STATEMENT OF ENVIRONMENTAL EFFECTS

PROPOSED
MIXED USE
DEVELOPMENT

AT:
608 HIGH STREET
PENRITH

FOR:
NORSIDE
INVESTMENTS
PTY. LTD.

PREPARED BY:

BUILDING ENVIRONMENTS PTY. LIMITED

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1.0 INTRODUCTION

This Statement of Environmental Effects accompanies a Development Application to construct a Mixed Use Development at 608-612 High Street, Penrith. (Lot D DP153855, Lot C DP 153855 & Lot 2 DP 25160The application has been subject to preliminary discussions with Council's Planning Officers and reflects the substance of those discussions.

2.0 THE SITE

The development site consists of 3 parcels of land having an area of 2209 Sq. M. The Site is an irregular rectangle and has a frontage to high Street of 31.32 M. The rear boundary has a frontage to Union Lane of 37.61 M.

The eastern boundary has a length of 64.82 M. The western boundary has a length of 64.46 M.

2.1 Location

The site is located on the southern side of High Street approximately 50 Metres west of the Worth Street intersection. The site has frontage to High Street and also has a rear boundary access onto Union Lane. The site is located in a development precinct known as the City West Precinct which is located approximately 600 Metres from the Penrith railway station.

The site is well serviced by existing road and laneway networks and is well positioned to the Penrith Arts Precinct and also the Penrith Plaza shopping complex.

2.2 Topography

As stated earlier the site by way of boundary adjustments becomes a regular rectangle and is relatively flat. There is a gentle fall from union lane to High Street of approximately 200mm. There is also cross fall at Union Lane from the south eastern corner of the site to the south western corner of the site.

2.3 Existing Buildings

The site currently supports a single storey commercial building which is vacant. Vehicular access is provided from both High Street and Union Lane providing parking and access along the western boundary. It is proposed that this building will be demolished to make way for the construction of the proposed development.

2.4 Adjoining & Surrounding Use

The site is located in a precinct which has been designated in the Penrith City Local LEP Plan 2008 as the City West Precinct. This area is largely undeveloped and is currently going through a stage of redevelopment in part. The neighbour to our east is the existing 3 storey commercial building. This building has been built to a 3M building line setback to our common side boundary. To our immediate west there stands an unoccupied vacant land, and further west there stands a single storey auto electrician. Further to our west is vacant land.

To the rear on the southern side of Union Lane there stands a Child Care Centre and some existing automotive industry related workshops.

It is anticipated that many of these site in the future will be redeveloped to accommodate some mixed use style developments.

3.0 PLANNING CONTROLS

The relevant planning instruments that control development on this site are the Penrith City Centre Local Environment Plan 2008 and the Penrith City Centre Development Control Plan 2007.

The property is Zoned B 4 Mixed Use and with Development Consent Commercial and Residential development is permitted.

The following is an assessment of ***Part 4 Principal Development Standards.***

21 Height of buildings

1. The general objectives of this Plan for the control of the height of buildings is

- *To preserve sunlight access to key areas of public domain and minimize overshadowing.*
- *To provide high quality urban form*
- *To maintain satisfactory sky exposure*
- *To ensure that taller development occurs on sites capable of providing appropriate urban form and amenity.*
- *To provide appropriate transitions in built form and to ensure appropriate height transitions between new buildings and heritage items.*

2. height of a building on ay land is not to exceed the maximum height shown for the land on the Height of Buildings Map.

Response:

The Height of Buildings Map nominates that development within this City West Mixed Use Precinct in this instance can have a maximum height of 20 Metres. The development proposed a height to the upper level parapet at the roof level of 19.8 Metres well under the maximum height permissible.

The development is also located in a precinct that is not related to any public domain spaces and is not adjacent any heritage items. The building height as proposed is consistent with the objectives of the D.C.P. as it has high quality urban form features as well as having a small roofed element that ensures that all mechanical plant and services are well concealed and forms a top to the proposed development.

22 Architectural roof features

1. A person may, with Development Consent, carry out development that includes an architectural roof feature that exceeds, or causes a building to exceed, the height limits set by Clause 21.

Response:

With the incorporation of the roof features and all the necessary structures that are required to encase and conceal roof services the maximum height of the building of Block A lift access is 20.2 Metres.

23. Sun access

1. The objective of this clause is to protect specified public space from overshadowing particularly land in the vicinity of Allen Place, Memory Park Judges Park and to High Street between Station Street and Lawson Street.

Response:

As stated earlier this site is located in the City West Precinct and does not impact upon any public open space areas.

24. Floor Space Ratio

1. The objectives of this plan for the control of floor space ratios is to ensure new buildings are assed with due regard to the design excellence and built form provisions and to provide sufficient floor space for high quality development and to regulate density of development and generation of vehicular and pedestrian traffic.

2. The floor space ratio of a building on any land is not to exceed the maximum floor space ratio shown for the land on the Floor Space Ration Map.

Response:

As stated earlier the site is zoned B 4 in the City West Precinct and the Floor Space Ratio Map permits a total Floor Space Ratio of 3 : 1. Our site has a site area of approximately 2209 Sq. Metres which permits a total developed Floor Space Ratio of 6627 Sq. Metres.

The development proposes the following:-

Ground Floor	428 Sq. Metres
Level 1 – Level 5	4441.96 Sq. Metres
TOTAL	4869.96 Sq. Metres

The development proposes a total floor space of 4869.96 Sq. M. which represents a Floor Space Ratio of 2.20: 1.0

25 Minimum building street frontage

1. Development consent must not be granted to the erection of a building on land zoned B3 Commercial Core B4 Mixed Use that does not have at least one street frontage of 20 metres or more.

Response:

The development proposes a frontage to High Street of 31.32 Metres and a rear frontage to Union Lane of 37.61 Metres.

26. Design excellence

1. This clause applies to development involving the construction of a new building or external alterations to an existing building.

Response:

This development proposes two residential apartments. Block A having 5 Levels over ground level Commercial and foyer area and services.

