natural ventilation is provided to minimise mechanical ventilation.
4V WATER MANAGEMENT AND CONSERVATION	**DESIGN RESPONSE**
4V-1 Potable water use is minimised.	Potable water use is minimised by using water efficient fittings and appliances as required by BASIX. Rain water will be collected, stored, and reused on the site. Drought tolerant planting is provided within the landscaped areas; refer to landscaped statement.
4V-2 Urban stormwater is treated on site before being discharged to receiving waters.	WSUD systems will be incorporated into the landscape design, refer to landscaped statement.
4V-3 Flood management systems are integrated into site design.	On-site rain water retention (RWT) in addition to OSD, will be provided in accordance with BASIX requirements.
4W WATER MANAGEMENT	**DESIGN RESPONSE**
4W-1 Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents.	Central waste storage rooms for buildings A and B and Building C are provided in basements. Waste bins will be taken from the central waste storage rooms to a waste holding areas at street level for collection by Council. Additional bulky goods stores are located adjacent to the central waste storage rooms. Refer to the Waste Management Plan.
4W-2 Domestic waste is minimised by providing safe and convenient source separation and recycling.	There is space for waste and recycling storage within the apartments.

	Waste and recycling areas will be provided side by side to encourage usage. Waste chutes are not provided.
4X BUILDING MAINTENANCE	**DESIGN RESPONSE**
4X-1 Building design detail provides protection from weathering.	Weathering is reduced through skilful building design and selection of durable materials such as prefinished aluminium picket balustrades, batten screens and window frames; and precast concrete wall and balustrade panels.
4X-2 Systems and access enable ease of maintenance.	Windows can be cleaned from within the apartments. Centralised maintenance, services and storage for communal open space will be provided in the basements.
4X-3 Material selection reduces ongoing maintenance costs.	Sensors to control artificial lighting in service rooms will be provided as required by BASIX.

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