2. Consent must not be granted to development to which this clause applies unless, in the opinion of the consent authority, the proposed development exhibits design excellence.

Response:

The Design Excellence Principle is a set of Criteria that evaluates the buildings performance with respect to Architectural design, materials usage, the buildings contributions within the context of Streetscape and the suitability of the building within the development precinct. The following is an assessment of the key elements of the buildings design which in our view fulfils the intent of the Design Excellence requirements and also appropriately addresses the objectives and the desired trends of redevelopment within this Mixed Use B4 Commercial zone.

3. In considering whether development to which this clause applies exhibits design excellence, the consent authority must have regard to the following matters:

a. Whether a high standard of architectural design, materials and detailing appropriate to the building type and location will be achieved.

Response:

1. The Site

The Site is an irregular, rectangular parcel of land zoned B4 Mixed Use. The site presents a frontage to High Street as well as frontages at the rear to Union Lane. Our immediate neighbour to the east is an existing 3 storey storey commercial building. The site is level and has a gentle fall from Union Lane to the High Street frontage.

2. Design Philosophy

The development proposes 2 Residential Apartment building with a central landscaped area.

Alternate building footprints were considered including a single linear building. However, large single building footprints generate less external wall area and inevitable result in having single aspect Units.

The two building model allows for predominantly corner units, dual aspect with good solar access and natural ventilation. Both buildings are built to the street edges to activate interface with the public domain and maximize central open space areas.

3. Architectural Design

The buildings have been designed "in the round" and present articulated built form to all elevations, incorporating long framed balconies, light wells and a mix of façade pallets incorporating rendered and clad elements.

Block A presents a feature curtain wall element to High Street, borrowing from commercial architecture aesthetic which integrate and respects existing built form elements.

Large horizontal balconies frame and wrap around building corners and provide generous private open space and discrete service areas.

The top levels of the building are clad with verticle metal sheeting and capped with flanged corbels.

4. Materials and Detailing

The development proposes external pallets – incorporating glazed curtain wall, rendered wall elements, with feature cladding and lightweight cladding on the upper levels.

b. Whether the form and external appearance of the proposed development will improve the quality and amenity of the public domain.

Response:

As previously detailed the development proposes a building which is highly articulated on all elevations, presenting a building that is viewed "in the round" rather than just a Street elevation. The use of a variety of glazed elements, colours and textures presents a building when viewed from the public domain is an holistic building form. The building when viewed "in the round" from the west provides a highly articulated built form with a variety of colours and textures that provide a dominant architectural façade in an undeveloped City West Precinct.

The buildings from and presentation to the public domain will in our view improve the quality and amenity of the existing Streetscape.

c. Whether the proposed development detrimentally impacts on view corridors.

Response:

The development proposal will not detrimentally impact on view corridors within the immediate vicinity. Existing view corridors are currently along the existing High Street, east/west axis and along Union Road, east/west axis. The location of the building will not impact upon view corridors from areas within the public domain.

d. Whether the proposed development detrimentally impacts on any land referred to in Clause 23.

Response:

The site is located in the City West Precinct and does not impact upon any public space areas byway of overshadowing. The building is designed a long a North/South Axis. Some overshadowing will occur along the southern side of the building principally over Union Lane and some overshadowing will occur in the afternoon but principally over the roofed areas of the adjoining building. There will also be some overshadowing upon the common open space areas along the eastern edge, building setback from about Midday.

No properties referred to in Clause 23 are impacted by this proposed development.

e. The requirements of the City Centre Development Control Plan

Response:

The purpose of the City Centre Development Control Plan is to allow for development in the City Centre that will:

- Contribute to the growth and character of Penrith and
- Deliver a balanced social, economic and environmental outcome and
- Protect and enhance the public domain.

With respect to "growth and character" of Penrith the development as proposed is a building which has a modern and contemporary Architectural Aesthetic employing the use of light

weight materials with a range of high quality finishes and architectural detailing. It is our view that the building as proposed will set a benchmark standard for development within this particular undeveloped commercial precinct.

With respect to providing a "balanced social, economic and environmental outcome" the building will contribute economically during the course of construction by providing employment for people in the building industry and then providing the opportunity for employment for several hundred people within the proposed building.

The buildings position and location will afford the opportunity for residents within the Penrith district to have easy access to their place of work and enjoy the benefits of working within a building which provides a high degree of amenity with respect to views and work accommodation.

The building will also be designed as a Five Star building using efficient lighting and mechanical ventilation systems as well as efficient building materials.

With regards to the public domain, as stated earlier the building will present a highly detailed and articulated building using quality materials and finishes that present a building that will enhance the public domain and will contribute to the Cityscape with respect to views from various parts of the public domain areas.

f. How the proposed development addresses the following matters;

i. The suitability of land for development.

Response:

The land is located in the City West Precinct and is zoned B4. (Mixed Use) and a commercial development of this kind in our view is appropriate and suitable for this parcel of land. This particular City West Precinct largely remains undeveloped and the remnants of the automotive influence and usage in the area still remain.

The redevelopment of this land by way of the proposed commercial and residential building will in our view "kick start" further development in the area.

The developments close proximity to existing facilities such as the Plaza Shopping Centre, the Performing Arts Centre and the Council Chambers being facilities which are mutually beneficial to the occupants of the proposed building.

ii. Existing and proposed uses and use mix.

Response:

The Site supported a single storey building and parking area in connection the automotive industry. The proposed use supports a small commercial component with 43 apartments in two residential towers.

iii. Heritage issues and streetscape constraints.

Response:

The site is not located adjacent any heritage items and accordingly there is no impact upon any such buildings.

iv. The relationship of the proposed building with other buildings (existing or proposed) on the same site or on neighbouring sites in terms of separation, setbacks, amenity and urban form.

Response:

The proposed development is adjacent a 3 storey commercial building to the eastern boundary. The commercial building has been set back 3 metres along this common boundary line to allow for light and ventilation. Whilst the setback required of the ADG do not apply for adjoining non residential uses the proposal provides generous setback to maintain amenity to the existing development. Other setbacks are consistent with the ADG.

The upper levels adopt the advice presented by the URDP and provide high level windows where appropriate.

v. Bulk, massing and modulation of buildings.

Response:

As stated earlier the building proposes articulate elevations, punctuated with wrap around balconies and a range of finishes, including curtain walls, rendered and clad elements.

vi. Street frontage heights.

Response:

The development proposes a maximum of 3 storeys having a maximum height of approximately 19.8 Metres to the parapets at roof top level. The development precinct allows for a maximum building height of 20 Metres. The development as proposed falls well within the objectives and guidelines of the L.E.P

vii. Environmental impacts such as sustainable design, overshadowing, wind and reflectivity.

Response:

The development provides dwellings with high quality access to daylight and cross ventilation to minimize the reliance on artificial lighting and ventilation. The two building footprint allows for daylight around the building as well as maintaining daylight access to the

adjoining commercial building. Building separation allows for deep soil planting, ground water retention and a sense of landscaped space not unlike a "pocket park". The external palette is low reflectivity.

viii. The achievement of the principles of ecologically sustainable development.

Response:

In this regard the development where practicable addresses and is sensitive to the 21 Heads of Consideration being the indicator set ecologically sustainable development. This Indicator Set incorporates standards of living, educational skills, economic capacities, the management of existing resources as well as equality of employment and bio-diversity.

ix. Pedestrian, cycle, vehicular and service access, circulation and requirements.

Response:

The development proposes all vehicular access off Union Lane. A total of 55 cars are provided, of which 12 are dedicated as Visitor parking spaces.
Pedestrian access is primarily from High Street but the building can also be accessed from the short term vehicular parking at Union Lane.

x. The impact on, and any proposed improvements to, the public domain.

Response:

As stated earlier it is our view that the development will present a mixed use building which will provide a benchmark development and provide a positive contribution to the aesthetics within the public domain.

Item 4 – 8 in Clause 26 deals primarily with developments that are part of an **architectural design competition.** In this instance the development as proposed does not fall under the criteria of the remainder of this clause.

27 Car Parking

1. The object of this clause is to ensure that adequate car parking is provided for a development that is commensurate with the traffic likely to be generated by the development and is appropriate for the road network capacity and proposed mix of transport modes for the Penrith city centre.

Consent must not be granted for development on land zoned B 3 Commercial Core or B4 Mixed Use that involves the erection of a new building or an alteration to an existing building that increase the floor area of the building unless:

a. at least one car parking space is provided for every 60 Square metres of floor area of the building that is to be used for commercial activities and
b. at least one car parking space is provided for every 30 square metres of the floor area of the building that is to be used for retail activities.

Response:

The development proposes a commercial area of 326 Sq M which when accessed at the rate of 1 space/60 Sq. M. generates 5.4 cars. A total of 8 spaces provided - 4 at ground level for Visitors and 4 within the basement for employees.

A further 43 spaces are provided in the basement for the apartments. In additional 8 Visitor spaces are provided at ground level accessed from Union Lane. This accessway will be gated to maintain security and privacy within the development.

The Union Lane ground level driveway which services the Visitor parking also provides access for service and waste vehicles having ingress from Union Lane and gated egress to High Street.

A Traffic Statement accompanies this application.

29 Building Separation

Buildings on land to which this Plan applies must be erected so that the separation distance;

a. from neighbouring buildings, and
b. between separate parts or other separate raised parts of the same building.

is not less than that provided for in the City Centre Development Control Plan.

Response:

In this regard these building separations in the DCP are required for buildings having a height in excess of 20 Metres. In this instance our building has a maximum height to

parapet roof level of 19.8 Metres and the controls nominated in the DCP in this case are not applicable. All setbacks conform with principles of the ADG

4.0 ASSESSMENT OF CONTROL

2.1 BUILDING TO STREET ALIGNMENT & STREET SETBACKS. **Fig. 2.1**	**RESPONSE:**
City West Precinct Built to boundary.	Yes – Major setback to allow for building articulation.
Maintain View to Blue Mountains	View corridor along High Street & Union Lane preserved
2.2 STREET FRONTAGE HEIGHTS **Fig. 2.2 & 2.3**	
Maximum building height of 16 – 20 Metres.	Development proposes a 6 storey building/parapet height of 19.8 M. Meets objective of Control
2.3 BUILDING DEPTH & BULK	
refers to building in excess of 20 – 24 M in height.	NOT APPLICABLE
2.4 BOUNDARY SETBACKS & BUILDING SEPARATION **Fig. 2.12 – 2.12**	
Relates to mixed use development and buildings above 20M in height.	NOT APPLICABLE
Building up to 20M high Set back = 0	Set backs to the front and rear, marginal to allow for building articulation Residential setbacks to ADG
2.5 MIXED USE BUILDINGS	The development proposes a Commercial /Residential building.

2.6 SITE COVER AND DEEP SOIL ZONES Mixed Use Zone Site Cover 100% Deep Soil 0%	Block A = 554 Sq. M Block B = 434 Sq. M. Site Cover 988 Sq. M. = 44.7 % Deep Soil provided = 323 Sq. Metres = 14%
2.7 LANDSCAPE DESIGN ▪ Use recycled water ▪ Accessible outdoor area	See Landscape Plan
2.8 PLANTING ON STRUCTURES	NOT APPLICABLE
3.0 PEDESTRIAN AMENITY	Residential access from High Street. Commercial access from High Street.
3.1 PERMEABILITY Through Site links – **Fig. 3.1**	Existing Union Lane to be retained. Visual links provided.
Pedestrian Links – Arcades and Lanes.	NOT APPLICABLE
3.2 Active Street Frontages and Address. Active Street Frontage. Entrances – glazed to commercial lobby. Active office uses. Street Address Defined lobbies – street address at ground level.	Development proposes view into ground floor areas and reception lobby and feature active office to north west corner of building. A large visible lobby is provided with a feature street address and logo.

3.3 FRONT FENCES	NOT APPLICABLE
3.4 SAFETY AND SECURITY	
Crime Prevention through Environmental Design (CPTED) principles.	Accompanies this report.
3.5 AWNINGS	
Continuous Street Frontage	Continuous street frontage awning is provided.
▪ Minimum depth 2.8 Metres	Yes
▪ Minimum Height 3.2 Metres ▪ Maximum Height 4.0 Metres	Yes
▪ Stepped articulated design	
▪ Set back 600mm from kerb.	Yes
3.6 VEHICLE FOOTPATH CROSSINGS	
Fig. 3.5	
No additional crossing from High Street. Laneway access – preferable	All vehicular access will be from Union Lane.
Design of Vehicle Access.	Proposed – 6 M wide crossing off Union Lane with an enclosing security gate to short term parking area. Secure security gate proposed to basement area. Security code access only.
3.7 PEDESTRIAN OVERPASSES	NOT APPLICABLE

3.8 BUILDING EXTERIORS	
Articulated facades. High quality finishes Maximum reflectivity of 20% Rendered and clad element	The building is designed with articulated elements defined with glazing and composite fabric geometric forms. Balconies provide viewing areas and act as shading devices for lower floors. External walls constructed from Proposed glazed elements: Viridian Comfort Plus (ThermoTech with Low E) **Visible Refl. Solar Refl.** **Super Green 10% 7%** **Super Blue 8% 6%**
3.9 ADVERTISING & SIGNAGE	
Building Signage Visually interesting and relate to building. Compatible architectural design.	A dedicated feature building address and logo relief in a weathered copper finish is proposed.
4.0 ACCESS, PARKING AND SERVICING	
▪ Pedestrian access and mobility ▪ Entries clearly visible ▪ Design to AS 1428 ▪ Entries barrier free. ▪ Durable materials.	Building proposes stair and ramped access from High Street to Lobby in accordance with AS1428 with durable finishes and no barriers.

4.2 VEHICULAR DRIVEWAYS & MANOEUVRING AREAS	
▪ Laneway access preferred.	Access provided from Union Lane.
▪ Set 6 M from intersection	YES – 25 M.
▪ All space, size and aisle widths to AS 2890	YES – A Traffic Report by Traffic Solutions accompanies this application.
4.3 ON SITE PARKING	
▪ All parking to comply with AS 1428.	YES
▪ Provide bicycle parking	YES
▪ Car parking at ground level to a minimum height of 2.8 M	YES
▪ Up to 25% of car parking be provided at ground level.	All parking provided in the basement.
Service Infrastructure	
Air Conditioning units and service vents.	
▪ Located away from street and public domain area – preferably the roof.	All Air Conditioning units and service ducts and rises discharge at roof level.
Waste Storage and Collection	
▪ Flexible design to allow for future change.	A waste room is provided at the ground level in each building which can be serviced by waste contractors. Access for service vehicles is provided off Union Lane to a dedicated parking area. Eggress for service vehicles is via High Street.
Loading/Unloading Areas	

3.2 ACTIVE STREET FRONTAGE & STREET ADDRESS

OBJECTIVES

- *To promote pedestrian activity and safety in the public domain;*
- *To maximise active street fronts in Penrith City Centre;*
- *To define areas where active streets are required or are desirable;*
- *To encourage an address to the street outside of areas where active street frontages are required.*

STREET ADDRESS; CONTROLS

f. Street address is defined as entries, lobbies, and habitable rooms with clear glazing to the street not more than 1.2 M above street level, and does not include car parking areas.

g. Street address is required on the ground level of buildings specifically located in areas shown in Figure 3.2

i. Provide multiple entrances for large developments including an entrance on each street frontage.

The objectives of the Street Address is to provide pedestrian activity at ground level. Fig 3.2 identifies that Union Lane requires a Street Address. This can be achieved by the provision of a glazed ground floor elevation to Union Lane.

The development does however, propose a secure pedestrian access point at the Eastern edge of the site in the form of a sculptural architectural element. This gated access point provides a pedestrian connection to the open space area on the eastern edge of the site from High Street. This access point would at this time exclusively benefit the Residents but does allow, in the future, the opportunity to provide through links and services, as access to future ground floor tenancy that may have frontages to the Western elevations.

CPTED STATEMENT 608 HIGH STREET PENRITH

This is a Statement that responds to the Crime Prevention Through Environmental Design D.C.P.

The fundamental principles of the CPTED is providing adequate surveillance of the development, access and control within the development, territorial reinforcement and space management.

It is our view that the development as proposed fulfils the requirements of the required D.C.P. and adequately satisfies the objectives of that planning document. Each of the design issues of the D.C.P will now be addressed.

B1. Light

The proposed development is a mixed use building which proposes the construction of a new 6 level building and basement parking area.. The building footprint occupies the 44% of the site. Access points into the development are from High Street where pedestrian access into the development is provided and from an Union Lane at the rear off the which services the parking area.

The High Street entrance where pedestrian access to the building is provided is controlled by remote controlled electric doors that are located off the front boundary. Vehicular access is, as stated earlier, is provided by way of the Union Lane way and the building provides a secure gate system that will only allow tenants, residents and their visitors into the parking area.

The building will propose the provision of lighting at the High Street and Union Lane frontages to highlight the building at night and to provide adequate light along the pedestrian footpath area for the purpose of ensuring that adequate illumination exists for people moving along the footpath. This lighting would supplement the existing street lights. The lighting will be designed in such a manner that it will be 'vandal tough' and will provide consistent and thorough illumination of the public domain as well as the building.

B2. Fencing

The development is setback from the western boundary and proposes private open space for the exclusive use of the tenants .A 2100 high open palisade style fence is proposed along the western boundary as well as short returns to High Street and Union Lane

B3. Car Parking

The development proposes a two car parking levels which has a central aisle and 90 degree parking. This particular layout allows for a high level of visual surveillance within the car parking area. Parking for persons with disabilities are located close to the lifts. Access to the car park will be via a keycard system which will be provided for each of the tenants. Visitors will gain access by pre arrangement with the tenants and the occupants they will be visiting.

B4. Entrapment spots and Blind corners.

As the new portion of the commercial building is built up to the High Street frontage there are no areas of blind corners or entrapment spots that would cause any opportunity for perpetrators of crime to hide and or commit a crime.

B5. Landscaping

This development proposes a hardy landscaped area, incorporating free standing sculptural elements as well as a paved open space area within the site with raised circular planters. Detailed design of these landscaped elements and content will form part of the CC documentation.

B6. Communal Public Areas

Communal open space areas are located along the eastern boundary and within the centre of the site. These areas will be well lit and are viewed from surrounding balconies providing casual and passive surveillance.

B7. Movement Predictors

The primary area where movement will occur within the development will be the pedestrian arcade at the ground floor level of the building. Again this will be adequately lit and casual surveillance from those ground floor tenancies lobbies and commercial area.

B8. Entrances

The entrance to the building is via High Street by way of a ground floor pedestrian access that services the ground floor tennancies as well as the lifts that then services the upper floors. The entrance is a significant design element within the building and it is clear where the entry to the building is. The development has only one entry point for pedestrians to the building.

B9. Siting and Building Layout

Earlier reports and statements deal with the design philosophy of the building.

B10. Building Identification

The building will be adequately displayed, numbered and named in accordance with the D.C.P.

B11. Security

The building will have its main pedestrian entry street off High Street by way of automatic electric doors which will be available during office hours for the general public and those that work within the building. After hours access will be provided by way of a coded card system to allow tenants access and egress from the building.

B12. Ownership and Space Management

Typically tenants and residents that acquire space in new buildings tend to have a greater sense of ownership of the building by virtue of the fact that it is a new building and one of high architectural merit. There is a sense of identifying with that building and accordingly an inherent sense of ownership which heightens their desire to ensure that the building is well maintained that casual surveillance is more consistent.

B13. Way finding/Finding Help

In this instance the building will be provided with an internal tenancy board that will clearly display where each of the tenants are also help signs by way of EXIT's and services such as public amenities will also be adequately signposted.

5.0 ENVIRONMENTAL EFFECTS

5.1 Excavation.

The development proposes a single basement excavation of 1800 Sq. M, allowing for a single basement car parking facility for residents and commercial tenants.

5.2 Visual Impact

As stated earlier the development proposes a building that is contemporary in form yet reflects the qualities of permanency and longevity. The building proposed will significantly improve the visual amenity within this immediate C.B.D. precinct.

5.3 Landscape & Scenic Quality

The proposed development will improve the scenic quality within this immediate area and hopefully set a bench mark for future re-development in this C.B.D. precinct.

5.4 Social & Economic Benefit

The development of Mixed-Use premises in this C.B.D. precinct will, firstly, provide employment for those involved in the construction of the building and secondly, provide employment for those who will ultimately occupy the building. The growth of the workforce within the Penrith area will further support the existing retail and commercial infrastructure.

6.5 Character, Bulk, Height & Scale.

The height, bulk and scale of the proposal is consistent with the intent of the D.C.P. and other development within the street and surrounding areas.

5.6 Relationship to adjoining Developments

As stated earlier the proposal is an infill style development. The building has a frontage to High Street and will abut our neighbour to the east. Open space to the east and west boundary provides a landscape buffer between existing and future development.

5.7 Existing Services

All services such as water, sewer, gas and electricity currently service the site.

5.8 Traffic, Parking & Vehicular Access

The proposal provides for a total of 59 off street car parking spaces accessed from the laneway which is serviced by Union Lane. It is our view that this development will not burden existing traffic movements nor compromise kerb side parking. A traffic management plan accompanies this application.

CONCLUSION

It is our view that this Development Application is consistent with the requirements of the D.C.P. as well as the direction that the new City Centre Plan is proceeding, with respect to re-development within the C.B.D.

APARTMENT DESIGN GUIDE
COMPLIANCE SUMMARY

MIXED USE DEVELOPMENT
608 HIGH STREET, PENRITH.

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28TH MAY, 2018.

Principle	Comment
1 Context and 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.	The development site is located in The City Centre Precinct, Commercial Code B4, City West (Mixed Use). The objectives of the City West – Mixed use precinct is; "This area should be redeveloped, primarily as a high density residential precinct that will complement and bring additional activity to the adjoining civic and cultural precinct. It is envisaged that this area developes a live/work environment, which is promoted through the design and layout of residential buildings, and the location of compatible commercial and retail uses at the street level of such buildings. The development proposes two residential apartment buildings of five levels above ground floor Commerical, foyer and service areas. Some recent residential development along Union Lane pre-sets anticipated built form and neighbourhood character. The southern edge of High Street is the area West of Worth Street and is occupied by commercial development up to 3 levels. The remainder undeveloped other than some remnant automotive activities. The proposal will be located next to a commercial building and is ideally suited to meet the objective of the City West Code by providing both commercial space at Ground Level and Apartments above which support and reinforces existing and future anticipated context.
2 Built form and scale	
Good design achieves a scale, bulk and height appropriate to the existing or desired future character of the street and surrounding buildings. Good design also achieves an appropriate built form for a site and the building's purpose in terms of building alignments, proportions, building type, articulation and the manipulation of building elements. Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook.	The development proposes 2 residential apartment buildings that are built to both High Street and Union Lane, activating and reinforcing the street edges. The site is an irregular rectangle, the built form acknowledges the site form and orientation with splayed building footprints. Heavily articulated balcony frames and light wells punctuate all elevations providing a building that presents an Architectural aesthetic that responds to the immediate surrounding context and future adjoining development to our West.

3 Density	
Good design achieves a high level of amenity for residents and each apartment, resulting in a density appropriate to the site and its context. Appropriate densities are consistent with the area's existing or projected population. Appropriate densities can be sustained by existing or proposed infrastructure, public transport, access to jobs, community facilities and the environment.	The development proposes two building which maximize a "high level of amenity for residents of each apartment" by way of solar access, access to views, all apartments with cross ventilation and dual aspect. A large single built form inevitably results in some single aspect dwellings. The proposal has sacrificed maximizing density and as a result achieves better apartment design size and outcomes and is a "good fit"
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 livability of residents and passive thermal design for ventilation, heating and cooling, reducing reliance on technology and operational costs. Other elements include recycling and re-use of materials and waste, use of sustainable materials and deep soil zone or groundwater recharge and vegetation.	The development proposes 43 dual aspect apartments with natural cross ventilation, access to sunlight with generous oversized balconies which also gain the benefit of western views to the Blue Mountain eastern escarpment. The site provides soft soil zone to allow for deep soil planting and groundwater recharge, providing opportunity for a landscaped setting and environment benefitting the residential occupants as well as introducing screen planting to the eastern and western boundaries.
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 developments' environmental performance by retaining positive natural features which contribute to the local context, coordinating water and soil management, solar access, microclimate, tree canopy, habitat values and preserving green networks. Good landscape design optimises usability, privacy and opportunities for social interaction, equitable access, and respect for neighbours' amenity and provides for practical establishment and long-term management.	A Landscape Plan accompanies this application. The development proposes deep soil planting areas to all side setback areas allowing for a variety of planting element including; low wall screen planting as well as mid to low canopy planting, providing screening and shade. The landscape elements are sympathetic to and reinforces the built form as its connected and activated with the Public Domain.
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.	The development provides a range of apartment configurations and sizes allowing the flexible use with respect to occupancy. All apartments are much larger than the industry standard and are provided with large rooms, access to views and sunlight, dual aspect and large balcony areas and is conducive to in inner city apartment lifestyle, but with a "sense of space".

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.	The development provides vehicular access from Union Lane to the basement for residential parking. A secondary driveway access at ground level is provided along the western boundary exclusively for residential and commercial visitors. This access also provided one way drive through capacity for service vehicles from Union Lane to High Street. It is proposed that both Union Lane and High Street access point will be gated to limit random drive through and unwanted pedestrians thoroughfare. The residential development has a dedicated entry at the eastern side of the site and the commercial component is built to the street edge minimizing entrapment points and allowing for stairs and ramps to service entry point in a well lit environment and exposure from the public domain.
8 Housing diversity and 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 board range of people and providing opportunities for social interaction among residents.	The development proposes 43 dwellings all having 2 bedrooms and 2 bathrooms. Flexibility of housing type is achieved by creating use of the second bedrooms, which in the case of Apartments 3,5,27 & 28 on Level 1 and typically above can be accessed from the living areas if so desired, to create additional living space or storage, IT areas, or dedicated media room. All the apartments are in excess of 90 Sq. M which is 30% larger that the industry standard for 2 bedroom apartments.
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.	The proposal built form is primarily composed of horizontal elements such as balconies, selective recessed wall elements of units and horizontal clad wall panels so as to pull the building down so it sits on the site rather than having an elevated built form that stands over and imposes itself. The buildings proportions and material pallet is modest rather than ostentatious and is a good aesthetic “fit”.

APARTMENT DESIGN GUIDE COMPLIANCE TABLE

Note: The following guidelines must be read in conjunction with detailed text contained in the Apartment Design Guide

Part 3 Siting the Development

Objectives	Comment
3A Site analysis	
Objective 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.	See Drawing No. 3/0417
3B Orientation	
Objective 3B-1 Building types and layouts respond to the streetscape and site while optimising solar access within the development.	Access to daylight maximized. High Street activated with entrance to commercial space and dwellings.
Objective 3B-2 Overshadowing of neighbouring properties is minimised during mid-winter. Design guidance Where an adjoining property does not currently receive the required hours of solar access, the proposed building ensures solar access to neighbouring properties is not reduced by more than 20%. • A minimum of 4 hours of solar access should be retained to solar collectors on • neighbouring buildings.	Rear boundary to Union Lane and commercial Development Eastern boundary – existing Commercial Western boundary vacant and Commercial Sites.
3C Public Domain Interface	
Objective 3C-1 Transition between private and public domain is achieved without compromising safety and security.	Primary entry to High Street. The building entry is a prominent element within the built form to High Street and is covered by a cantilvered awning and visually exposed.
Objective 3C-2 Amenity of the public domain is retained and enhanced.	The building defines the edge of Public Domain to High Street and the Commercial space activating High Street interphase.

3D Communal and public open space	
Objective 3D-1 An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping Design Criteria Communal open space has a minimum area equal to 25% of the site • Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9am and 3pm on 21 June (mid-winter) • The communal open space should have a min. dimension of 3 metres. minimum dimension of 3m. When developments are unable to achieve the design criteria, such as on small lots, sites within business zones, or in a dense urban area, they should: • Provide communal spaces elsewhere such as a landscaped roof top terrace or a monnon room. • Provide larger balconies or increase private open space for apartments. Demonstrate good proximity to public open space and facilities and/or provide contributions to public open space.	The development proposes communal open space along the eastern side boundary and within the centre of the site between Block and Block B. The eastern side boundary provides pedestrian access to the residential development and the existing pedestrian like patterns acknowledged from the Plaza at High Street and the Worth Street intersection. This eastern boundary is adjacent an existing commercial development which has been setback off the corner boundary by 3 Metres allowing for light and ventilation and aesthetic presentation. However the proximity of this building has limited solar access along the common eastern boundary. The development proposes deep soil planting along this eastern edge to allow for significant landscape setting to benefit both the proposed development and the adjoining eastern building. The remaining portion of landscaped open space is in the centre of the site and provides communal and pedestrian links to building foyer. Site Area = 2209 Sq. M. Min. Common Areas = 25% of site area = 525 Sq. M Area proposed = 609 Sq. M = 27.56% Solar Access of 2 hrs. required for 50% of the communal area = 265 Sq. M. Simply the site requires to provide 530 Sq.M of communal space to have solar access over a 2 hour period. The development proposes Solar Access 9 AM = 181 Sq. M 10AM = 221 Sq. M 1PM = 53 Sq. M 2PM = 112 Sq. M 3PM = 228 Sq. M 795 Sq. M solar access split over a 5 hour period. The proximity of the adjoining commercial building to our east compromises solar access at 9.00 AM. In order to provide further amenity with respect to solar access all balconies are generous in size, and all units receive a minimum of 2 hours solar access. Furthermore, the site has access within 250M to Woodriff Gardens adjacent the Nepean District Tennis Association. Access to the Nepean river walk is within 850M of the proposed development. The development within the CBD precinct provides adequate communal open space, generous private open space and convenient access to public open space.

Objective 3D-2 Communal open space is design to allow for a range of activities, respond to site conditions and be attractive and inviting.	
Objective 3D-3 Communal open space is designed to maximise safety.	Secure and gated beyond front building setbacks.
Objective 3D-4 Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood.	**N/A**
3E Deep soil zones	
Objective 3E-1 Deep soil zones provide areas on the site that allow for and support health plant and tree growth. They improve residential amenity and promote management of water and air quality. Design criteria Deep soil zones are to meet the following minimum requirements: • 7% of site area • <650m2 - no min dimensions • 650m2-1500m2 - 3m min dimensions • >1500m2 - 6m min dimensions	The site has an area of 2209 M and provides soft soil of 323Sq. M which represents 14.6 %.
3F Visual Privacy	
Objective 3F-1 Adequate building separation distances are shared equitable between neighbouring sites, to achieve reasonable levels of external and internal visual privacy. Design Criteria • Separation between windows and balconies is provided to ensure visual privacy is achieved. Minimum required separation distances from buildings to the side and rear boundaries are as follows: o 4 storeys: 6m for habitable rooms and balconies; 3m for non- habitable rooms.	Western Elevation Block A - 6 M Western Elevation Block B - 8 M Some secondary balconies to Block A encroach on side setbacks primarily used as service area. Easter Elevation Block A & B Varied 5Metres to building – 4 Metres to balcony Adjacent commercial building. Privacy **N/A**

Objective 3F-2 Site and building design elements increase privacy without compromising access to light and air, and balance outlook and viewed from habitable rooms and private open space.	Each Apartment is provided balconies that provide passive outdoor areas that protect privacy and do not compromise access to light and air.
3G Pedestrian access and entries	
Objective 3G-1 Building entries and pedestrian access connects to and addresses the public domain.	Main entry to High Street and prominently address public domain.
Objective 3G-2 Access, entries and pathways are accessible and easy to identify.	Access to entry at level grade and presents a strong built element.
Objective 3G-3 Large sites provide pedestrian links for access to streets and connection to destinations.	**N/A**
3H Vehicle access	
Objective 3H-1 Vehicle access points are design and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes.	Basement entry of Union Lane. No pedestrian access.
3J Bicycle and car parking	
Integrating car parking within apartment buildings has a significant impact on site planning, landscape and building design. On site parking can be located underground, above ground within a structure or at grade.	Basement parking provided on one Level – grades to Australian Standard.
Objective 3J-2 Parking and facilities are provided for other modes of transport	A bicycle storage area is provided in Block B basement.
Objective 3J-3 Car park design and access is safe and secure.	Entry Door provided on time clock.
Objective 3J-4 Visual and environmental impacts of underground car parking are minimised.	Maximum height above ground at North Eastern corner 50mm – Set by flood level
Objective 3J-5 Visual and environmental impacts of on-grade car parking are minimised.	**N/A**
Objective 3J-6 Visual and environmental impacts of above ground enclosed car parking are minimised.	**N/A**

Part 4 Designing the Building

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. Design criteria • In all other areas, living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9am and 3pm at mid-winter.	All apartments provided a minimum of 2 hours to living and private open space areas. See Development Schedule
Objective 4A-2 Daylight access is maximised where sunlight is limited.	**N/A**
Objective 4A-3 Design incorporates shading and glare control, particularly for warmer months.	Shading screens provided to East and Western Windows to Living Areas.
4B Natural ventilation	
Objective 4B-1 All habitable rooms are naturally ventilated.	**YES**
Objective 4B-2 The layout and design of single aspect apartments maximises natural ventilation.	**YES**
Objective 4B-3 The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents. Design criteria • At least 60% of apartments are naturally cross-ventilated in the first nine storeys of the building. Apartments at ten storeys or greater are deemed to be cross ventilated only if any enclosure of the balconies at these levels allows adequate natural ventilation and cannot be fully enclosed. • Overall depth of a cross-over or cross- through apartment does not exceed 18m, measured glass line to glass line.	43 Apartments are provided with cross ventilation = 100%

4C Ceiling heights	
Objective 4C-1 Ceiling height achieves sufficient natural ventilation and daylight access. Design criteria Measured from finished floor level to finished ceiling level, minimum ceiling heights are: • Habitable rooms: 2.7m • Non-habitable rooms: 2.4m • 2 storey apartments: 2.7m for main living area floor; 2.4m for second floor where its area does not exceed 50% of the apartment area.	**ALL 2.7 METRES**
Objective 4C-2 Ceiling height increases the sense of space in apartments and provides for well-proportioned rooms.	**N/A**
4D Apartment size and layout	
Objective 4D-1 The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity. Design criteria • All apartments are required to have the following minimum internal areas: ○ Studio: 35m^2 ○ 1 bedroom: 50m^2 ○ 2 bedroom: 70m^2 ○ 3 bedroom: 90m^2 • Every habitable room must have a window in an external wall with a total minimum glass area of not less than 10% of the floor area of the room. Daylight and air may not be borrowed from other rooms. Design guidance • A window should be visible from any point in a habitable room.	**YES** 2 Bed Apartments = **All greater than 90 Sq. M** **YES** **YES**
Objective 4D-2 Environmental performance of the apartment is maximised. Design criteria • Habitable room depths are limited to a maximum of 2.5 x the ceiling height. • In open plan layouts (where the living, dining + kitchen are combined) the max habitable room depth is 8m from a window.	**YES** **N/A**

Objective 4D-3 Apartment layouts are designed to accommodate a variety of household activities and needs Design criteria • Master bedrooms have a minimum area of 10m2 and other bedrooms 9m2 (excluding wardrobe space) • Bedrooms have a minimum dimension of 3m (excluding wardrobe space) • Living rooms or combined living/dining rooms have a minimum width of 4m for 2 and 3 bedroom apartments • The width of cross-over or cross-through apartments is at least 4m internally to avoid deep narrow apartment layouts.	**YES** **YES** **YES** **N/A**
4E Private open space and balconies	
Objective 4E-1 Apartments provide appropriately sized private open space and balconies to enhance residential amenity. Design criteria • All apartments are required to have primary balconies as follows: o Studio: 4m2 min o 1 bed: 8m2 min + 2m depth o 2 bed: 10m2 + 2m depth o 3 bed: 12m2 + 2.4m depth The minimum balcony depth to be counted as contributing to the balcony area is 1m.	See Unit Schedule Minimum width – 2.2 M
Objective 4E-2 Primary private open space and balconies are appropriately located to enhance livability for residents.	Allocated off Living Area.
Objective 4E-3 Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building.	Glazed balustrades and integrated privacy screening.
Objective 4E-4 Private open space and balcony design maximises safety	**YES**

4F Common circulation and spaces	
Objective 4F-1 Common circulation spaces achieve good amenity and properly service the number of apartments. Design criteria • The maximum number of apartments off a circulation core on a single level is eight • For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40. • Where design criteria 1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level.	Block A – 5/ Core Bock B – 4/Core **YES** **N/A** **N/A**
Objective 4F-2 Common circulation spaces promote safety and provide for social interaction between residents.	Common areas provided with light and ventilation and connect all dwellings, with dual stairways.
4G Storage	
Objective 4G-1 Adequate, well-designed storage is provided in each apartment. Design criteria • In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided: o Studio: 4m3 o 1 bed: 6m3 o 2 bed: 8m3 o 3 bed: 10m3 At least 50% of the required storage is to be located within the apartment.	All dwellings provided with a minimum of 4.5 cubic metres in basement. At least 50% provided within the apartment. See Development Schedule
Objective 4G-2 Additional storage is conveniently located, accessible and nominated for individual apartments.	**YES**
4H Acoustic privacy	
Objective 4H-1 Noise transfer is minimised through the siting of buildings and building layout.	BCA requirements observed.
Objective 4H-2 Noise impacts are mitigated within apartments through layout and acoustic treatments.	**YES**

4J Noise and pollution	
Objective 4J-1 In noisy or hostile environments the impacts of external noise and pollution are minimised through the careful siting and layout of buildings.	No hostile environments. The site is within an established residential area.
Objective 4J-2 Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission.	AS ABOVE
4K Apartment mix	
Objective 4K-1 A range of apartment types and sizes is provided to cater for different household types now and into the future.	43 x 2 Bed With adaptive use of Bed 2 to create large 1 bedroom Units.
Objective 4K-2 The apartment mix is distributed to suitable locations within the building.	**YES**
4L Ground floor apartments	
Objective 4L-1 Street frontage activity is maximised where ground floor apartments are located.	**YES**
Objective 4L-2 Design of ground floor apartments delivers amenity and safety for residents.	**YES**
4M Façade	
Objective 4M-1 Building facades provide visual interest along the street while respecting the character of the local area.	**SEE AESTHETIC DESIGN PRINCIPLES**
Objective 4M-2 Building functions are expressed by the façade.	
4N Roof design	
Objective 4N-1 Roof treatments are integrated into the building design and positively respond to the street.	Flat roof/recessed parapets, similar ridge heights to adjoining building.

Objective 4N-2 Opportunities to use the roof space for residential accommodation and open space are maximised.	**N/A**
Objective 4N-3 Roof design incorporates sustainability features.	**N/A**
4O Landscape design	
Objective 4O-1 Landscape design is viable and sustainable.	See Landscape Plan
Objective 4O-2 Landscape design contributes to the streetscape and amenity.	AS ABOVE
4P Planting on structures	
Objective 4P-1 Appropriate soil profiles are provided.	See Landscape Plan
Objective 4P-2 Plant growth is optimised with appropriate selection and maintenance.	
Objective 4P-3 Planting on structures contributes to the quality and amenity of communal and public open spaces.	
4Q Universal design	
Objective 4Q-1 Universal design features are included in apartment design to promote flexible housing for all community members. Developments achieve a benchmark of 20% of the total apartments incorporating the Livable Housing Guidelines' silver level universal design features.	See Access Statement
Objective 4Q-2 A variety of apartments with adaptable designs are provided.	Apartments 3,8, 41 & 42.
Objective 4Q-3 Apartment layouts are flexible and accommodate a range of lifestyle needs.	

4T Awnings and signage	
Objective 4T-1 Awnings are well located and complement and integrate with the building design.	**YES**
Objective 4T-2 Signage responds to the context and desired streetscape character.	**YES** Where provided to main entry.
4U Energy efficiency	
Objective 4U-1 Development incorporates passive environmental design.	All rooms provided with natural light. All balconies have screening.
Objective 4U-2 Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer.	Walls and Floor cast-in-situ concrete.
Objective 4U-3 Adequate natural ventilation minimises the need for mechanical ventilation.	All units natural.
4V Water management and conservation	
Objective 4V-1 Potable water use is minimised.	Basix – nominate water fittings – apartment individually metered.
Objective 4V-2 Urban stormwater is treated on site before being discharged to receiving waters.	SEE DRAINAGE DETAIL
Objective 4V-3 Flood management systems are integrated into site design.	SEE DRAINAGE DETAIL
4W Waste management	
Objective 4W-1 Waste storage facilities are design to minimise impacts on the streetscape, building entry and amenity of residents.	Waste room provided external to at Ground level.
Objective 4W-3 Domestic waste is minimised by providing safe and convenient source separation and recycling.	No co-mingling wastes. Household waste and recyclables have separate bins.

4X Building maintenance	
Objective 4X-1 Building design detail provides protection from weathering.	Resilient materials used. Rendered areas to a minimum. Pre-cast elements with embedded colours.
Objective 4X-2 Systems and access enable ease of maintenance.	All facades can be accessed externally.
Objective 4X-3 Material selection reduces ongoing maintenance costs.	Embedded colours. Minimum rendered area.